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

Suydam Willoughby Development

CEQR: 18DCP177K

Prepared for:
C/O Suydam, Inc.
60 Sackett Street
Brooklyn, NY, 11231

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

AECOM Project No. 60520207

October 30th, 2020

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* Suydam Willoughby Development

3. *Reference Numbers*

CEQR REFERENCE NUMBER (to be assigned by lead agency) 18DCP177K	BSA REFERENCE NUMBER (if applicable)
ULURP REFERENCE NUMBER (if applicable) 200344ZMK, N200343ZRK, 200326ZSK	OTHER REFERENCE NUMBER(S) (if applicable) (*e.g.*, legislative intro, CAPA)

4a. *Lead Agency Information*			**4b. *Applicant Information***		
NAME OF LEAD AGENCY New York City Department of City Planning			NAME OF APPLICANT Suydam, Inc. and 3210 Willoughby LLC		
NAME OF LEAD AGENCY CONTACT PERSON Olga Abinader Director of EARD			NAME OF APPLICANT'S REPRESENTATIVE OR CONTACT PERSON Richard Lobel Sheldon Lobel P.C.		
ADDRESS 120 Broadway, 31st Floor			ADDRESS 18 East 41st Street		
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*

Suydam, Inc. and 3210 Willoughby LLC (collectively, the "Applicant") propose a series of land use actions to rezone an existing M1-1 zoning district to an M1-5 district, a new Special Mixed-Use district, and an R6 district in the Bushwick neighborhood within Brooklyn Community District 4. The proposed rezoning area is located midblock on Block 3210 bounded by Suydam Street to the east, Willoughby Avenue to the west, Wyckoff Avenue to the north, and Irving Avenue to the south, and consists of Lots 15, 16, 17, 18, 19, 20, 21, 48, and 51 and part of Lot 1 (the "Project Area"). The following actions are proposed:

1. a text amendment of Zoning Resolution ("ZR") Article XII, Chapter 3 to create a new Special Mixed-Use ("MX") District paring R7D and M1-5 zoning districts;

2. a zoning map amendment to change the existing M1-1 zoning district to:
i. an M1-5 district within a portion of the Proposed Rezoning Area consisting of Block 3210, Lots 48 and 51;
ii. an MX (R7D/M1-5) District within a portion of the Proposed Rezoning Area consisting of Block 3210, Lots 15, 16, 17, 18, 19, 20, and 21;
iii. and an R6 zoning district within a portion of the Proposed Rezoning Area consisting of Block 3210, part of Lot 1;

3. a text amendment of ZR Appendix F: Inclusionary Housing Designated Areas and Mandatory Inclusionary Housing Areas for Community District 4, Brooklyn to establish a Mandatory Inclusionary Housing ("MIH") Area with MIH Options 1 and 2 coterminous with the MX portion of the Project Area on Block 3210, Lots 15, 16, 17, 18, 19, 20, and 21; and

4. a special permit pursuant to ZR § 74-533 (Reduction of parking spaces to facilitate affordable housing) to waive the parking requirement of 35 accessory off-street parking spaces for the proposed residential building.

The Proposed Actions would facilitate the development of a new affordable residential building with 95 units at 1250 Willoughby Avenue (Block 3210, Lots 16, 17, 18, 19, 20, and 21) (the "Willoughby Development Site"). In addition, the Proposed Actions would facilitate the enlargement of an existing industrial building at 349 Suydam Street (Block 3210, Lots 48 and 51) (the "Suydam Enlargement Site").

Project Location

BOROUGH Brooklyn	COMMUNITY DISTRICT(S) 4	STREET ADDRESS 1250 Willoughby Avenue and 349 Suydam Street
TAX BLOCK(S) AND LOT(S) Block 3210, a portion of Lot 1, and Lots 15-21, 48, and 51		ZIP CODE 11237

DESCRIPTION OF PROPERTY BY BOUNDING OR CROSS STREETS The Project Area is located within a block bounded by Wyckoff Avenue to the north, Suydam Street to the east, Irving Avenue to the south, and Willoughby Avenue to the west.

EXISTING ZONING DISTRICT, INCLUDING SPECIAL ZONING DISTRICT DESIGNATION, IF ANY M1-1 | ZONING SECTIONAL MAP NUMBER 13b

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

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

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

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

SPECIFY AFFECTED SECTIONS OF THE ZONING RESOLUTION 74-533

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

☐ VARIANCE (use)

☐ VARIANCE (bulk)

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

SPECIFY AFFECTED SECTIONS OF THE ZONING RESOLUTION

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

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

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

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

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

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

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

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

☒ SITE LOCATION MAP	☒ ZONING MAP	☒ SANBORN OR OTHER LAND USE MAP
☒ TAX MAP	☐ FOR LARGE AREAS OR MULTIPLE SITES, A GIS SHAPE FILE THAT DEFINES THE PROJECT SITE(S)	

☒ PHOTOGRAPHS OF THE PROJECT SITE TAKEN WITHIN 6 MONTHS OF EAS SUBMISSION AND KEYED TO THE SITE LOCATION MAP

Physical Setting (both developed and undeveloped areas)

Total directly affected area (sq. ft.): Approx 40,000 | Waterbody area (sq. ft) and type: 0

Roads, buildings, and other paved surfaces (sq. ft.): Approx 40,000 | Other, describe (sq. ft.): 0

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

SIZE OF PROJECT TO BE DEVELOPED (gross square feet): 204,050 (RWCDS Totals)

NUMBER OF BUILDINGS: 2

GROSS FLOOR AREA OF EACH BUILDING (sq. ft.): 107,800 and 96,250 (RWCDS gsf);

HEIGHT OF EACH BUILDING (ft.): 115 for residential, 67 for manufacturing building (RWCDS Totals);

NUMBER OF STORIES OF EACH BUILDING: 9 stories for residential building and 5 stories for manufacturing building

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: Approx 32,500

The total square feet not owned or controlled by the applicant: Approx 7,500

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: 35,000 (RWCDS Scenario) sq. ft. (width x length) VOLUME OF DISTURBANCE: TBD cubic ft. (width x length x depth)

AREA OF PERMANENT DISTURBANCE: 35,000 (RWCDS Scenario) 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.)	107,800 (RWCDS)	0	0	96,250 (RWCDS)
Type (*e.g.,* retail, office, school)	125 units			Manufacturing space

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

If "yes," please specify: NUMBER OF ADDITIONAL RESIDENTS: 332 NUMBER OF ADDITIONAL WORKERS: TBD

Provide a brief explanation of how these numbers were determined: 2.7 Persons Per household

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

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

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

9. *Analysis Year* CEQR Technical Manual Chapter 2

ANTICIPATED BUILD YEAR (date the project would be completed and operational): 2021

ANTICIPATED PERIOD OF CONSTRUCTION IN MONTHS: Approximately 20-24 months

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

BRIEFLY DESCRIBE PHASES AND CONSTRUCTION SCHEDULE: ULURP, Design, Financing, Construction, Occupancy

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

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

Part II: TECHNICAL ANALYSIS

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

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

	YES	NO
1. *LAND USE, ZONING, AND PUBLIC POLICY*: CEQR Technical Manual Chapter 4		
(a) Would the proposed project result in a change in land use different from surrounding land uses?	☒	☐
(b) Would the proposed project result in a change in zoning different from surrounding zoning?	☒	☐
(c) Is there the potential to affect an applicable public policy?	☐	☒
(d) If "yes," to (a), (b), and/or (c), complete a preliminary assessment and attach.		
(e) Is the project a large, publicly sponsored project?	☐	☒
○ If "yes," complete a PlaNYC assessment and attach.		
(f) Is any part of the directly affected area within the City's Waterfront Revitalization Program boundaries?	☐	☒
○ If "yes," complete the Consistency Assessment Form.		
2. *SOCIOECONOMIC CONDITIONS*: CEQR Technical Manual Chapter 5		
(a) Would the proposed project:		
○ Generate a net increase of 200 or more residential units?	☐	☒
○ Generate a net increase of 200,000 or more square feet of commercial space?	☐	☒
○ Directly displace more than 500 residents?	☐	☒
○ Directly displace more than 100 employees?	☐	☒
○ Affect conditions in a specific industry?	☐	☒
3. *COMMUNITY FACILITIES*: CEQR Technical Manual Chapter 6		
(a) Direct Effects		
○ Would the project directly eliminate, displace, or alter public or publicly funded community facilities such as educational facilities, libraries, hospitals and other health care facilities, day care centers, police stations, or fire stations?	☐	☒
(b) Indirect Effects		
○ **Child Care Centers:** Would the project result in 20 or more eligible children under age 6, based on the number of low or low/moderate income residential units? (See Table 6-1 in Chapter 6)	☐	☒
○ **Libraries:** Would the project result in a 5 percent or more increase in the ratio of residential units to library branches? (See Table 6-1 in Chapter 6)	☐	☒
○ **Public Schools:** Would the project result in 50 or more elementary or middle school students, or 150 or more high school students based on number of residential units? (See Table 6-1 in Chapter 6)	☐	☒
○ **Health Care Facilities and Fire/Police Protection:** Would the project result in the introduction of a sizeable new neighborhood?	☐	☒
4. *OPEN SPACE*: CEQR Technical Manual Chapter 7		
(a) Would the proposed project change or eliminate existing open space?	☐	☒
(b) Is the project located within an under-served area in the Bronx, Brooklyn, Manhattan, Queens, or Staten Island?	☒	☐
○ If "yes," would the proposed project generate more than 50 additional residents or 125 additional employees?	☒	☐
(c) Is the project located within a well-served area in the Bronx, Brooklyn, Manhattan, Queens, or Staten Island?	☐	☒
○ If "yes," would the proposed project generate more than 350 additional residents or 750 additional employees?	☐	☒
(d) If the project in located an area that is neither under-served nor well-served, would it generate more than 200 additional residents or 500 additional employees?	☐	☒

	YES	NO
5. *SHADOWS*: CEQR Technical Manual Chapter 8		
(a) Would the proposed project result in a net height increase of any structure of 50 feet or more?	☒	☐
(b) Would the proposed project result in any increase in structure height and be located adjacent to or across the street from a sunlight-sensitive resource?	☒	☐
6. *HISTORIC AND CULTURAL RESOURCES*: CEQR Technical Manual Chapter 9		
(a) Does the proposed project site or an adjacent site contain any architectural and/or archaeological resource that is eligible for or has been designated (or is calendared for consideration) as a New York City Landmark, Interior Landmark or Scenic Landmark; that is listed or eligible for listing on the New York State or National Register of Historic Places; or that is within a designated or eligible New York City, New York State or National Register Historic District? (See the GIS System for Archaeology and National Register to confirm)	☐	☒
(b) Would the proposed project involve construction resulting in in-ground disturbance to an area not previously excavated?	☒	☐
(c) If "yes" to either of the above, list any identified architectural and/or archaeological resources and attach supporting information on whether the proposed project would potentially affect any architectural or archeological resources.		
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 Supplemental Studies	☒	☐
10. *WATER AND SEWER INFRASTRUCTURE*: CEQR Technical Manual Chapter 13		
(a) Would the project result in water demand of more than one million gallons per day?	☐	☒
(b) If the proposed project located in a combined sewer area, would it result in at least 1,000 residential units or 250,000 square feet or more of commercial space in Manhattan, or at least 400 residential units or 150,000 square feet or more of commercial space in the Bronx, Brooklyn, Staten Island, or Queens?	☐	☒
(c) If the proposed project located in a separately sewered area, would it result in the same or greater development than the amounts listed in Table 13-1 in Chapter 13?	☐	☒
(d) Would the proposed project involve development on a site that is 5 acres or larger where the amount of impervious surface would increase?	☐	☒
(e) If the project is located within the Jamaica Bay Watershed or in certain specific drainage areas, including Bronx River, Coney 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): Approx 16,892 pounds per week		
○ Would the proposed project have the potential to generate 100,000 pounds (50 tons) or more of solid waste per week?	☐	☒
(b) Would the proposed project involve a reduction in capacity at a solid waste management facility used for refuse or recyclables generated within the City?	☐	☒
12. *ENERGY*: CEQR Technical Manual Chapter 15		
(a) Using energy modeling or Table 15-1 in Chapter 15, the project's projected energy use is estimated to be (annual BTUs): Approx 25,305,600 MBtus		
(b) Would the proposed project affect the transmission or generation of energy?	☐	☒
13. *TRANSPORTATION*: CEQR Technical Manual Chapter 16		
(a) Would the proposed project exceed any threshold identified in Table 16-1 in Chapter 16?	☒	☐
(b) If "yes," conduct the screening analyses, attach appropriate back up data as needed for each stage and answer the following questions:		
○ Would the proposed project result in 50 or more Passenger Car Equivalents (PCEs) per project peak hour?	☐	☒
If "yes," would the proposed project result in 50 or more vehicle trips per project peak hour at any given intersection? ***It should be noted that the lead agency may require further analysis of intersections of concern even when a project generates fewer than 50 vehicles in the peak hour. See Subsection 313 of Chapter 16 for more information.*	☐	☐
○ Would the proposed project result in more than 200 subway/rail or bus trips per project peak hour?	☐	☒
If "yes," would the proposed project result, per project peak hour, in 50 or more bus trips on a single line (in one direction) or 200 subway trips per station or line?	☐	☐
○ Would the proposed project result in more than 200 pedestrian trips per project peak hour?	☐	☒
If "yes," would the proposed project result in more than 200 pedestrian trips per project peak hour to any given pedestrian or transit element, crosswalk, subway stair, or bus stop?	☐	☐
14. *AIR QUALITY*: CEQR Technical Manual Chapter 17		
(a) *Mobile Sources*: Would the proposed project result in the conditions outlined in Section 210 in Chapter 17?	☐	☒
(b) *Stationary Sources*: Would the proposed project result in the conditions outlined in Section 220 in Chapter 17?	☒	☐
○ If "yes," would the proposed project exceed the thresholds in Figure 17-3, Stationary Source Screen Graph in Chapter 17? (Attach graph as needed) See Report	☒	☐
(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 adverse AQ or Hazmat impacts were identified		
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. While impacts are not expected, an analysis of neighborhood character is provided		
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. While impacts are not expected, a brief analysis is provided		

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
Max Meltzer, AICP	October 9th, 2020

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).

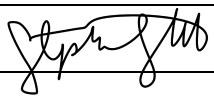
☐ **Conditional Negative Declaration:** A *Conditional Negative Declaration* (CND) may be appropriate if there is a private applicant for an Unlisted action AND when conditions imposed by the lead agency will modify the proposed project so that no significant adverse environmental impacts would result. 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
Deputy Director, Environmental Assessment and Review Division	City Planning Commission
NAME	DATE
Stephanie Shellooe	October 30, 2020

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, Suydam, Inc. and 3210 Willoughby LLC., is seeking a zoning map amendment to rezone portions of Brooklyn Block 3210 from M1-1 to M1-5, MX (M1-5/R7D), and R6. This action would facilitate the construction of a new residential building at 1250 Willoughby Avenue (Block 3210, Lots 16, 17, 18, 19, 20, and 21), comprised of 95 dwelling units, and the enlargement of an existing manufacturing building at 349 Suydam Street (Block 3210, Lots 48 and 51) in the Bushwick neighborhood of Brooklyn, Community District 4. The applicant is also seeking a zoning text amendment to create a new Special Mixed-Use District for the mixed-use portion of the Project Area (Block 3210, Lots 15, 16, 17, 18, 19, 20, and 21); a zoning text amendment to Appendix F of the Zoning Resolution (ZR) to establish the MX portion of the proposed rezoning area (Block 3210, Lots 15, 16, 17, 18, 19, 20, and 21) as a Mandatory Inclusionary Housing ("MIH") Area; and a special permit pursuant to ZR § 74-533, a reduction of parking spaces to facilitate affordable housing, to eliminate the 35 required accessory off-street parking spaces for the proposed residential building on Block 3210, Lots 16-21. The Proposed Actions would reinforce the trend towards a more active mixed-use neighborhood, which is heavily represented to the east of the Proposed Rezoning Area and in the blocks immediately to the west. Therefore, the Proposed Actions are not expected to have any significant adverse impacts on land use, zoning and public policy.

Shadows

A detailed analysis related to shadows is included in this EAS. Results of the detailed shadow analysis indicate that incremental shadows from the Reasonable Worst-Case Development Scenario have the potential to reach the P.S. 123 Playground during the March, June, and May analysis periods, and the Willoughby-Suydam National Historic District in the December analysis period. 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. Incremental shadows would only be cast on the historic district during the December analysis period and would only be cast on the district for approximately 22 minutes. As the buildings in the historic district do not have any stained-glass windows and given the short amount of time the district would experience incremental shadow, significant adverse impacts related to shadows to this resource are not expected and no further analysis is warranted. Incremental shadows would be cast on the P.S. 123 Playground during three of the four analysis periods (March, May, and June). Incremental shadows would be cast on the resource for up to 4 hours and 34 minutes in the early morning hours. Due to the time and duration of the incremental shadow, the proposed actions would not affect the usability of the open space resource and no further analysis is warranted. Therefore, significant adverse impacts with regards to shadows are not expected to occur.

Hazardous Materials and Air Quality

An (E) designation (E-583) related to hazardous materials and air quality 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 and air quality analyses conclude that with the (E) designation in place, the proposed actions would not result in a significant adverse impact related to hazardous materials or air quality.

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 Stephanie Shellooe at 212-720-3328.

TITLE	LEAD AGENCY
Deputy 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 | 212.720.3328
NAME	DATE
Stephanie Shellooe, AICP	October 30, 2020
SIGNATURE 	

Project Name: Suydam Street Rezoning
CEQR # 18DCP177K
SEQRA Classification: Unlisted

TITLE Chair, City Planning Commission	
NAME Marisa Lago	DATE November 2, 2020
SIGNATURE	

Project Name: Suydam Street Rezoning
CEQR # 18DCP177K
SEQRA Classification: Unlisted

Determination of Significance Appendix

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

Development Site	Borough	Block and Lot
Projected Development Site 1	Brooklyn	Block 3210, Lots 48 and 51
Projected Development Site 2	Brooklyn	Block 3210, Lots 15, 16, 17, 18, 19, 20 and 21

(E) Designation Requirements

To ensure that the proposed actions would not result in significant adverse impacts related to hazardous materials and air quality, an (E) designation (**E-583**) would be established as part of approval of the proposed actions on **Projected Development Site 1 and Projected Development Site 2** as described below:

Development Site	Hazardous Materials	Air Quality	Noise
Projected Development Site 1	X	X	
Projected Development Site 2	X	X	

Hazardous Materials

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

Task 1-Sampling Protocol

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

Task 2-Remediation Determination and Protocol

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

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

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

Project Name: Suydam Street Rezoning
CEQR # 18DCP177K
SEQRA Classification: Unlisted

Air Quality

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

Projected Development Site 1 (Block 3210, Lots 48 and 51)

HVAC Sources

Any new development or enlargement on the above referenced property must provide a heating, ventilation, air conditioning (HVAC) stack to be located at least 70 feet from its northwestern lot line facing Willoughby Avenue to avoid potential significant adverse air quality impacts.

Industrial Sources

To preclude the potential for significant adverse air quality impacts from manufacturing uses, any processes that require an NYC DEP Certificate of Operation (C of O) must provide an air quality analysis to OER prior to obtaining a Notice of Satisfaction in order to demonstrate that such process would not cause a significant adverse air quality impact.

Projected Development Site 2 (Block 3210, Lots 15, 16, 17, 18, 19, 20 and 21)

Any new residential development on the above-referenced property must ensure that the heating ventilation and air conditioning (HVAC) system stack is located at least 118 feet above grade to avoid any significant adverse air quality impacts.

AECOM

Environment

Prepared for:
Suydam, Inc.
60 Sackett Street
Brooklyn, NY 11231

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

AECOM No. 60520207

Suydam Street Rezoning

Supplemental Studies to the Environmental Assessment Statement

October 30th, 2020

Proposed Development Site:

1250 Willoughby Avenue and 349 Suydam Street (Block 3210, Lots 16-21 and Lots 48 and 51)

Brooklyn, NY 11237

Prepared for:

Suydam, Inc.
60 Sackett Street
Brooklyn, NY 11231

Prepared by:

AECOM
125 Broad Street
New York, NY 10004

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1.0 INTRODUCTION

The applicant, (Suydam, Inc. and 3210 Willoughby LLC.), is seeking a zoning map amendment to rezone portions of Brooklyn Block 3210 in northwest Bushwick, located in Community District 4 (CD4), from M1-1 to M1-5, MX (M1-5/R7D), and R6. This action would facilitate the construction of a new residential building at 1250 Willoughby Avenue (Block 3210, Lots 16, 17, 18, 19, 20, and 21) and the enlargement of an existing manufacturing building at 349 Suydam Street (Block 3210, Lots 48 and 51).

The proposed zoning map amendment consists of a request to rezone portions of Block 3210 from an M1-1 district to an M1-5 district on the east side of the block fronting Suydam Street (Lots 48 and 51); to an MX (M1-5/R7D) district on the west side of the block fronting Willoughby Avenue (Lots 15, 16, 17, 18, 19, 20, and 21); and to an R6 district on a portion of Lot 1 beyond 200 feet from Irving Avenue. The lots on Block 3210 make up the affected area of the proposed project. (See **Figure 1.1-3 Zoning Map**)

The applicant is also seeking a zoning text amendment to create a new Special Mixed-Use District for the mixed-use portion of the Project Area (Block 3210, Lots 15, 16, 17, 18, 19, 20, and 21); a zoning text amendment to ZR Appendix F to establish the MX portion of the proposed rezoning area (Block 3210, Lots 15, 16, 17, 18, 19, 20, and 21) as a Mandatory Inclusionary Housing ("MIH") Area; and a special permit pursuant to ZR § 74-533, a reduction of parking spaces to facilitate affordable housing to eliminate the 35 required accessory off-street parking spaces for the proposed residential building on Block 3210, Lots 16-21.

The proposed development on Block 3210, Lots 48 and 51 would be an enlargement of the existing four-story structure on Block 3210, Lot 51 which consists of approximately 43,250 gsf of industrial and manufacturing floor area, to a 56,580 gsf industrial and manufacturing building. The proposed development would be built to 3.23 FAR and would comply with M1-5 zoning district regulations with a front wall height of 67 feet. Additionally, no parking would be required for the enlargement pursuant to the M1-5 parking regulations.

The proposed development on Block 3210, Lots 16, 17, 18, 19, 20, and 21 would be a development of a new residential building. The new residential building is to include 95 dwelling units that will be 100% affordable under the Department of Housing Preservation and Development (HPD) financed "Mixed Middle Income" program. Lots 16 – 21 are currently unimproved and used as parking and storage areas. On the combined 15,000 sf lot, the applicant is proposing to build a nine-story multifamily residential apartment building with approximately 86,400 gsf (81,720 zsf) of residential floor area. The building would be constructed to a FAR of 5.6, which would be allowed in an MX (R7D) zoning district in the proposed MIH Area. The proposed building would be approximately 90 feet in height and parking would be waived by special permit pursuant to ZR § 74-533.

The proposed actions would also rezone two sites not under the applicant's control (Block 3210, Lots 15 and a sliver of Lot 1). Lot 15 is a 2,500-sf lot currently zoned M1-1 and improved with a two-story residential building and garage. Lot 1 is also currently zoned M1-1 and is occupied by the elementary school P.S. 123 Suydam.

1.1 Proposed Actions

In order to facilitate this development, the applicant is requesting the following actions:

1. A zoning map amendment to rezone portions of Brooklyn Block 3210 from an M1-1 district to:
    a. an M1-5 district on the east side of Block 3210 fronting Suydam Street (Lots 48 and 51);
    b. an MX (M1-5/R7D) district on the west side of Block 3210 fronting Willoughby Avenue (Lots 15, 16, 17, 18, 19, 20, and 21); and
    c. and an R6 zoning district within a portion of the Project Area consisting of Block 3210, part of Lot 1;

2. A zoning text amendment to create a new Special Mixed-Use District for the mixed-use portion of the Project Area (Block 3210, Lots 15, 16, 17, 18, 19, 20, and 21)
3. A zoning text amendment to ZR Appendix F to establish the MX portion of the Project Area (Block 3210, Lots 15, 16, 17, 18, 19, 20, and 21) as a Mandatory Inclusionary Housing ("MIH") Area
4. A special permit pursuant to ZR § 74-533, a reduction of parking spaces to facilitate affordable housing in order to eliminate the 35 required accessory off-street parking spaces for the proposed residential building on Block 3210, Lots 16, 17, 18, 19, 20, and 21)

1.2 Key Terms

In order to ensure consistency and easy understanding of the document, a list of key terms is provided below.

1. Proposed Development Site = the area where the Proposed Project will be built (smaller than the Proposed Rezoning Area defined below) All property to be improved as part of the specific development proposed by the applicant, which the land use actions are proposed to facilitate.

2. Proposed Development = the actual project proposed by the applicant – which would have fewer and lesser impacts than the Reasonable Worst-Case Development Scenario (defined below). The Proposed Development is comprised of two development sites – Proposed Development Site 1 (manufacturing building expansion (Block 3210, Lots 48 and 51) and Proposed Development Site 2 (residential building Block 3210, Lots 16-21).

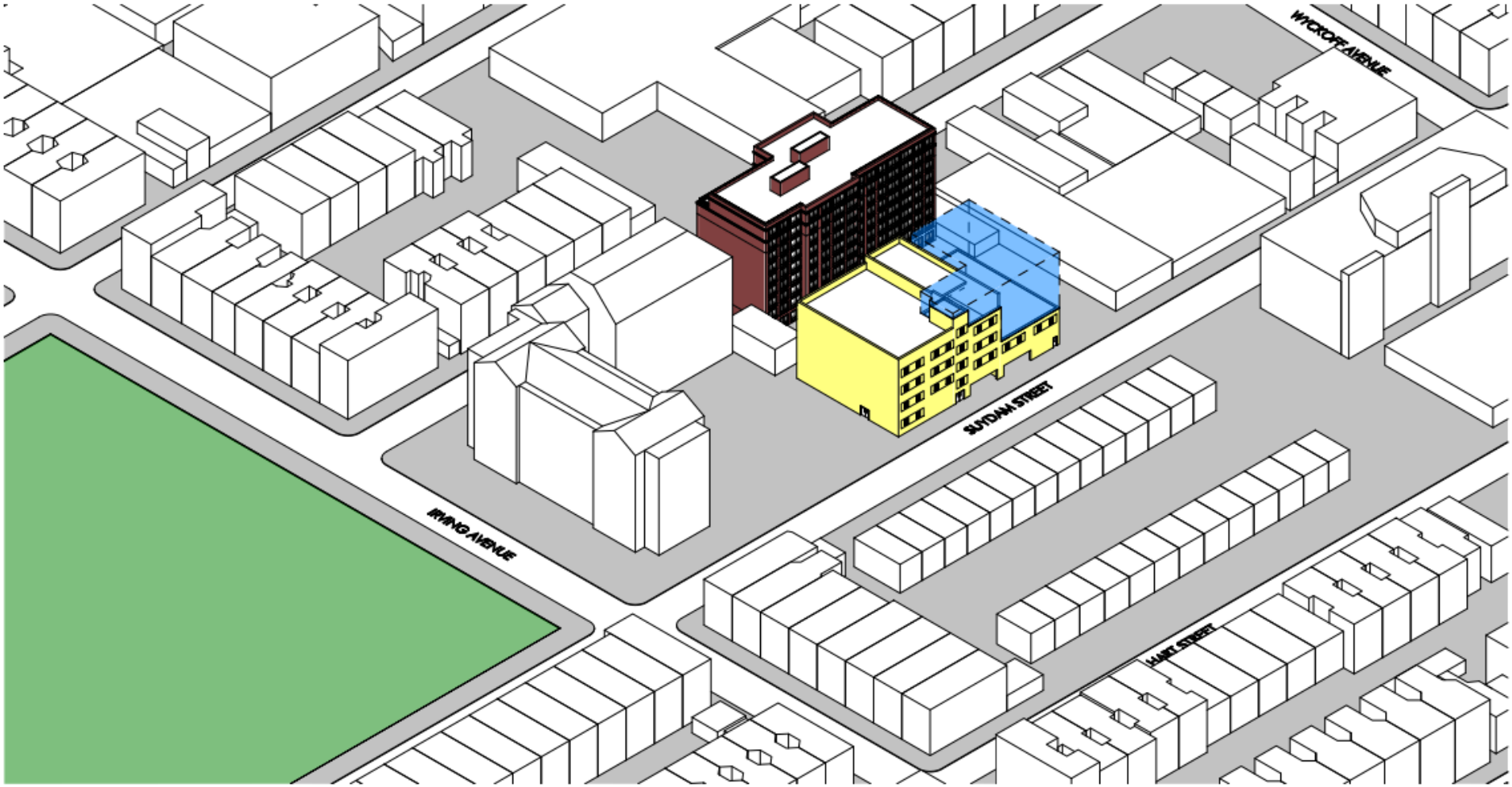
3. Proposed Actions = Actions required to facilitate the Applicant's Proposed Development.

4. Proposed Rezoning Area = All of the lots that are subject to the proposed rezoning. (Block 3210, Lots 15, 16, 17, 18, 19, 20, 21, 48, 51 and p/o 1).

5. Reasonable Worst-Case Development Scenario (RWCDS) = the maximum project that can be built under the proposed rezoning and what is analyzed in the EAS's Future With-Action Scenario. Because the RWCDS includes Lot 15 and p/o Lot 1, the total development under the RWCDS will include more square footage than is in the Proposed Development. The RWCDS addresses two sites: Projected Development Site 1, which consists of Block 3210, Lots 48 and 51 and Projected Development Site 2, which consists of Block 3210, Lots 15 to 21.

6. Reasonable Worst-Case Development Scenario Development / RWCDS. Projected Developemtn Sites-The RWCDS projected development on Projected Development Site 1 (Lots 48 and 51) and Projected Development Site 2 (Lots 15-21). These are referred to as Reasonable Worst-Case Development Scenario Projected Development Site 1 and Reasonable Worst Case Development Scenario Projected Development Site 2.

7. Study Area = the study area is the geographic area which is considered subject to potential impacts from the Proposed Actions. For each technical analysis within this EAS the study area boundaries will be based on CEQR guidelines. For most analyses, the study area will be limited to those properties within 400 feet of the Proposed Rezoning Area. However, for analyses of open space and shadows, for example, the study area may extend beyond ¼ mile.



Suydam Street Rezoning
Brooklyn, NY

Figure 1.1– Plans (Illustrative Purposes Only)

1.3 Description of Proposed Rezoning Area (Existing Conditions)

The Proposed Rezoning Area consists of Block 3210, Lots 15, 16, 17, 18, 19, 20, 21, 48, 51 and a portion of Lot 1. The properties within the Proposed Rezoning Area are used as follows:

Lot 15 is a 2,500-sf lot and contains a two-story, approximately 2,250 gsf residential building with two Use Group 2 dwelling units.

Lots 16, 17, 18, 19, 20, and 21 are all 2,500 sf lots all unimproved that are currently each used for parking facilities and storage.

Lot 48 is a 2,500-sf lot with no built improvements that is used for parking.

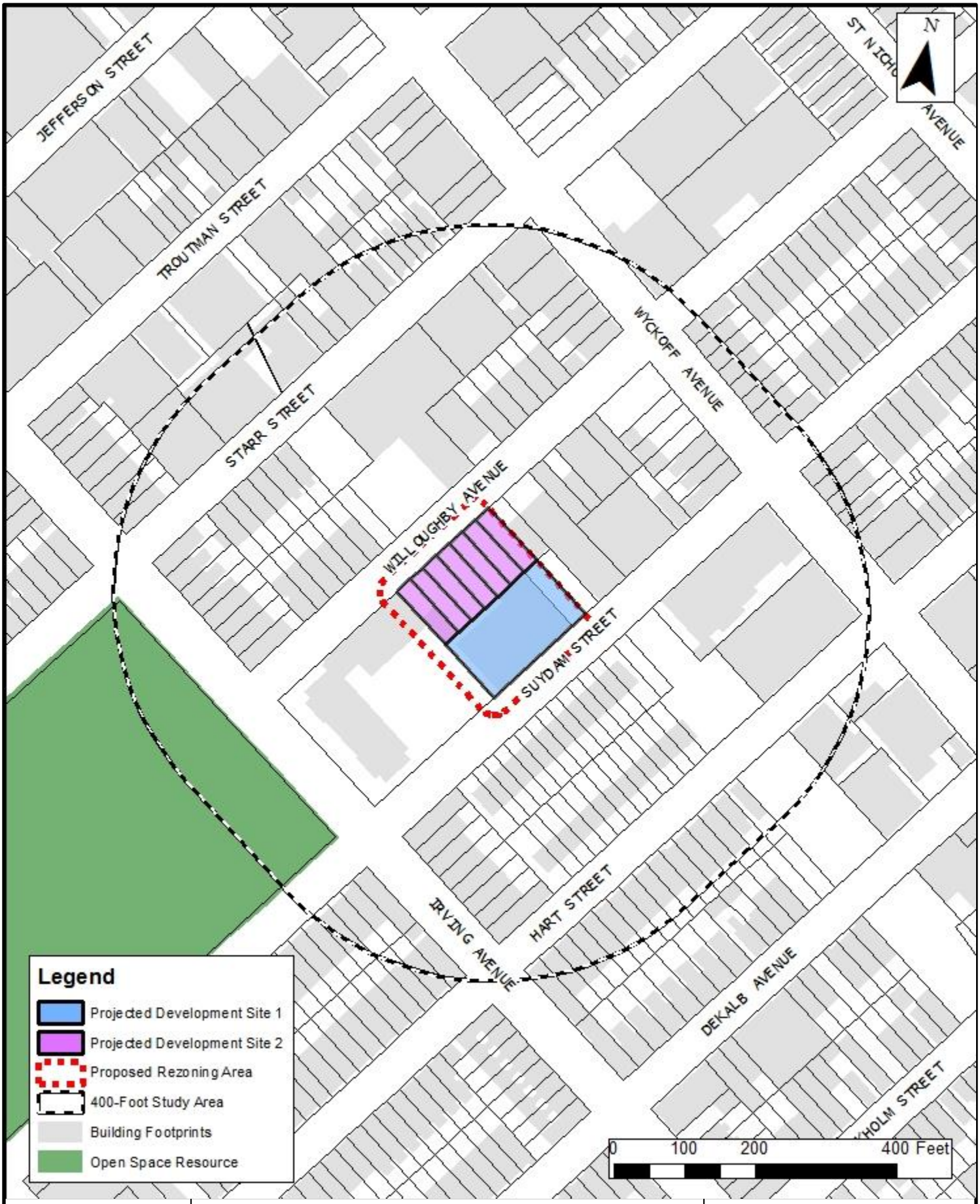
Lot 51 is a 15,000-sf lot and contains a four-story, approximately 43,250 gsf light manufacturing building with five industrial tenants, including, knitting, garment, furniture production, artisan space, and woodworking businesses. The existing structure has a front wall height of 59 feet.

Lot 1 is a 45,000-sf lot and contains a four-story educational facility building with approximately 37,620 gsf of floor area currently used as an elementary school (“P.S. 123 Suydam”).

The Proposed Rezoning Area is in northwestern Bushwick in Community District (CD) 4, just east of Brooklyn CD 1 (Greenpoint-Williamsburg) and south of Queens CD 5 (Ridgewood). The Study Area consists of residential, commercial, and industrial uses. One block to the west of the Proposed Rezoning Area is the North Brooklyn Industrial Business Zone (IBZ), a section of CD 1 and CD 4 dominated by manufacturing uses and zoned M1-1, M1-3, and M1-2. The M1-1 area is generally mapped between Irving Avenue to the south between Flushing Avenue and Starr Street; midblock between Irving Avenue and Wyckoff Avenue to the south between Starr Street and DeKalb Avenue; Starr Street, Suydam Street, DeKalb Avenue, and Willoughby Avenue to the east; Cypress Avenue to the north; and Flushing Avenue and Johnson Avenue to the west. East and south of the Proposed Rezoning Area, building types and uses are typified by two-story homes and three-story multifamily walk-ups zoned R6. The R6 district is mapped over a large area bounded generally by Jefferson Street to the west, Broadway to the south, Cypress Avenue and Wyckoff Avenue to the north, and Moffat Street to the east.

Maria Hernandez Park, the largest park in CD 4, is half a block south of the site. Half a block north of the site is Wyckoff Avenue, an active commercial corridor with one- to four-story commercial and mixed-use buildings.

The existing land uses in the area immediately surrounding the Proposed Rezoning Area are a mix of multifamily and mixed-use residential buildings, industrial/manufacturing, public facilities, and commercial uses. The commercial uses in the vicinity of the Proposed Rezoning Area include local retail and amenities such as grocery stores, restaurants, bars, nail and hair salons, pharmacies, laundromats, and coffee shops. Small Use Group 6 retail establishments and eateries, such as Desi Grill, an Indian restaurant; Heavy Woods, a gastropub and coffee shop with cocktails and Southern fare; D’Santos, a Mexican restaurant; and good yoga Bushwick, an exercise studio offering yoga and meditation classes; are located north of the site on Wyckoff Avenue. A variety of art galleries, theaters, and cultural venues, including Koenig & Clinton, Underdonk, the Bat Haus Co-working and Event space, Bushwick Starr, and Tiger Strikes Asteroid, are also located north and west of the Proposed Rezoning Area. Key Food, a large grocery store with food and household items, is located to the east of the Proposed Rezoning Area on Wyckoff Avenue at Hart Street. There are also a number of Use Group 6 local retail establishments to the south of the Proposed Rezoning Area on Irving Avenue, including Green Streets, a build-your-own salad and wrap eatery; Arepera Guacuco, a Venezuelan restaurant; Amaranto, a Mexican restaurant and bar; and China Garden, a take-out Chinese food restaurant. The prevailing built form of the area is a mix of low-rise non-residential buildings and three- to six-story residential buildings. Many residential buildings in the area are three-story attached mixed-use walkup residences with commercial uses on the ground floor.



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Suydam Street Rezoning
Environmental Assessment Statement
Brooklyn, NY

Figure 1.1-1
Project Site Location



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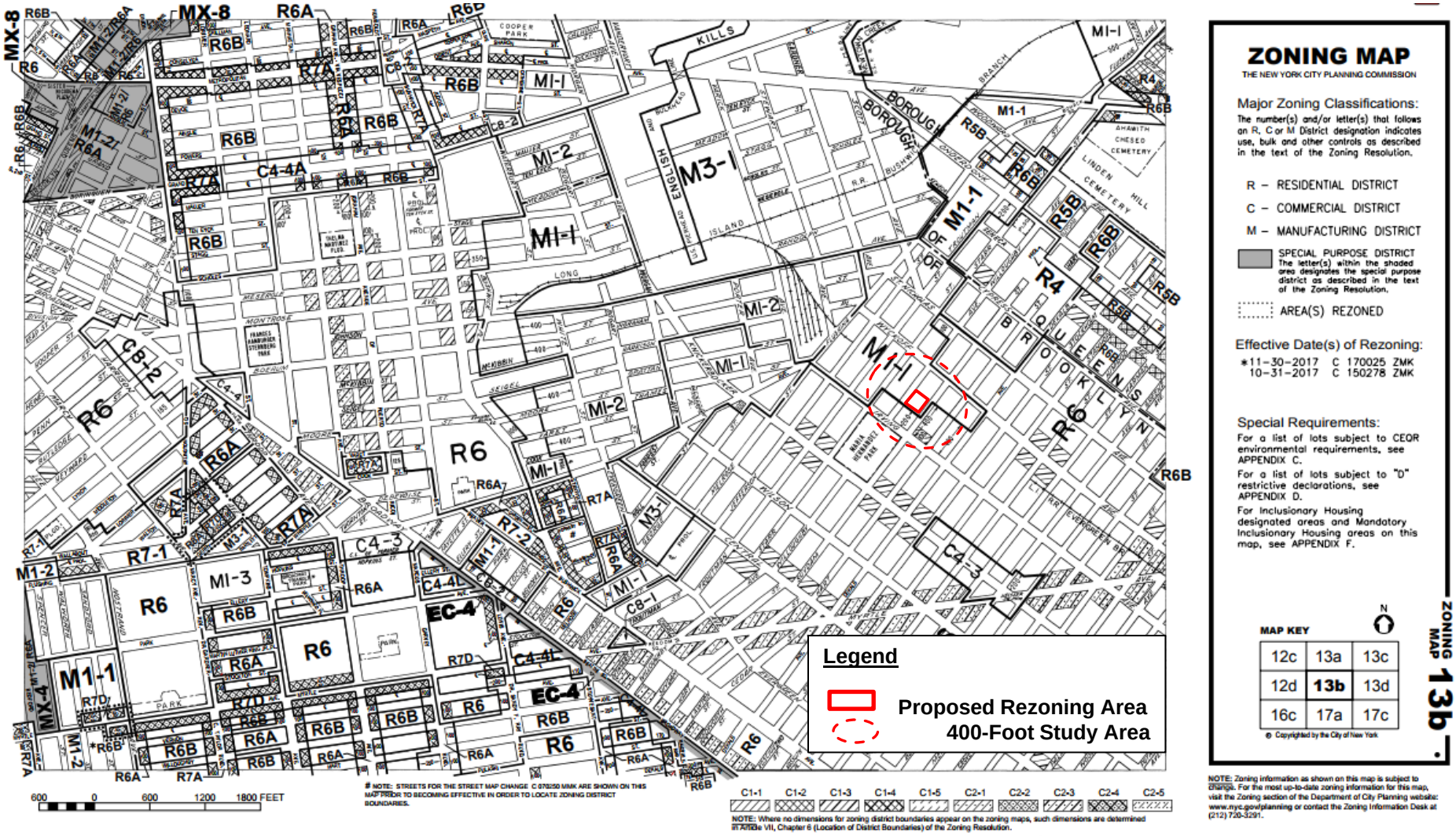
Suydam Street Rezoning
Environmental Assessment Statement
Brooklyn, NY

Figure 1.1-1a
Project Site Location
(Street Base Map)



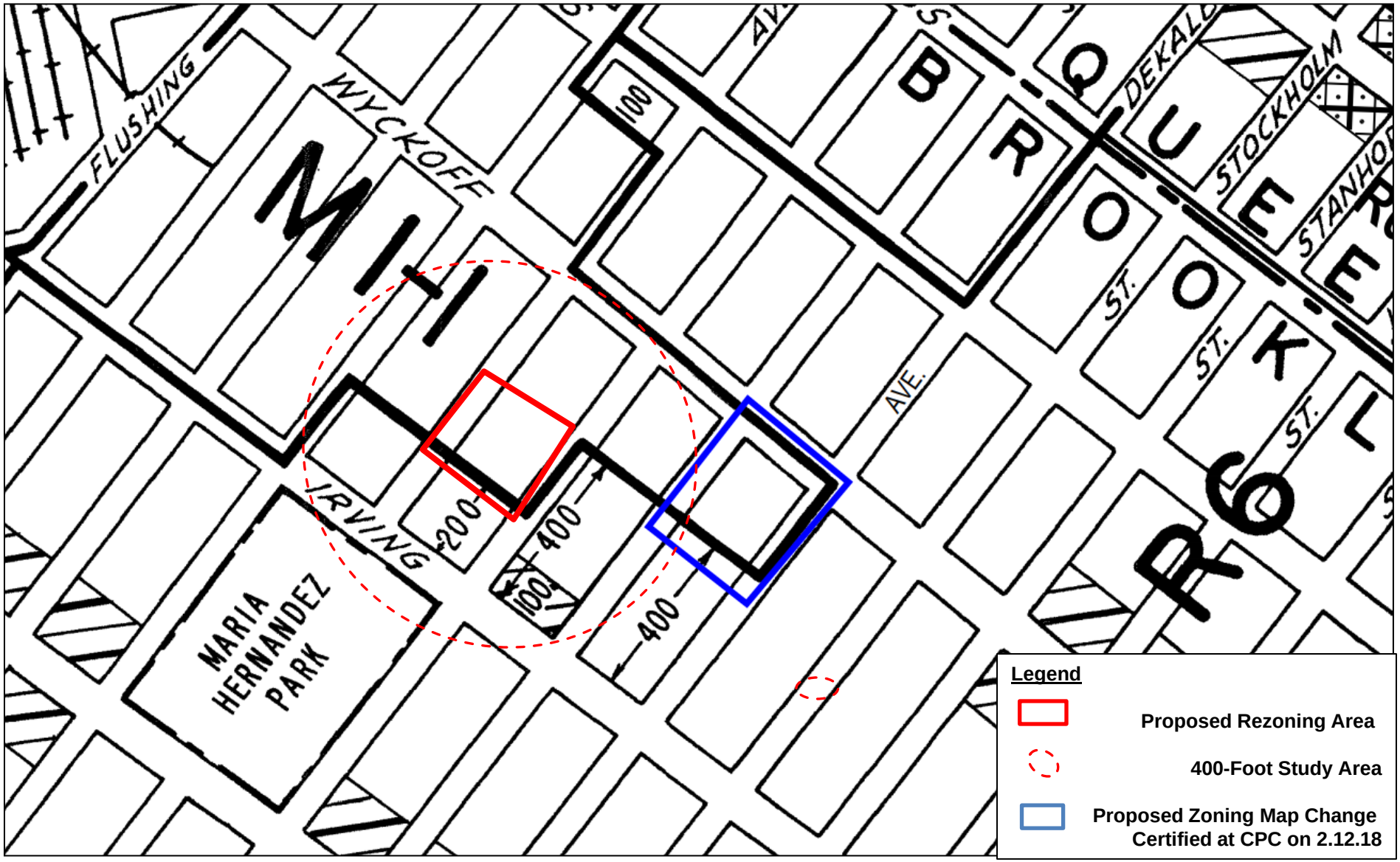
Suydam Street Rezoning
Brooklyn, NY

Figure 1.1-2 – Tax Map



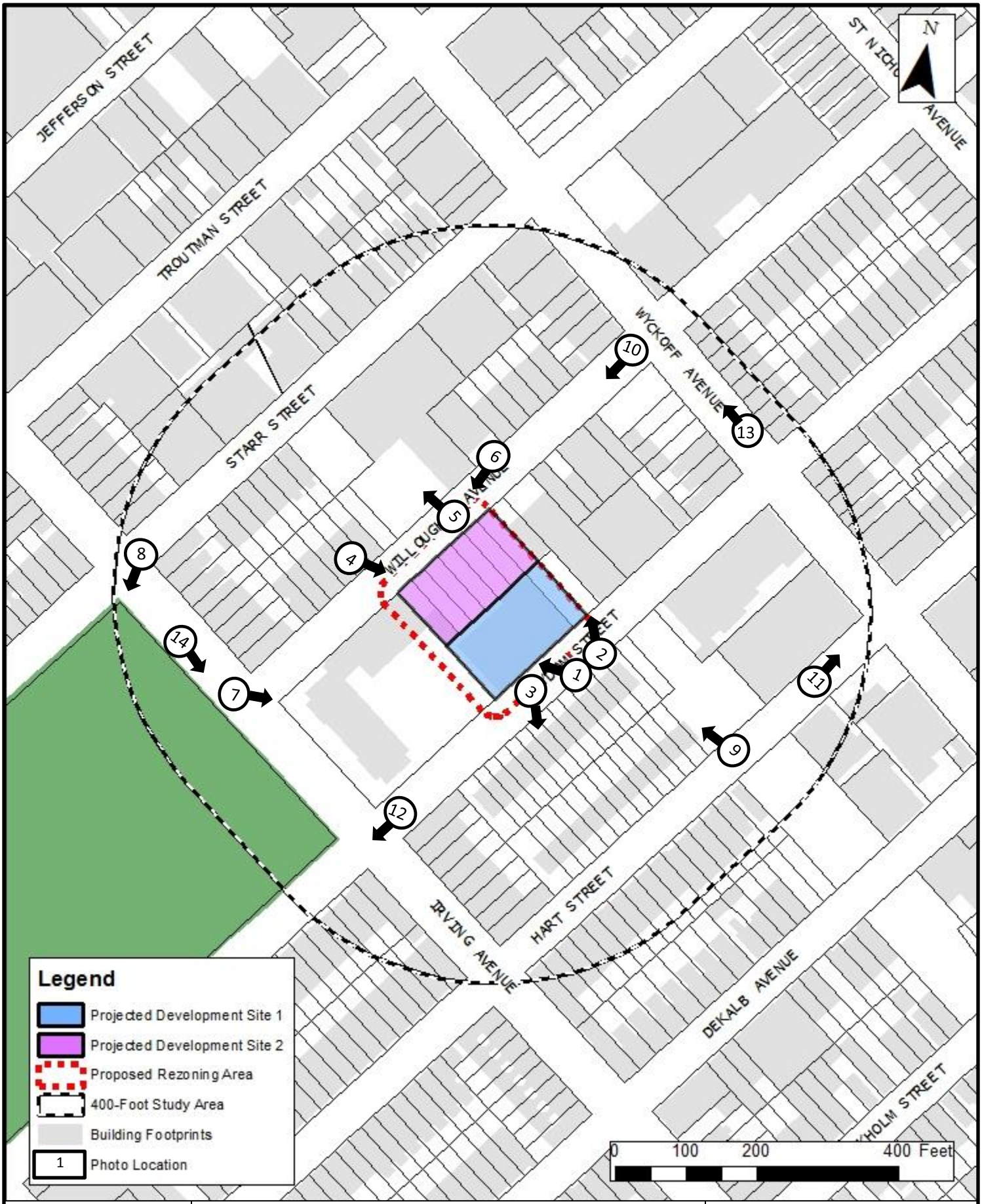
Suydam Street Rezoning
Brooklyn, NY

Figure 1.1-3 – Zoning Map



Suydam Street Rezoning
Brooklyn, NY

Figure 1.1-3a – Zoomed in Zoning Map



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Suydam Street Rezoning
Environmental Assessment Statement
Brooklyn, NY

Figure 1.1-4
Key to Photographs

Figure 1.1-5 Photographs of the Proposed Development Site and Surrounding Study Area

Photograph 1



View of the Proposed Development Site at 349 Suydam Street (Lot 51) looking south

Photograph 2



View of Proposed Development Site and adjacent buildings looking north on Suydam Street towards Wyckoff Ave.

Photograph 3



View of Residential Building looking east from Proposed Development Site on Suydam Street

Photograph 4



View of the Projected Development Site at 1250 Willoughby Ave. (Lots 15 16, 17, 18, 19, 20, 21)

Photograph 5



View of lot across from Proposed Development Site on Willoughby Ave.

Photograph 6



View of Lots 15-21 on Willoughby Avenue looking south, with the Proposed Development Site in the background

Photograph 7



View of P.S. 123 looking northeast on Irving Ave. and Willoughby Ave.

Photograph 8



View of Maria Hernandez Park looking south on Irving Ave. and Starr Street

Photograph 9



View of residential buildings on Hart Street looking west with the Proposed Development Site in background

Photograph 10



View looking south on Willoughby Avenue toward the Rezoning Area

Photograph 11



View of commercial buildings on Hart Street looking north on Wyckoff Ave.

Photograph 12



View of Suydam Street looking south towards Maria Hernandez Park

Photograph 13



View of commercial buildings on Wyckoff Ave. looking west

Photograph 14



View of Maria Hernandez Park on Irving Ave. looking east towards Suydam Street

1.4 Description of Proposed Development Site

The Proposed Development Site (Block 3210, Lots 16, 17, 18, 19, 20, 21, 48, and 51) is located on a rectangular site mid-block with Lots 16-21 having frontage on Willoughby Avenue and Lots 48 and 51 having frontage on Suydam Street. The Proposed Development Site is situated between Irving Avenue to the south and Wyckoff Avenue to the north. The site is a combined approximately 32,500 square feet and is mapped with an M1-1 zoning district. There is currently a 43,250-sf light manufacturing building on Lot 51 with five tenants. The existing structure has a front wall height of 59 feet. Lots 16-21 and Lot 48 are vacant and used for parking and storage.

1.5 Description of Proposed Development

The Proposed Development on Block 3210, Lots 48 and 51 would be an enlargement of the existing four-story structure on Block 3210, Lot 51 which consists of approximately 43,250 gsf of industrial and manufacturing floor area, to a 56,580 gsf industrial and manufacturing building. The Proposed Development would be built to 3.23 FAR and would comply with M1-5 zoning district regulations with a front wall height of 67 feet. Additionally, no parking would be required for the enlargement pursuant to the M1-5 parking regulations.

The proposed Willoughby Development is a new nine-story and cellar residential building at 1250 Willoughby Avenue (Block 3210, Lots 16, 17, 18, 19, 20, and 21). The building would contain approximately 95 affordable dwelling units developed under the HPD's "Mixed Middle Income (M2)" program, which funds the new construction of multi-family rental housing affordable to low-, moderate- and middle-income families. The building would contain 9 units at 40 percent of the Area Median Income ("AMI"), 9 units at 50 percent AMI, 5 units at 60 percent AMI, 29 units at 100 percent AMI, and 42 units at 130 percent AMI. The proposed unit distribution is 9 studio units (10 percent), 33 one-bedroom units (35 percent), 38 two-bedroom units (40 percent), 14 three-bedroom units (15 percent), and 1 superintendent's unit.

The proposed nine-story building would contain approximately 81,720 sq. ft. of residential floor area with an FAR of 5.5, permitted under the Mandatory Inclusionary Housing Program set forth in Section 23-154 of the Zoning Resolution, which requires provision of either (i) affordable housing in an amount equivalent to at least 25 percent of the residential floor area within the development, priced at or below 60 percent AMI, with at least 10 percent of such floor area priced at or below 40 percent AMI, or (ii) affordable housing in an amount equivalent to at least 30% of the residential floor area within the development, priced at or below 80 percent AMI.

The Applicant has selected MIH Option 1 for the proposed development, which requires affordable housing to be provided equivalent to 25 percent of the residential floor area developed at an average of 60 percent AMI with 10 percent at 40 percent AMI. The building has a height of 90 ft. with no setback. A 30-ft. rear yard is provided. The building would be developed pursuant to Quality Housing regulations with required amenities relating to interior space, recreation areas, and landscaping. The parking requirement for the proposed building pursuant to ZR § 25-23 is for 36 accessory off-street parking spaces based on the 72 non-income-restricted units. The Applicant is seeking a special permit pursuant to ZR § 74-533 to waive the residential parking requirement for the proposed building.

1.6 Build Year

Considering the time required for the environmental review and land use approval process, and assuming a construction period of approximately 12 months, ULURP, the project's HPD financing approval, design, leasing, and given that, as discussed below, development is expected on Proposed Development Sites as a result of the rezoning, an analysis year of 2021 will be used to assess the potential for environmental impacts.

1.7 Purpose and Need of the Proposed Actions

Residential uses are not permitted as a matter of right in the existing M1-1 zoning district and manufacturing uses are restricted to an FAR of 1.0 with required parking.

The Proposed Actions would also allow for the applicant to enlarge the existing manufacturing use on Lot 51 to a FAR of up to 5.0. Lot 51 is currently built at a 2.88 FAR, which is overbuilt per M1-1 zoning regulations. The Proposed Actions would help bring this existing building into conformance.

The proposed actions would facilitate the development of 95 units of affordable rental housing and the preservation of 42,000 sq. ft. of conforming manufacturing space with a 14,000 sq. ft. enlargement for additional conforming uses. The proposed project is consistent with both the Draft Planning Framework for Bushwick and the North Brooklyn Industry and Innovation Plan by facilitating medium-density affordable housing and the expansion of industrial space near transit.

The Project Area is within the Transit Zone and is well served by public transportation with multiple options for subway and bus service. The L train runs along Wyckoff Avenue and the Jefferson Street subway station is located approximately two blocks from the Project Area. The B13, B38, and B57 bus routes also serve the area along Wyckoff, DeKalb, and Flushing avenues, respectively.

Additionally, the proposed special permit pursuant to ZR § 74-533 is necessary to waive the residential parking requirement 36 accessory off-street spaces for the non-income-restricted units at the proposed building at the Willoughby Development Site. Without the proposed special permit, the required spaces would need to be provided, which would cause a reduction in the number of affordable units. The proposed waiver of 36 parking spaces would facilitate the creation of income-restricted housing units by allowing the proposed development to concentrate available resources on the production of affordable housing rather than parking.

1.8 Development Scenario

1) No-Action Scenario

The Proposed Development Site is in the Bushwick neighborhood of Brooklyn, which is densely developed. No significant new construction was observed within 400 feet of the Proposed Development Site and no development plans are known for the area.

Absent the Proposed Actions, it is assumed that existing conditions would continue within the Proposed Rezoning Area under the No-Action Scenario. No buildings within the Proposed Rezoning Area would need to be brought into compliance with existing zoning regulations. There are currently two legal, non-conforming buildings within the Proposed Rezoning Area. Block 3210, Lot 51 is a manufacturing building with an FAR of 2.88. This building was built in 1931 before the Zoning Resolution was adopted in 1961. No existing tenants within the building would need to be displaced.

Lots 16-21 each 2,500 sq. ft. unimproved lots used for parking and storage do not have any known development plans absent the proposed action. Given the unimproved status, and available FAR, it is likely they would remain unimproved in the No-Action Scenario.

Additionally, Block 3210, Lot 15 (non-applicant owned) is occupied with a Use Group 2 residential building built at an FAR of 0.9. This building is a legal, non-conforming building as it was built in 1901 before the Zoning Resolution was adopted in 1961. Since the building is legally non-conforming, no tenants would be displaced in the No-Action Scenario and existing conditions would remain.

2) With-Action Scenario

Under the Future With-Action Scenario, the Proposed Actions would amend the zoning map to change the existing M1-1 district and map an M1-5 zoning district on Block 3210, Lots 48 and 51, an MX (M1-5/R7D) zoning district on Lots 15-21, and an R6 district on the portion of Lot 1 beyond 200 feet from Irving Avenue.

The With-Action Scenario deviates slightly from the applicant's intended project in order to provide a conservative analysis of the maximum bulk and FAR that would be possible under the proposed rezoning.

Projected Development Sites

Based on the criteria provided above, two Reasonable Worst-Case Development Scenario (RWCDS) Projected Development Sites were identified: RWCDS Projected Development Site 1 (Block 3210, Lots 48 and 51, applicant-owned) and RWCDS Projected Development Site 2 (Block 3210, Lots 15, 16, 17, 18, 19, 20, and 21, also applicant-owned). The With-Action Scenario deviates slightly from the applicant's intended project in order to provide a conservative analysis of the maximum bulk and FAR that would be possible under the proposed rezoning. In an R7D district, a FAR of 5.6 is permitted, and a maximum building height of 115 feet is permitted, within an MIH Area for Quality Housing buildings with a "qualifying ground floor."

Block 3210, Lots 48 and 51 – RWCDS Projected Development Site 1

While the proposed enlargement results in an additional 14,052 sf of new manufacturing floor area and total of 56,580 sf (3.23 FAR), for a more conservative analysis, we assume development up to the maximum permitted FAR of 5.0 in the proposed M1-5 zoning district. On a combined 17,500 sf lot, it is assumed that the Proposed Actions would result in approximately 96,250 gsf (87,500 zsf) of manufacturing floor area. Use Groups that could occupy floor area in the building include UGs 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16, and 17. The building would not be able to penetrate the sky exposure plane, which begins at 85 feet above the street line. Per M1-5 zoning district required parking rules, parking would not be required for this With-Action development scenario.

Block 3210, Lots 15, 16, 17, 18, 19, 20, and 21 – RWCDS Projected Development Site 2

Under the With-Action Scenario, it is assumed that Block 3210, Lots 15-21 would be developed to the maximum FAR of 5.6, pursuant to ZQA/MIH in an R7D zoning district. On a combined 17,500 sf lot, it is assumed that the Proposed Actions would result in approximately 107,800 gsf (98,000 zsf) of residential floor area. Estimating approximately 850 sf per dwelling unit, it is assumed that 125 residential units would be constructed on-site. Under the 20 percent MIH option, the proposed rezoning would result in the creation of approximately 24 units affordable to residents with incomes averaging 80 percent of the AMI. It is assumed that the building would be built up to its maximum height of 110 feet. Additionally, since the zoning lot is over 10,000 square feet, parking is required for 50% of market rate dwelling units. With 101 market rate dwelling units, it is assumed that 50 spaces would have to be provided. However, the Applicant is pursuing a special permit pursuant to ZR § 74-533 (Reduction of parking spaces to facilitate affordable housing) to waive the parking requirements for this project, so it is assumed that no parking spaces would be required.

While Lot 15 is not owned by the applicant, it is assumed in the RWCDS, that Lot 15 would be developed as part of RWCDS Projected Development Site 2 along with Lots 16-21, as one development.

Sites Where Development Would Not Be Induced or Precluded by the Proposed Actions

The proposed rezoning is not expected to induce new development on Block 3210, Lot 1 for reasons discussed below:

Block 3210, Lot 1

Lot 1 contains approximately 45,000 sf of lot area and is improved with a four-story 37,620 gsf public elementary school (P.S. 123). An R6 district on the portion of Block 3210 Lot 1 beyond 200’ from Irving Avenue would be mapped here under the With-Action Scenario. The proposed mapping of an R6 district on the portion of Lot 1 that is currently mapped M1-1 will establish the entirety of Lot 1 as R6. It is unlikely

however that any development would be induced on Lot 1 in the With-Action Scenario because P.S. 123 currently occupies the entirety of Lot 1. Additionally, there are no plans to re-site this school in the immediate future.

Table 1.1 Existing, No-Action, and With-Action Conditions

	EXISTING CONDITION	NO-ACTION CONDITION	WITH-ACTION CONDITION*	INCREMENT
LAND USE				
Residential	☒ YES ☐ NO	☒ YES ☐ NO	☒ YES ☐ NO	
If "yes," specify the following:				
Describe type of residential structures	One and Two Family Building	One and Two Family Building	Multi-family walkup and elevator One and Two Family Building	Multi-family walkup and elevator
No. of dwelling units	2 (Block 3210, Lot 15)	2 (Block 3210, Lot 15)	**125** 125 (Block 3210, Lot 15-21)	123
No. of low- to moderate-income units	NA	NA	24 (20% MIH)	24(20% MIH)
Gross floor area (sq. ft.)	2,250 (Block 3210, Lot 15)	2,250 (Block 3210, Lot 15)	**107,800** 107,800 (Block 3210, Lot 15-21)	105,550
Commercial	☐ YES ☒ NO	☐ YES ☒ NO	☐ YES ☒ NO	
If "yes," specify the following:				
Describe type (retail, office, other)				
Manufacturing/Industrial	☒ YES ☐ NO	☒ YES ☐ NO	☒ YES ☐ NO	
If "yes," specify the following:				
Type of use	Light Industrial	Light Industrial	Light Industrial	
Gross floor area (sq. ft.)	43,250	43,250	96,250	53,000
Open storage area (sq. ft.)				
If any unenclosed activities, specify:				
Community Facility	☐ YES ☒ NO	☐ YES ☒ NO	☐ YES ☒ NO	
If "yes," specify the following:				
Type				
Gross floor area (sq. ft.)				
Vacant Land	☒ YES ☐ NO	☒ YES ☐ NO	☐ YES ☒ NO	
If "yes," describe:	17,500 sf Block 3210, Lot 16- 2500 Block 3210, Lot 17- 2500 Block 3210, Lot 18- 2500 Block 3210, Lot 19- 2500 Block 3210, Lot 20- 2500 Block 3210, Lot 21- 2500 Block 3210, Lot 48- 2500	17,500 sf Block 3210, Lot 16- 2500 Block 3210, Lot 17- 2500 Block 3210, Lot 18- 2500 Block 3210, Lot 19- 2500 Block 3210, Lot 20- 2500 Block 3210, Lot 21- 2500 Block 3210, Lot 48- 2500		(17,500)
Other Land Uses	☐ YES ☒ NO	☒ YES ☒ NO	☐ YES ☒ NO	
If "yes," describe:				
PARKING				
Garages	☐ YES ☒ NO	☐ YES ☒ NO	☐ YES ☒ NO	

	EXISTING CONDITION	NO-ACTION CONDITION	WITH-ACTION CONDITION*	INCREMENT
If "yes," specify the following:				
No. of public spaces				
No. of accessory spaces				
Lots	☐ YES ☒ NO	☐ YES ☒ NO	☐ YES ☒ NO	
If "yes," specify the following:				
No. of public spaces	NA	NA		
No. of accessory spaces	NA	NA	0**	0**
ZONING				
Zoning classification	M1-1	M1-1	M1-5, MX (M1-5/R7D), R6	M1-5, MX (M1-5/R7D), R6
Maximum amount of floor area that can be developed	1.0 Manufacturing and Industrial FAR 1.0 Commercial FAR 2.4 Community Facility Far (UG 4 only)	1.0 Manufacturing and Industrial FAR 1.0 Commercial FAR 2.4 Community Facility Far (UG 4 only)	5.0 Manufacturing and Industrial FAR (Project Site 1) 5.0 Commercial FAR (Project Site 1) 6.5 Community Facility Far (UG 4 only) (Site 1) 5.6 Residential FAR (Project Site 2)	5.0 Manufacturing and Industrial FAR(Site 1) 4.0 Commercial FAR (Site 1) 4.1 Community Facility Far (UG 4 only) (Site 1) 5.6 Residential FAR (Site 2)
Predominant land use and zoning classifications within land use study area(s) or a 400 ft. radius of proposed project	Single-family residential, multi-family residential, mixed residential and commercial, public facilities and institutions, Industrial & Manufacturing; R6, M1-1	Single-family residential, multi-family residential, mixed residential and commercial, public facilities and institutions, Industrial & Manufacturing; R6, M1-1	Single-family residential, multi-family residential, mixed residential and commercial, public facilities and institutions, Industrial & Manufacturing; R6, M1-1, M1-5, MX (M1-5/R7D)	M1-5, MX (M1-5/R7D)

* - Note: With Action Scenario- Not Applicant Proposed

**- Assuming No Parking Increment

Table 1.2 Projected Development Under Proposed Rezoning [1]

Block	Lot	Lot Area	Existing Zoning	Existing FAR	Proposed Zoning	Projected Res. sf	Projected Comm. sf	Projected Manufacturing. sf	Projected FAR	DUs
3210	48	2,500	M1-1	0	M1-5	0	0	96,250	5.0	0
3210	51	15,000		2.88						
3210	15	2,500	M1-1	0.9	M1-5/R7D	107,800	0	0	5.6	125
3210	16	2,500	M1-1	0						
3210	17	2,500	M1-1	0						
3210	18	2,500	M1-1	0						
3210	19	2,500	M1-1	0						
3210	20	2,500	M1-1	0						
3210	21	2,500	M1-1	0						

1- Only Projected Sites Analyzed under Proposed Rezoning

[1] Development is not expected to occur on Lot 1 and therefore this lot is not analyzed as a Projected Development Site in the analysis.

2.0 ENVIRONMENTAL REVIEW

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

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

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

In the following technical sections, where a preliminary or more detailed assessment was necessary, the discussion is divided into Existing Conditions, the Future No-Action Conditions (the Future Without the Proposed Actions), and the Future With-Action Conditions (the Future with the Proposed Actions).

2.1 LAND USE, ZONING AND PUBLIC POLICY

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

2.1.1 Land Use

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

Existing Conditions

The *CEQR Technical Manual* recommends a land use, zoning, and public policy study area extending 400 feet from the site of the Proposed Actions. This Study Area is generally bounded by Wyckoff Avenue to the north, the midblock between Hart Street and DeKalb Avenue to the east, the midblock between Troutman Street and Starr Street to the west, and Irving Avenue to the south (**Figure 1.1-1**).

A field survey was conducted to determine the existing land use patterns and neighborhood characteristics of the Study Area. Existing land use immediately surrounding the Proposed Rezoning Area is a mix of one- and two-family buildings, parking, industrial/manufacturing, mixed residential and commercial buildings, commercial uses, elementary school P.S. 123 Suydam, and Maria Hernandez Park. The commercial uses include local retail such as grocery stores, laundromats, beauty salons, coffee shops, restaurants, and also include a boxing gym. The prevailing built form of the area is a mix of low-rise non-residential buildings and three- to six-story residential buildings. Many residential buildings in the area are three-story attached mixed-use walk-up residences with commercial uses on the ground floor. The 400-foot Study Area includes Maria Hernandez Park, which is a 6.87-acre neighborhood park south of the Proposed Rezoning Area.

The Proposed Rezoning Area (Block 3210, Lots 15,16, 17, 18, 19, 20, 21, 48, and 51 and p/o Lot 1) is located on a rectangular site mid-block with Lots 15 through 21 having frontage on Willoughby Avenue and Lots 48 and 51 having frontage on Suydam Street. Lots 15 through 21 are each 2,500 sf lots. Lots 16-21 currently have no built improvements and are currently used for parking and storage facilities. Lot 15 is occupied with a UG 2 residential building built to an FAR of 0.9. Lot 48 is a 2,500-sf lot with no built improvements, and Lot 51 contains a four-story, approximately 43,250 gsf light manufacturing building with five industrial tenants. The Proposed Rezoning Area would extend to include part of Lot 1. Lot 1 is a 45,000-sf lot and contains a four-story educational facility building currently used as an elementary school (“P.S. 123 Suydam”).

The western portion of the Study Area contains development patterns that are consistent with the Proposed Rezoning Area and adjacent buildings. Block 3199 is located west of Willoughby Avenue and east of Starr Street between Wyckoff and Irving Avenues. The existing land uses in this block include multifamily walk-up buildings on the northeast and southern ends of the block along with commercial and office uses to the northwest of the block and industrial and manufacturing and public facility uses midblock. Uses in this block include a warehouse and parking facility, several three-story multifamily residential buildings, and several ground floor local retail establishments such as Starr Bar, Gua-cu-co Hot Dogs, and Good Yoga Bushwick. An entrance to the Jefferson Street L train stop is located on the northwest corner of this block. Additionally, Block 3188 is located west of Starr Street and east of Troutman Street between Wyckoff and Irving Avenues and primarily contains industrial and manufacturing land uses with some multifamily walk-up buildings, one- and two- family buildings, and commercial and office buildings at the northern and southern ends of the block. There is an entrance to the Jefferson Street L train stop at the northeast corner of this block.

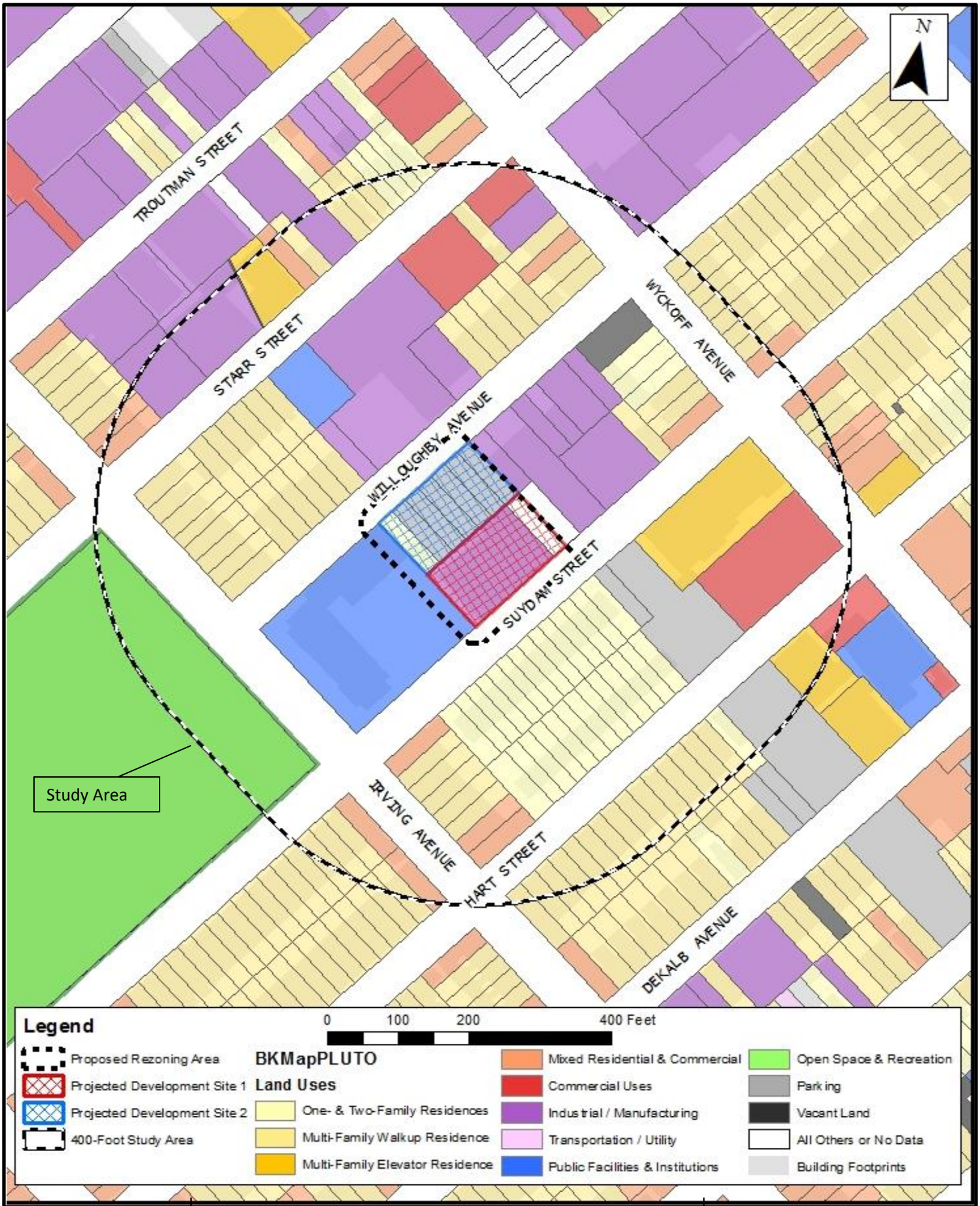
The eastern portion of the Study Area also contains development patterns that have some consistency with the Proposed Rezoning Area and adjacent buildings, though these blocks contain more residential uses and fewer industrial and manufacturing uses. Block 3221 is located east of Suydam Street and west of Hart Street between Wyckoff and Irving Avenues. The existing land uses in this block include multifamily walk-up buildings, commercial and office buildings, and parking facilities on the northern portion of the lot, one- and two-family buildings on the midblock portion of the lot, and a mix of multifamily walk-up buildings and commercial and office buildings on the southern portion of the lot. Retail uses in this block include a large Key Food supermarket, a smaller grocery store, and a casual eatery (“China Garden”). This block also contains a medical office and pharmacy. Additionally, Block 3237 is located east of Hart Street and west of DeKalb Avenue between Wyckoff and Irving Avenues and primarily contains multifamily walk-up buildings and one- and two-family buildings on the southern half of the lot and parking facilities, multifamily walk-up buildings, public facilities, and commercial and office buildings on the northern half of the lot.

The general mix of land use observed in the Study Area generally reflects the distribution of land use observed throughout Brooklyn CD 4, which is summarized in **Table 2.1-1.** The most prominent land use within Brooklyn CD 4 is multifamily walk-up residential, followed by one- to two-family residential and open space.

The Proposed Rezoning Area and the surrounding 400-foot Study Area within Bushwick are both mixed with residential, industrial, and commercial character and uses. The block bound by Suydam Street, Willoughby Avenue, Wyckoff Avenue, and Irving Avenue is situated between a heavily industrial and manufacturing area to the west and a more consistently residential area to the east. The block containing the Proposed Rezoning Area (Block 3210) includes several manufacturing and industrial tenants, such as Wilco Finishing Corporation and Loevera Clothing. The block also contains a school facility and parking

uses. To the north of the Proposed Rezoning Area are several commercial retail establishments, an intermediate school (I.S. 162), and three-story multifamily walk-up residences. To the south of the Proposed Rezoning Area is a large park with landscaped areas and a skate park facility as well as additional three-story multifamily residences. The blocks to the west of the Proposed Rezoning Area contain a mix of industrial and commercial uses, including bars such as The Johnson's and Lot 45 Bushwick, restaurants such as Faro and Green Streets Salads, arts and cultural performance venues, yoga studios, and breweries. The blocks to the east of the Proposed Rezoning Area also contain some neighborhood retail establishments, such as Key Food, a post office, a bar called Carmelo's, and a wine store along with a mix of residential building types.

The Study Area is relatively densely developed, and the development is, as indicated, dominated by industrial and manufacturing, commercial, and residential uses. As such, the proposed new residential building and expanded manufacturing use would be consistent with the character with the surrounding neighborhood.



AECOM

Suydam Street Rezoning
Environmental Assessment Statement
Brooklyn, NY

Figure 2.1-1
Land Use Map

Table 2.1-1 2017 Land Use Distribution- Brooklyn Community District 4

LAND USES	PERCENT OF TOTAL
Residential Uses	
1-2 Family	20.69
Multifamily Walk Up	29.01
Multifamily Elevator	3.08
Mixed Residential/Commercial	8.26
Subtotal of Residential Uses	*61.04*
Non-Residential Uses	
Commercial/Office	3.74
Industrial	4.82
Transportation/Utility	1.42
Institutions	8.69
Open Space/Recreation	15.81
Parking Facilities	2.25
Vacant Land	1.66
Miscellaneous	0.58
Subtotal of Non-Residential Uses	*38.96*
TOTAL	**100.0**

Source: *Community District Profiles, New York City Department of City Planning.*

Future No-Action Scenario

The Proposed Development Site is located in the Bushwick neighborhood of Brooklyn, which is densely developed. No significant new construction was observed within 400 feet of the Proposed Development Site and no development plans are known for the area. Therefore, under the No-Action Scenario, it is assumed that land use conditions would remain consistent with the existing conditions.

Future With-Action Scenario

Under the Future With-Action Scenario, the Proposed Actions would amend the zoning map to change the existing M1-1 district and map an M1-5 zoning district on Block 3210, Lots 48 and 51, an MX (M1-5/R7D) zoning district on Lots 15-21 and an R6 district on the portion of Lot 1 beyond 200 feet from Irving Avenue. The With-Action Scenario deviates slightly from the applicant's intended project in order to provide a conservative analysis of the maximum bulk and FAR that would be possible under the proposed rezoning. The boundaries of the proposed zoning map and text amendments would encompass a portion of Block 3210, including Lots 15, 16, 17, 18, 19, 20, 21, 48, and 51, and a portion of Lot 1.

Under the With-Action Scenario, it is assumed that the Proposed Actions would facilitate construction of new 107,800 gsf (98,000 zsf) multifamily residential building on the combined Lots 15 through 21. This building would contain approximately 125 residential dwelling units with 24 units affordable to residents with incomes averaging 80 percent of AMI. Additionally, it is assumed that under the With-Action Scenario, the Proposed Actions would result in an enlargement of the existing manufacturing use on Lots 48 and 51 to the full maximum 5.0 FAR allowed in an M1-5 zoning district. On the combined 17,500 sf lot, it is assumed that the Proposed Actions would result in approximately 96,250 gsf (87,500 zsf) of manufacturing floor area potentially occupied by Use Groups 5-14, 16, and 17.

The Proposed Actions are not expected to induce new development on Block 3210, Lot 1 and therefore the land use on this lot is likely to remain the same as the existing conditions under the With-Action Scenario.

Within the Bushwick neighborhood of Brooklyn, and in proximity to the Proposed Rezoning Area, there has been considerable additional residential and commercial development over the past several years. The area is densely developed, and the development is, as indicated, dominated by industrial and manufacturing, retail, and increasingly multifamily residential uses.

The Proposed Actions would reinforce this trend towards a more active mixed-use neighborhood, which is heavily represented to the east of the Proposed Rezoning Area and in the blocks immediately to the west. Additionally, the potential uses in the With-Action Scenario – expanded manufacturing and new residential uses – are consistent with the uses surrounding the Proposed Rezoning Area at present. Therefore, the Proposed Actions are not expected to have any adverse impacts on surrounding land uses.

2.1.2 Zoning

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

Existing Conditions

Zoning designations within and around the Study Area are depicted in **Figures 2.1-2 and 2.1-3**, while **Table 2.1-2** summarizes use, floor area, and parking requirements for the zoning districts in the 400-foot Study Area.

The Proposed Rezoning Area is in a mapped M1-1 zoning district. Within the Study Area, the area to the south and east of the Proposed Rezoning Area and a small portion of the Study Area north of Wyckoff Avenue are in a mapped R6 zoning district. The portion of the R6 zoning district that falls within the Study Area includes one C1-3 commercial overlay on the north side of Irving Avenue from Suydam Street to Hart Street.

The Proposed Rezoning Area is located entirely within an M1-1 zoning district. M1 districts range from areas with multistory lofts to areas with one- or two-story warehouses with loading bays, and generally include light industrial uses such as woodworking shops, repair shops, and wholesale service and storage facilities. Almost all industrial uses are allowed in M1 districts, subject to meeting strict performance standards. Offices, hotels, most retail uses, and houses of worship are also permitted. Allowable uses in M1-1 districts include Use Groups 4 – 14, 16, and 17. M1-1 districts permit an FAR for manufacturing and commercial uses of up to 1.0. Parking and loading requirements are based on the type of use and size of the given establishment. Except where the district abuts other district boundaries, side yards are not required.

Other portions of the Study Area, including areas to the south and southeast of the Proposed Rezoning Area and an area north of Wyckoff Avenue, are located within an R6 zoning district. R6 districts are medium-density non-contextual residence districts widely mapped throughout Brooklyn, Queens, and the Bronx and can range from neighborhoods with a broad range of building types and heights to large-scale “tower in the park”-style developments. R6 districts have a maximum FAR of 2.43 (range of 0.78 to 2.43) under the basic Height Factor Regulations and a maximum FAR of 3.60 under optional Quality Housing Regulations with participating in the Inclusionary Housing Program. Off-street parking is generally required for 70 percent of dwelling units (50 percent under Quality Housing Regulations), though requirements are reduced for income-restricted housing units, on small lots, and within certain areas such as Transit Zones.

There is one portion of the Study Area within the R6 zoning district that has a C1-3 commercial overlay. This overlay district allows for a variety of local retail needs, and typical uses include neighborhood grocery stores, restaurants and eateries, coffee shops, and hair and nail salons and barbers. The maximum commercial FAR for a C1-3 overlay district is 2.0 when mapped within R6-R10 zoning districts as is the case within the Study Area.

Future No-Action Scenario

In the future without the Proposed Actions, zoning changes are not expected to occur on the Proposed Development Site or within the surrounding Study Area. Because the Applicant may not construct any new residential square footage on the Proposed Development Site without the proposed zoning map and text amendments, it is assumed that the Future No-Action Scenario would remain consistent with existing conditions. Therefore, if the requested rezoning actions are not granted, the existing conditions would continue in the Future No-Action Scenario.

Table 2.1-2 Summary of Zoning Regulations

Zoning District	Type and Use Group (UG)	Floor Area Ratio (FAR)	Parking (Required Spaces)
M1-1	Light Manufacturing UGs 4-14, 16, 17	1.0 FAR for Manufacturing 2.40 FAR for Community Facility	Varies by Use
R6	Residential UGs 1-4	0.78 – 2.43 FAR for Residential (2.2 – 3.6 FAR under QH) 4.8 FAR for Community Facility	70 percent of dwelling units, or 50 percent under QH regulations (waived if 5 or fewer spaces required)
C1-3	Commercial Overlay UGs 1-6	2.0 FAR for Commercial [mapped over R6-R10]	1 space per 800 sf ZFA

Source: Zoning Resolution, New York City Department of City Planning, accessible at http://www1.nyc.gov/site/planning/zoning/access-text.page.

Future With-Action Scenario

The Proposed Actions would change the existing M1-1 district on Block 3210 to an M1-5 district on Lots 48 and 51; an MX (M1-5/R7D) district on Lots 15, 16, 17, 18, 19, 20, and 21; and an R6 district on a portion of Lot 1 beyond 200 feet from Irving Avenue. Absent the Proposed Actions, the applicant would be unable to facilitate the expansion of the present manufacturing use and the construction of a new residential development under the existing use and floor area requirements of an M1-1 district. The Proposed Actions would therefore not have a significant impact on the extent of conformity with the current zoning in the Study Area, and it would not adversely affect the viability of conforming uses on nearby properties. Significant adverse impacts to zoning are not anticipated and further zoning analysis is not warranted.

Table 2.1-2a Summary of Zoning Regulations (With-Action Scenario)

Zoning District	Type and Use Group (UG)	Floor Area Ratio (FAR)	Parking (Required Spaces)
M1-1	Light Manufacturing UGs 4-14, 16, 17	1.0 FAR for Manufacturing 2.40 FAR for Community Facility	Varies by Use
R6	Residential UGs 1-4	0.78 – 2.43 FAR for Residential (2.2 – 3.6 FAR under QH) 4.8 FAR for Community Facility	70 percent of dwelling units, or 50 percent under QH regulations (waived if 5 or fewer spaces required)
C1-3	Commercial Overlay UGs 1-6	2.0 FAR for Commercial [mapped over R6-R10]	1 space per 800 sf ZFA
M1-5	Manufacturing UGs 4-14, 16 &17	5.0 FAR for Manufacturing 5.0 FAR for Commercial 6.5 FAR for Community Facility	None Required
M1-5/R7D	Mixed Light Manufacturing and Residential UGs1-14, 16 &17	4.2 FAR for Residential (5.6 with MIH) 5.0 FAR for Manufacturing 5.0 FAR for Commercial 6.5 FAR for Community Facility	Parking required for 50 percent of dwelling units (15 percent of IRHU)

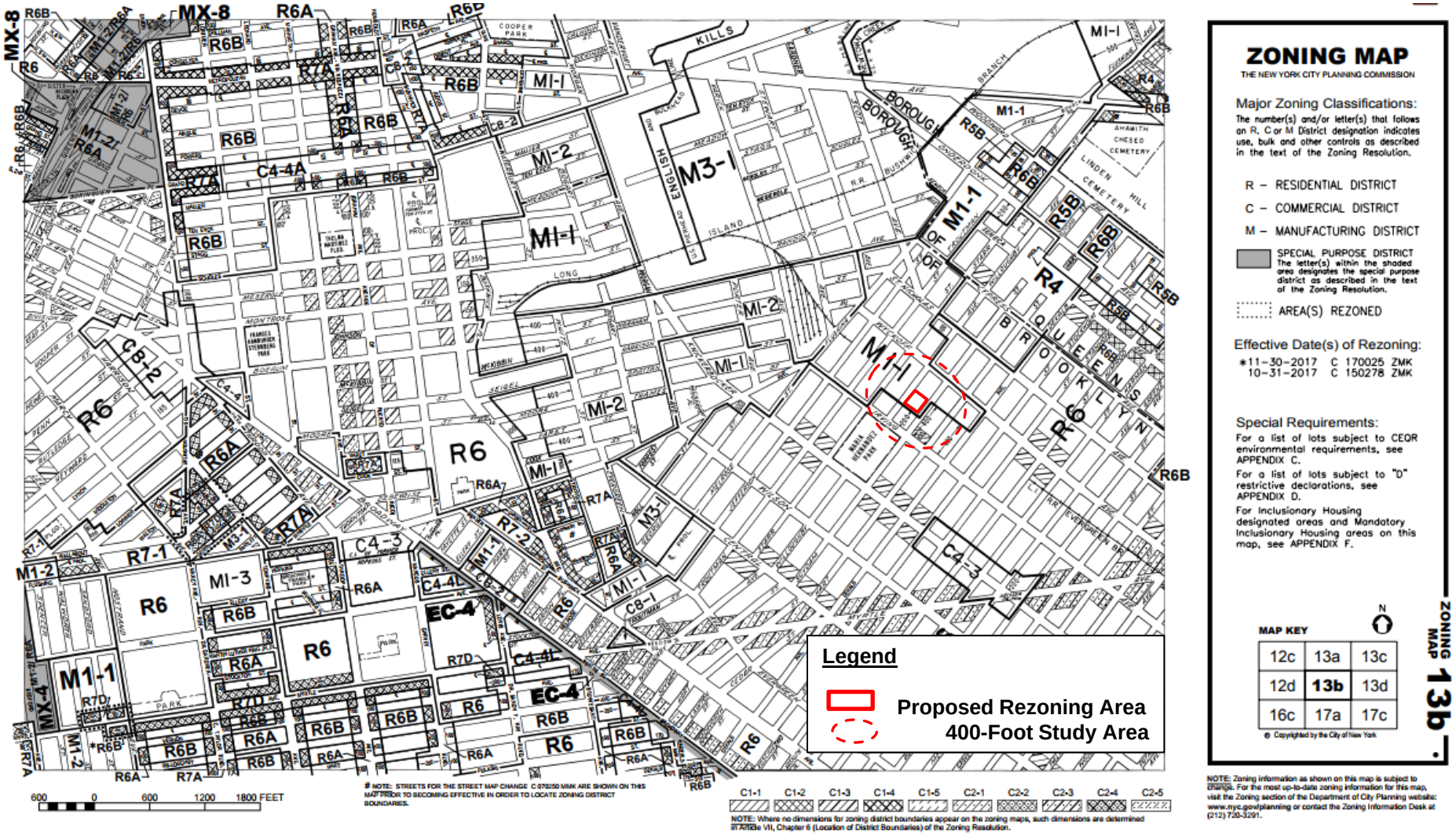


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Figure 2.1-2– Zoning Sectional Map

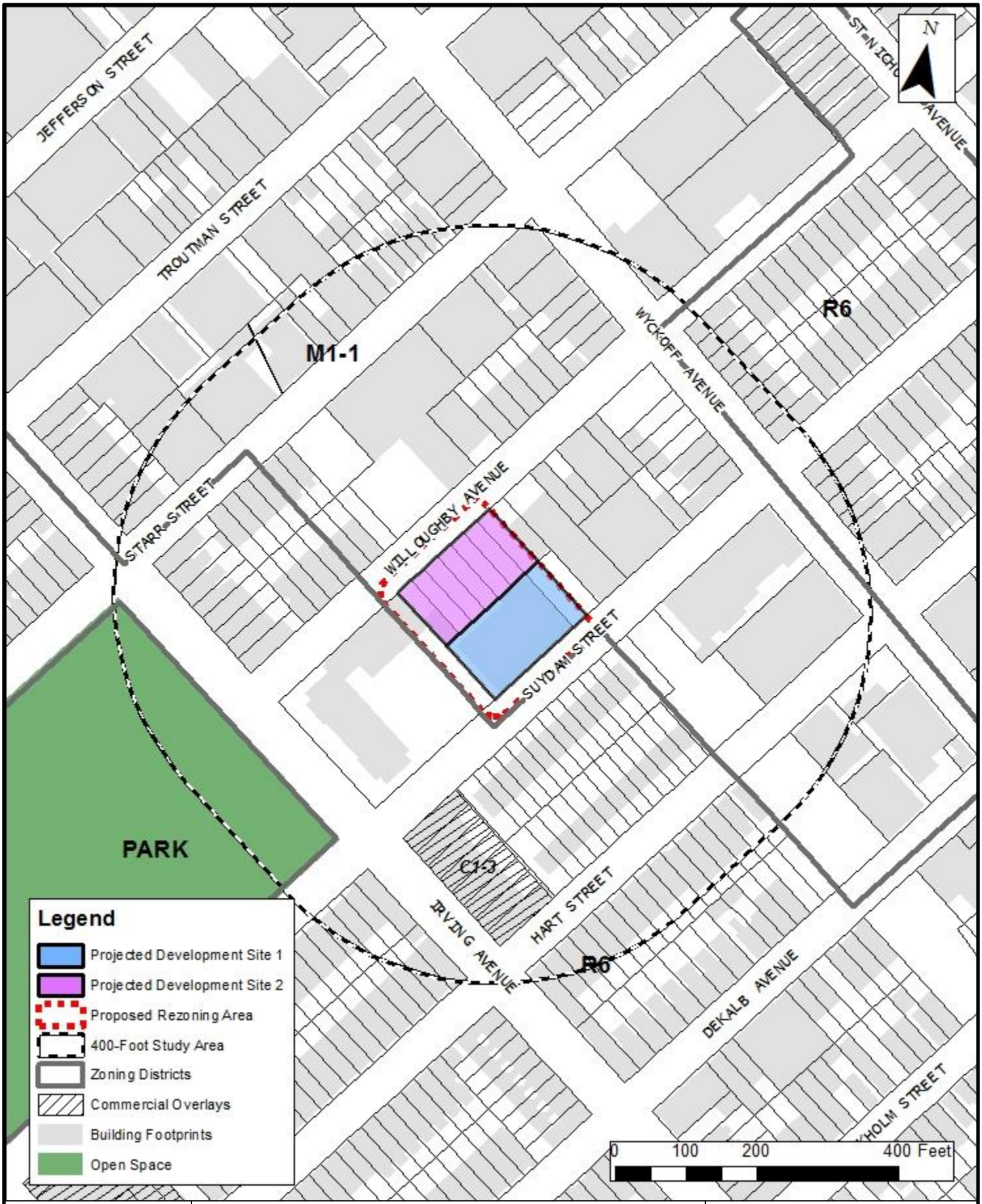

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Figure 2.1-3
Detailed Zoning Map

2.1.3 Public Policy

The Proposed Rezoning Area 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), Industrial Business Zone (IBZ), or the New York City Landmarks Law. The Proposed Actions also are not part of a large publicly sponsored project, and as such, consistency with the City's *PlaNYC 2030* for sustainability is not warranted.

Waterfront Revitalization Program

The Proposed Rezoning Area is not located within New York City's designated coastal zone and, as such, is not subject to review for its consistency with the City's Waterfront Revitalization Program (WRP).

Housing New York Plan

The proposed special permit pursuant to ZR § 74-533 is necessary to waive the residential parking requirement 36 accessory off-street spaces for the non-income-restricted units at the proposed building at the Willoughby Development Site. Without the proposed special permit, the required spaces would need to be provided, which would be both prohibitively costly and would cause a reduction in the number of units. The proposed waiver of 36 parking spaces would facilitate the creation of income-restricted housing units by allowing the proposed development to concentrate available financial resources on the production of affordable housing rather than parking. The proposed waiver in parking significantly contributes to the financial feasibility of the project. It reduces the unnecessarily high cost of providing parking in a transit-accessible affordable housing development, allowing HPD subsidies to go further toward meeting the affordable housing goals established in the City's Housing New York: A Five-Borough, Ten-Year Plan.

Nearly half of the households in Brooklyn Community District 4 are rent burdened. According to the U.S. Census Bureau, American Community Survey 2011-15 Five Year Estimates for Public Use Microdata Area (PUMA) 4002 (which approximates Brooklyn Community District 4), 49.0 percent of households spend 35 percent or more of their income on rent. This is higher than the estimated 46.1 percent in Brooklyn and 44.8 percent Citywide. The proposed parking waiver would facilitate the development of greatly needed housing at the Willoughby Development Site affordable to low-, moderate- and middle-income families in Community District 4, helping to reduce the number of rent burdened households.

Housing New York identifies underutilized parking lots as an opportunity to locate new housing. It states, "in developments where unused or lightly used land exists, opportunities may be found to locate additional housing. These areas often include sites with large and underused parking lots." This proposal is directly in line with Housing New York and the goals of the Zoning for Quality and Affordability text amendment.

Conclusion

The Proposed Actions would reinforce this trend towards a more active mixed-use neighborhood, which is heavily represented to the east of the Proposed Rezoning Area and in the blocks immediately to the west. Additionally, the potential uses in the With-Action Scenario – expanded manufacturing and new residential uses – are consistent with the uses surrounding the Proposed Rezoning Area at present. Additionally, the Proposed Actions consistent with the City's policy goals articulated Housing New York. It would promote the development of new medium-density residential development, including mandatory affordable housing to address the City's growing need for additional housing. Significant impacts related to zoning and public policy are not expected to occur. Therefore, the Proposed Actions are not expected to have any adverse impacts on surrounding land uses.

2.2 OPEN SPACE

Open space is defined as publicly- or privately-owned land that is publicly accessible and operates, functions, or is available for leisure, play, or sport, or set aside for the protection and/or enhancement of the natural environment. According to the *CEQR Technical Manual*, an analysis of open space is conducted

to determine whether a proposed project would have a direct impact resulting from the elimination or alteration of open space and/or indirect impacts resulting from overtaxing available open space. An open space analysis focuses on officially designated existing or planned public open space. An open space assessment may be necessary if a project potentially has a direct or indirect effect on open space.

The Proposed Rezoning Area is located within an area of New York City that is characterized as an "underserved" area with regards to open space (**Figure 2.2-1**). For new projects in New York City located in areas that are "underserved" with regards to open space, an open space assessment is generally conducted if the proposed project would generate more than 50 residents or 125 workers. The Proposed Actions would potentially add up to approximately 332 people in 123 additional apartments (2.7 persons per household). As the number of new residents anticipated as a result of the Proposed Actions is above the CEQR preliminary screening threshold level of 50 residents, a preliminary analysis of open space impacts due to new residents is warranted.

2.2.1 Preliminary Open Space Assessment

The open space study area includes all U.S. Census Tracts that have 50 percent or more of the tract within a half-mile radius of the Project Site, as shown in **Figure 2.2-2**, consisting of the following Census Tracts shown in **Table 2.2-1**. The Proposed Rezoning Area is located within Brooklyn Census Tract 445, and the half-mile Study Area lies within Brooklyn Community Districts 1 and 4 and Queens Community District 5.

Existing Conditions

According to 2010 U.S. Census population data that was compiled by the New York City Department of City Planning, there are a total of 47,649 residents in the Study Area, as shown in **Table 2.2-1**, per the 2010 U.S. Census. Assuming a standard background growth rate of 0.5 percent per year, the 2017 population is estimated to be approximately 49,342 residents. The Study Area contains a total of approximately 8.82 acres of publicly accessible open space (both active and passive), with the size of existing open space resources within this Study Area identified in **Table 2.2-2** and shown in **Figure 2.2-3**.

In accordance, with CEQR methodology, the assessment of open space resources in the Study Area focuses on the calculated open space ratio (OSR), or the ratio of the acres of open space per 1,000 persons. The existing OSR in the Study Area is approximately 0.179 acres per 1,000 residents, below the City's target OSR of 1.50 acres per 1,000 residents.

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

Census Tract Number	Population (2010 Census)	Population (2018 Projected)
421	3,920	4,059
423	4,217	4,367
427	5,074	5,254
429	5,630	5,830
431	5,113	5,295
441	5,643	5,843
443	5,557	5,754
445	4,446	4,604
447	2,310	2,392
453	2,017	2,089
545	3,722	3,854
TOTAL	**47,649**	**49,342**

Source: NYC Department of City Planning

Table 2.2-2 Open Space Resources in the Study Area

Key #	Open Space Name	Location	Acreage
1	Maria Hernandez Park	Irving Ave., Knickerbocker Ave. bet. Starr St. and Suydam St.	6.87
2	Fermi Playground	Central Ave., Troutman St. and Starr St.	1.06
3	PS 376	Harman St. bet. Wilson Ave. and Knickerbocker Ave.	0.17
4	IS 383	Greene Ave. bet. Wilson Ave. and Knickerbocker Ave.	0.69
5	Heisser Triangle	Knickerbocker Ave., Myrtle Ave., Bleecker St.	0.03
		TOTAL	**8.82**

Sources: NYC Department of City Planning; NYC Parks

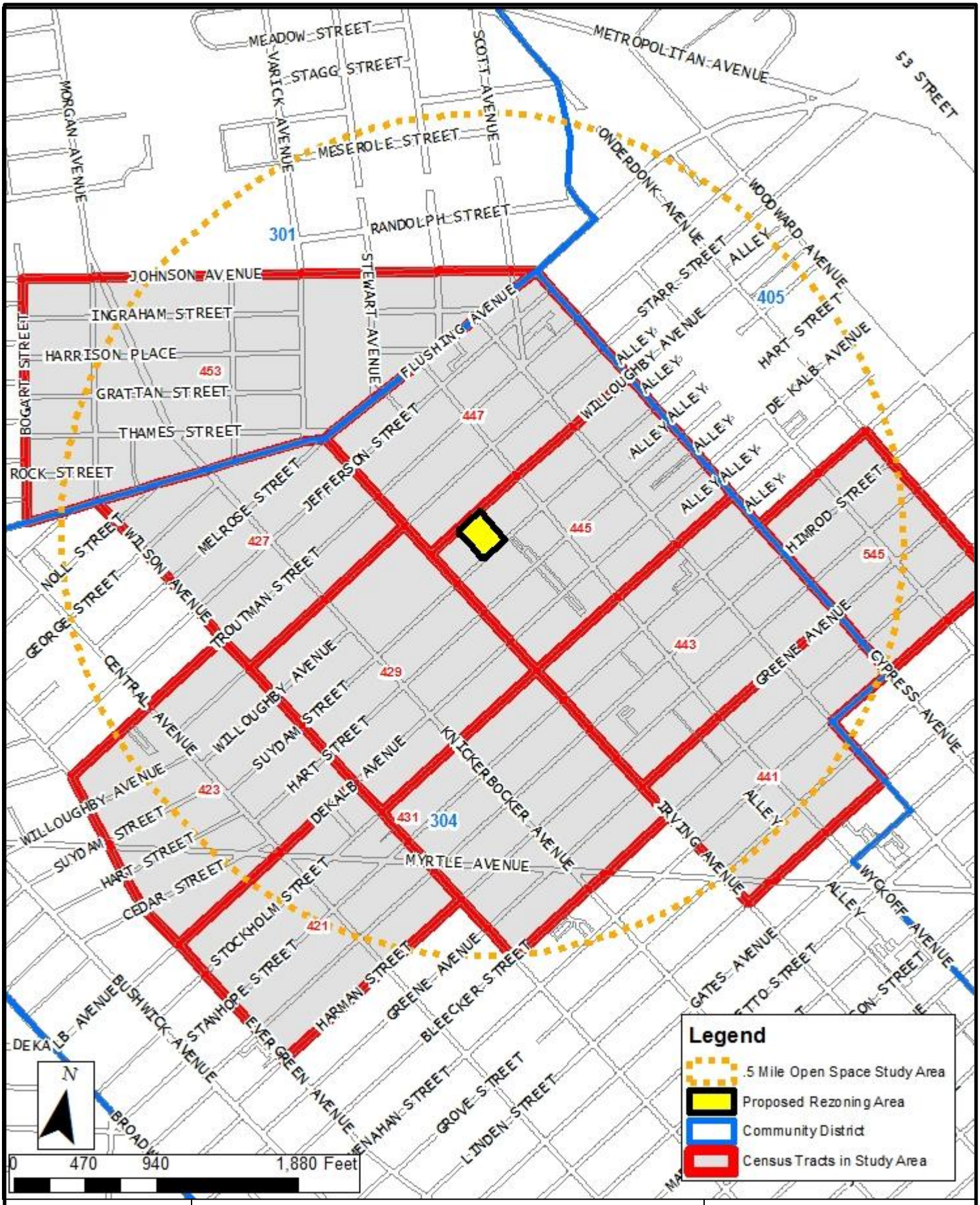

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Figure 2.2-1
Open Space Study Area

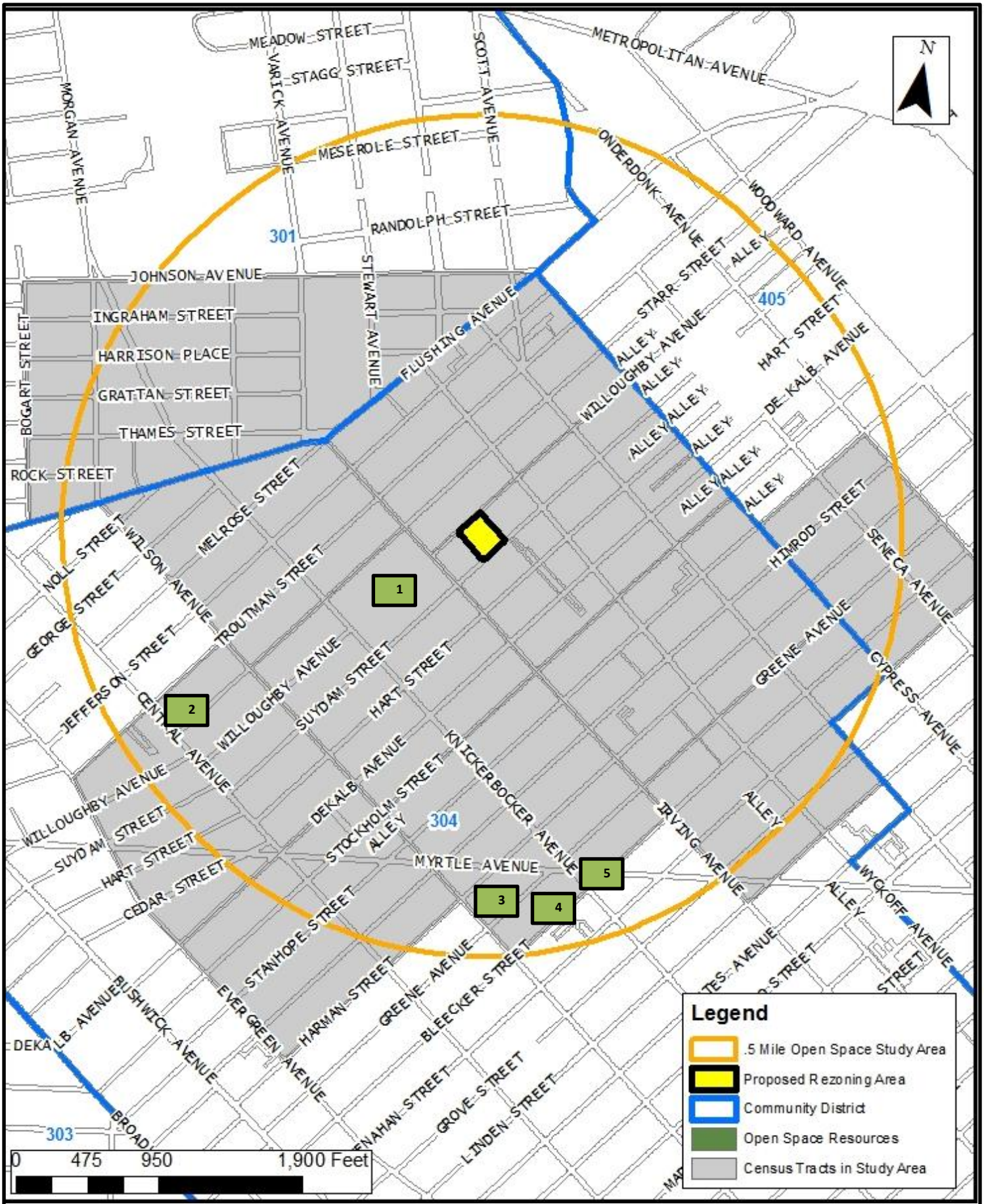

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Figure 2.2-2
Open Space Resources

Below is a list of open space resources within the Study Area.

Maria Hernandez Park
This 6.87-acre public park is in the block bound by Irving Avenue, Knickerbocker Avenue, Starr Street, and Suydam Street. It was renamed in 1989 in honor of a community leader and long-time Bushwick resident who was active in the fight against drug dealing on her block. This space includes basketball courts, bathrooms, eateries, fitness equipment, handball courts, playgrounds, spray showers, and Wi-Fi hot spots.

Fermi Playground
This playground is 1.06 acres in size and is located between Central Avenue, Troutman Street, and Starr Street. It houses basketball courts, handball courts, bathrooms, playground equipment, and spray showers.

PS 376
The open spaces located at PS 376 (Harman Street between Wilson Avenue and Knickerbocker Avenue) are part of the Schoolyards to Playgrounds program and are thus open to the public after school hours to dusk on weekdays and daytime hours on weekends. The spaces total approximately 0.17 acres in size and feature a paved play area, seating options, and garden space.

IS 383
The open space located at IS 383 (Greene Avenue between Wilson Avenue and Knickerbocker Avenue) is part of the Schoolyards to Playgrounds program and is thus open to the public after school hours to dusk on weekdays and daytime hours on weekends. The space is approximately 0.69 acres in size and includes both basketball and handball courts.

Heisser Triangle
This small, 0.03-acre planted public space is located on the triangular lot bound by Knickerbocker Avenue, Myrtle Avenue, and Bleeker Street. It was named for Charles Heisser, a young man who lived two blocks away at 297 Grove Street. Heisser was a World War I sergeant who was killed in action in France in September 1918. The space contains a war memorial with a bronze sculpture and a plaque.

Future No-Action Conditions

In the future without the Proposed Actions, the Proposed Development Site is not expected to undergo any changes or development. By the 2021 year, it is expected that the population in the neighborhood would continue to grow by approximately 0.5 percent a year, representing a standard background growth rate. Thus, the approximately 49,342 residents in the Study Area under 2017 conditions would grow to approximately 50,336 residents by 2021 under the Future No-Action Condition. Therefore, the existing OSR of 0.179 acres of open space per 1,000 residents calculated for the open space Study Area is expected to decrease slightly, to approximately 0.175 acres of open space per 1,000 residents under the Future No-Action Condition, if no additional open space resources are added to the area as expected.

Table 2.2-3 Build Year 2021 No-Action/With-Action Open Space Ratios

	No-Action 2021	With-Action 2021	Percent Change
Population	50,336	50,672	0.57%
Open Space Ratio	0.175	0.174	

Future With-Action Conditions

Preliminary screening procedures from the *CEQR Technical Manual* indicate that impacts may occur if a project reduces the OSR by more than five percent. In areas that are lacking in open space resources, a reduction as small as one percent may be considered significant. As shown the percent change is less than 1 percent. Under the Future With-Action Condition, there would be an increase of up to 336 new residents, thereby increasing the Study Area population from approximately 50,336 residents under the Future No-Action Condition to 50,672 residents under the Future With-Action Condition. The resulting OSR would decrease from 0.175 acres per 1,000 residents under the Future No-Action Condition to 0.174 acres of open space per 1,000 persons under the Future With-Action Condition, a decrease of approximately 0.57

percent as shown above in **Table 2.2-3.** The reduction in OSR related to the Proposed Actions would be less than one percent. Therefore, no significant adverse impacts to open space resources as a result of the Proposed Actions are expected and no further analysis is warranted.

2.3 SHADOWS

The *CEQR Technical Manual* defines a shadow as the condition that results when a building or other built structure blocks the sunlight that would otherwise directly reach a certain area, space or feature. An incremental shadow is the additional or new shadow that a building or other built structure resulting from a proposed project would cast on a sunlight-sensitive resource during the year. 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.

Shadows also vary according to time of day and season. Shadows cast during the morning and evening, when the sun is low in the sky, are longer, while midday shadows are shorter in length. Shadows in winter, when the sun arcs low across the southern sky, are also longer throughout the day than at corresponding times in spring and fall seasons. 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 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. However, a project located adjacent to or across the street from a sunlight-sensitive open space resource (which is not a designated New York City Landmark or listed on the State/National Registers of Historic Places, or eligible for these programs) may not require a detailed shadow assessment if the project's height increase is ten feet or less.

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

2.3.1 Preliminary Shadow Screening Assessment

The shadow assessment begins with a preliminary screening assessment to ascertain whether a project's shadow may reach any sunlight-sensitive resources at any time of the year. If the screening assessment does not eliminate this possibility, a detailed shadow analysis may be warranted in order 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 Reasonable Worst-Case Development Scenario to determine whether they fall within the range of maximum possible shadow cast on potential sunlight-sensitive resources as described above. In order to determine this, a map was prepared placing NYC Department of Parks Resources as well as Selected Facilities and Program Sites provided on NYC.gov Department of

City Planning GIS portal, as well as a list of park and public spaces provided from NYC.gov DOITT GIS and Mapping Portal, as well as a screen of SHPO and NYC Landmark Listed Properties.

It was determined that two potentially sunlight-sensitive resources, the P.S. 123 Playground and Maria Hernandez Park, could potentially be impacted by a shadow cast from one of the Reasonable Worst-Case Development sites within the Study Area. Additionally, the potential shadow from the Reasonable Worst-Case Development could potentially cast a shadow on the nearby Willoughby-Suydam National Historic District.

Tier 1 Screening Assessment

The first step in the preliminary shadow screening assessment is a Tier 1 Screening Assessment. A base map is developed that illustrates the Reasonable Worst-Case Development within the Proposed Rezoning Area in relationship to any sunlight-sensitive resources. The longest shadow Study Area is then determined, which encompasses the site of the Reasonable Worst Case Development sites and a perimeter around the site's boundary with a radius equal to the longest shadow that could be cast by the Reasonable Worst Case Development Scenario, which is 4.3 times the height of the structure that occurs on December 21st, the winter solstice. To find the longest shadow length, the maximum height of a Reasonable Worst-Case Development Scenario building (including any rooftop mechanical equipment) is multiplied by the factor of 4.3.

A shadow buffer of 4.3 times the maximum height, Reasonable Worst Case Development Scenario height allowed in the proposed M1-5 and MX (M1-5/R7D) districts with MIH bulk bonus (115 feet) was performed, resulting in a shadow radius of approximately 494 feet for RWCDS Projected Development Site 2. Additionally, assuming a maximum height of 67 feet for RWCDS Projected Development Site 1 (Site in the M1-5 portion of the MX district) a shadow radius of 289 feet was made.

As shown in **Figure 2.3-1**, the results of the Tier 1 screening assessment, three potentially sunlight-sensitive resources, the P.S. 123 Playground and Maria Hernandez Park, could potentially be impacted by a shadow cast from one of the development sites within the Study Area and are located throughout the Study Area. Additionally, the potential shadow from the Reasonable Worst-Case Development Scenario could potentially cast a shadow on the nearby Willoughby-Suydam National Historic District (**Figure 2.3).**

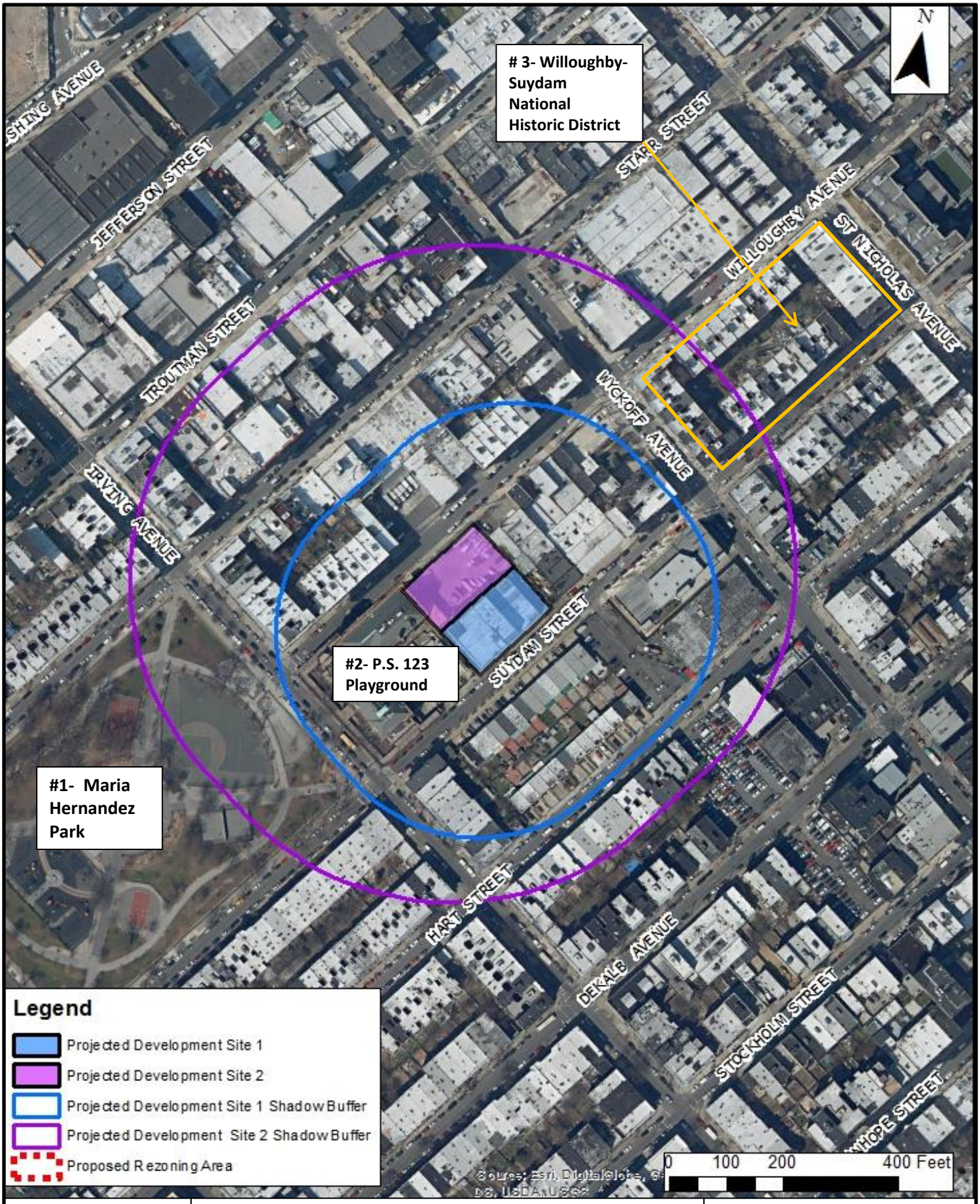

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Figure 2.3
Sunlight Sensitive Features

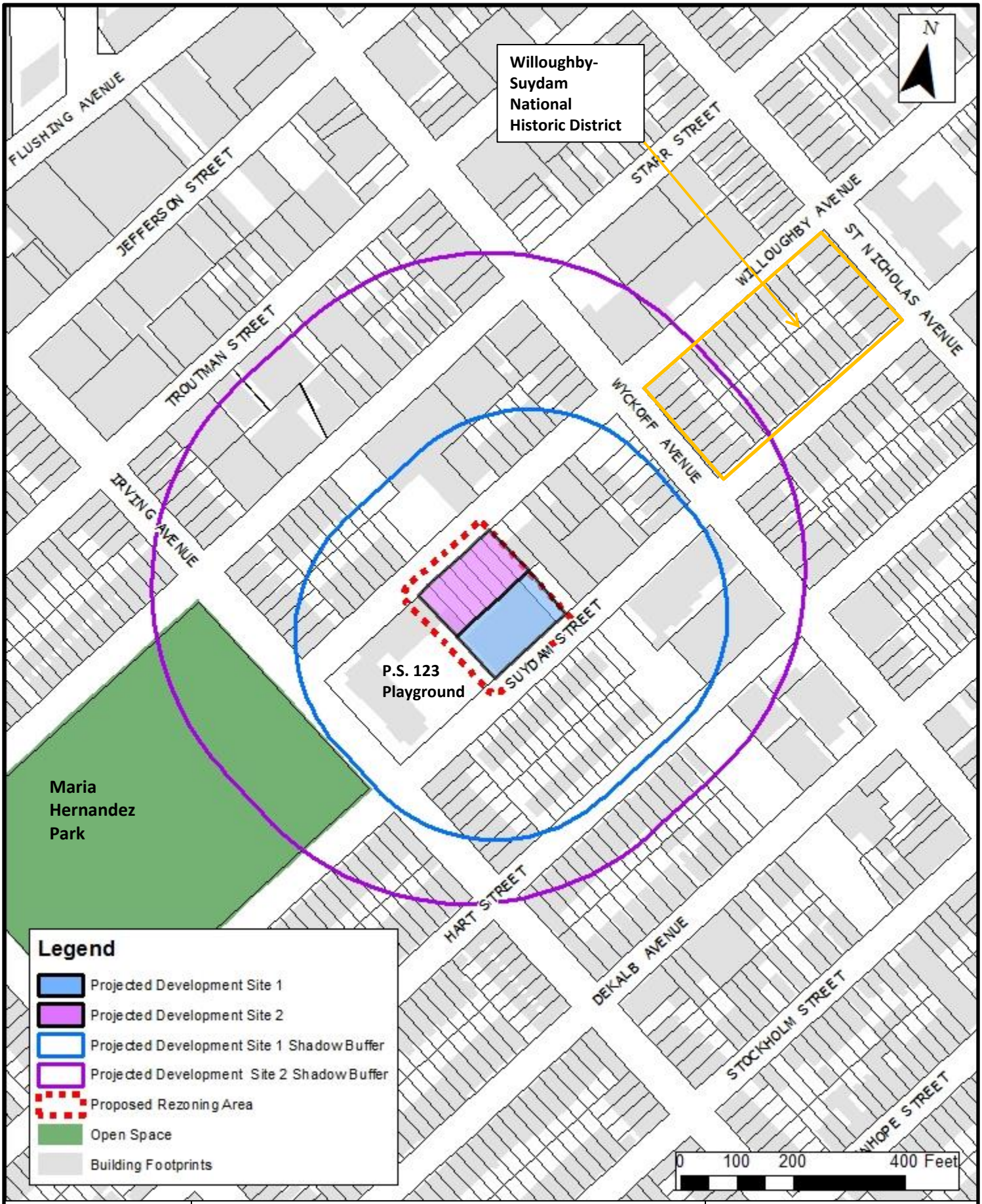

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Figure 2.3-1
Shadow Analysis
Tier 1 Screening

Due to the fact that multiple potentially sunlight-sensitive resources fell within the Tier 1 Shadow Study Area, further analysis was performed to determine whether shadows would potentially adversely impact these sunlight-sensitive resources.

Tier 2 Screening Assessment

The *CEQR Technical Manual* states that if any portion of a sunlight-sensitive resource lies within the longest shadow study area, a Tier 2 screening assessment should be performed. Because of the path the sun travels across the sky in the northern hemisphere, no shadow can be cast in a triangular area south of any given Project Site. In New York City, this area lies between -108 and +108 degrees from true north. For a Tier 2 screening assessment, sunlight-sensitive resources within the triangular area cannot be shaded by new development sites and are screened out. The complementing portion to the north within the longest shadow Study Area is the area that can be shaded by the proposed project.

As shown in **Figure 2.3-2**, the Tier 2 screening assessment showed that portions of Maria Hernandez Park, the P.S. 123 Playground, and the Willoughby-Suydam National Historic District are sunlight-sensitive resources that can have shadows cast on them resulting from the Reasonable Worst Case Development Therefore, further analysis is required of the aforementioned sunlight-sensitive resources to assess the extent of the impact of shadows on this resource.

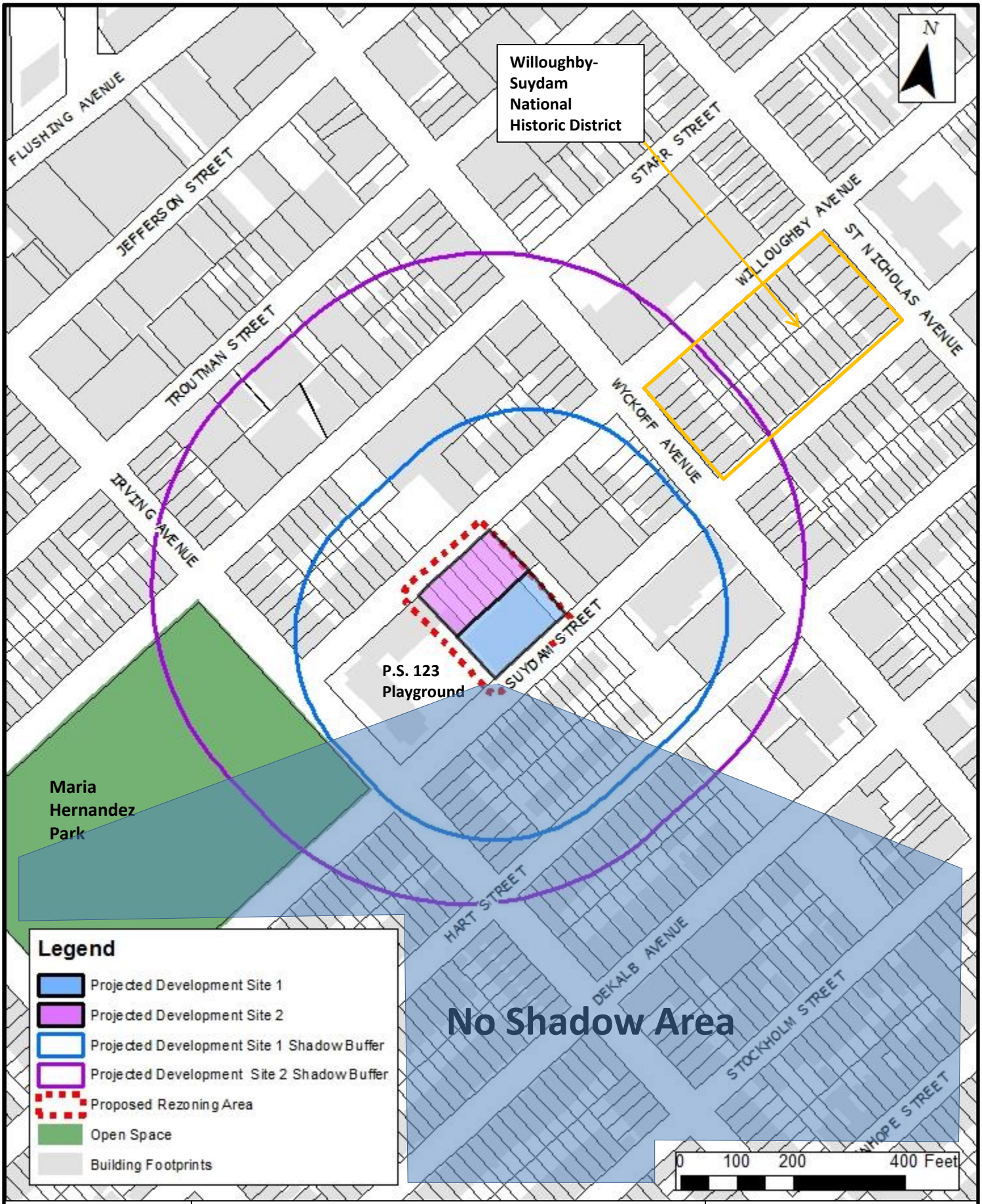

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Figure 2.3-2
Shadow Analysis
Tier 2 Screening

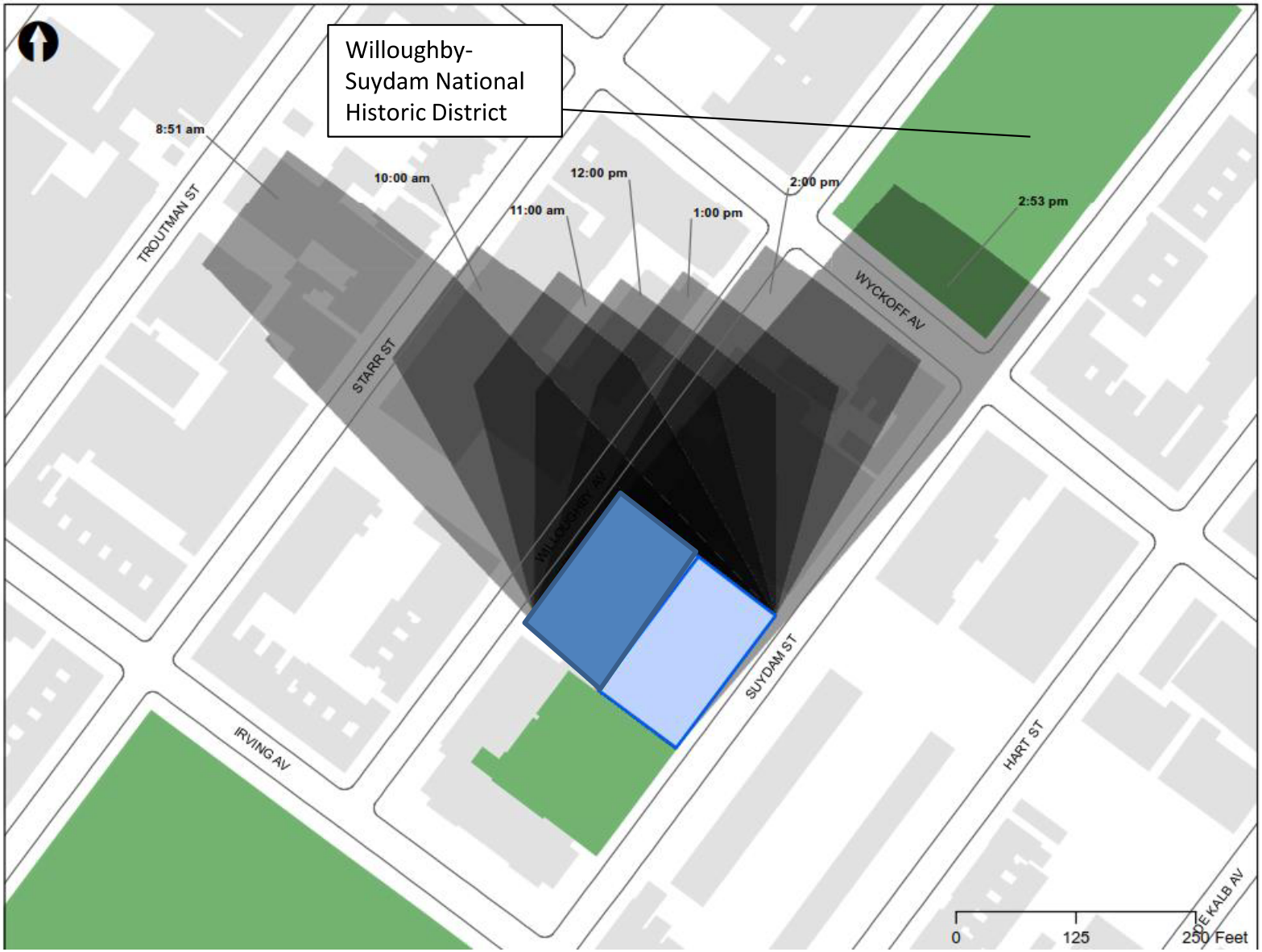
Tier 3 Screening Assessment

Based on the results of the Tier 2 screening assessment, a Tier 3 screening assessment should be performed if any portion of a sunlight-sensitive resource is within the area that could be shaded by the proposed project. 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, shadows 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.

The *CEQR Technical Manual* states that for the New York City area, the months of interest for an open space resource encompass the growing season (March through October) and one month between November and February (usually December) representing a cold-weather month. Assessments of the incremental shadows cast during four representative dates were made in accordance with the *CEQR Technical Manual* to encompass a cold-weather month and months during the growing season. The four representative dates included as part of the Tier 3 screening assessment are:

- December 21st
- March 21st
- May 6th
- June 21st

As shown in **Figure 2.3-3 through Figure 2.3-6**, the Tier 3 screening assessment showed that Reasonable Worst Case Development Scenario generated shadows have the potential to reach the landmarked Willoughby-Suydam National Historic District, P.S. 123's Playground, and Maria Hernandez Park on at least one of the representative analysis days and a detailed shadow analysis is warranted for December 21st, March 21st, May 6th and June 21st. Based on the Tier 3 screening, detailed shadow study was performed for these resources for the four representative analysis dates.



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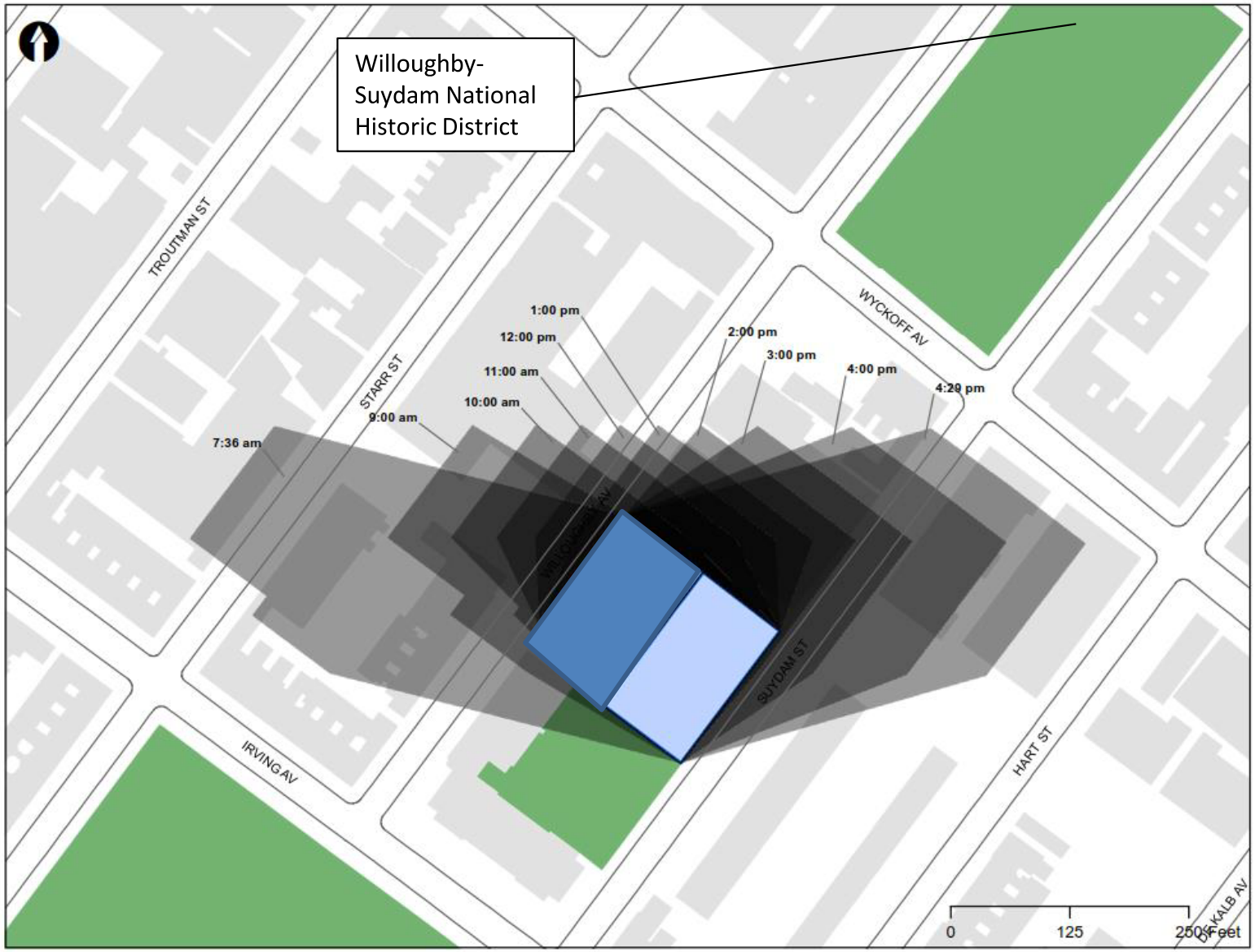
Tier 3 Shadow Analysis
December 21st

Figure 2.3-3



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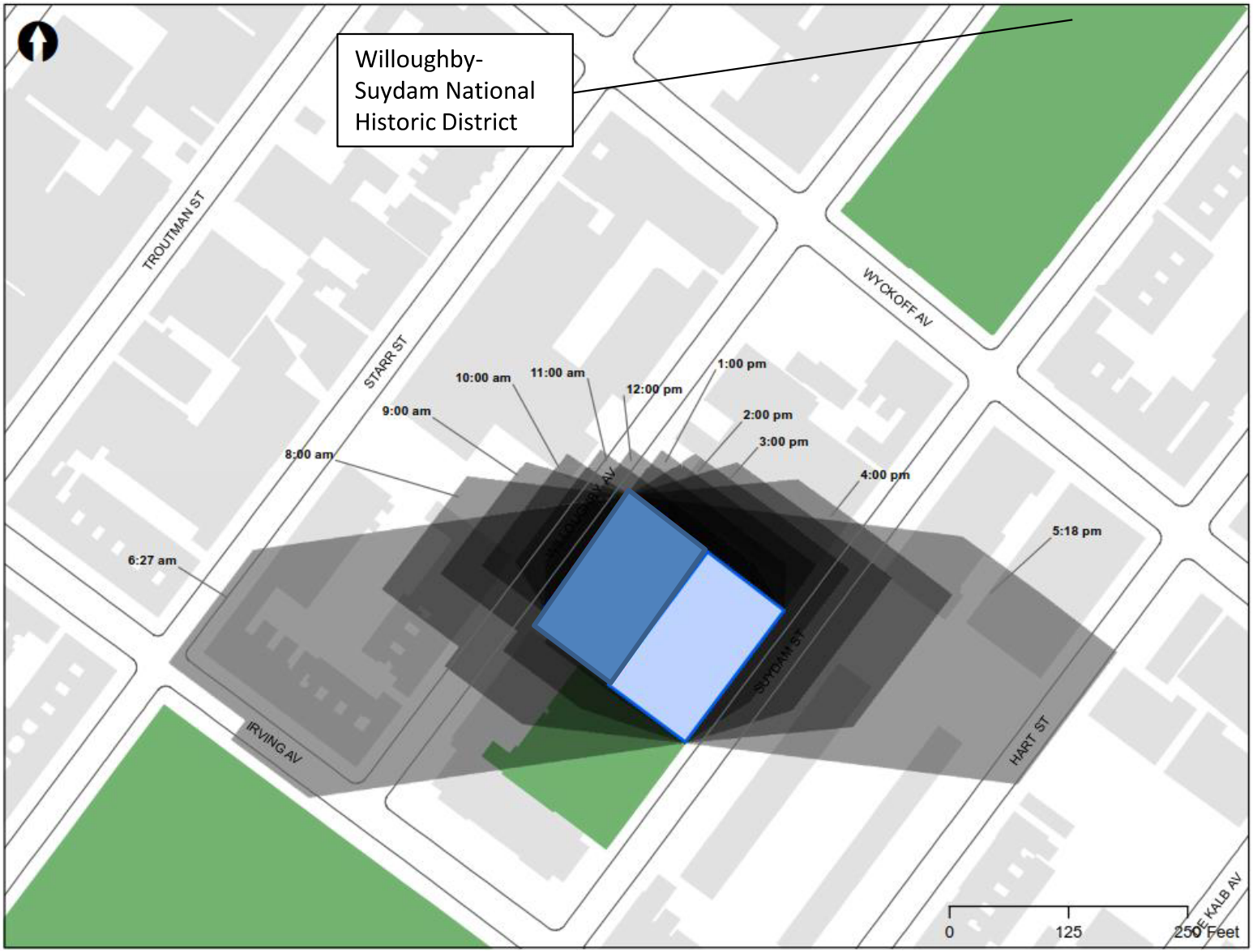
Tier 3 Shadow Analysis
March 21st

Figure 2.3-4



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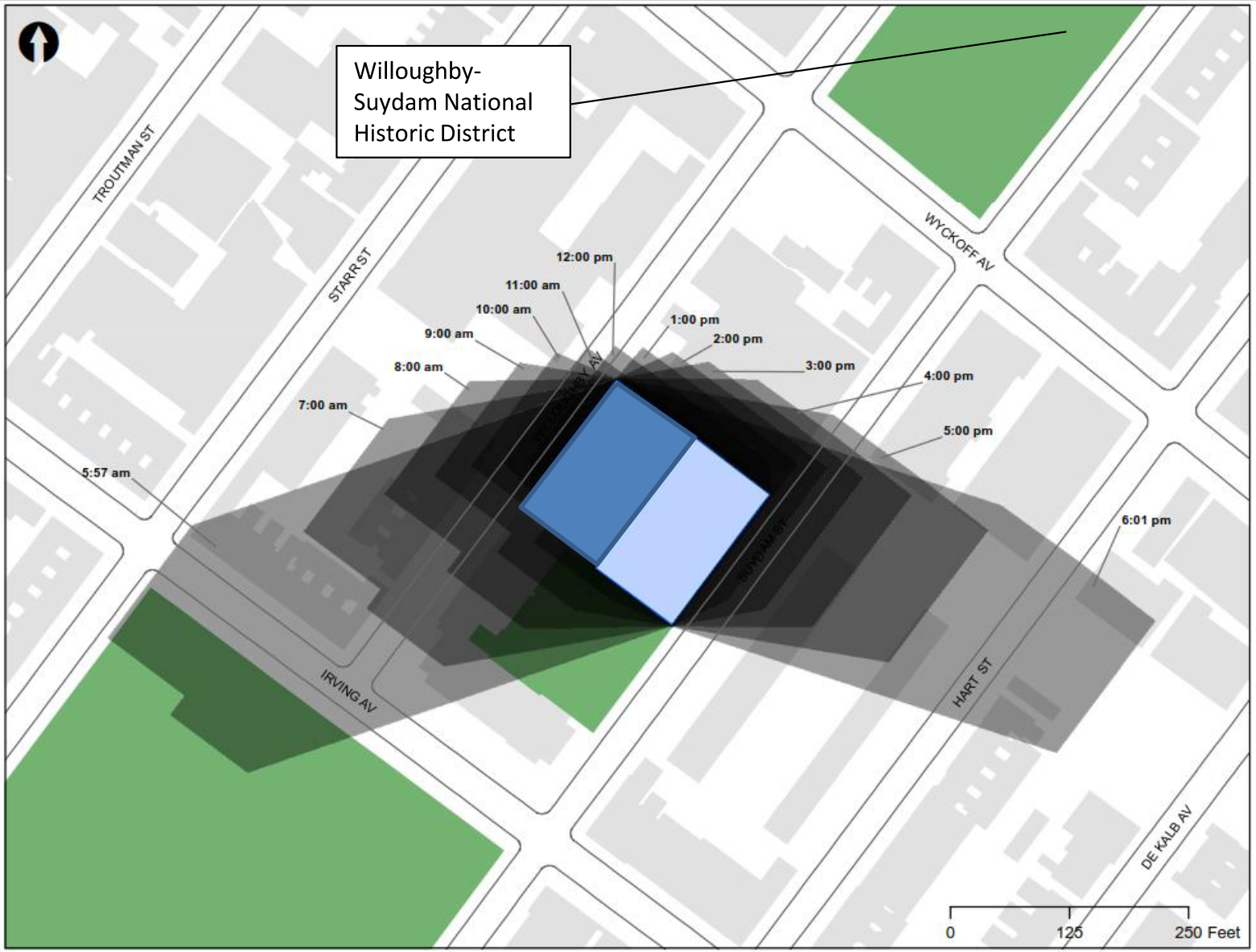
Tier 3 Shadow Analysis
May 6th

Figure 2.3-5



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Tier 3 Shadow Analysis
June 21st

Figure 2.3-6

2.3.2 Detailed Shadow Analysis

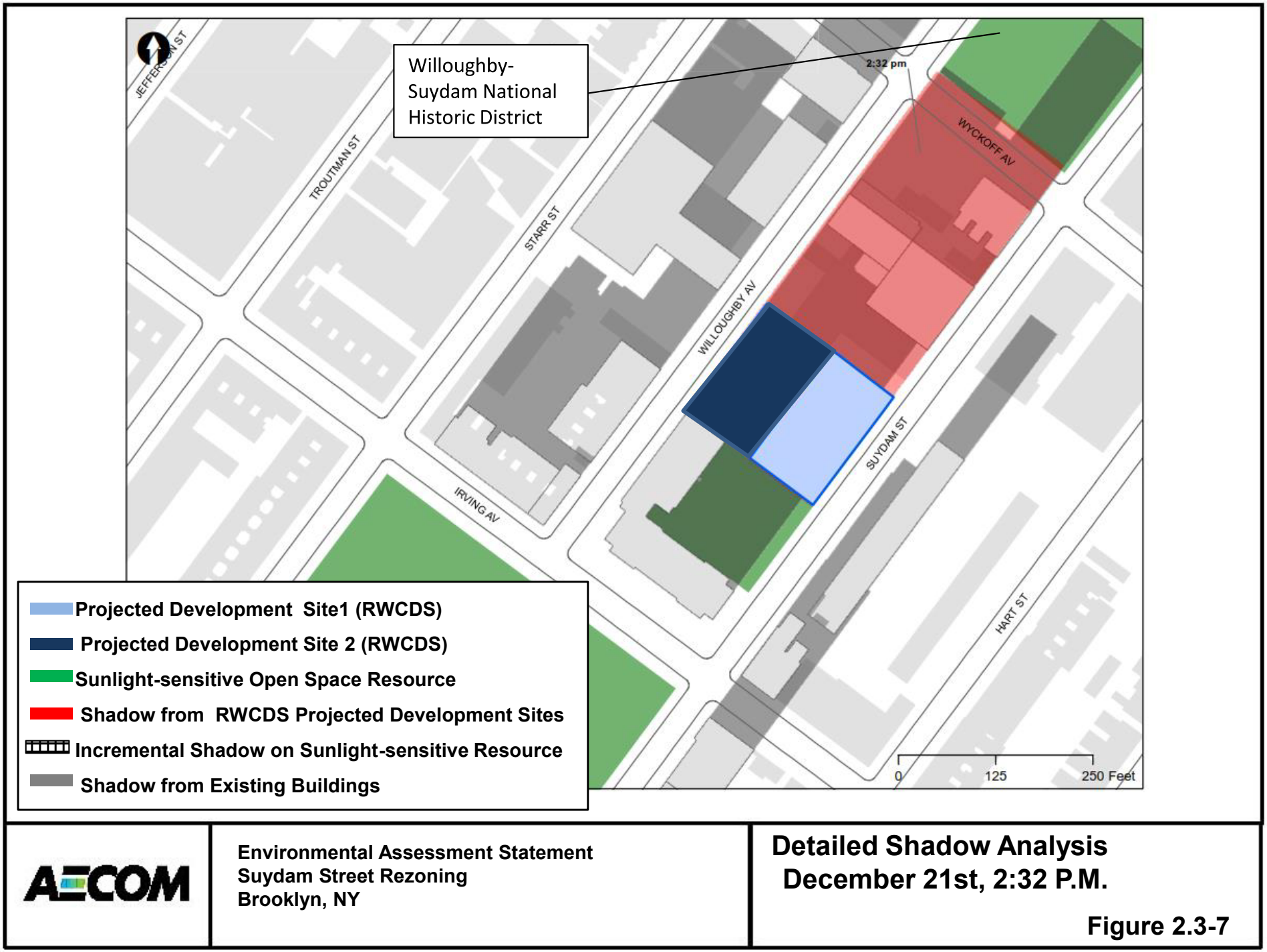
The *CEQR Technical Manual* states that a detailed shadow analysis is warranted when the screening analysis does not rule out the possibility that project-generated shadows would reach any sunlight-sensitive resources. The purpose of the detailed analysis is to determine the extent and duration of new incremental shadows that fall on a sunlight-sensitive resource as a result of the proposed project. As previously discussed, P.S. 123 Playground, Willoughby-Suydam National Historic District and Maria Hernandez Park warrant a detailed shadow assessment based on the tier screening assessment. The results of the detailed shadow analyses on the identified resources of concern are summarized in **Table 2.3-1.**

Results of the detailed shadow analysis, as shown in the figures below, indicated that the projected shadows from the Reasonable Worst-Case Development Scenario do have the potential to reach the PS123 Playground during the March, June, and May analysis periods, and the Willoughby-Suydam National Historic District in the December analysis period. However, no new shadows would be cast on Maria Hernandez Park. All potential shadows from the Reasonable Worst-Case Development on the park would coincide with shadows cast by existing buildings around this resource.

Table 2.3-1 Detailed Shadow Analysis Summary

Analysis Date	**December 21**	**March 21**	**May 6**	**June 21**
Analysis Period	8:51a.m.- 2:53p.m.	7:36a.m.- 4:29p.m.	6:27a.m.- 5:18p.m.	5:57a.m.- 6:01p.m.
Willoughby-Suydam National Historic District				
Shadows Enter/Exit Time	2:32pm-2:53pm	N/A	N/A	N/A
Shadow Duration	21 minutes			
P.S. 123 Playground				
Shadows Enter/Exit Time	NA	7:36am-9:22am	6:27am-9:55 am	5:57am-10:31am
Shadow Duration		1 hour and 46 minutes	3 hours and 38 minutes	4 hours and 34 minutes

Note: Daylight Saving Time not used/applied (Per CEQR Guidelines)

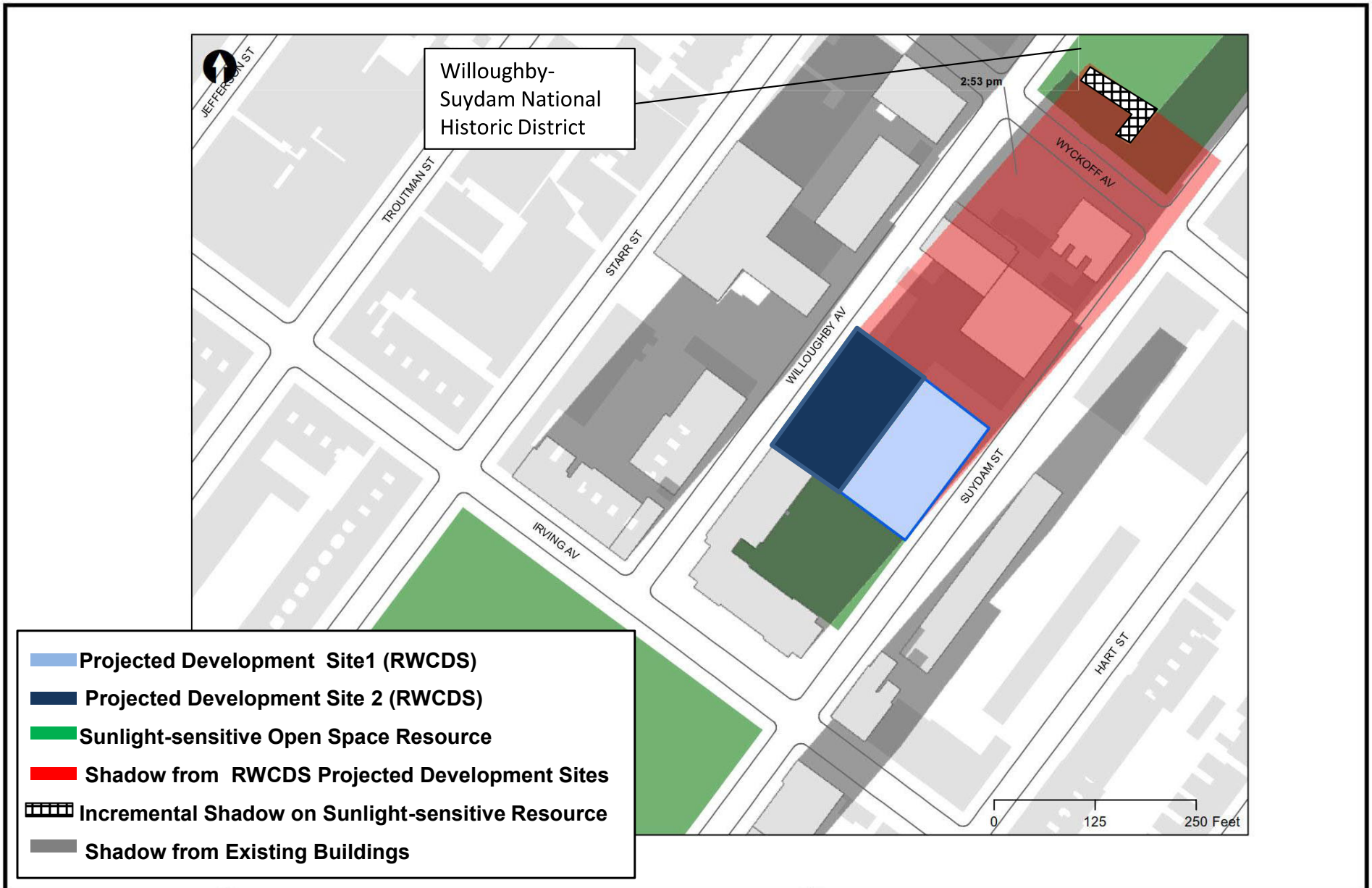


AECOM

Environmental Assessment Statement
Suydam Street Rezoning
Brooklyn, NY

Detailed Shadow Analysis
December 21st, 2:32 P.M.

Figure 2.3-7

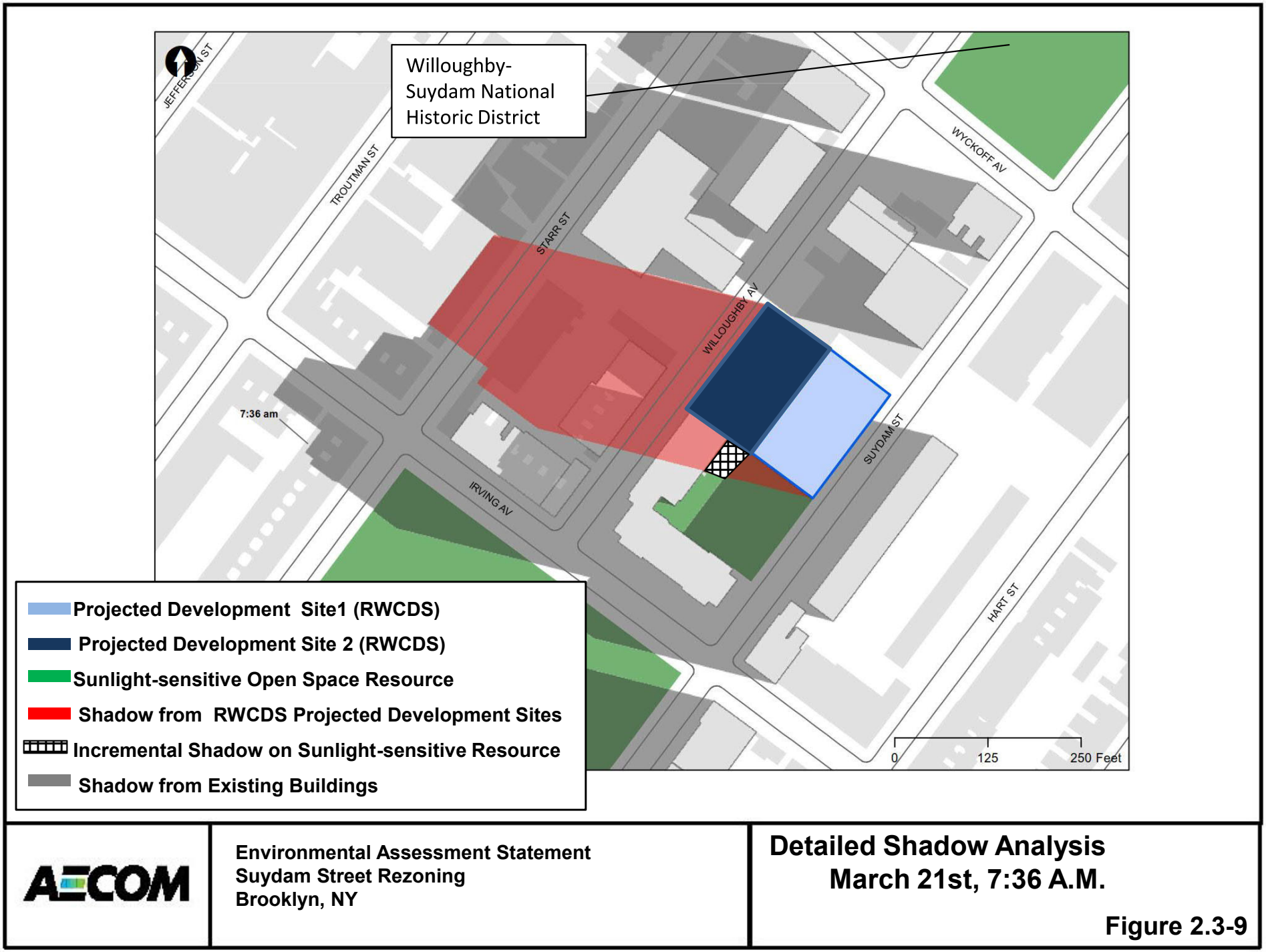


AECOM

Environmental Assessment Statement
Suydam Street Rezoning
Brooklyn, NY

Detailed Shadow Analysis
December 21st, 2:53 P.M.

Figure 2.3-8

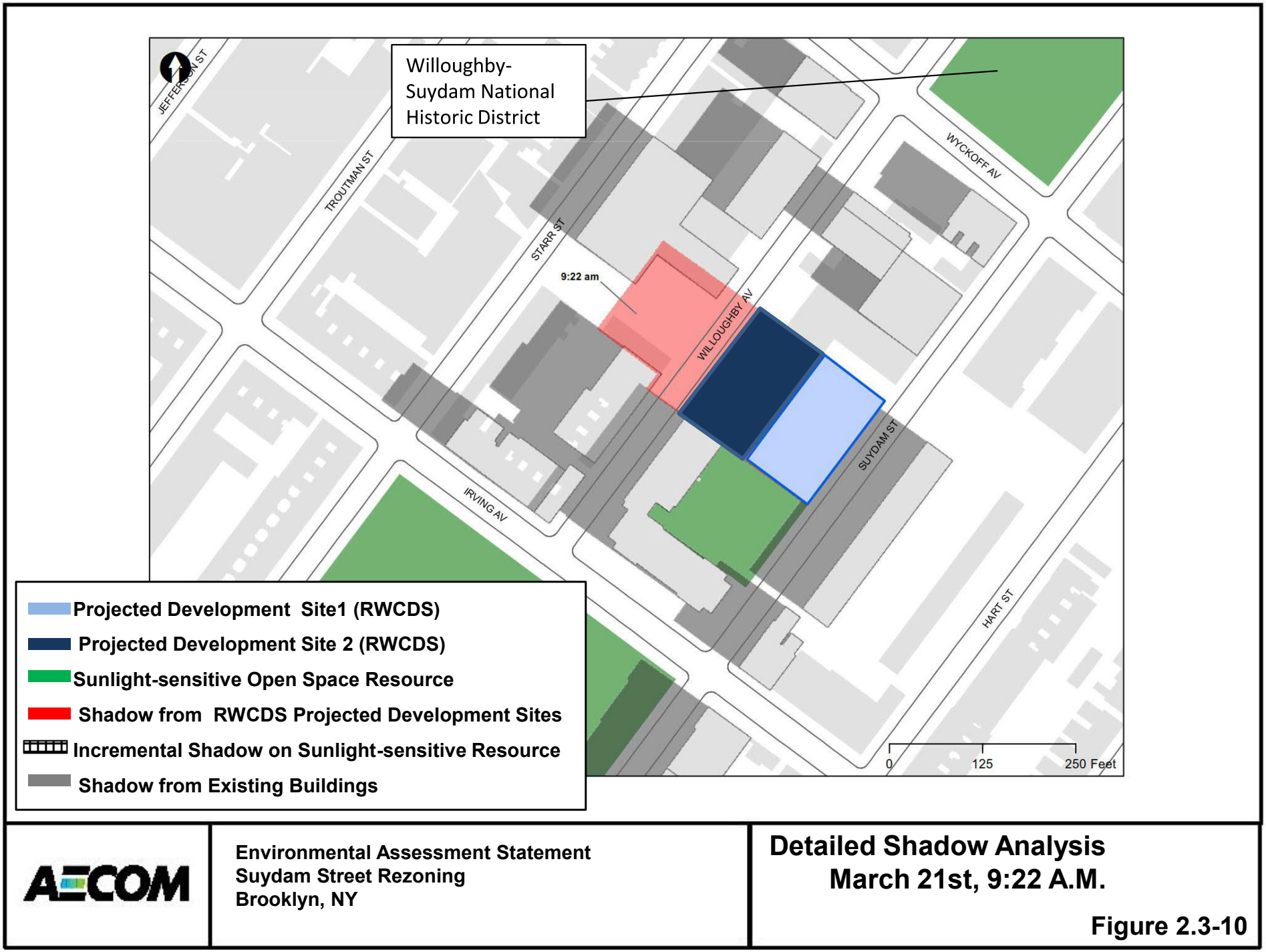


AECOM

Environmental Assessment Statement
Suydam Street Rezoning
Brooklyn, NY

Detailed Shadow Analysis
March 21st, 7:36 A.M.

Figure 2.3-9



AECOM

Environmental Assessment Statement
Suydam Street Rezoning
Brooklyn, NY

Detailed Shadow Analysis
March 21st, 9:22 A.M.

Figure 2.3-10

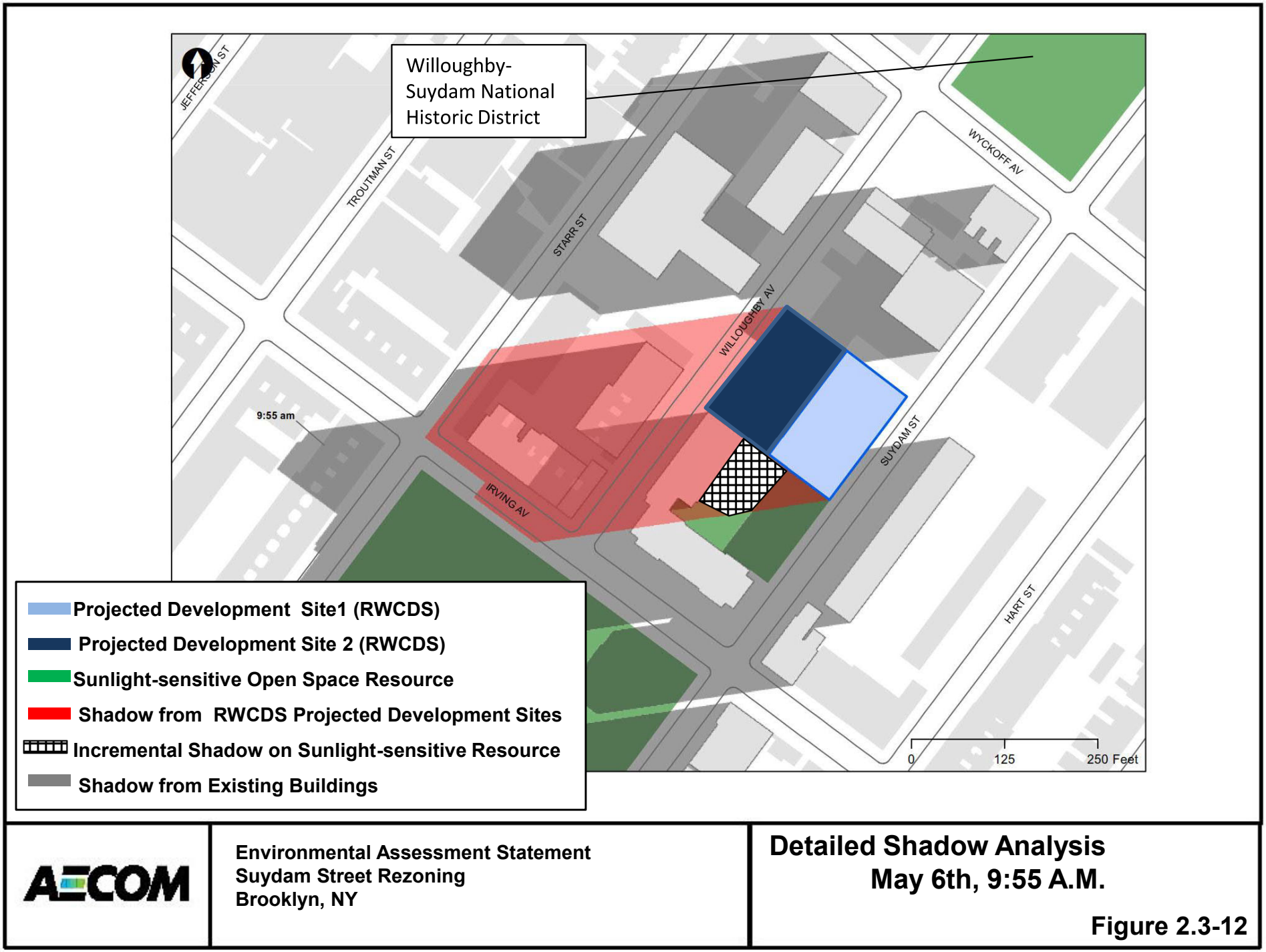


AECOM

Environmental Assessment Statement
Suydam Street Rezoning
Brooklyn, NY

Detailed Shadow Analysis
May 6th , 6:27 A.M.

Figure 2.3-11

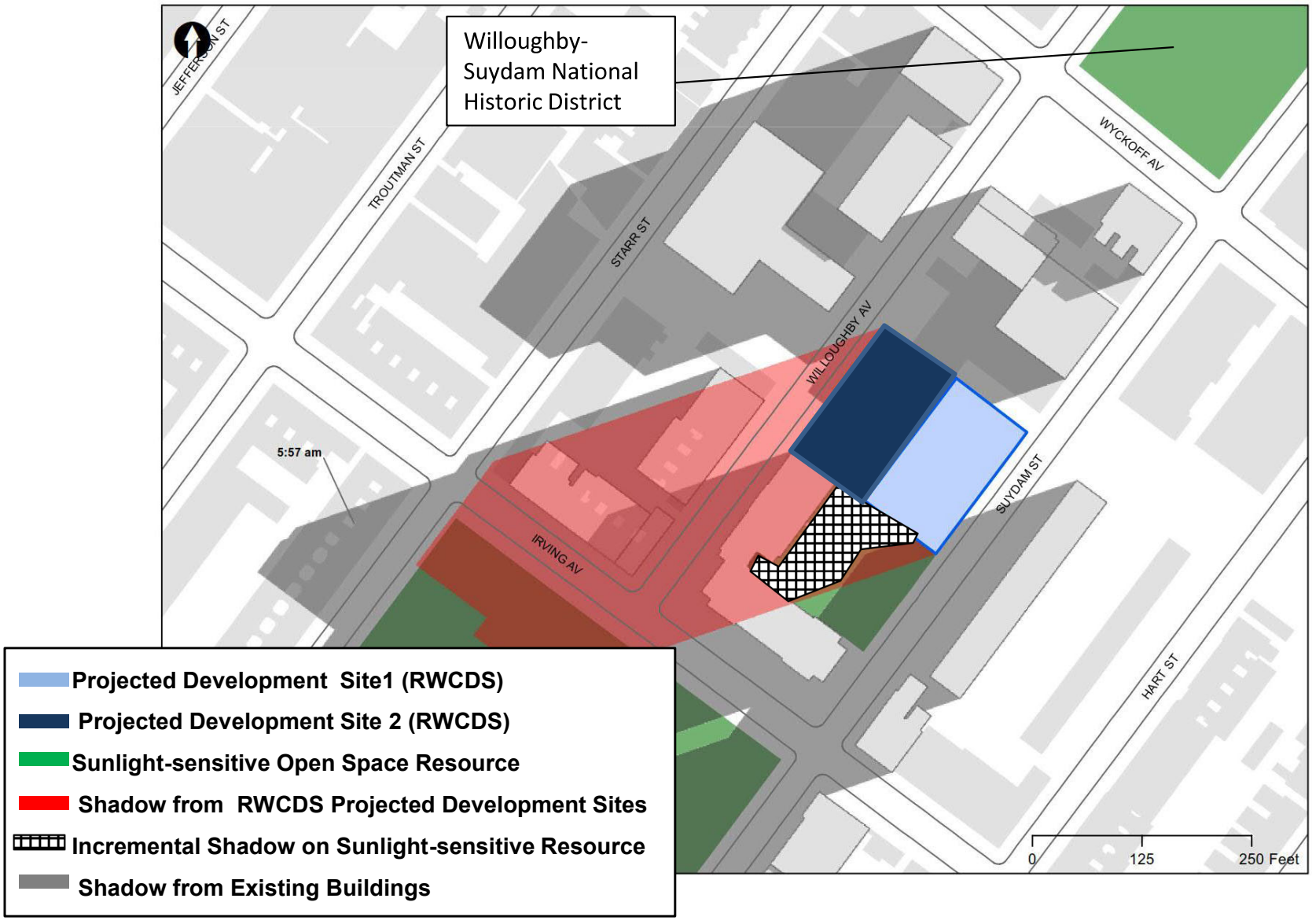


AECOM

Environmental Assessment Statement
Suydam Street Rezoning
Brooklyn, NY

Detailed Shadow Analysis
May 6th, 9:55 A.M.

Figure 2.3-12

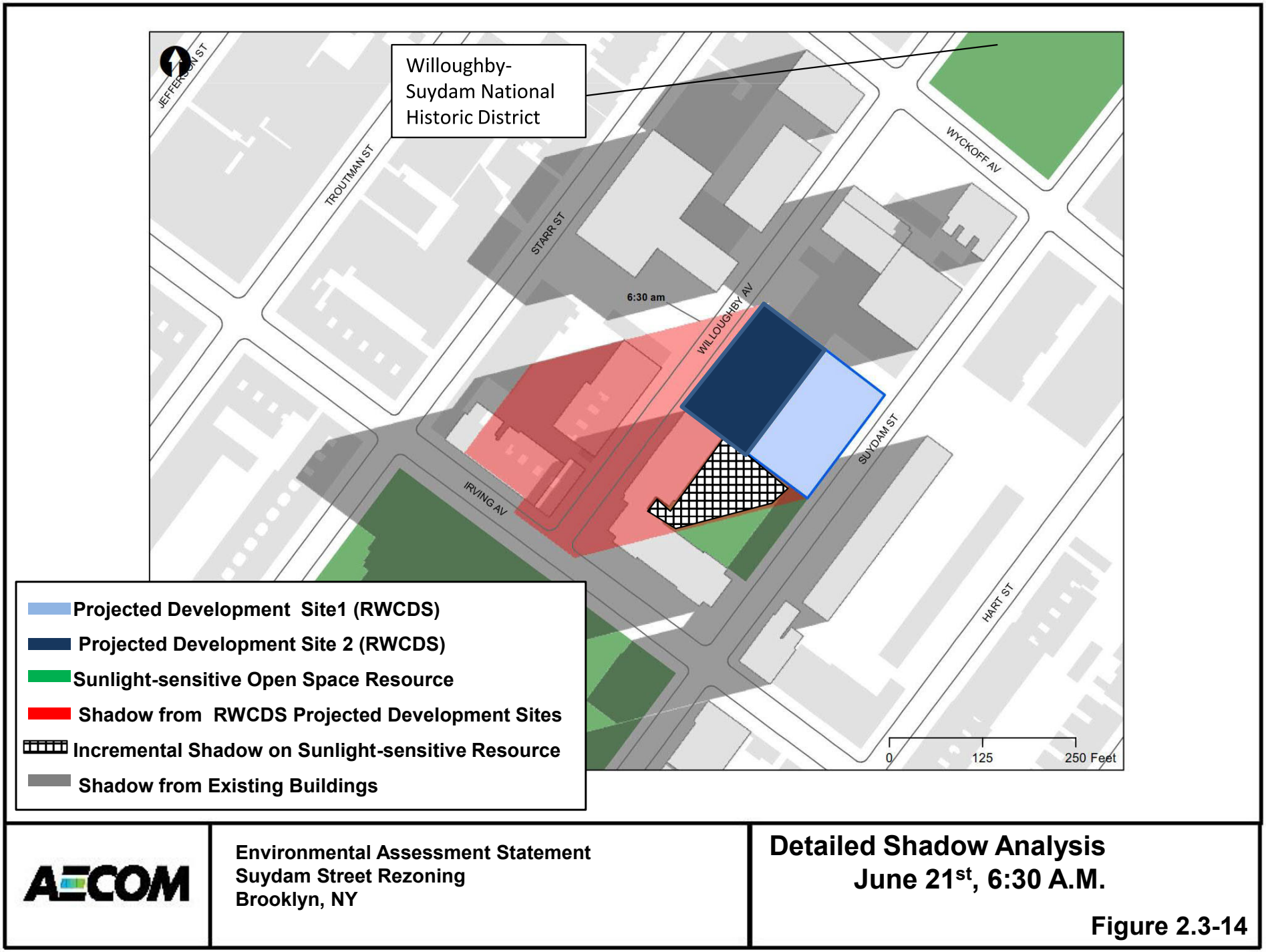


AECOM

Environmental Assessment Statement
Suydam Street Rezoning
Brooklyn, NY

Detailed Shadow Analysis
June 21st, 5:57 A.M.

Figure 2.3-13



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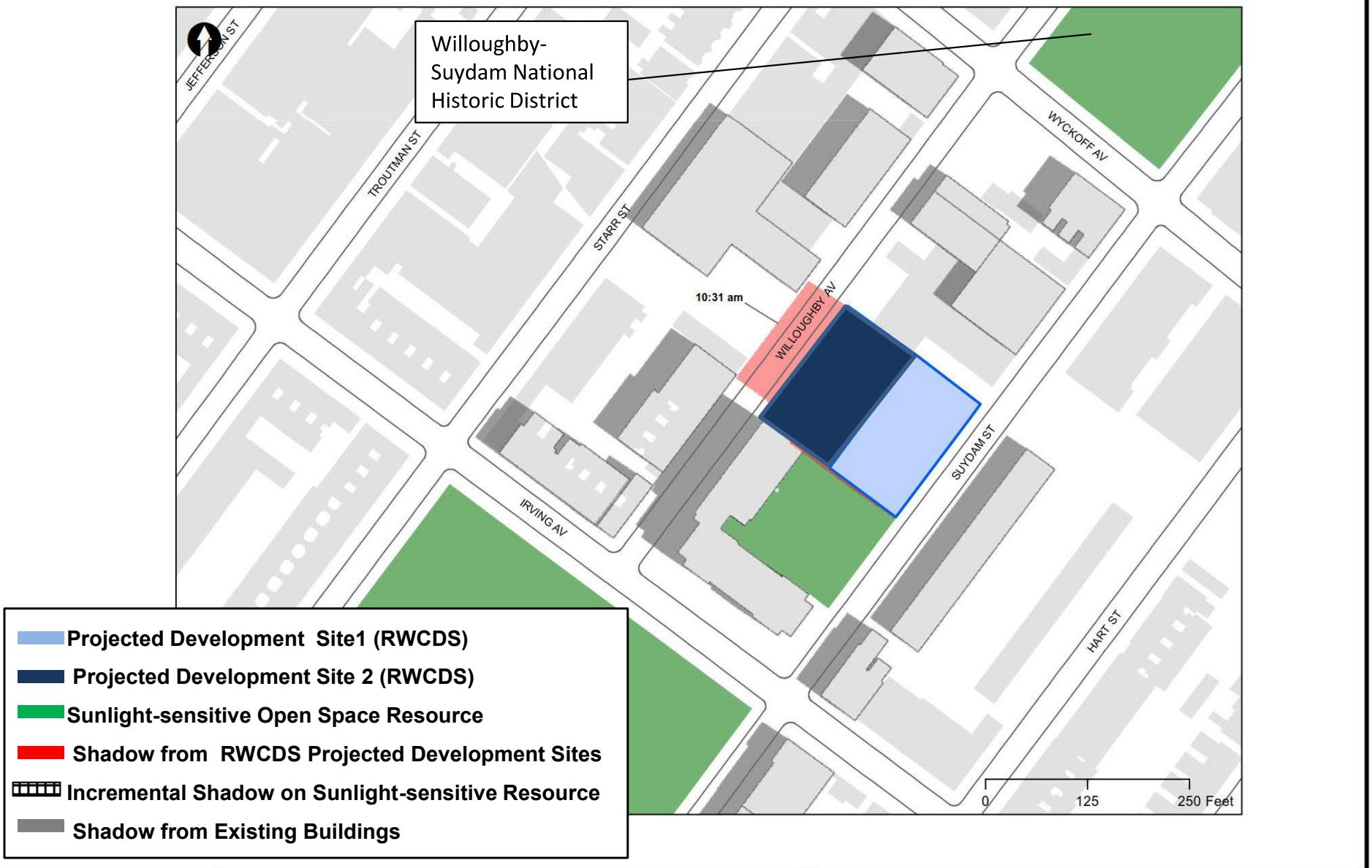
Environmental Assessment Statement
Suydam Street Rezoning
Brooklyn, NY

Detailed Shadow Analysis
June 21st, 6:30 A.M.

Figure 2.3-14



AECOM

Environmental Assessment Statement
Suydam Street Rezoning
Brooklyn, NY

Detailed Shadow Analysis
June 21st, 10:31 A.M.

Figure 2.3-15

Determination of Shadow Impact Significance

The *CEQR Technical Manual* states that the determination of significance of shadows 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 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 sand boxes) or vegetation that could be affected by a loss of sunlight during the growing season, and for features (such as benches) that could be affected by a loss of winter sunlight. Vegetation requiring direct sunlight includes 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*, in order 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.

Willoughby-Suydam Historic District

The Willoughby–Suydam National Historic District (NR #90NR01608) is a national historic district in Brooklyn, New York, New York. It consists of 50 contributing residential buildings built between 1902 and 1904. The buildings are three-story brick tenements that have two apartments per floor. Some feature yellow and white terra cotta detailing. The district was listed on the National Register of Historic Places in 1983.

The district is generally bounded by Suydam Street to the east, Willoughby Avenue to the west, Wyckoff Avenue to the south, and St. Nicholas Avenue to the north (see **Figure 2.4-1**).

Incremental shadows from the Reasonable Worst-Case Development would only be cast on the historic district during the December analysis period and would only be cast on the district for approximately 22 minutes. As the buildings in the historic district do not have any stained-glass windows and given the short amount of time the district would experience incremental shadow gain from the Reasonable Worst-Case Development, significant adverse impacts related to shadows are not expected and no further analysis is warranted.

P.S 123 Playground

Incremental shadows from the Reasonable Worst-Case Development would be cast on the P.S. 123 Playground (resource) during three of the four analysis periods (March, May, and June). During the March analysis period, incremental shadows would be cast on the resource from 7:36 am to 9:22 am for a total duration of 1 hour and 46 minutes. During the May analysis period, incremental shadows would be cast on the resource from 6:27 am to 9:55 am for a total duration of 3 hours and 38 minutes. During the June analysis period, incremental shadows would be cast on the resource from 5:57 am to 10:31 am for a total duration of 4 hours and 34 minutes.

There is no vegetation or plantings, such as trees or grass, located within this resource so no impacts on vegetation with respect to shadows would occur.

Additionally, the incremental shadows being cast on the resource would all occur in the morning hours. This would not impact the use of the playground for lunch time recess, afternoon gym classes, or afterschool activities. Additionally, since this resource is closed to the public during school hours, shadows would not impact the resource when school is not in session. Furthermore, no known summer camps utilize the space during the summer for activities Based on the above information, significant adverse impacts with regards to new incremental shadows being cast on the playground are not expected to occur, and no further analysis is warranted.

2.3.3 Shadows Analysis of Proposed Development

In addition to the shadow analysis for the Reasonable Worst-Case Development Scenario, a shadows analysis for the applicant Proposed Development was performed. In this analysis we utilize the applicant proposed building heights, as opposed to the maximum height permitted per zoning guidelines. The analysis figures can be found in **Appendix B**.

The Applicant is proposing a height of 67 feet for Proposed Development Site 1 (Lots 48 and 51) and a height of 90 feet on Proposed Development Site 2 (Lots 16-21). Using the 4.3 multiplier, this would result in maximum shadows of 288 feet from Proposed Development Site 1 and a maximum shadow cast of 387 feet from Proposed Site 2. **Figure 2.3-16 and Figure 2.3-17 (Appendix B)** shows the Tier 1 and 2 shadow screenings for the Proposed Development Sites.

As shown in **Figure 2.3-16 and 2.3-17 (Appendix B)**, the Proposed Development shadows from Proposed Development Sites 1 and 2 would potentially cast a shadow onto the P.S 123 Playground. Shadows from Proposed Development Site 2 could also potentially cast a shadow on Maria Hernandez Park. The Shadow from Proposed Development Site 2 could also potentially cast a very, very minimal shadow on the Willoughby-Suydam national Historic District (approximately 6 feet of shadow along Wyckoff Avenue).

A Tier 3 analysis was undertaken to examine the shadows that could potentially be cast on sunlight sensitive resources from the Proposed Development (applicant plans).

As shown in the Tier 3 screenings (**Figures 2.3-18 to 2.3-21 Appendix B)** for the Proposed Development, the Proposed Development would not cast shadows onto Maria Hernandez Park or the Willoughby-Suydam National Historic District during any of the analysis periods. The only sunlight sensitive resource it would potentially cast a shadow on is the P.S. 123 playground during the June, March, and May analysis periods. During the June, March, and May analysis periods, the shadow that could potentially be cast on the P.S. 123 playground would only be cast during morning hours and shadows will have completely waned off the playground by 12pm. During the March and May analysis periods, the potential shadow would have wanted off the playground completely by 10am and by 11am during the June analysis period. As previously explained in section **2.3.2**, which analyzed a much larger incremental shadow, the incremental shadow cast on the school playground would not cause significant adverse impacts.

There is no vegetation or plantings, such as trees or grass, located within this resource so no impacts on vegetation with respect to shadows would occur.

Additionally, the incremental shadows being cast on the resource would all occur in the morning hours. This would not impact the use of the playground for lunch time recess, afternoon gym classes, or afterschool activities. Additionally, since this resource is closed to the public during school hours, shadows would not impact the resource when school is not in session. Furthermore, no known summer camps utilize the space during the summer for activities Based on the above information, significant adverse impacts with regards to new incremental shadows being cast on the playground are not expected to occur, and no further analysis is warranted.

2.4 HISTORIC AND CULTURAL RESOURCES

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

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.

Architectural Resources

According to *CEQR Technical Manual* guidelines, impacts on historic resources are considered on those sites affected by the Proposed Actions 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 Rezoning Area.

The Proposed Development Site is not a designated local or S/NR historic resource or property, nor is the site part of any designated historic district. The LPC was contacted for their initial review of the project’s potential to impact nearby historic and cultural resources, and a response was received on September 19th, 2017, indicating that no sites within the Proposed Rezoning Area have any architectural significance (see **Appendix C**).

In order to determine whether the Reasonable Worst-Case Development Scenario has the potential to affect nearby off-site historic or architectural resources, the Study Area was screened for historic and architectural resources. The LPC noted that portions of the Willoughby-Suydam National Historic District were within 400-feet of the Proposed Rezoning Area.

Cultural and Archaeological Resources

Unlike the architectural evaluation of a Study Area that extends beyond the footprint of a project’s block and lot lines, the analysis of potential and/or projected impacts to archaeological resources is controlled by the actual footprint of the limits of soil disturbance. Archeological resources are physical remains, usually subsurface, of the prehistoric and historic periods such as burials, foundations, artifacts, wells and privies. The *CEQR Technical Manual* requires a detailed evaluation of a project’s potential effect on the archeological resources if it would potentially result in an in-ground disturbance to an area not previously excavated.

A portion of the Proposed Rezoning Area has been disturbed and is presently improved with structures occupying a portion of their respective lots, while the rear yards of many of these parcels are unimproved. As noted, the LPC was contacted for their initial review of the potential for the Reasonable Worst-Case Development to impact nearby historic and cultural resources, and a response was received on September 19th, 2017 (see **Appendix C**). The LPC has indicated that no cultural resource, architectural or archaeological significance is associated with the Reasonable Worst-Case Development Scenario.

Therefore, significant adverse impacts to archaeological resources are not expected as a result of the Proposed Actions, and further analysis is not warranted.

National Historic District Analysis

The following paragraphs describe in detail the Willoughby-Suydam National Historic District, which is located within the 400-foot Study Area of the Proposed Rezoning Area.

Willoughby-Suydam National Historic District

The Willoughby–Suydam National Historic District (NR #90NR01608) is a national historic district in Brooklyn, New York, New York. It consists of 50 contributing residential buildings built between 1902 and 1904. The buildings are three-story brick tenements that have two apartments per floor. Some feature yellow and white terra cotta detailing. The district was listed on the National Register of Historic Places in 1983.

The district is generally bounded by Suydam Street to the east, Willoughby Avenue to the west, Wyckoff Avenue to the south, and St. Nicholas Avenue to the north (see Figure 2.4-1).

Assessment of Architectural Resources

The following section addresses the Proposed Project's potential for adverse direct and indirect effects on the Willoughby-Suydam National Historic District. Based on a September 19th, 2017 letter received from the LPC, the LPC indicated that no properties within the Proposed Rezoning Area were architecturally significant and nor did any properties appear eligible for listing on the S/NR or for designation by the LPC.

Direct Impacts

According to the *CEQR Technical Manual*, direct impacts on architectural resources occur when a project results in new construction, demolition, or significant physical alteration to any landmarked or landmark-eligible historic building, structure, or object. The LPC has determined that the Project Sites (Block 3210, Lots 15-21, 48, 51 and p/o Lot 1) do not appear on LPC or S/NR eligible; nor does any property within the Proposed Rezoning Area. Therefore, there would be no direct impacts on architectural resources within the Proposed Rezoning Area and no further analysis is warranted.

There are no LPC landmarked structures or one LPC landmarked historic district within 400-feet of the Proposed Rezoning Area. There is one S/NR Historic District (Willoughby–Suydam Historic District (NR #90NR01608). However, the Proposed Rezoning Area is located approximately 365 feet away from the Willoughby-Suydam National Historic District. Since the Proposed Rezoning Area is located over 90 feet away from the Willoughby–Suydam Historic District, no Technical Policy and Procedure Notice (TPPN) needs to be completed.

Based on the above information, the Proposed Actions would not have any significant adverse impacts on architectural resources and no further analysis is required.

Indirect Impacts

According to the *CEQR Technical Manual*, a project may result in adverse indirect impacts on historic resources when it affects its context or visual prominence and if the change is likely to alter or eliminate the significant characteristics of the resource that make it an important resource. Indirect impacts include those that result from construction, action-generated shadows, or other effects on historic resources in the Study Area once the construction is completed.

Construction
As the Proposed Rezoning Area is located approximately 365 feet away from the Willoughby-Suydam National Historic District (the study threshold is 90 feet), no Technical Policy and Procedure Notice (TPPN)

needs to be completed and no significant adverse indirect impacts or effects related to construction are expected to occur.

Shadows

The results of the shadow analysis in Section 2.3 indicate that the With-Action Scenario would not result in any adverse incremental shadow impacts on the Willoughby-Suydam National Historic District. The Willoughby-Suydam National Historic District is a small historic district whose southern portion is located within the Proposed Rezoning Area's 400-foot Study Area. As previously mentioned, the district is characterized by residential buildings built between 1902 and 1904 which are three- story brick tenements that have two apartments per floor. While the area is a landmark district, no sunlight-sensitive resources, such as open spaces or stained-glass windows were found within the district and therefore, no significant adverse impacts with regards to project-generated shadows are expected.

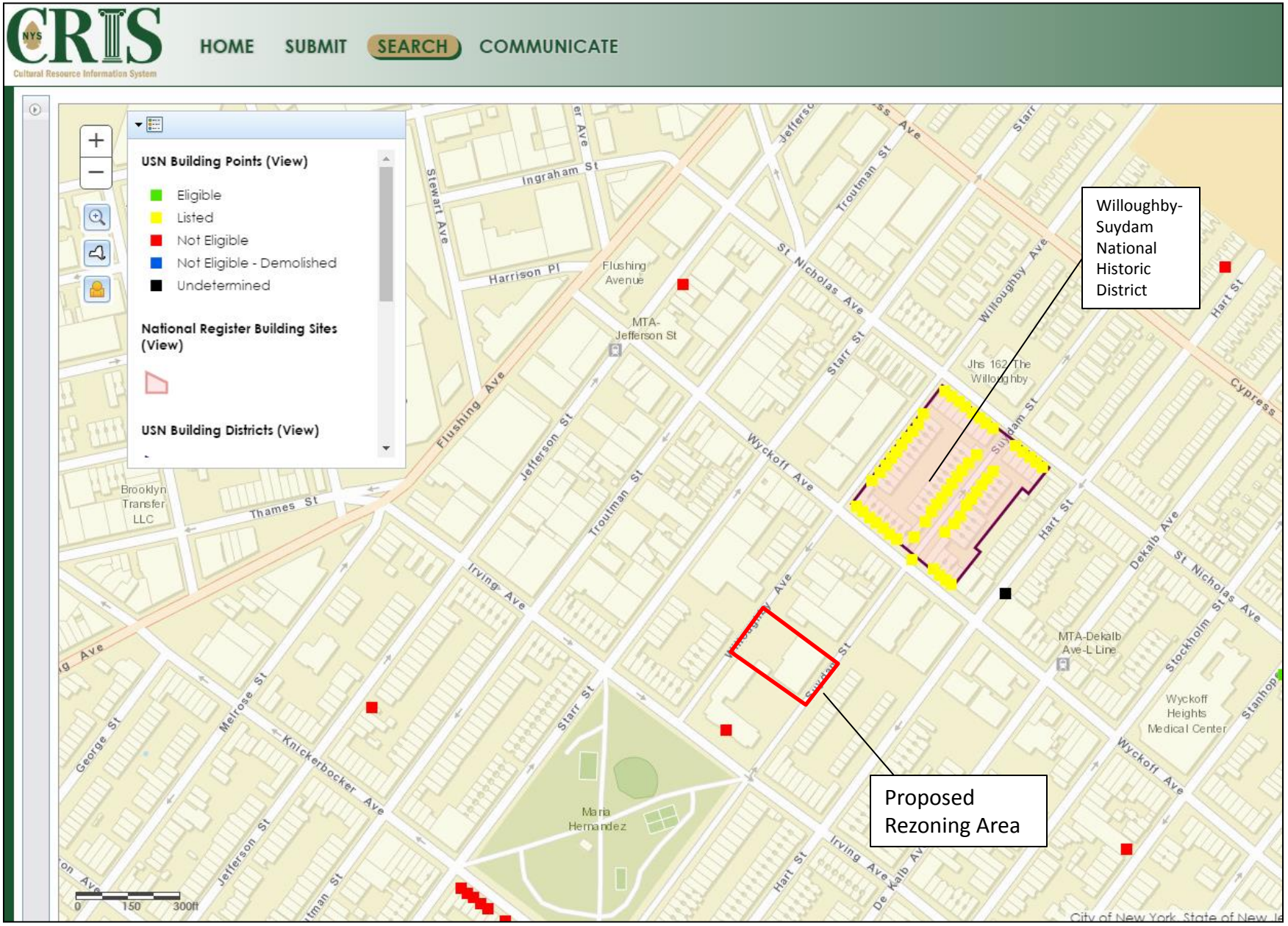
Urban Design

As described in the following section (Section 2.5), the With-Action Scenario would not result in any significant adverse impacts on Urban Design and Visual Resources. None of the buildings within the Willoughby-Suydam National Historic District are located within or adjacent to the Proposed Rezoning Area. The Willoughby-Suydam National Historic District's character would not be infringed upon nor would it be affected by the Proposed Actions. No view corridors related to the Willoughby-Suydam National Historic District along Wyckoff Avenue, Suydam Street, Willoughby Avenue, or St. Nicholas Avenue would be affected by the Proposed Actions. The Proposed Development Sites are approximately 365 feet away from the historic district with Wyckoff Avenue (a wide street) serving as a clear barrier between the Proposed Development and the Willoughby-Suydam National Historic District. As such, no impacts to views with regards to the Willoughby-Suydam National Historic District are expected under the With-Action Scenario and no additional analysis is required.

Assessment of Archaeological Resources

Unlike the architectural evaluation of a study area that extends beyond the footprint of a project's block and lot lines, the analysis of potential and/or projected impacts to archaeological resources is controlled by the actual footprint of the limits of soil disturbance. Archeological resources are physical remains, usually subsurface, of the prehistoric and historic periods such as burials, foundations, artifacts, wells and privies. The *CEQR Technical Manual* recommends 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.

None of the Proposed Development Site and no portion of the Proposed Rezoning Area are located within or adjacent to the Willoughby-Suydam National Historic District. The Proposed Rezoning Area is approximately 365 feet away from a portion of the Willoughby-Suydam National Historic District. As such, the Proposed Actions will not significantly adversely impact the Willoughby-Suydam National Historic District and no further analysis is required.



Suydam Street Rezoning
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Figure 2.4-1– Willoughby-Suydam National Historic District

2.5 URBAN DESIGN AND VISUAL RESOURCES

According to the *CEQR Technical Manual*, urban design is the totality of components that may affect a pedestrian's experience of public space. Elements that play an important role in the pedestrian's experience include streets, buildings, visual resources, open space, and natural features, as well as wind as it relates to channelization and downwash pressure from tall buildings.

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

As the Proposed Actions would result in an increase in built floor area beyond what is currently allowed "as-of-right" per existing zoning, a preliminary analysis was conducted.

2.5.1 Preliminary Analysis

As stated in the *CEQR Technical Manual*, the study area for urban design is the area where the project may influence land use patterns and the built environment and is generally consistent with the study area used for the land use analysis (i.e., 400 feet around the Project Site). For visual resources, existing publicly-accessible view corridors within the study area should be identified. The purpose of the preliminary assessment is to determine whether any physical changes proposed by a project may raise the potential to significantly and adversely affect elements of urban design, which would warrant the need for a detailed urban design and visual resources assessment.

The Proposed Rezoning Area is not located within or adjacent to any LPC or S/NR Historic Districts and is not adjacent to any LPC or S/NR landmarks. The Willoughby-Suydam National Historic District is located approximately 365 feet away from the Proposed Rezoning Area.

Existing Conditions

The Study Area is located in the Bushwick neighborhood of Brooklyn. A ground-level photograph map key is provided in the previously-presented **Figure 1.1-4**, and ground-level photographs of the Proposed Development Sites and the immediate Study Area are provided in previously-presented **Figure 1.1-5**.

The architecture throughout the Study Area is relatively eclectic, with no particular unity or style of form to unify the built environment. As noted in **Section 2.1.1**, a mix of uses characterizes the Study Area; including multistory/multifamily walk-ups, retail stores, light manufacturing, parking lots, public facilities, and community facilities. Residences within the area are generally located within three- or four-story multifamily walk-up buildings with FAR between 1.0 and 2.0. Most buildings within the Study Area are arranged regular (parallel) with respect to their lot placement and directly abut the sidewalk to create a continuous commercial and walking experience apart from parking lot voids such as the Proposed Development Site, vacant lots, and some manufacturing buildings. Buildings along the key Wyckoff Avenue corridor and side streets, in addition to generally being built out to their lot lines, are generally all attached to one another as opposed to being free-standing detached buildings. This building pattern holds true for buildings built along Suydam Street, Starr Street, and Willoughby Avenue.

Residences are the most prominent land use throughout the Study Area and range generally from low to mid-rise walk up. There is a concentrated portion of industrial and manufacturing uses in the northern portion of the Study Area long Willoughby Avenue and Starr Street.

The topography throughout the Study Area is flat. The streetscape along the Study Area is even and the Proposed Rezoning Area has regular street trees of good quality and character as well as well-kept wide

sidewalks. The general walking character of the Study Area is very good. There are quality healthy street trees, albeit irregularly placed, throughout the Study Area. Maria Hernandez Park, a portion of which is located within the 400-foot Study Area, contains both active and passive recreational uses, including a small concrete ballfield, handball courts, and a volleyball court for active use, and benches, and grassy areas for sitting and relaxing as passive uses.

The street hierarchy of the Study Area includes just two different functional classifications according to the New York State Department of Transportation. Within the Study Area, Wyckoff Avenue is classified as a "Minor Arterial". All other streets, including Suydam Street, and Willoughby Avenue, that are located within the Study Area are classified as local roads.

Future No-Action Condition

Under the Future No-Action Condition, significant changes to the Study Area are not expected by the build year of 2021. It is expected, due to the current restrictions of existing M1-1 zoning, that no change to the existing built environment or uses would occur to any substantial degree. No development plans are known for the area. While tenants within commercial, manufacturing and other buildings may change, the overall use of these buildings within the Study Area would remain the same, and 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 or views are anticipated.

Future With-Action Condition

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

The Proposed Development Site lots are used as surface parking facilities and storage (Lots 16 – 21 and Lot 48) and to house a four-story light manufacturing building (Lot 51). Additionally, Lot 15, which is part of the Reasonable Worst-Case Development Scenario's Projected Development Site 2, is improved with a UG 2 residential building with two dwelling units built to a FAR of 0.9. Reasonable Worst-Case Development Scenario Projected Development Site 1 (Block 3210, Lots 48 and 51) is a combined 17,500 sf lot. Reasonable Worst-Case Development Scenario Projected Development Site 2 (Block 3210, Lots 15 – 21) is a combined 17,500 sf lot.

Under the Future With-Action scenario, it is assumed that the Proposed Actions would result in an enlargement of the existing manufacturing use on Lots 48 and 51 (Reasonable Worst-Case Development Scenario Projected Development Site 1) to the full maximum 5.0 FAR allowed in an M1-5 zoning district. On the combined 17,500 sf lot, it is assumed that the Proposed Actions would result in approximately 96,250 gsf (87,500 zsf) of manufacturing floor area occupied by Use Groups 5-14, 16, and 17. Per M1-5 zoning district required parking rules, parking would not be required for this With-Action development scenario.

The Proposed Actions would allow, under a Reasonable Worst-Case Development Scenario, construction of new 107,800 gsf (98,000 zsf) multifamily residential building on the combined Lots 15 through 21 (Reasonable Worst-Case Development Scenario Projected Development Site 2). This building could contain approximately 125 residential dwelling units with 24 units affordable to residents with incomes averaging 80 percent of AMI.

A three-dimensional representation of an approximate building envelope allowed under the Reasonable Worst-Case Development Scenario for the Proposed Rezoning Area is overlaid on a photograph of the street under existing conditions in **Figures 2.5-1 through 2.5-4**.

This current section of Bushwick is very densely developed with a variety of uses including, residential, commercial, mixed residential and commercial, institutional, and industrial and manufacturing uses. The Reasonable Worst-Case Development Scenario Projected Development Site 1 would be constructed on an existing vacant lot on Suydam Street (Lot 51) and expand an existing adjacent industrial and manufacturing use on Lot 48. Furthermore, Reasonable Worst-Case Development Scenario Projected Development Site 2 would be constructed on existing vacant land, and under-utilized lots located on Willoughby Avenue (Lots 15-21). There could be a residential apartment building with approximately 125 dwelling units in a Reasonable Worst-Case Development Scenario. In terms of aesthetics, while the Reasonable Worst-Case Development Scenario build-out would change views to the site as witnessed from pedestrians on Willoughby Avenue and Suydam Street, significant adverse impacts to urban design and visual resources would not occur.

In the applicant's opinion, there are currently no views of consequence to any lots in the Proposed Rezoning Area – in fact redevelopment would assist in visually improving this section of the block on Suydam Street and Willoughby Avenue as the Reasonable Worst Case Development Scenario development would facilitate in the elimination of the vacant lots in the Proposed Rezoning Area, which are eyesores in an area full of dense development.

The space is currently vacant it will be improved with the proposed development. This would alter views from the pedestrian perspective but to result in an adverse impact.

The Proposed Actions would not result in any of the above conditions that would merit further detailed assessment of urban design and visual resources.

In addition, the Proposed Actions would not alter or result in any changes to the built environment of the nearby Willoughby-Suydam National Historic District, a small portion of which is within 400 feet of the Project Site. Thus, the Proposed Actions would not affect the components of any historic building that contributes to the resource's historic significance. As the Proposed Actions would not diminish or disturb the existing aesthetic continuity, pedestrian features of the community or neighborhood, and as the Proposed Actions would not block any view corridors or views to/from any natural areas with rare or defining features, nor would the Proposed Actions impact any historical or culturally sensitive community features, the Proposed Actions are not expected to result in any significant adverse urban design or visual resource related impacts.



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No-Action Scenario
View 1-Projected Site 1

Figure 2.5-1



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With-Action Scenario
View 1-Projected Site 1

Figure 2.5-2



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No-Action Scenario
View 2- Projected Site 2

Figure 2.5-3



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With-Action Scenario
View 2 -Projected Site 2

Figure 2.5-4

2.5.2 Visual Resources and Assessment

Willoughby-Suydam National Historic District

As previously mentioned in the analysis, the Study Area includes one significant historic resource; the Willoughby-Suydam National Historic District. **Figure 2.5-5** shows the location of this resource in relation to the Proposed Rezoning Area.

A portion of the Willoughby-Suydam National Historic District is located within the 400-foot Study Area. However, it is located across Wyckoff Avenue (a wide street), on a separate block from the Project Development Sites. Willoughby–Suydam National Historic District (NR #90NR01608) is a national historic district in Brooklyn, New York, New York. It consists of 50 contributing residential buildings built between 1902 and 1904. These buildings are three- story brick tenements that have two apartments per floor. Some feature yellow and white terra cotta detailing. The district was listed on the National Register of Historic Places in 1983.

The district is generally bounded by Suydam Street to the east, Willoughby Avenue to the west, Wyckoff Avenue to the south, and St. Nicholas Avenue to the north. The Proposed Actions would not alter or result in changes to the built environment of the nearby historic district, which only has a small portion within 400 feet of the Project Site. No development would occur within the Willoughby-Suydam National Historic District nor would any development occur adjacent to it. Thus, the Proposed Actions would not affect the components of an historic building that contribute to the resource's historic significance. As the Proposed Actions would not diminish or disturb the existing aesthetic continuity, pedestrian features of the community or neighborhood, and as the Proposed Actions would not block any view corridors or views to/from any natural areas with rare or defining features, nor would the Proposed Actions impact any historical or culturally sensitive community features, the Proposed Actions are not expected to result in any significant adverse urban design or visual resource related impacts.

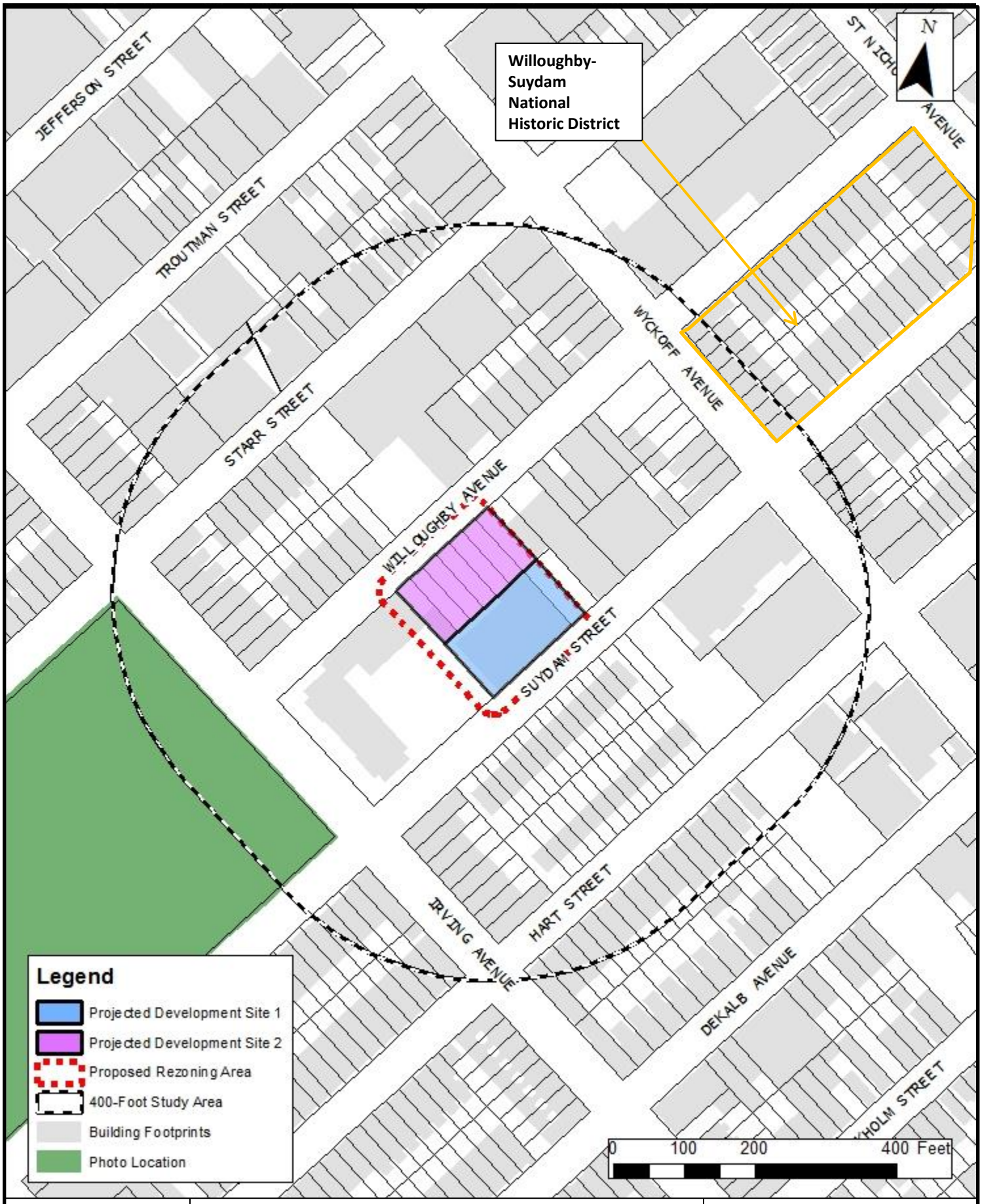

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Figure 2.5-5
Project Site Location and Willoughby Suydam National Historic District

2.6 HAZARDOUS MATERIALS

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

The applicant-Proposed Development Site lots are all controlled by the applicant (Block 3210, Lots 16-21, 48, and 51). Lots 16-21 are all currently unimproved lots. Lot 48 is currently unimproved, and Lot 51 is currently improved with a 43,250 gsf industrial and manufacturing building with four floors. Lot 15, which is considered part of Reasonable Worst-Case Development Projected Development Site 2 in the With-Action Scenario, is currently not under applicant control. Due to the existing industrial and manufacturing uses on the site, and the site's location within a manufacturing district and proximity to other industrial and manufacturing uses, further review of the Proposed Development Site's potential for contamination was conducted to determine the presence of on-site hazardous materials.

The Phase I ESA provides information regarding the potential presence of hazardous substances or petroleum products for the parcel of land located at 349-369 Suydam Street and 1250-1252 Willoughby Avenue, Brooklyn, New York.

2.6.1 Summary of Phase I ESA

A Phase I Environmental Site Assessment (ESA) was prepared in October 2017 by GEI Consultants (see **Appendix D**). The objective of the Phase I ESA was to evaluate past and current environmental conditions at the Proposed Development Site and to identify any potential areas of environmental concern or recognized environmental conditions that could affect the Proposed Development Site's environmental integrity. The Phase I ESA was performed in general conformance with the scope and limitations of the ASTM International Practice E1527-13.

The objective of Phase I ESA was to evaluate the Proposed Development Site for evidence of Recognized Environmental Conditions (REC's). A recognized environmental condition is defined in ASTM E1527-13 as "the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property." The Phase I identified REC's in connection with the Proposed Development Site as follows:

-1,500-Gallon Underground Storage Tank (UST) – A 1,500-gallon UST is in the loading dock area. According to a Phase II investigation performed by CA Rich Environmental Specialists (CA Rich) in June 2013 (see **Appendix C1**) this tank was confirmed to be filled with water. Additionally, a soil sample was obtained within the vicinity of this tank and the results indicated that no contamination was encountered. If it has not already been done, this tank should be properly closed in accordance with NYSDEC regulations.

-**Underground Storage Tank on West Side of Proposed Development Site–** An UST was identified in the CA Rich Phase II Report as being located on the west side Proposed Development Site. The size of the tank could not be determined as it was filled with sand. Additionally, one soil sample was obtained in the vicinity of this tank at a depth of 0-2 feet below ground surface and tested for TAL Metals. The sample was collected from the shallow soils and there was no evidence of contamination.

-**Gasoline Storage Tank** – A gasoline storage tank was observed on historical Sanborn maps in the vicinity of the loading dock area.

- Demolition Debris and Buried Structure – Potential presence of demolition debris and buried structures, as determined by the presence of past on-site structures that are no longer present.

- Soil, Soil Vapor and Groundwater Sampling – It is noted that the CA Rich Phase II concentrated solely on TAL Metals. Except for the one soil boring sample obtained from the vicinity of the 1,500-gallon fuel oil tank (mentioned above) all the rest of the samples were analyzed for TAL Metals. It is GEI's opinion that due to historical on-site and/or surrounding land uses soil and groundwater sampling should be performed to included Volatile and Semi Volatile Organic Compounds (VOC's and SVOC's), Pesticides as well as TAL Metals. Furthermore, soil vapor testing should be performed and tested for VOCs.

Historical Recognized Environmental Conditions

A *historical recognized environmental condition* (HREC) is defined as "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)." The Phase I ESA did not identify any HRECs in connection with the Proposed Development Site.

Controlled Recognized Environmental Conditions

Controlled Recognized Environmental Conditions (CRECs) are those RECs that have been addressed to the satisfaction of the regulatory agency but require the ongoing use of engineering or institutional controls in order to remain in compliance. The Phase I ESA did not identify any CRECs in connection with the Proposed Development Site.

Non-ASTM Environmental Concerns

Non-ASTM Environmental Concerns were identified associated with the potential presence of suspect asbestos containing materials and lead based painted surfaces throughout the building on the Proposed Sites.

2.6.2 Conclusions of Phase I ESA

Based on the findings of the Phase I ESA, GEI recommended that a Phase II Environmental Site Investigation (ESI) be conducted consisting of a geophysical survey, and the collection and analysis of soil, groundwater and soil vapor samples.

Additionally, the following business environmental recommendations were made as follows:

Suspect Asbestos Containing Materials – If in the future, prior to any future demolition or renovation activities, a licensed New York City asbestos investigator should inspect all building areas that will be affected by these activities to identify any asbestos-containing materials (ACM) in need of abatement. Paperwork outlining the findings of the inspection (i.e., ACP-5 or ACP-7 forms) must be filed and submitted to the proper New York City agencies.

Lead Based Painted Surfaces - Given the age of the subject building, it is possible that underlying painted surfaces on interior building components that have not been renovated or replaced since 1977 may contain lead. Precautions should be taken prior to any future building renovations or demolition to limit the amount of dust emissions that would be generated by such activities. Lead dust generated during renovation/demolition activities poses a potential health threat to workers and residents and should be addressed in accordance with all applicable federal, state, and city rules and regulations governing such projects.

To preclude the potential for significant adverse impacts, an (E) Designation would be provided 1250 Willoughby Avenue (Block 3210, Lots 16, 17, 18, 19, 20, and 21) and the enlargement of an existing

manufacturing building at 349 Suydam Street (Block 3210, Lots 48 and 51), the Projected Development Sites. E-583 has been assigned to this project. The text of the (E) designation for would be as follows:

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

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

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

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

2.7 TRANSPORTATION

2.7.1 Introduction

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

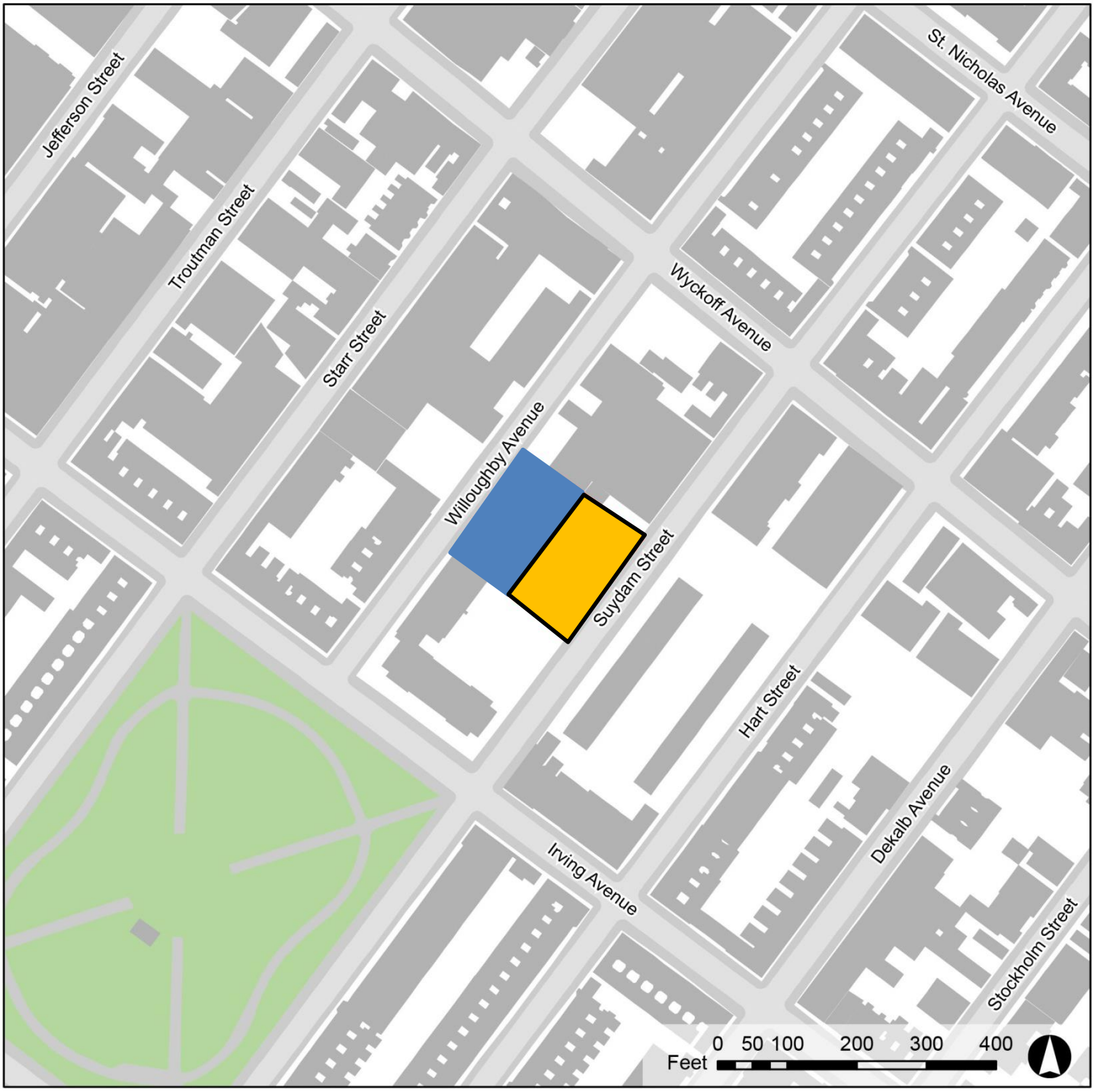
- 50 peak hour vehicle trips;
- 200 peak hour subway/rail or bus transit riders; or
- 200 peak hour pedestrian trips.

2.7.2 Traffic

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

A preliminary transportation screening was performed for a proposed rezoning of portions of Block 3210 in the northwest Bushwick neighborhood of Brooklyn that would facilitate the construction of a new residential building located at 1250 Willoughby Avenue and the enlargement of an existing manufacturing building at 349 Suydam Street. The enlargement of the manufacturing building (Reasonable Worst Case Development Scenario Projected Development Site 1) is located on Lot 51 and 48 of Block 3210 and the proposed residential building (Reasonable Worst Case Development Scenario Projected Development Site 2) is located on Lots 15 16, 17, 18, 19, 20, and 21 of Block 3210. The Proposed Rezoning Area is bounded by Wyckoff Avenue to the north, Irving Avenue to the south, Willoughby Avenue to the west, and Suydam Street to the east. **Figure 2.7-1** shows the Site Location Map.

In accordance with the *2014 City Environmental Quality Review Technical Manual (2014 CEQR Technical Manual)*, this Travel Demand Factors (TDF) Memorandum estimates the projected trips from the Reasonable Worst-Case Development following a two-tiered screening process. The Level 1 screening assessment includes a trip generation analysis to determine whether the Reasonable Worst-Case Development 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.



Source: 2016 Pluto, NYCDCP

Brooklyn, NY

Reasonable Worst Case Development Scenario Projected Site 1

Reasonable Worst Case Development Scenario Projected Site 2

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A. Reasonable Worst-Case Development Scenario Program

For the purposes of this TDF Memo, the horizon year for the Proposed Actions is 2021. Based on Reasonable Worst-Case Development Scenario (RWCDS), the analysis would assume the following land uses:

- 125 residential dwelling units
- 96,250 square feet (sf) of light industrial space

In the absence of the Proposed Actions, it is assumed that existing conditions would continue within the site. The existing site currently includes 43,250 sf of light industrial space and two residential units. Therefore, the total increment analyzed for the RWCDS would include:

- 123 residential dwelling units
- 53,000 sf of light industrial space

Preliminary Transportation Planning Factors

The transportation planning factors used in forecasting travel demand for the RWCDS are shown in **Table 2.7-1,** and the trip generation results are shown in **Table 2.7-2**. Trip generation estimates were prepared for the following critical peak periods:

- Weekday Morning (AM)
- Weekday Midday (MD)
- Weekday Afternoon (PM)
- Saturday Midday (SMD)

A description of the transportation planning factors for each individual land use is provided below.

Residential
The RWCDS would consist of an increment of 123 residential dwelling units. The daily trip generation rates, temporal distribution, daily truck trip generation rates, truck temporal distribution, and truck directional distribution were obtained from the *2014 CEQR Technical Manual*, Table 16-2. The modal split and auto vehicle occupancy were calculated from the 2011-2015 American Community Survey (ACS) 5-year estimates: Sex of Workers by Means of Transportation to Work (Table B08006) for Census Tract 445 in Brooklyn, as shown on **Figure 2.7-2**. Taxi vehicle occupancy was assumed to be equal to auto vehicle occupancy. The directional distribution was obtained from the *East New York Rezoning Proposal FEIS (2016)*, Table 13-8, for the Residential land use.

Light Industrial
The RWCDS would consist of 53,000 sf of light industrial use. The daily trip generation rates, temporal distribution, and directional distribution were obtained from the *ITE Trip Generation Manual, 10th Edition, Volume 2*, for the General Light Industrial land use (code 110). The daily trip generation rates (person trip rates) were calculated as the product of the average daily vehicle trip rate and auto vehicle occupancy. The daily trip generation rates were then grown by 5% to account for non-auto trips not included in the *ITE Trip Generation Manual* general urban/suburban vehicle trip rates. The temporal distribution was calculated as the division of the peak hour average trip rate by the daily average trip rate. The daily truck generation rates, Weekday MD modal split, truck temporal distribution, and truck directional distribution were obtained from the *East New York Rezoning Proposal FEIS (2016)*, Table 13-8, for the Light Industrial land use. Modal split for the Weekday AM, PM, and Saturday MD peak hours and auto vehicle occupancy were calculated from the 2006-2010 American Community Survey (ACS) 5-year estimates: Means of Transportation (18),

Workers 16 years and over (Table A202105) for Census Tract 445 in Brooklyn, as shown on **Figure 2.7-2**. Taxi vehicle occupancy was assumed to be equal to auto vehicle occupancy.

Note: The auto modal share for census tract 445 was compared to the average modal share for census tracts 427, 429, 431, 443, 445, 447, and 539 (census tracts directly adjacent to census tract 445) and was found to be higher. Therefore, census tract 445 was conservatively used in the definition of travel demand factors.

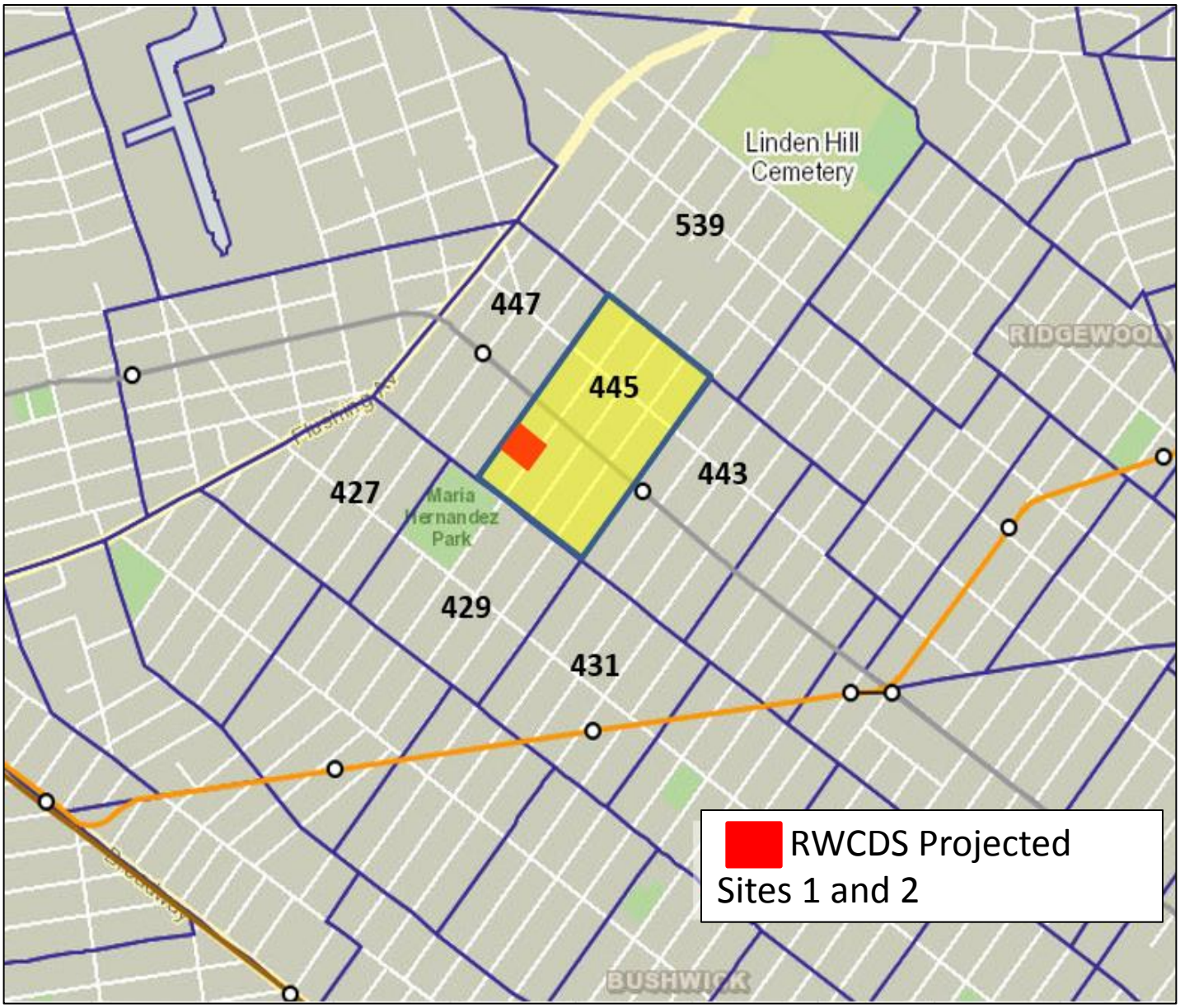

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Figure 2.7-2
Census Map

Table 2.7-1 Travel Demand Factors

	Land Use:	Residential		Light Industrial	
Program Size	**Size**	123 Dwelling Units		53,000 gsf	
	Unit				
Daily Person Trip Generation		(1)		(4)	
	Weekday	8.075		5.9	
	Saturday	9.600		2.4	
	Unit	per dwelling unit		per 1,000 gsf	
Daily Truck Trip Generation		(1)		(3)	
	Weekday	0.06		0.67	
	Saturday	0.02		0.67	
	Unit	per dwelling unit		per 1,000 gsf	
		Weekday	**Saturday**	**AM/PM/SAT**	**MD**
		(2)		(3, 5)	
Modal Split	**Auto**	13.0%	13.0%	41.8%	2.0%
	Taxi	2.4%	2.4%	0.0%	3.0%
	Bus	3.8%	3.8%	10.1%	6.0%
	Subway	63.9%	63.9%	22.2%	6.0%
	Walk	16.9%	16.9%	25.9%	83.0%
		100.0%	100.0%	100.0%	100.0%
Vehicle Occupancy		(2)		(5)	
	Auto	1.14	1.14	1.13	1.13
	Taxi	1.14	1.14	1.13	1.13
Linked Trips		0%	0%	0%	0%
Temporal Distribution		(1)		(4)	
	AM	10.0%		18.5%	
	MD	5.0%		11.0%	
	PM	11.0%		16.7%	
	Sat MD	8.0%		20.6%	
Truck Temporal Distribution		(1)		(3)	
	AM	12.0%		14.0%	
	MD	9.0%		9.0%	
	PM	2.0%		1.0%	
	Sat MD	9.0%		0.0%	
		In	**Out**	**In**	**Out**
		(3)		(4)	
Directional Distribution	**AM**	15.0%	85.0%	87.0%	13.0%
	MD	50.0%	50.0%	50.0%	50.0%
	PM	70.0%	30.0%	18.0%	82.0%
	Sat MD	50.0%	50.0%	47.0%	53.0%
Truck Directional Distribution		(1)		(3)	
	AM	50.0%	50.0%	50.0%	50.0%
	MD	50.0%	50.0%	50.0%	50.0%
	PM	50.0%	50.0%	50.0%	50.0%
	Sat MD	50.0%	50.0%	50.0%	50.0%

Notes

1. CEQR Technical Manual (March 2014), Table 16-2.
2. U. S. Census Bureau. 2011-2015 American Community Survey 5-Year Estimates. Table B08006: Sex of Workers by Means of Transportation to Work. Data for Brooklyn Census Tract 445. Taxi vehicle occupancy assumed to be equal to auto vehicle occupancy.
3. East New York Rezoning Proposal FEIS (2016), Table 13-8.
4. ITE Trip Generation Manual, 10th Edition, Volume 2: Land Use Code 110 (General Light Industrial). Daily Person Trip Rate = Average Daily Vehicle Trip Rate x Auto Vehicle Occupancy x 1.05 (to account for non-auto trips not included in ITE General Urban/Suburban vehicle trip rates). Temporal Distribution = Peak Hour Average Trip Rate / Daily Average Trip Rate. Weekday Midday Temporal and Directional Distribution from East New York Rezoning Proposal FEIS.
5. U. S. Census Bureau. 2006-2010 American Community Survey 5-Year Estimates. Table A202105: Means of Transportation (18), Workers 16 years and over. Data for Brooklyn Census Tract 445. Weekday Midday modal split from East New York Rezoning Proposal FEIS.

Table 2.7-2 Project Increment Trip Generation Estimates

Travel Demand Forecast (Person Trips)

		Residential		Light Industrial		TOTAL		
Daily Trips	Weekday	872		312		**1,184**		
	Saturday	1,037		125		**1,162**		
Peak Hour Trips	AM	87		58		**145**		
	MD	44		34		**78**		
	PM	96		52		**148**		
	Sat MD	83		26		**109**		
		In	**Out**	**In**	**Out**	**In**	**Out**	**TOTAL**
AM	**Auto**	2	10	21	3	**23**	**13**	**36**
	Taxi	0	2	0	0	**0**	**2**	**2**
	Bus	0	3	5	1	**5**	**4**	**9**
	Subway	8	47	11	2	**19**	**49**	**68**
	Walk	2	13	13	2	**15**	**15**	**30**
	Total	12	75	50	8	**62**	**83**	**145**
MD	**Auto**	3	3	0	0	**3**	**3**	**6**
	Taxi	1	1	1	1	**2**	**2**	**4**
	Bus	1	1	1	1	**2**	**2**	**4**
	Subway	14	14	1	1	**15**	**15**	**30**
	Walk	4	4	14	14	**18**	**18**	**36**
	Total	23	23	17	17	**40**	**40**	**80**
PM	**Auto**	9	4	4	18	**13**	**22**	**35**
	Taxi	2	1	0	0	**2**	**1**	**3**
	Bus	3	1	1	4	**4**	**5**	**9**
	Subway	43	18	2	9	**45**	**27**	**72**
	Walk	11	5	2	11	**13**	**16**	**29**
	Total	68	29	9	42	**77**	**71**	**148**
Sat MD	**Auto**	5	5	5	6	**10**	**11**	**21**
	Taxi	1	1	0	0	**1**	**1**	**2**
	Bus	2	2	1	1	**3**	**3**	**6**
	Subway	27	27	3	3	**30**	**30**	**60**
	Walk	7	7	3	4	**10**	**11**	**21**
	Total	42	42	12	14	**54**	**56**	**110**

Travel Demand Forecast (Vehicle Trips)

Taxi Overlap Rate 0%		Residential		Light Industrial		TOTAL		
		In	**Out**	**In**	**Out**	**In**	**Out**	**TOTAL**
AM	**Auto**	2	9	19	3	**21**	**12**	**33**
	Taxi	0	2	0	0	0	2	2
	Taxi (Balanced)[1]	2	2	0	0	**2**	**2**	**4**
	Truck	0	0	2	2	**2**	**2**	**4**
	Total	4	11	21	5	**25**	**16**	**41**
MD	**Auto**	3	3	0	0	**3**	**3**	**6**
	Taxi	1	1	1	1	2	2	4
	Taxi (Balanced)[1]	2	2	2	2	**4**	**4**	**8**
	Truck	0	0	2	2	**2**	**2**	**4**
	Total	5	5	4	4	**9**	**9**	**18**
PM	**Auto**	8	4	4	16	**12**	**20**	**32**
	Taxi	2	1	0	0	2	1	3
	Taxi (Balanced)[1]	3	3	0	0	**3**	**3**	**6**
	Truck	0	0	0	0	**0**	**0**	**0**
	Total	11	7	4	16	**15**	**23**	**38**
Sat MD	**Auto**	4	4	4	5	**8**	**9**	**17**
	Taxi	1	1	0	0	1	1	2
	Taxi (Balanced)[1]	2	2	0	0	**2**	**2**	**4**
	Truck	0	0	0	0	**0**	**0**	**0**
	Total	6	6	4	5	**10**	**11**	**21**

Notes
(1) A 0% taxi overlap rate was assumed based on the *CEQR 2014 Technical Manual*.

Travel Demand Forecast (Total Walk Trips)

		Residential		Light Industrial		TOTAL		
		In	**Out**	**In**	**Out**	**In**	**Out**	**TOTAL**
AM	**Total Walk Trips[1]**	10	63	29	5	**39**	**68**	**107**
MD	**Total Walk Trips[1]**	19	19	16	16	**35**	**35**	**70**
PM	**Total Walk Trips[1]**	57	24	5	24	**62**	**48**	**110**
Sat MD	**Total Walk Trips[1]**	36	36	7	8	**43**	**44**	**87**

Notes
(1) Total walk trips includes all trips via transit plus walk only trips.

B. Trip Generation Results

The results of the trip generation estimate for the Proposed Project are shown in **Table 2.7-3**.

Table 2.7-3 Project Increment Trip Generation Estimate Summary

Peak Hour	Vehicle (Auto + Taxi + Truck)	Subway	Bus	Walk/Other	Total Pedestrian
Weekday AM	41	68	9	30	107
Weekday MD	18	30	4	36	70
Weekday PM	38	72	9	29	110
Saturday MD	21	60	6	21	87

The results show that the RWCDS increment would generate less than 50 vehicle trips in a peak hour (a maximum of 41 trips during the Weekday AM peak hour). Therefore, in accordance with the *2014 CEQR Technical Manual*, a Level 2 screening is not required.

The results show that the RWCDS increment would generate less than 200 subway trips in a peak hour (a maximum of 72 trips during the Weekday PM peak hour). Therefore, in accordance with the *2014 CEQR Technical Manual*, a Level 2 screening is not required.

The results show that RWCDS increment would generate less than 50 bus trips in a peak hour (a maximum of 9 trips in the Weekday AM and PM peak hours). Therefore, in accordance with the *2014 CEQR Technical Manual*, a Level 2 screening is not required.

The results show that the RWCDS increment would generate less than 200 pedestrians in a peak hour (a maximum of 110 trips in the Weekday PM peak hour). Therefore, in accordance with the *2014 CEQR Technical Manual*, a Level 2 screening is not required.

Conclusion

Based on the Level 1 analysis, the RWCDS increment would not meet the *2014 CEQR Technical Manual* thresholds. As a result, a Level 2 screening was not performed, and detailed transportation analyses would not be necessary.

2.8 AIR QUALITY

When assessing the potential for air quality significant impacts, the CEQR Technical Manual seeks to determine a proposed action's effect on ambient air quality, or the quality of the surrounding air. Ambient air can be affected by motor vehicles, referred to as "mobile sources," or by fixed facilities, referred to as "stationary sources." This can occur during operation and/or construction of a proposed project. The pollutants of most concern are carbon monoxide, lead, nitrogen dioxide, ozone, relatively coarse inhalable particulates (PM10), fine particulate matter (PM2.5), and sulfur dioxide.
The CEQR Technical Manual generally recommends an assessment of the potential impact of mobile sources on air quality when an action increases traffic or causes a redistribution of traffic flows, creates any other mobile sources of pollutants (such as diesel train usage), or adds new uses near mobile sources (e.g., roadways, parking lots, garages). The CEQR Technical Manual generally recommends assessments when new stationary sources of pollutants are created, when a new use might be affected by existing stationary sources, or when stationary sources are added near existing sources and the combined dispersion of emissions would impact surrounding areas.

Introduction

The project applicant is seeking a zoning map amendment to rezone portions of Brooklyn Block 3210 in northwest Bushwick CD4 from M1-1 to M1-5, MX (M1-5/R7D), and R6 to facilitate the construction of a new residential building at 1250 Willoughby Avenue (Block 3210, Lots 16, 17, 18, 19, 20, and 21), and the enlargement of an existing manufacturing building at 349 Suydam Street (Block 3210, Lot 51).

The Reasonable Worst-Case Development Scenario (RWCDS) is summarized in **Table 2.8-1**, and each projected site boundary depicted in **Figure 2.8-1** has been submitted to and approved by New York City Department of City Planning (NYCDCP). **Figure 2.8-2** depicts the site layout, including building setbacks from property lines.

The air quality assessment was conducted to evaluate potential impacts:

1) From the surrounding existing industrial sources on RWCDS Projected Site 2;

2) From the existing industrial sources of RWCDS Projected Site 1 on RWCDS Projected Site 2;

3) From the industrial sources of future RWCDS Projected Site 1 new uses on RWCDS Projected Site 2;

4) From the Proposed HVAC system of RWCDS Projected Site 1 on existing sites and RWCDS Projected Site 2;

5) From the Proposed HVAC system of RWCDS Projected Site 2 on existing sites.

Table 2.8-1 Reasonable Worst-Case Development Scenario (RWCDS)

Site No.	Block	Lot	Lot Area (sq. ft.)	Proposed Zoning	Max Allowable (sq. ft.)	Max Allowable Height (ft.)
Projected Development Site 1	3210	48, 51	17,500	M1-5	96,250	67
Projected Development Site 2	3210	15, 16, 17, 18, 19, 20, 21	17,500	R7D/C2-4	107,800	115

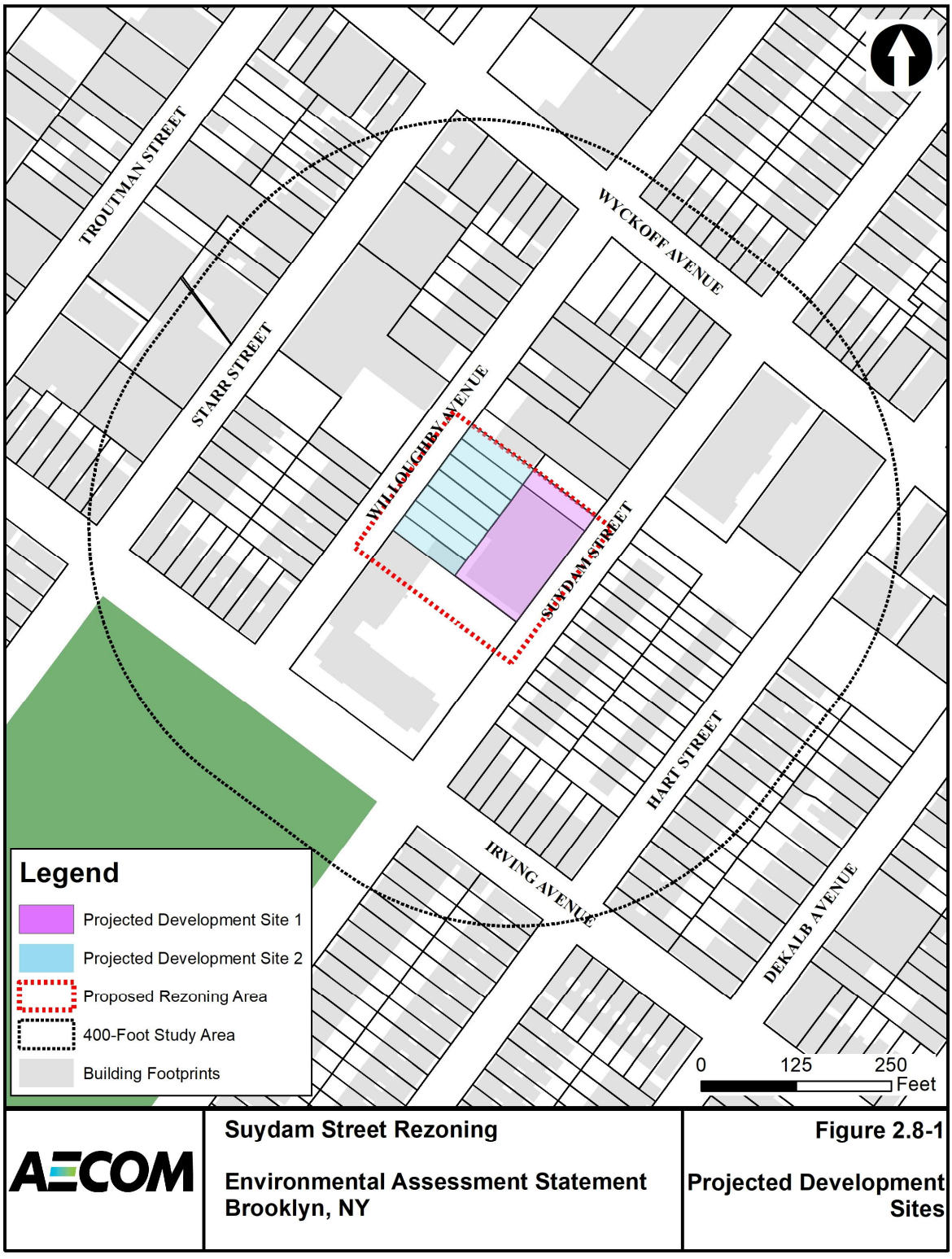
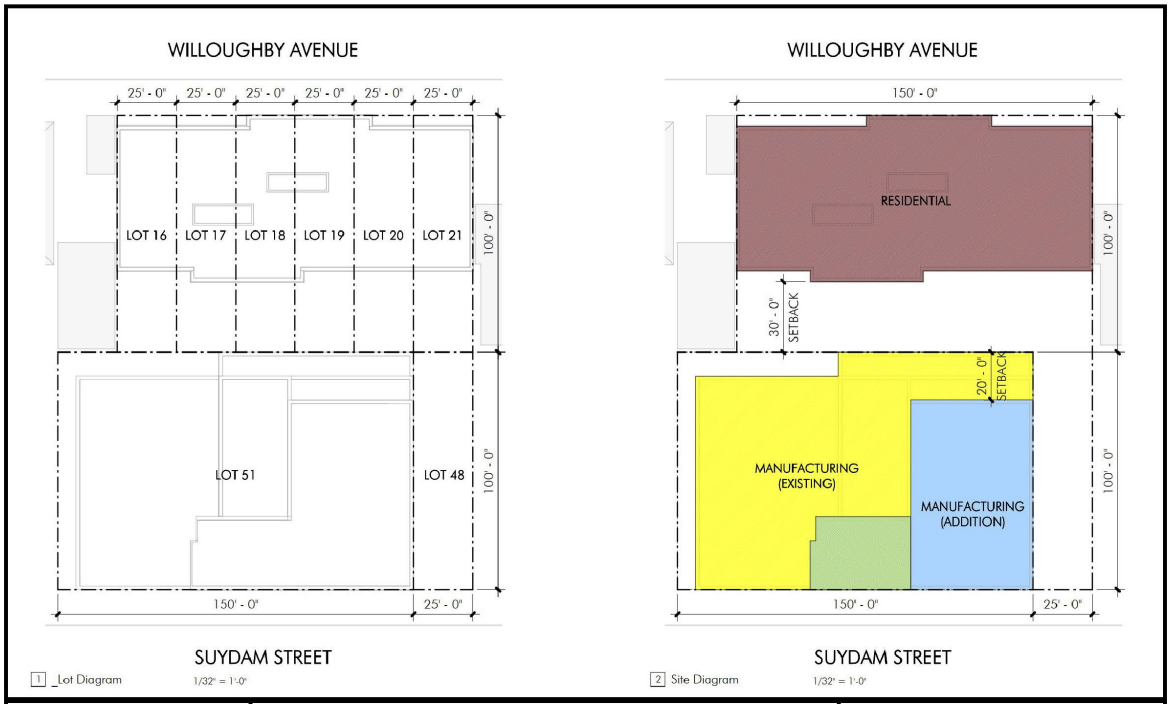


Figure 2.8-1 Projected Development Sites



AECOM	**Suydam Street Rezoning** **Environmental Assessment Statement** **Brooklyn, NY**	**Figure 2.8-2** **Site Layout**

Figure 2.8-2 Site Layout

2.8.1 Methodologies and Assumptions

a. Mobile Source Screening

According to the CEQR Technical Manual, projects—whether site-specific or generic—may result in significant mobile source air quality impacts when they increase or cause a redistribution of traffic, create any other mobile sources of pollutants (e.g., diesel trains, helicopters, boats), or add new uses near mobile sources (e.g., roadways, garages, parking lots). The following project types may result in significant adverse air quality impacts from mobile sources and therefore require further analyses, which may include microscale analyses of mobile sources:

· 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:

o 160 or more auto trips in areas of concern in downtown Brooklyn or Long Island City, Queens;
o 140 or more auto trips in Manhattan between 30th and 61st Streets; or
o 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 (the attached worksheet and guidance regarding vehicle class may be used to calculate equivalency), resulting in the following:

o 12 or more heavy duty diesel vehicles (HDDV) for paved roads with average daily traffic fewer than 5,000 vehicles;
o 19 or more HDDV for collector roads;
o 23 or more HDDV for principal and minor arterials; or
o 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. Consultation with the lead agency regarding whether an air quality analysis of parking facilities is necessary is recommended.

- · Projects that would result in a sizable number of other mobile sources of pollution, such as a heliport, new railroad terminal, or trucking.

As the RWCDS would not result in any of the conditions described above, a further mobile source analysis is not warranted.

b. Industrial Sources

b-1. Potential Impacts from surrounding existing industrial sources on RWCDS Projected Site 2

Pollutants emitted from the exhaust vents of existing permitted industrial facilities were examined to identify potential adverse impacts on future residents of the RWCDS Projected Site 2. All industrial air pollutant emission sources within 400 feet of Projected Site 2 were considered for inclusion in the air quality impact analyses.

In accordance with the CEQR guidance, a search of the NYCDEP CAT database was conducted and two industrial facilities with eight (8) current air permits within 400 feet of the Projected Site 2 were identified as below:

- S1: Tru-Tone Metal Products, located on 1261 Willoughby Avenue (Block 3199, Lot 19);
- S2: Wilco Finishing Corporation located on 1288 Willoughby Avenue (Block 3210, Lot 23).

The operation of chrome planting process at Source S2, 1288 Willoughby Avenue, associated with permits PA037092 and PA037192, have been terminated, and their emissions impacts were not considered in the assessment.

With respect to permitted chromic acid emissions of Tru-Tone Medal Products, after consultation with New York City Department of Environmental Protection (NYCDEP) and New York City Department of City Planning (NYCDCP), the emission rates were estimated based on AP-42 Chapter 12 Table 12.20-2 for chrome plating process along with the below tank information provided by NYCDCP for Source S1:

- Tank Size: 550 gals
- Surface Area: 3 Feet X 8 Feet
- Chromic Acid: < 20 % per MSDS sheet
- Emission Factor =0.00075 grians/hr-sqft (With Packed-bed Scrubber and fume suppressant)

Furthermore, the operations including the chrome planting process associated with PA037092 and PA037192 air permits at Source S2, 1288 Willoughby Avenue facility, have been terminated and their emissions impacts were not considered in the assessment.

Although the facility located at 1261 Willoughby Avenue (i.e., Source S1) is currently performing its chromic plating operations for only a few hours a week, the impact assessment conservatively assumes an average of nine hours (8 am and 5 pm) per day operation. Thus, the corresponding annual average chromic acid emission rate was conservatively calculated to be 3.24E-07 g/s. Emission rates, as shown in Table 2.8-2, and stack parameters obtained from the NYCDEP permits were input into the AERMOD dispersion model.

After compiling the information on these two facilities, maximum potential pollutant concentrations at sensitive receptors on RWCDS Projected Site 2 from two facilities were predicted with a refined modeling analysis using the EPA/AMS AERMOD dispersion model (EPA Version 19191). The AERMOD model calculates pollutant concentrations from one or more points (e.g., exhaust stacks) based on emission rates, source parameters and hourly meteorological data, stack tip downwash, urban dispersion and surface roughness length, and elimination of calms. The meteorological data set consists of five years of meteorological data: surface data collected at LaGuardia Airport (2013–2017) and concurrent upper air data collected at Brookhaven, Suffolk County, New York.

AERMOD is a state-of-the-art dispersion model, applicable to rural and urban areas, flat and complex terrain, surface and elevated releases, and multiple sources (including point, area, and volume sources). AERMOD is a steady-state plume model that incorporates current concepts about flow and dispersion in complex terrain, including updated treatments of the boundary layer theory, understanding of turbulence and dispersion, and includes handling of terrain interactions

Table 2.8-2 Emission Rates Obtained from DEP Permits

No.	Block	Lot	Permit No.	Pollutant	CAS Number	Hourly Emission Rate (lbs/hr)	Hourly Emission Rate (g/s)	Annual Emission Rate (lbs/yr)	Annual Emission Rate (g/s)
1	3199	19	PA003297	Particles	NY075-00-0	0.007	8.81E-04	11.2	1.61E-04
				Aromatic Hydrocarbon	64742-95-6	0.063	7.93E-03	100.8	1.45E-03
				ASA-Skino	00096-29-7	0.001	1.26E-04	1.6	2.30E-05
				Calcium Naphthenate	61789-36-4	0.001	1.26E-04	1.6	2.30E-05
				Butyl Alcohol, N-	00071-36-3	0.001	1.26E-04	1.6	2.30E-05
				Methyl Isobutyl Ketone	00108-10-1	0.027	3.40E-03	43.2	6.21E-04
2	3199	19	PA003397	Aromatic Hydrocarbon	64742-95-6	0.014	1.76E-03	22.4	3.22E-04
				ASA-Skino	00096-29-7	0.001	1.26E-04	1.6	2.30E-05
				Calcium Naphthenate	61789-36-4	0.001	1.26E-04	1.6	2.30E-05
				Butyl Alcohol, N-	00071-36-3	0.001	1.26E-04	1.6	2.30E-05
				Methyl Isobutyl Ketone	00108-10-1	0.006	7.55E-04	9.6	1.38E-04
				Mineral Spirits	08052-41-3	0.04	5.03E-03	64	9.19E-04
3*	3199	19	PA003497	Chromic Acid obselet	11115-74-5	0.001	1.26E-04	1.6	2.30E-05
4	3199	19	PA003597	Sodium Hydroxide	01310-73-2	0.005	6.29E-04	8	1.15E-04
5	3199	19	PA003697	Sulphuric Acid	07664-93-3	0.01	1.26E-03	16	2.30E-04
6	3210	23	PA055695	Particles	NY075-00-0	0.001	1.26E-04	0.48	6.89E-06
7	3210	23	PA055795	Particles	NY075-00-0	0.001	1.26E-04	0.48	6.89E-06

* Using AP-42 method to recalculate the annual emission rate as 3.24E-7 gram/second

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

To assess the effects of multiple sources emitting the same pollutants, cumulative source impacts were determined. Concentrations of the same pollutant from two industrial sources at each receptor on RWCDS Projected Site 2 were combined and compared to the guideline concentrations discussed below.

Discrete receptors (i.e., locations at which concentrations were calculated) were placed front and rear façades of RWCDS Projected Site 2. The receptor network consists of receptors located at spaced intervals along the sides of the development site from the ground floor to the top floor.

The NYSDEC DAR-1 guidance document presents guideline concentrations in micrograms per cubic meter for the short-term guideline concentration (SGC) and annual guideline concentration (AGC) over one-hour and annual average time periods, respectively, for various air toxic pollutants. The applicable SGCs and AGCs are provided in **Table 2.8-3** for the pollutants affecting receptors located at RWCDS Projected Site 2.

Table 2.8-3 Relevant NYSDEC Ambient Air Contaminants Guideline Concentration

Pollutant	CAS number	SGC	AGC
Aromatic Hydrocarbon	64742-95-6	NA	100
Butyl Alcohol, N-	00071-36-3	NA	1,500
Calcium Naphthenate	61789-36-4	22,000	100
Chromic Acid obselet	11115-74-5	NA	4.5E-05
Methyl Isobutyl Ketone (MIBK)	00108-10-1	31,000	3,000
Mineral Spirits	08052-41-3	N/A	900
Sodium Hydroxide	01310-73-2	200	NA
Sulfuric Acid	07664-93-3	120	1.0

Predicted worst-case impacts on RWCDS Projected Development Site 2 were compared with the SGCs and AGCs provided in NYSDEC's DAR-1 to determine whether the future residents of the Reasonable Worst-Case Development Scenario Projected Development Site 2 could be significantly impacted by nearby existing sources of air pollution.

The particles from two facilities were considered as $PM_{2.5}$, and the predicted worst-case concentrations were compared with the criteria corresponding to the National Ambient Air Quality Standards (NAAQS) (**Table 2.8-4**). In addition to the NAAQS, the *de minimis* thresholds for $PM_{2.5}$ applicable to the New York City development projects (**Table 2.8-4**) were also used to determine potential $PM_{2.5}$ impact significance as below:

- Predicted 24-hour maximum $PM_{2.5}$ concentration increase of more than half the difference between the 24-hour background concentration and the 24-hour standard; or

- Predicted annual average $PM_{2.5}$ concentration increase greater than 0.3 $\mu g/m^3$.

Table 2.8-4 PM2.5 Impact Significance Thresholds

Pollutant	Averaging Time	NAAQS	Background Concentration	unit	De Minimis	Not-to-Exceed Criteria ($\mu g/m^3$)
$PM_{2.5}$	1 year	**15**	--	µg/m3	**0.3**	0.3
	24 hours	**35**	18.9	µg/m3	**8.1**	8.1

b-2. Potential Impacts from existing industrial sources of RWCDs Projected Site 1 on RWCDS Projected Site 2

The memorandum of Feb 21, 2020, Evaluation of Current Tenant Industrial Uses at Suydam Street Rezoning Site, [attached hereto as Appendix E], indicates that Projected Development Site 1 has three woodworking tenants and they are not required to have NYS DEC permits.

b-3. Potential Impacts from the industrial sources of future RWCDS Projected Site 1 new uses on RWCDS Projected Site 2

As indicated in the memorandum of April 10, 2019, Suydam Street Rezoning EAS (Suydam-Willoughby Development) – Outstanding Air Quality Issues (CEQR# 18DCP177K), [attached hereto as Appendix E], a survey on 29 new leases in the project neighborhood found no uses requiring NYC DEP air permits. Based on the industrial use trends found in the Rezoning Area's neighborhood over the past five years, it is expected that the future industrial use of the future RWCDS Projected Site 1 would follow the same pattern.

c. HVAC

Potential impacts from HVAC boiler emissions are a function of fuel type, stack height, distance from the source to the nearest receptor (building), and size of floor area in square feet (sq. ft.) of a proposed development. Floor area is considered an indicator of boiler fuel usage rate. The preliminary screening analysis for heat and hot water systems of RWCDS Projected Site 1 has been established based on New York City Environmental Quality Review (CEQR) Technical Manual. Figure 17-6, which defines the screening size of proposed commercial or industrial development that is correlated to the distance to the nearest building of a height similar to or greater than the stack height of the proposed building(s). Figure 17-6 predicts the threshold of distance between a development site and sensitive receptors beyond which a project is unlikely to have a significant impact.

A preliminary screening analysis for heat and hot water systems of Projected Development Site 2 has been established based on *New York City Environmental Quality Review (CEQR) Technical Manual* Figure 17-5, which defines the screening size of proposed residential development that is correlated to the distance to the nearest building of a height similar to or greater than the stack height of the proposed building(s). Figure 17-5 predicts the threshold of distance between a development site and sensitive receptors beyond which a project is unlikely to have a significant impact.

If a projected site failed the screening, a refined dispersion modeling analysis would be performed using AERMOD in association with most recently five years meteorological data to predict applicable pollutant concentrations from the proposed HVAC systems of Projected Sites 1 and 2.

2.8.2 Assessment Results

a. Industrial sources

Table 2.8-5 presents the AERMOD-predicted short-term impacts from the existing industrial sources on the proposed residential building. No exceedances of NYSDEC's DAR-1 SGCs were predicted. Therefore, there would be no short-term significant adverse air quality impacts from the existing industrial sources for each pollutant.

Table 2.8-5 AERMOD-Predicted Short-term Concentrations from Existing Industrial Sources

Pollutant	CAS #	SGC (µg/m^3)	Modeled Results (µg/m^3)
Calcium Naphthenate	61789-36-4	22,000	0.43
Methyl Isobutyl Ketone	00108-10-1	31,000	11.6
Sodium Hydroxide	01310-73-2	200	2.41
Sulfuric Acid	07664-93-3	120	3.95

Table 2.8-6 presents the AERMOD-predicted annual impacts from the existing industrial sources on the proposed residential building. No exceedances of NYSDEC's DAR-1 AGCs were predicted. Therefore, there would be no long-term significant adverse air quality impacts from the existing industrial sources for each pollutant.

Table 2.8-6 AERMOD-Predicted Annual Concentrations from Existing Industrial Sources

Pollutant	CAS number	AGC (ug/m3)	Annual Model Result (ug/m3)
Aromatic Hydrocarbon	64742-95-6	100	2.84E-01
Butyl Alcohol, N-	00071-36-3	1,500	6.80E-03
Calcium Naphthenate	61789-36-4	100	6.80E-03
Chromic Acid obselet	11115-74-5	4.5E-05	1.28E-05
Methyl Isobutyl Ketone	00108-10-1	3,000	1.25E-01
Mineral Spirits	08052-41-3	900	1.18E-01
Sulphuric Acid	07664-93-3	1.0	2.20E-02

Table 2.8-7 presents the AEMOD-predicted $PM_{2.5}$ daily and annual impact from existing industrial sources on the proposed residential building. No exceedances of Not-to-exceed criteria were predicted. Therefore, there would be no significant impact of $PM_{2.5}$ from the existing industrial sources.

Table 2.8-7 AERMOD-Predicted Daily and annual $PM_{2.5}$ Concentrations from the Existing Industrial Sources

Pollutant	Averaging Time	Not-to-Exceed Criteria (µg/m^3)	Modelled Result (µg/m^3)
$PM_{2.5}$	1 year	0.3	0.03
	24 hours	9.1	0.25

c. HVAC

Impacts from RWCDS Projected Site 1 on existing sites and Reasonable Worst-Case Development Scenario Projected Site 2.

As shown in Figure 2.8-3, RWCDS Projected Site 1 would not cause any potential adverse air quality impacts to any building with similar or greater height located at least 70 feet from RWCDS Projected Site 1. Based on a site visit, there are no existing buildings with a height of 67 feet or greater located within the 70-foot radius of RWCDS Projected Site 1. Therefore, there would be no potential adverse air quality impacts from the Projected Site 1 on existing residential buildings. However, since RWCDS Projected Site 2 would be adjacent to a building with a maximum height of 115 feet, in order to prevent the adverse air quality impact from RWCDS Projected Site 1 on RWCDS Projected Site 2, the stack of RWCDS Projected Site 1 should be set back 70 feet from the lot line of Projected Development Site 2.

Impacts from Reasonable Worst-Case Development Scenario Projected Site 2 on existing sites.

As shown in Figure 2.8-4, the RWCDS Projected Site 2 would not cause any potential adverse air quality impact to any residential building with the similar or greater height located at least 99 feet away. Based on a site visit, there are no existing residential buildings with a height of 115 feet or above located within 99-foot radius of RWCDS Projected Site 2. Therefore, there would be no potential adverse air quality impact from the RWCDS Projected Site 2 on existing residential buildings.

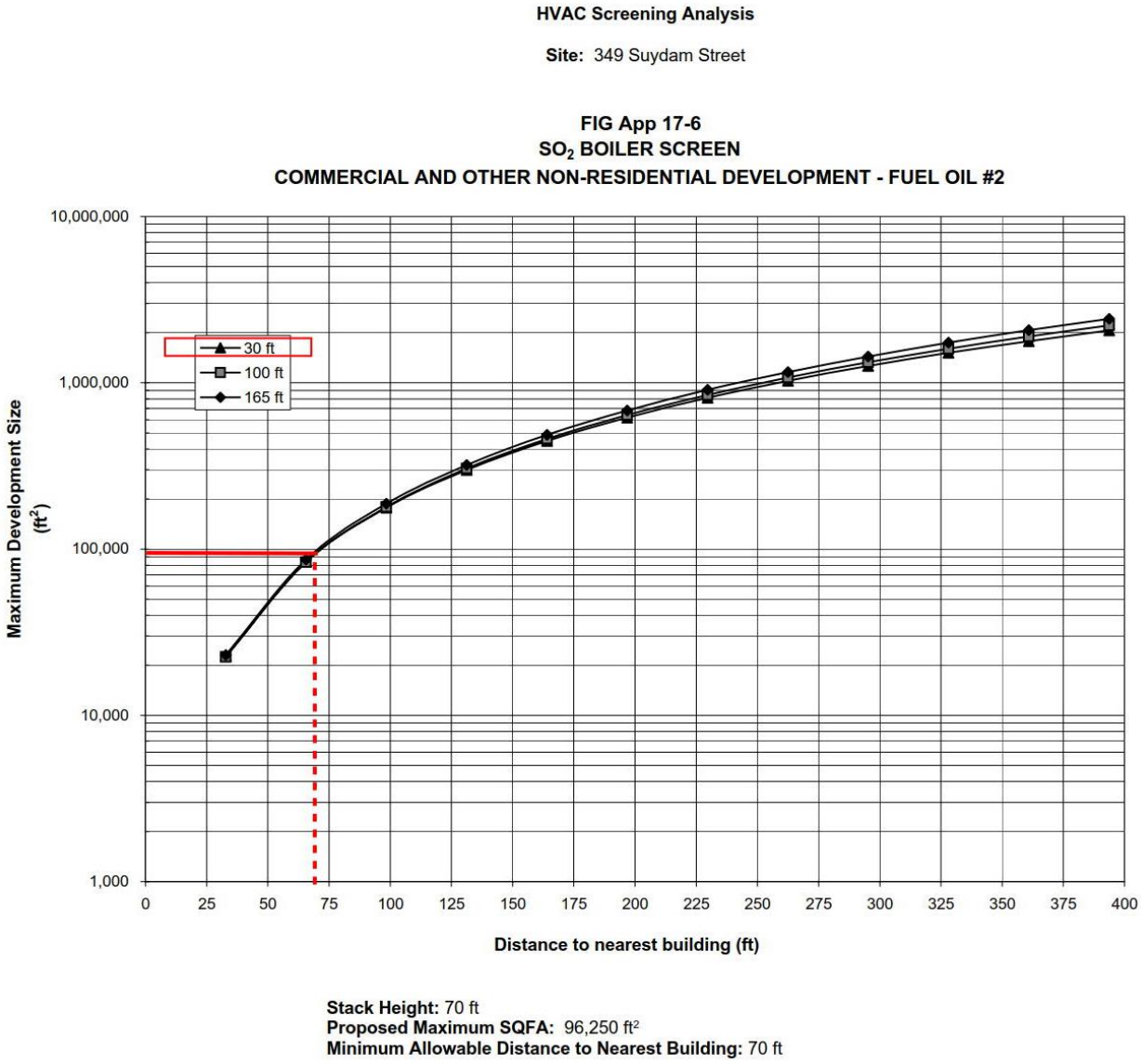


Figure 2.8-3 Projected Development Site 1 HVAC Screening

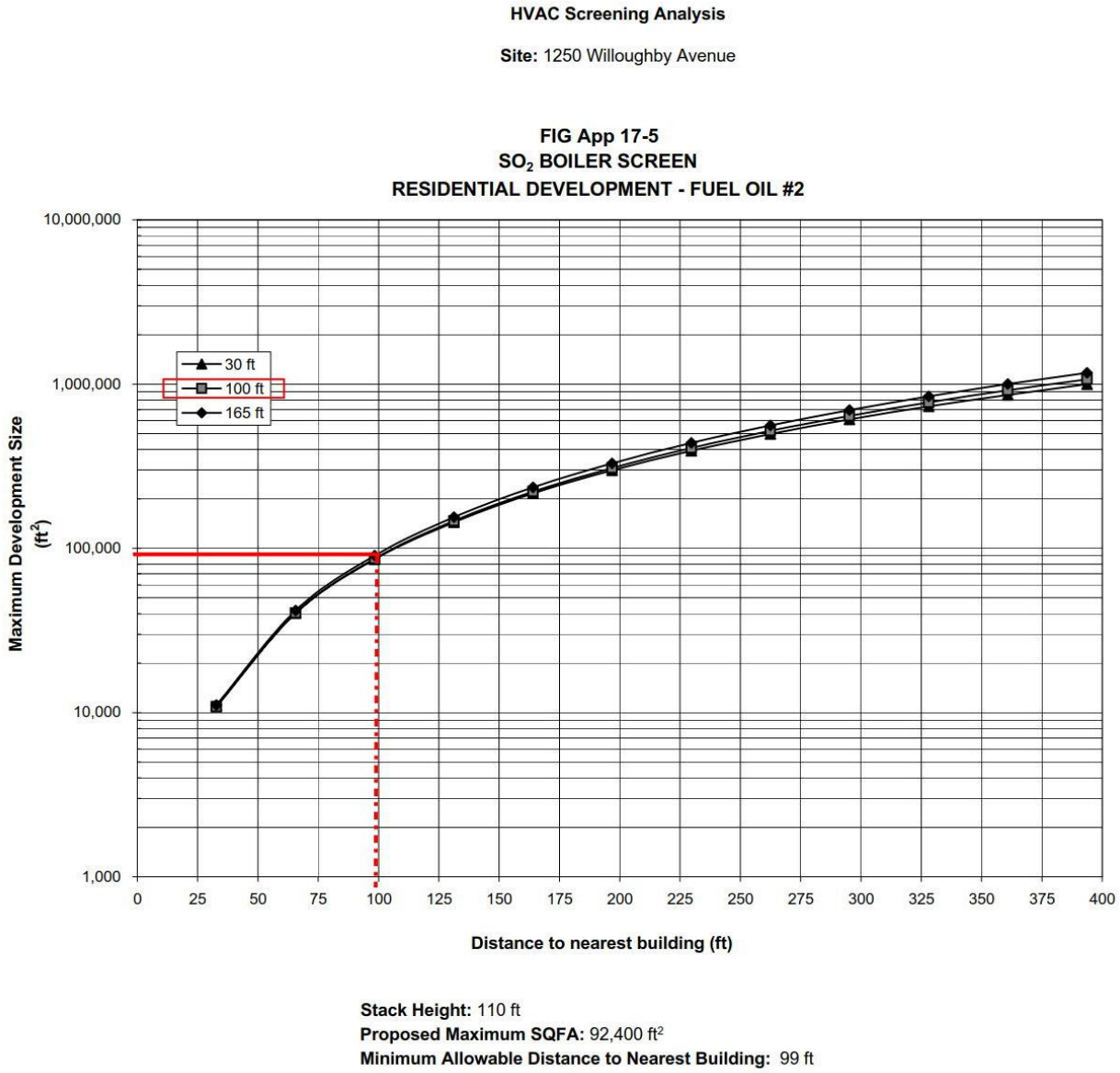


Figure 2.8-4 Projected Development Site 2 HVAC Screening

2.8.3 Conclusions

The results based on the worst-case impacts are summarized as follows:

- There would not be potential significant impacts of air toxic pollutant emissions from existing sources on the proposed residential building.

- The potential impacts of Projected Site 1 HVAC system would not be significant with the exhaust stack(s) with the distance setback of 70 feet from its lot line facing Willloughby Avenue.

With the applicable (E) Designations in place, no significant adverse impacts are anticipated as a result of the proposed project.

(E) Designations

Based on the results of the analyses described above, the following (E) Designations would be required:

Projected Development Site 1 (Block 3210, Lots 48 and 51)

HVAC Sources

Any new development or enlargement on the above referenced property must provide a heating, ventilation, air conditioning (HVAC) stack to be located at least 70 feet from its northwestern lot line facing Willoughby Avenue to avoid potential significant adverse air quality impacts.

Industrial Sources

To preclude the potential for significant adverse air quality impacts from manufacturing uses, any processes that require an NYC DEP Certificate of Operation (C of O) must provide an air quality analysis to OER prior to obtaining a Notice of Satisfaction in order to demonstrate that such process would not cause a significant adverse air quality impact.

Projected Development Site 2 (Block 3210, Lots 15, 16, 17, 18, 19, 20 and 21)

Any new residential development on the above-referenced property must ensure that the heating ventilation and air conditioning (HVAC) system stack is located at least 118 feet above grade to avoid any significant adverse air quality impacts.

2.9 NOISE

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

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

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

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

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

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

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

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

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

2.9.1 Mobile Sources

Mobile noise sources are those which move in relation to receptors. The mobile source screening analysis addresses potential noise impacts associated with vehicular traffic generated by the Proposed Actions. According to the *CEQR Technical Manual*, if existing passenger car equivalent (PCE) values are increased by 100 percent or more due to a proposed action, a detailed analysis is generally performed. In the future with the Proposed Actions, the Proposed Development Site would include, under a Reasonable Worst-Case Development Scenario, approximately 96,250 gsf (87,500 zsf) of manufacturing floor area on Lots 48 and 51 and approximately 107,800 gsf (98,000 zsf) of residential floor area totaling 125 dwelling units on Lots 15-21. This would result in the increment of approximately 53,000 gsf of manufacturing floor area and approximately 123 dwelling units on the two Reasonable Worst-Case Development Projected Sites.

The Proposed Rezoning Area contains a variety of transit options, including the Jefferson Avenue “L” subway station two blocks north, and multiple MTA bus lines (B38 and B13) operating on Wyckoff Avenue and DeKalb Avenues.

The creation of the manufacturing and residential floor area that would result from this action is not expected to cause vehicular traffic (and thus PCE values) to double at any local intersections (See **Section 2.7**), and thus no additional analysis is needed.

2.9.2 Stationary Sources

The *CEQR Technical Manual* states that based upon previous studies, unless existing ambient noise levels are very low and/or stationary source levels are very high (and there are no structures that provide shielding), it is unusual for stationary sources to have significant impacts at distances beyond 1,500 feet. A detailed analysis may be appropriate if a 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.

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

The Proposed Actions would introduce sensitive receptors near a school playground and busy roads. As such, noise measurements were conducted.

The following section describes the noise measurement results collected on Sep 26th, 2017 at two locations in front of Reasonable Worst-Case Development Scenario Projected Sites 1 and 2, as shown in **Figure**

2.9-1. These measurements were compared with New York City Department of Environmental Protection (NYCDEP)-established exterior noise exposure guidelines, Table 19-2 in the *City Environmental Quality Review (CEQR) Technical Manual*, to determine the appropriate building noise attenuation values with potential to be required for any of proposed buildings to achieve acceptable interior noise levels per Table 19-3 in the *CEQR Technical Manual*.

Noise Measurement

Noise measurements were conducted at two locations (**Figure 2.9-1**) during peak vehicular travel periods, 8:00-9:00 am, 12:00-1:00 pm, and 5:00-6:00 pm. The weather conditions were normal with calm wind and were considered suitable for an ambient noise measurement.

A Type 1 Larson Davis 831 sound level meter with a wind shield was used to conduct the noise monitoring. The meter was placed on a tripod at a height of approximately five feet above the ground, away from any reflective surfaces. The meter was calibrated prior to and following each monitoring session.

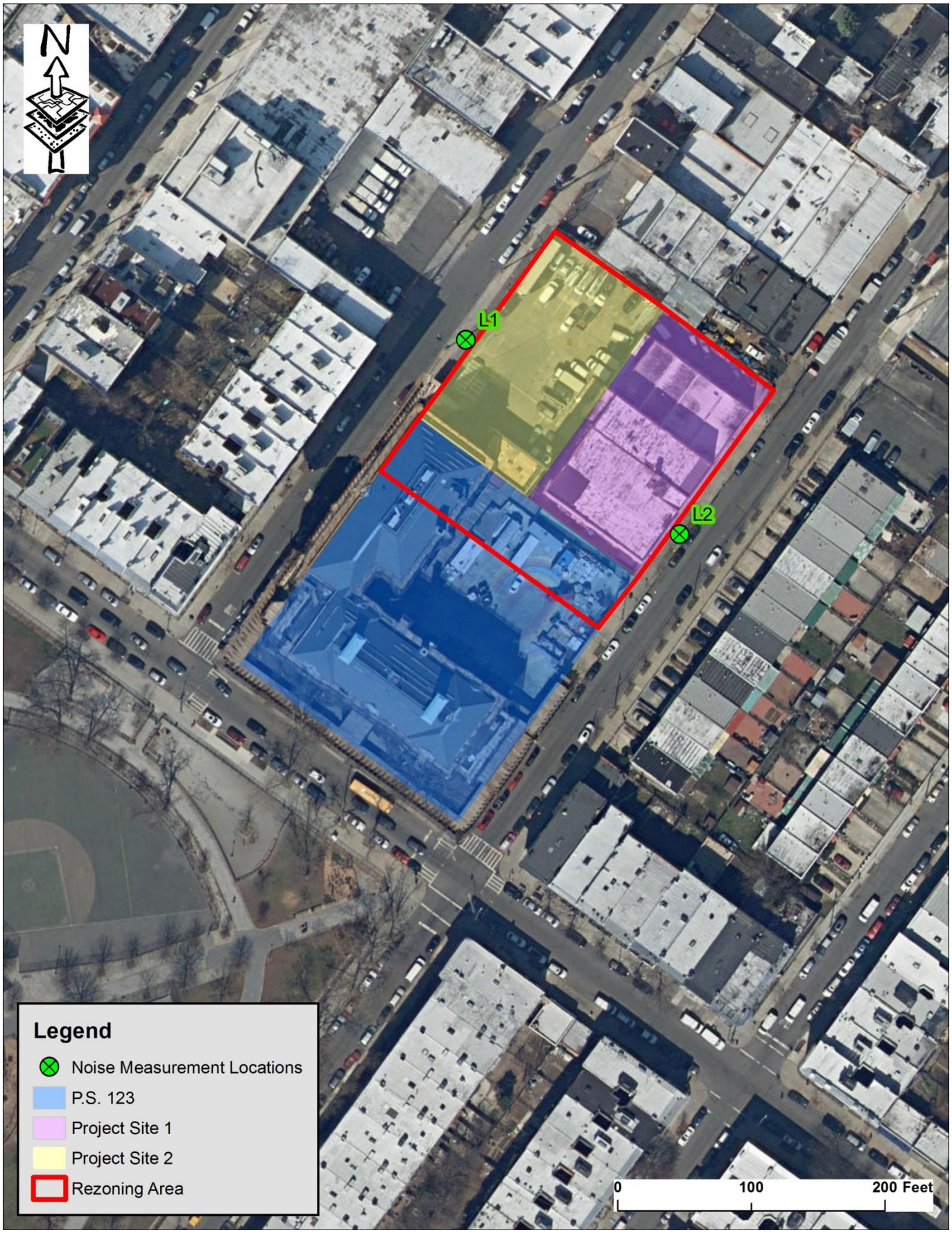
Noise measurements were conducted in front of each projected site on the sidewalk (**Figure 2.9-1**) at:

- Location 1: mid- block of Willoughby Avenue between Irving Avenue and Wyckoff Avenue (Photo 1);

- Location 2: mid- block of Suydam Street between Irving Avenue and Wyckoff Avenue (Photo 2).

These locations were selected because of their position in front of Reasonable Worst-Case Development Scenario Projected Development Site 1 and Reasonable Worst-Case Development Scenario Projected Development Site 2.

Traffic volumes and vehicle classification along the adjacent roads at each location were counted concurrently during the noise measurement duration.



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Environmental Assessment Statement
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Figure 2.9-1
Noise Monitoring Locations



Photo 1: Meter Setup at Location 1



Photo 2: Meter Setup at Location 2

Measurement Summary

Tables 2.9-2 and 2.9-3 present the ambient noise levels in terms of various noise metrics measured at the two locations mentioned above during three daytime periods. L_{10} is the metric used by NYCDEP in establishing the exterior noise exposure guidelines.

Table 2.9-2 Noise Levels in dBA at Location 1

Noise Metric	Time Period		
	8:26-8:47 AM	12:00-12:21 PM	5:00-5:21PM
L_{eq}	64.9	66.3	65.5
L_{max}	83.3	89.1	84.3
L_{10}	**66.0**	**64.3**	**69.2**
L_{50}	60.8	59.6	59.9
L_{90}	61.1	60.1	55.4
L_{min}	59.4	58.9	53.8

Table 2.9-3 Noise Levels in dBA at Location 2

Noise Metric	Time Period		
	8:51-9:12 AM	12:24-12:45 PM	5:26-5:47 PM
L_{eq}	64.2	61.0	63.0
L_{max}	85.6	83.7	91.5
L_{10}	**65.6**	**63.9**	**63.9**
L_{50}	60.4	59.0	58.5
L_{90}	52.2	52.3	52.9
L_{min}	49.8	49.3	51.2

Observations

The cold storage across Willoughby Avenue has a set of cooling systems, which generate constant noise. During AM peak hours, several trucks drove into that facility and parked next to the docking area. A rubber tire loader kept loading into the trucks.

The midday peak hour noise measurements were conducted while students from P.S 123 were playing. A short-term noise measurement was taken at 15 feet away from the playground fence. The noise level l_{eq} documented was 72.5 dBA.

According to the school crossing guard, school is dismissed at 2:30 pm. Many students have afterschool programs that occur until 5:00 pm. During that period, no activities were observed on the playground on September 26th, 2017.

During the PM peak hour, an SUV was idling in front of Location 1 resulting in a relatively higher noise level than other periods.

Assessment

According to the guidelines presented in the *CEQR Technical Manual*, the maximum L_{eq} noise level at the boundary of the playground would be 75 dBA.

Reasonable Worst-Case Development Scenario Projected Development Site 2 is located right next to the P.S 123 playground boundary. The maximum noise level (L_{eq}) at Reasonable Worst-Case Development Scenario Projected Development Site 2 is expected to be 75 dBA. And L_{10} would be likely between 76 dbA and 78 dBA.

In terms of *CEQR Technical Manual* guidelines, existing noise levels measured at both locations are in the "marginally acceptable" category and no window-wall attenuation on building facades is warranted. However, it is anticipated that the noise level received at Reasonable Worst-Case Development Scenario Projected Development Site 2 facing the school playground would be between 76 and 78 dBA as a result of playground noise. Therefore, a 33-dBA window-wall attenuation would be required for the south and east façade of Reasonable Worst-Case Development Scenario Projected Development Site 2. No window wall attenuation is required for other façades.

Project Site 1 would comply with applicable air and noise performance standards defined in the New York City Zoning Resolution, Sections 42-20 and 42-21, easing any concern that stationary sources of noise from Projected Development Site 1 would impact proposed residential uses on Projected Development Site 2.

Additionally, the proposed MX district (M1-5/R7D), which will be mapped over Block 3210, Lots 15, 16, 17, 18, 19, 20, and 21 (Projected Development Site 2) has strict noise regulations which ensure that it would comply with the 35 dBA for noise in order to avoid the need for an E-designation on the site. MX districts allow for manufacturing uses and residential uses to co-exist, and the noise regulation would comply with the minimum window wall attenuation requirement of 35 dBA. No E-designation would be needed or required.

Based on the above analysis and information, no significant adverse impacts with regards to noise are expected and no additional analysis is required.

2.10 NEIGHBORHOOD CHARACTER

As defined by the *CEQR Technical Manual*, neighborhood character is an amalgam of the various elements that give a neighborhood its distinct personality. The elements, when applicable, typically include land use, socioeconomic conditions, open space and shadows, historic and cultural resources, urban design and visual resources, transportation, and noise, as well as any other physical or social characteristics that help to define a community. Not all these elements affect neighborhood character in all cases; a neighborhood usually draws its distinctive character from a few defining features.

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

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

This chapter reviews the defining features of the neighborhood and examines the proposed action's potential to affect the neighborhood character of the surrounding Study Area. The Study Area is generally coterminous with the Study Area used for the land use and zoning analysis in Chapter 2.1. The impact analysis of neighborhood character that follows below focuses on changes to the technical areas listed above that exceeded CEQR preliminary screening thresholds that were assessed in this EAS Short Form.

The assessment begins with a review of existing conditions and the neighborhood of the Study Area. The information is drawn from the preceding sections of this EAS but is presented in a more integrated way. While the other sections present all relevant details about aspects of the environmental setting, the discussion for neighborhood character focuses on a limited number of important features that gives the neighborhood its own sense of place and that distinguish them from other parts of the city. A concise discussion of the changes anticipated by the 2021 analysis year under the Future No-Action Condition is then included. A brief overview of the Proposed Actions is then presented, along with an analysis of whether any anticipated significant adverse impacts and moderate adverse effects, regarding the relevant technical CEQR assessment categories for neighborhood character, would adversely affect any of the defining features.

2.10.1 Existing Conditions

Land Use, Zoning and Public Policy

A field survey was conducted to determine the existing land use patterns and neighborhood characteristics of the Study Area. Existing land use in the Proposed Rezoning Area is a mix of one- and two-family buildings, parking, industrial/manufacturing, mixed residential and commercial buildings, commercial uses, P.S. 123, and Maria Hernandez Park. The commercial uses include local retail such as grocery stores, laundromats, beauty salons, coffee shops, restaurants, and include a boxing gym. The prevailing built form of the area is a mix of low-rise non-residential buildings and three- to six-story residential buildings. Many residential buildings in the area are three-story attached mixed-use walk-up residences with commercial uses on the ground floor. The 400-foot Study Area includes Maria Hernandez Park, which is a 6.87-acre neighborhood park south of the Proposed Rezoning Area.

The Reasonable Worst-Case Development Scenario Projected Sites (Block 3210, Lots 15,16, 17, 18, 19, 20, 21, 48, and 51) are located on a rectangular site mid-block with Lots 15 through 21 having frontage on Willoughby Avenue and Lots 48 and 51 having frontage on Suydam Street. Lots 15 through 21 are each 2,500 sf lots. Lots 16-21 currently have no built improvements and are currently used for parking and storage facilities. Lot 15 is occupied with a UG 2 residential building built to a FAR of 0.9. Lot 48 is a 2,500-sf lot with no built improvements, and Lot 51 contains a four-story, approximately 43,250 gsf light manufacturing building with five industrial tenants. Directly south of this site, the Proposed Rezoning Area would extend to include part of Lot 1. Lot 1 is a 45,000-sf lot and contains a four-story educational facility building currently used as an elementary school (“P.S. 123 Suydam”).

The western portion of the Study Area contains development patterns that are consistent with the Proposed Rezoning Area and adjacent buildings. Block 3199 is located west of Willoughby Avenue and east of Starr Street between Wyckoff and Irving Avenues. The existing land uses in this block include multifamily walk-up buildings on the northeast and southern ends of the block along with commercial and office uses to the northwest of the block and industrial and manufacturing and public facility uses midblock. Uses in this block include a warehouse and parking facility, several three-story multifamily residential buildings, and several ground floor local retail establishments such as Starr Bar, Gua-cu-co Hot Dogs, and Good Yoga Bushwick. An entrance to the Jefferson Street L train stop is located on the northwest corner of this block. Additionally, Block 3188 is located west of Starr Street and east of Troutman Street between Wyckoff and Irving Avenues and primarily contains industrial and manufacturing land uses with some multifamily walk-up buildings, one- and two-family buildings, and commercial and office buildings at the northern and southern ends of the block. There is an entrance to the Jefferson Street L train stop at the northeast corner of this block.

The eastern portion of the Study Area also contains development patterns that are consistent with the Proposed Rezoning Area and adjacent buildings, though these blocks contain more residential uses and fewer industrial and manufacturing uses. Block 3221 is located east of Suydam Street and west of Hart Street between Wyckoff and Irving Avenues. The existing land uses in this block include multifamily walk-up buildings, commercial and office buildings, and parking facilities on the northern portion of the lot, one- and two-family buildings on the midblock portion of the lot, and a mix of multifamily walk-up buildings and commercial and office buildings on the southern portion of the lot. Retail uses in this block include a large Key Food supermarket, a smaller grocery store,

and a casual eatery ("China Garden"). This block also contains a medical office and pharmacy. Additionally, Block 3237 is located east of Hart Street and west of DeKalb Avenue between Wyckoff and Irving Avenues and primarily contains multifamily walk-up buildings and one and two-family buildings on the southern half of the lot and parking facilities, multifamily walk-up buildings, public facilities, and commercial and office buildings on the northern half of the lot.

The general mix of land use observed in the Study Area generally reflects the distribution of land use observed throughout Brooklyn CD 4, which is summarized in **Table 2.1-1.** The most prominent land use within Brooklyn CD 4 is multifamily walk-up residential, followed by one-two family residential and open space.

The Proposed Rezoning Area and the surrounding 400-foot Study Area within Bushwick are both mixed with residential, industrial, and commercial character and uses. The block bounded by Suydam Street, Willoughby Avenue, Wyckoff Avenue, and Irving Avenue is situated between a heavily industrial and manufacturing area to the west and a more consistently residential area to the east. The block containing the Proposed Rezoning Area (Block 3210) includes several manufacturing and industrial tenants, such as Wilco Finishing Corporation and Loevera Clothing. The block also contains a school facility and parking uses. To the north of the Proposed Rezoning Area are several commercial retail establishments, an intermediate school (I.S. 162), and much three-story multifamily walk-up residences. To the south of the Proposed Rezoning Area is a large park with landscaped areas and a skate park facility as well as additional three-story multifamily residences. The blocks to the west of Proposed Rezoning Area contain a mix of industrial and commercial uses, including bars such as The Johnson's and Lot 45 Bushwick, restaurants such as Faro and Green Streets Salads, arts and cultural performance venues, yoga studios, and breweries. The blocks to the east of the site also contain some neighborhood retail establishments, such as Key Food, a post office, a bar called Carmelo's, and a wine store along with a mix of residential building types.

The Study Area is relatively densely developed, and the development is, as indicated, dominated by industrial and manufacturing, commercial, and residential uses. As such, the proposed new residential building and expanded manufacturing use would not be out of character with the surrounding neighborhood.

The Proposed Rezoning Area is in a mapped M1-1 zoning district. Within the Study Area, the area to the south and east of the Proposed Rezoning Area and a small portion of the Study Area north of Wyckoff Avenue are in a mapped R6 zoning district. The portion of the R6 zoning district that falls within the Study Area includes one C1-3 commercial overlay on the north side of Irving Avenue from Suydam Street to Hart Street.

The Proposed Rezoning Area is located entirely within an M1-1 zoning district. M1 districts range from areas with multistory lofts to areas with one- or two-story warehouses with loading bays, and generally include light industrial uses such as woodworking shops, repair shops, and wholesale service and storage facilities. Almost all industrial uses are allowed in M1 districts, subject to meeting strict performance standards. Offices, hotels, most retail uses, and houses of worship are also permitted. Allowable uses in M1-1 districts include Use Groups 4 – 14, 16, and 17. M1-1 districts permit an FAR for manufacturing and commercial uses of up to 1.0. Parking and loading requirements are based on the type of use and size of the given establishment. Except where the district abuts other district boundaries, side yards are not required.

Other portions of the Study Area, including areas to the south and southeast of the Proposed Rezoning Area and an area north of Wyckoff Avenue, are located within an R6 zoning district. R6 districts are medium-density non-contextual residence districts widely mapped throughout Brooklyn, Queens, and the Bronx and can range from neighborhoods with a broad range of building types and heights to large-scale "tower in the park"-style developments. R6 districts have a maximum FAR of 2.43 (range of 0.78 to 2.43) under the basic Height Factor Regulations and a maximum FAR of 3.60 under optional Quality Housing Regulations with participating in the Inclusionary Housing Program. Off-street parking is generally required for 70 percent of dwelling units (50 percent under Quality Housing Regulations), though requirements are reduced for income-restricted housing units, on small lots, and within certain areas such as Transit Zones.

There is one portion of the Study Area within the R6 zoning district that has a C1-3 commercial overlay. This overlay district allows for a variety of local retail needs, and typical uses include neighborhood grocery stores, restaurants and eateries, coffee shops, and hair and nail salons and barbers. The maximum commercial FAR for a C1-3 overlay district is 2.0 when mapped within R6-R10 zoning districts as is the case within the Study Area.

Open Space

According to 2010 U.S. Census population data that was compiled by the New York City Department of City Planning, there are a total of 47,649 residents in the Study Area, as shown in **Table 2.2-1**, per the 2010 U.S. Census. Assuming a standard background growth rate of 0.5 percent per year, the 2017 population is estimated to be approximately 49,342 residents. The Study Area contains a total of approximately 8.82 acres of publicly accessible open space (both active and passive), with the size of existing open space resources within this Study Area identified in **Table 2.2-2** and shown in **Figure 2.2-3**.

In accordance, with CEQR methodology, the assessment of open space resources in the Study Area focuses on the calculated open space ratio (OSR), or the ratio of the acres of open space per 1,000 persons. The existing OSR in the Study Area is approximately 0.179 acres per 1,000 residents, below the City's target OSR of 1.50 acres per 1,000 residents. Five open space resources were found within the Study Area.

Urban Design and Visual Resources

The Study Area is in the Bushwick neighborhood of Brooklyn. A ground-level photograph map key is provided in the previously-presented **Figure 1.1-4**, and ground-level photographs of the projected development sites and the Study Area are provided in previously-presented **Figure 1.1-5**.

The architecture throughout the Study Area is relatively eclectic, with no unity or style of form to unify the build environment. However, in this eclecticism the current Proposed Development can tie together a quality mixed-use urban design environment and create a vibrant and walkable urban corridor that bridges the manufacturing-heavy area to the west of the site with the residential character to the east. As noted in **Chapter 2.1-1**, a mix of uses characterizes the Study Area; including multistory/multifamily walk-ups, retail stores, light manufacturing, parking lots, public facilities, and community facilities. Residences within the area are generally located within three- or four-story multifamily walk-up buildings with FAR between 1.0 and 2.0. Most buildings within the Study Area are arranged regular (parallel) with respect to their lot placement and directly abut the sidewalk to create a continuous commercial and walking experience except for parking lot voids such as the Proposed Development Site, vacant lots, and some manufacturing buildings. Buildings along the key Wyckoff Avenue corridor and side streets, in addition to generally being built out to their lot lines, are generally all attached to one another as opposed to being free-standing detached buildings. This building pattern holds true for buildings built along Suydam Street, Starr Street, and Willoughby Avenue.

Residences are the most prominent land use throughout the Study Area and range generally from low to mid-rise walk up. There is a concentrated portion of industrial and manufacturing uses in the northern portion of the Study Area along Willoughby Avenue and Starr Street.

The topography throughout the Proposed Rezoning Area is flat. The streetscape along the Study Area even and the Proposed Rezoning Area has regular street trees of good quality and character as well as well-kept wide sidewalks. The general walking character of the Proposed Rezoning Area and Study Area is very good. There are quality healthy street trees, albeit irregularly placed, throughout the Study Area. Maria Hernandez Park, a portion of which is located within the 400-foot Study Area, contains both active and passive recreational uses, including a small concrete ballfield, handball courts, and a volleyball court for active use, and benches, and grassy areas for sitting and relaxing as passive uses.

Transportation

The street hierarchy of the Study Area includes just two different functional classifications according to the New York State Department of Transportation. Within the Study Area, Wyckoff Avenue is classified as a

"Minor Arterial". All other streets, including Suydam Street, and Willoughby Avenue, that are located within the Study Area are classified as local roads.

Under the current conditions, the Proposed Rezoning Area and the surrounding Study Area are well-connected to New York City's transportation network. There is good access to the neighborhood via both subway and bus lines and the area is generally walkable and pedestrian-friendly. The Proposed Rezoning Area contains a variety of transit options, including the Jefferson Avenue "L" subway station two blocks north, and multiple MTA bus lines (B38 and B13) operating on Wyckoff Avenue and DeKalb Avenues.

2.10.2 Future No-Action Scenario

It is assumed that in the No-Action Scenario, all lots in the Proposed Rezoning Area would remain in their existing condition state and that no new development would occur absent the Proposed Actions.

2.10.3 Future With-Action Scenario

The elements that comprise neighborhood character are reviewed individually below, with a following supporting and cumulative conclusion.

Land Use, Zoning and Public Policy

Under the Future With-Action Scenario, the Proposed Actions would amend the zoning map to change the existing M1-1 district and map an M1-5 zoning district on Block 3210, Lots 48 and 51, an MX (M1-5/R7D) zoning district on Lots 15-21 and an R6 district on the portion of Lot 1 beyond 200 feet from Irving Avenue. The boundaries of the proposed zoning map and text amendments would encompass a portion of Block 3210, including Lots 15, 16, 17, 18, 19, 20, 21, 48, and 51, and a portion of Lot 1.

For the purposes of a conservative analysis, the With-Action Scenario considers a scenario that is slightly different from the applicant's intended project in terms of bulk and maximizing allowable FAR under the proposed rezoning

Under the With-Action scenario, it is assumed that the Proposed Actions would facilitate construction of new 107,800 gsf (98,000 zsf) multifamily residential building on the combined Lots 15 through 21. This building would contain approximately 125 residential dwelling units with 24 units affordable to residents with incomes averaging 80 percent of AMI. Additionally, it is assumed that under the With-Action scenario, the Proposed Actions would result in an enlargement of the existing manufacturing use on Lots 48 and 51 to the full maximum 5.0 FAR allowed in an M1-5 zoning district. On the combined 17,500 sf lot, it is assumed that the Proposed Actions would result in approximately 96,250 gsf (87,500 zsf) of manufacturing floor area potentially occupied by Use Groups 5-14, 16, and 17.

The Proposed Actions are not expected to induce new development on Block 3210, Lot 1 and therefore the land uses on this lot is likely to remain the same as the existing conditions under the With-Action scenario.

Within the Bushwick neighborhood of Brooklyn, and in proximity to the Proposed Rezoning Area, there has been considerable additional residential and commercial development over the past several years. The area is densely developed, and the development is, as indicated, dominated by industrial and manufacturing, retail, and increasingly multifamily residential uses.

The Proposed Actions would reinforce this trend towards a more active mixed-use neighborhood, which is heavily represented to the east of the project side and in the blocks immediately to the west. Additionally, the potential uses in the With-Action scenario – expanded manufacturing and new residential uses – are consistent with the uses surrounding the Project Site at present. Therefore, the Proposed Actions are not expected to have any adverse impacts on surrounding land uses.

The Proposed Actions would change the existing M1-1 district on Block 3210 to an M1-5 district on Lots 48 and 51; an MX (M1-5/R7D) district on Lots 15, 16, 17, 18, 19, 20, and 21; and an R6 district on a portion of Lot 1 beyond 200 feet from Irving Avenue. Absent the Proposed Actions, the applicant would be unable to

facilitate the expansion of the present manufacturing use and the construction of a new residential development under the existing use and floor area requirements of an M1-1 district. The Proposed Actions would therefore not have a significant impact on the extent of conformity with the current zoning in the Study Area, and it would not adversely affect the viability of conforming uses on nearby properties. Significant adverse impacts to zoning are not anticipated and further zoning analysis is not warranted.

Historic and Cultural Resources

According to the *CEQR Technical Manual*, when an action results in substantial direct changes to a historic or cultural resource or substantial changes to public views of a resource, or when a historic or cultural resource analysis identifies a significant impact in this category, there is a potential to affect neighborhood character.

The Proposed Development Site is not a designated local or S/NR historic resource or property, nor is the Proposed Development Site part of any designated historic district. The LPC was contacted for their initial review of the project's potential to impact nearby historic and cultural resources, and a response was received on September 19th, 2017, indicating that no sites within the Proposed Rezoning Area have any architectural significance (see **Appendix C**).

A portion of the Proposed Rezoning Area has been disturbed and is presently improved with structures occupying a portion of their respective lots, while the rear yards of many of these parcels are unimproved. As noted, the LPC was contacted for their initial review of the Reasonable Worst-Case Development's potential to impact nearby historic and cultural resources, and a response was received on September 19th, 2017 (see **Appendix C**). The LPC has indicated that no cultural resource, architectural or archaeological significance is associated with the Reasonable Worst-Case Development. Therefore, significant adverse impacts to archaeological resources are not expected as a result of the Proposed Actions, and further analysis is not warranted.

Urban Design and Visual Resources

Under the Future With-Action scenario, it is assumed that the Proposed Actions would result in an enlargement of the existing manufacturing use on Lots 48 and 51 (Reasonable Worst-Case Development Scenario Projected Development Site 1) to the full maximum 5.0 FAR allowed in an M1-5 zoning district. On the combined 17,500 sf lot, it is assumed that the Proposed Actions would result in approximately 96,250 gsf (87,500 zsf) of manufacturing floor area occupied by Use Groups 5-14, 16, and 17. Per M1-5 zoning district required parking rules, parking would not be required for this With-Action development scenario.

The Proposed Actions would, allow, at a maximum, construction of a new 107,800 gsf (98,000 zsf) multifamily residential building on the combined Lots 15 through 21 (Reasonable Worst Case Development Scenario Projected Development Site 2). This building would contain approximately 125 residential dwelling units with 24 units affordable to residents with incomes averaging 80 percent of AMI.

A three-dimensional representation of an approximate building envelope allowed under a reasonable worst-case development scenario for both projected development sites is overlaid on a photograph of the street under existing conditions in **Figures 2.5-1 through 2.5-4**.

This current section of Bushwick is very densely developed with a variety of uses including, residential, commercial, mixed residential and commercial, institutional, and industrial and manufacturing uses. The development that could stem from the Reasonable Worst-Case Development Scenario would develop an existing vacant lot on Suydam Street (Lot 51) and expand an existing adjacent industrial and manufacturing use on Lot 48. Furthermore, the development that could stem from the Reasonable Worst-Case Development Scenario would develop the existing vacant and, in the With-Action Scenario, under-utilized lots located on Willoughby Avenue (Lots 15-21) with a residential apartment building with approximately 125 dwelling units. The Proposed Actions should help to stimulate quality redevelopment, providing active industrial and manufacturing and affordable and active residential development that assists in creating a

more vibrant neighborhood environment that is presently occurring directly to the east and west of the Proposed Rezoning Area. In terms of aesthetics, while the Proposed Development would change views to the site as witnessed from pedestrians on Willoughby Avenue and Suydam Street, significant adverse impacts to urban design and visual resources would not occur. There are currently no views of consequence to the Proposed Rezoning Area – in fact redevelopment would assist in visually improving this section of the block on Suydam Street and Willoughby Avenue as the development that could stem from the Reasonable Worst Case Development Scenario would facilitate the elimination of the vacant lots in the Proposed Rezoning Area, which are eyesores in an area full of dense development.

The Proposed Actions would not result in any of the above conditions that would merit further detailed assessment of urban design and visual resources. The new building would not be out-of-context with the surrounding buildings within the Study Area and the uses would be similar to existing uses in the immediate vicinity of the Proposed Rezoning Area. In fact, the rezoning and subsequent build out of the Reasonable Worst-Case Development Scenario Projected Sites should assist in reinforcing and improving the current mixed-use street.

In addition, the Proposed Actions would not alter or result in any changes to the built environment of the nearby Willoughby-Suydam National Historic District, a small portion of which is within 400-feet of the Project Site. Thus, the Proposed Actions would not affect the components of an historic building that contribute to the resource's historic significance. As the Proposed Actions would not diminish or disturb the existing aesthetic continuity, pedestrian features of the community or neighborhood, and as the Proposed Actions would not block any view corridors or views to/from any natural areas with rare or defining features, nor would the Proposed Actions impact an historical or culturally sensitive community features, the Proposed Actions are not expected to result in any significant adverse urban design or visual resource related impacts.

Shadows

According to CEQR, when shadows from a proposed project fall on a sunlight-sensitive resource and substantially reduce or eliminate direct sunlight exposure such that the public's use of the resource is significantly altered or the viability of vegetation or other resources is threatened, there is a potential to affect neighborhood character.

While the shadows from the Reasonable Worst-Case Development Scenario would cast a shadow on two potentially sunlight-sensitive resources, the P.S. 123 Playground and Maria Hernandez Park, no significant adverse impacts, as previously described in Section 2.3, are expected to occur.

Transportation

According to CEQR, changes in traffic and pedestrian conditions can affect neighborhood character in several ways. For traffic to influence neighborhood character, it must be a contributing element to the character of the neighborhood (either by its absence or its presence), and it must change substantially as a result of the action. According to the *CEQR Technical Manual*, such substantial traffic changes can include: changes in level of service (LOS) to C or below; change in traffic patterns; change in roadway classifications; change in vehicle mixes, substantial increase in traffic volumes on residential streets; or significant traffic impacts, as identified in the technical traffic analysis. Regarding pedestrians, when a proposed project would result in substantially different pedestrian activity and circulation, it has the potential to affect neighborhood character.

The Proposed Actions would not lead to an increase of 50 or more vehicle trips at any one intersection in the vicinity of the Proposed Development Sites. Therefore, the Proposed Actions would not lead to any significant adverse traffic impacts. Additionally, the Proposed Actions would not lead to an increase of 200 or more transit trips. Therefore, the Proposed Actions would not lead to any significant adverse subway or bus impacts.

The results of the trip generation estimate for the RWCDS are shown in **Table 2.7-3**, listed here for reference.

Peak Hour	Vehicle (Auto + Taxi + Truck)	Subway	Bus	Walk/Other	Total Pedestrian
Weekday AM	41	68	9	30	107
Weekday MD	18	30	4	36	70
Weekday PM	38	72	9	29	110
Saturday MD	21	60	6	21	87

The results show that the RWCDS increment would generate less than 50 vehicle trips in a peak hour (a maximum of 41 trips during the Weekday AM peak hour). Therefore, in accordance with the *2014 CEQR Technical Manual*, a Level 2 screening is not required.

The results show that the RWCDS increment would generate less than 200 subway trips in a peak hour (a maximum of 72 trips during the Weekday PM peak hour). Therefore, in accordance with the *2014 CEQR Technical Manual*, a Level 2 screening is not required.

The results RWCDS increment would generate less than 50 bus trips in a peak hour (a maximum of 9 trips in the Weekday AM and PM peak hours). Therefore, in accordance with the *2014 CEQR Technical Manual*, a Level 2 screening is not required.

The results show that the RWCDS increment would generate less than 200 pedestrians in a peak hour (a maximum of 110 trips in the Weekday PM peak hour). Therefore, in accordance with the *2014 CEQR Technical Manual*, a Level 2 screening is not required.

Based on the Level 1 analysis, the RWCDS increment would not meet the *2014 CEQR Technical Manual* thresholds. A Level 2 was not performed, and detailed transportation analyses would not be necessary.

Noise

According to the guidelines in the *CEQR Technical Manual*, the maximum L_{eq} noise level at the boundary of the playground would be 75 dBA. 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. It may be assumed that noise levels at 15 feet from the boundary would be 73 dBA, and 70 dBA at 30 feet, and noise levels would continue to decrease by 4.5 dBA by doubling of distance beyond 30 feet, which is consistent with the measurement taken at P.S. 123.

Reasonable Worst-Case Development Scenario Projected Development Site 2 is located adjacent to the P.S 123 playground boundary. The maximum noise level (L_{eq}) at Reasonable Worst-Case Development Scenario Projected Development Site 2 is expected to be 75 dBA. And L_{10} would be likely between 76 dbA and 78 dBA.

In terms of *CEQR Technical Manual* guidelines, existing noise levels measured at both locations are in the “marginally acceptable” category and no window-wall attenuation on building facades is warranted. However, it is anticipated that the noise level received at Reasonable Worst-Case Development Scenario Projected Development Site 2 facing the school playground would be between 76 and 78 dBA as a result of playground noise. Therefore, a 33-dBA window-wall attenuation would be required for the south and east façade of Reasonable Worst-Case Development Scenario Projected Development Site 2. No window wall attenuation is required for other façades.

Conclusions

Of the relevant technical areas specified in the *CEQR Technical Manual* that comprise neighborhood character, the Proposed Actions would not cause significant adverse impacts regarding any of them. Moderate adverse effects that would potentially impact such a defining feature, either singly or in combination, have also not been identified for more than one technical area. Therefore, as the Proposed Actions would not have a significant adverse neighborhood character impact and would not result in a significant adverse impact to a defining feature of the neighborhood, further analysis is not necessary.

2.11 CONSTRUCTION

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

The Proposed Actions involve rezoning in the Bushwick section of Brooklyn. There are two Reasonable Worst-Case Development Scenario Projected Sites. The duration of construction on the sites would be expected to last approximately 20- 24 months.

As construction induced by the Proposed Actions would be gradual, taking place over a two-year period, potential impacts would be minimal and, as discussed below, not expected to have any significant adverse impacts. The following is a brief discussion of the effects associated with construction related activities on traffic, air quality, noise, historical resources and hazardous materials resulting from the construction that could occur under the Reasonable Worst-Case Development Scenario.

Effect of Construction on Traffic

The Proposed Actions would result in new development, over a two-year period, on two development sites. These developments would replace and expand upon existing uses on each site. During construction, the sites would generate trips from workers traveling to and from the construction sites, and from the movement of materials and equipment.

Given typical construction hours of 7:00 AM to 4:00 PM, worker trips would be concentrated in off-peak hours, typically before both the AM and PM peak commuter periods. Truck movements typically would be spread throughout the day on weekdays and would generally occur between the hours of 7:00 AM and 4:30 PM. Traffic generated by construction workers and construction truck traffic would not represent a substantial increment during the area's peak travel periods.

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

Effect of Construction on Air Quality

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

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

Mobile source emissions may result from the operation of construction equipment, trucks delivering materials and removing debris, workers' private vehicles, or occasional disruptions in traffic near the

construction site. As the number of construction-related vehicle trips generated by the Proposed Actions would be relatively small and the emissions from such vehicles as well as construction equipment would occur over a two-year period and be dispersed throughout the Proposed Rezoning Area, the mobile-source emissions generated by the Proposed Actions would not be significant. Overall, the Proposed Actions would not have the potential to result in significant adverse air quality impacts.

Effect of Construction on Noise

Noise and vibration from construction equipment operation and noise from construction workers' vehicles and delivery vehicles traveling to and from the construction sites can affect community noise levels. The level of impact of these noise sources depends on the noise characteristics of the equipment and activities involved the construction schedule, and the location of potentially sensitive noise receptors.

Noise and vibration levels at a given location are dependent on the kind and number of pieces of construction equipment being operated, as well as the distance of the location from the construction site and the types of structures, if any, between the location and the noise source. Noise levels caused by construction activities can vary widely, depending on the phase of construction (e.g. demolition, land clearing and excavation, foundation, erection of structure, construction of exterior walls) and the specific task being undertaken.

Construction noise associated with the Proposed Actions is expected to be like noise generated by other residential construction projects in the city. Increased noise level caused by construction activities can be expected to be more significant during early excavation phases of construction and would be of relatively short duration. Increases in noise levels caused by delivery trucks and other construction vehicles would not be significant.

Construction noise is regulated by the *New York City Noise Control Code* and by the Environmental Protection Agency noise emission standards for construction equipment. These local and federal requirements mandate that certain classifications of construction equipment and motor vehicles meet specified noise emissions standards; that, except under exceptional circumstances, construction activities be limited to weekdays between the hours of 7:00 AM and 6:00 PM; and that construction material be handled and transported in such a manner as not to create unnecessary noise. In addition, whenever possible, appropriate low noise emission level equipment and operational procedures can be utilized to minimize noise and its effect on adjacent uses. Thus, while there may be short periods of time when noise is greater than the Noise Control Code, these regulations would be followed in such a matter that no significant adverse noise impacts would be expected to result from the Proposed Actions.

Effect of Construction on Cultural and Historic Resources

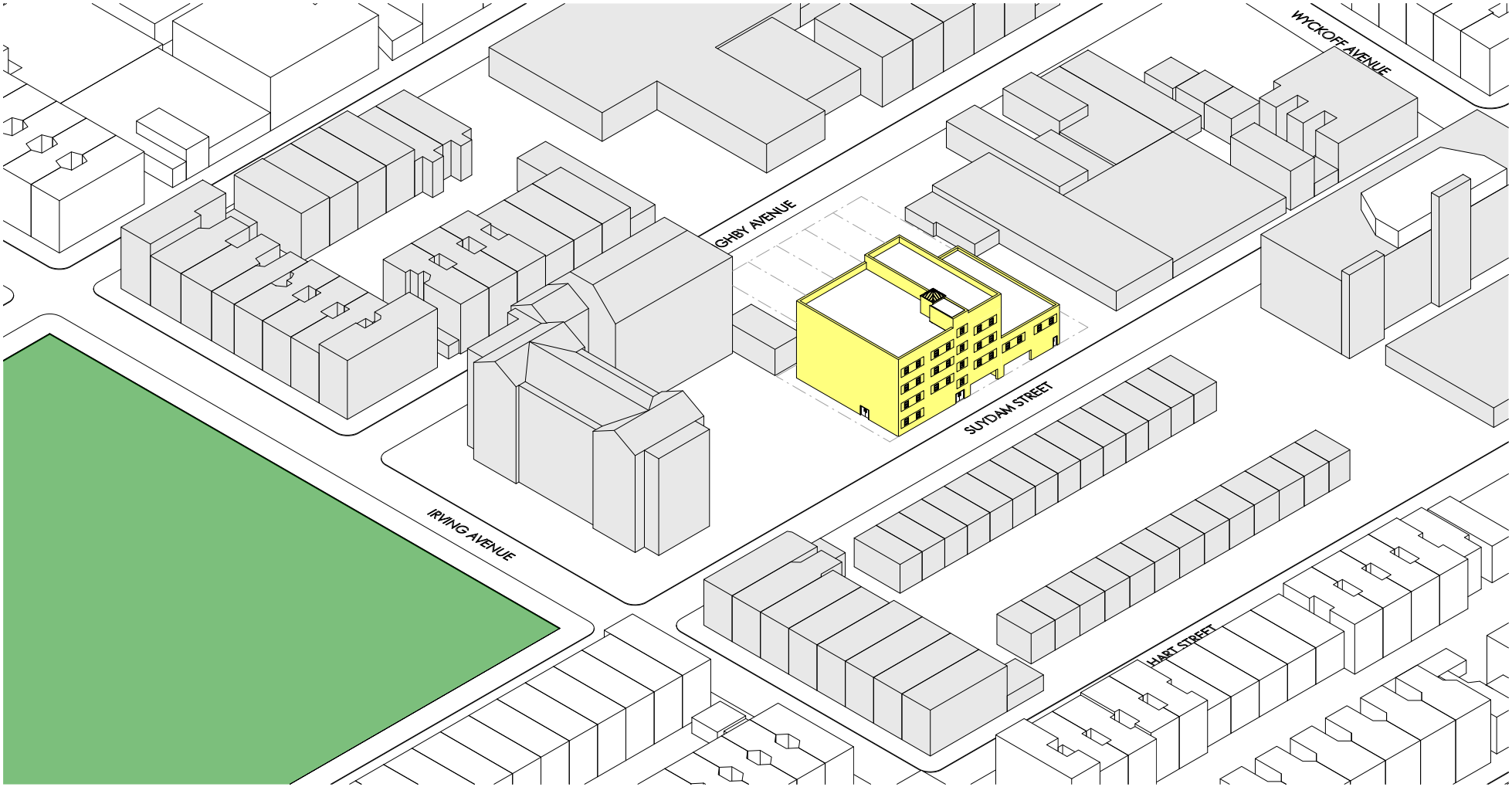
In order to determine whether the projected development has the potential to affect nearby off-site historic or cultural resources, the Study Area was screened for historic and architectural resources. No cultural resources were found within the 400-foot Study Area. A portion of the Willoughby-Suydam National Historic District is located within the 400-foot Study Area, as the southern portion of the district is approximately 365 feet away from the Rezoning Area. As previously discussed in the analysis, the Proposed Rezoning Area is well beyond 90 feet of the historic resource and a Technical Policy and Procedure Notice would not need to be prepared. Therefore, adverse construction-related impacts are not expected to any historic resource in the vicinity of the Proposed Rezoning Area.

Conclusion

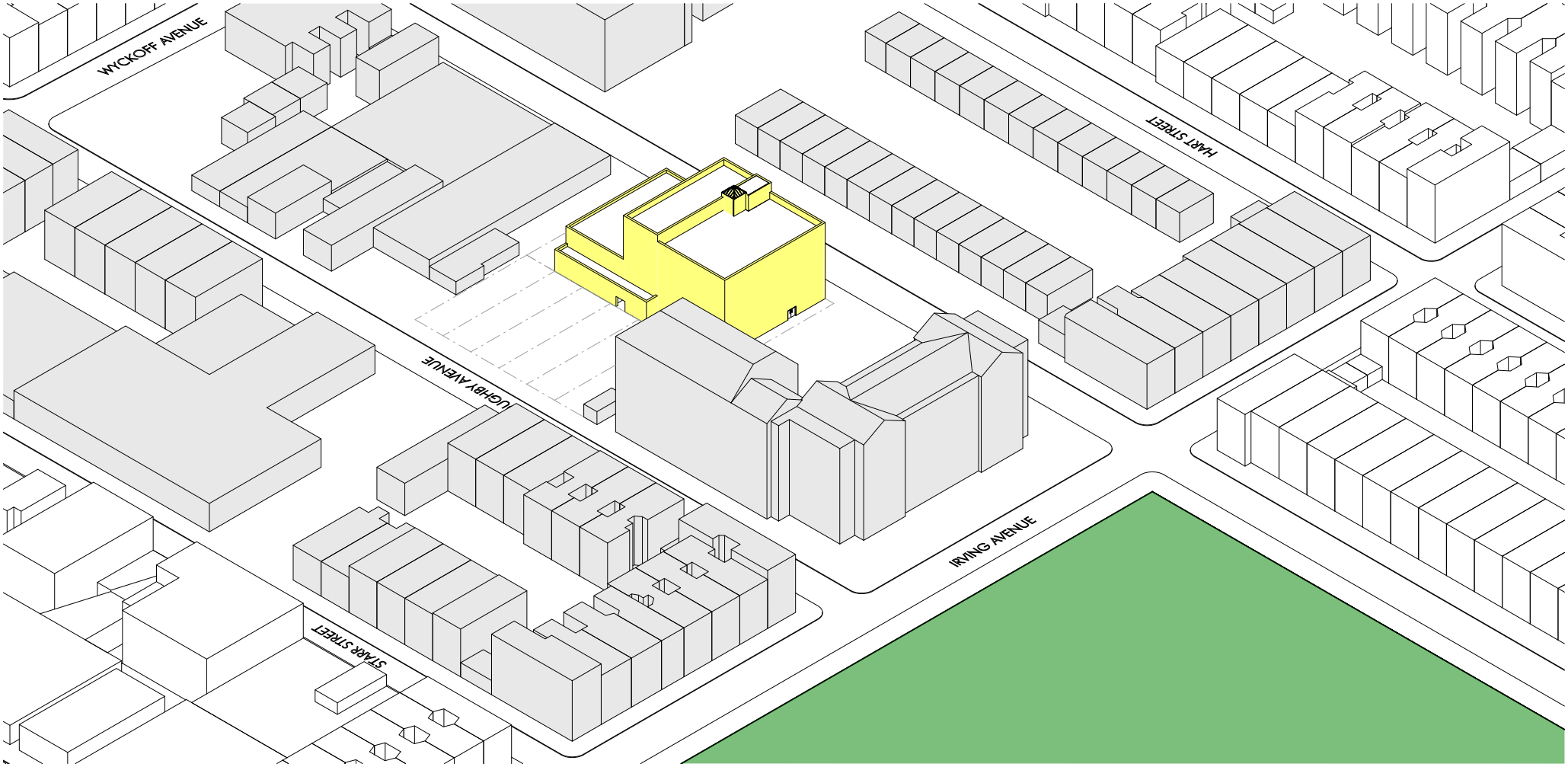
Construction-related activities are not expected to have any significant adverse impacts on traffic, air quality, noise, historic resources, or hazardous materials conditions as a result of the Proposed Actions.

APPENDICES

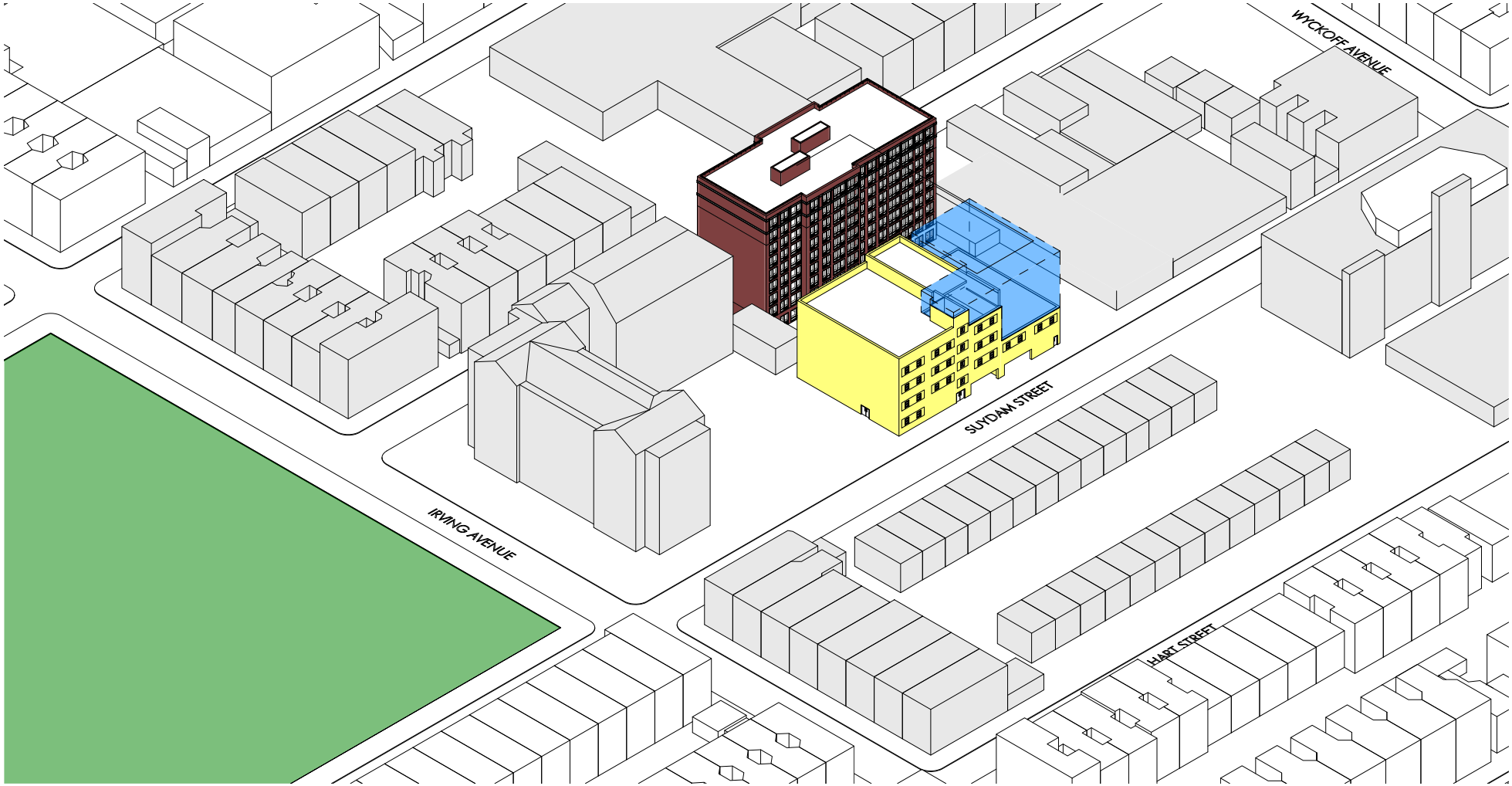
APPENDIX A – PLANS



No-Action Scenario
Proposed Development Site 1 Perspective

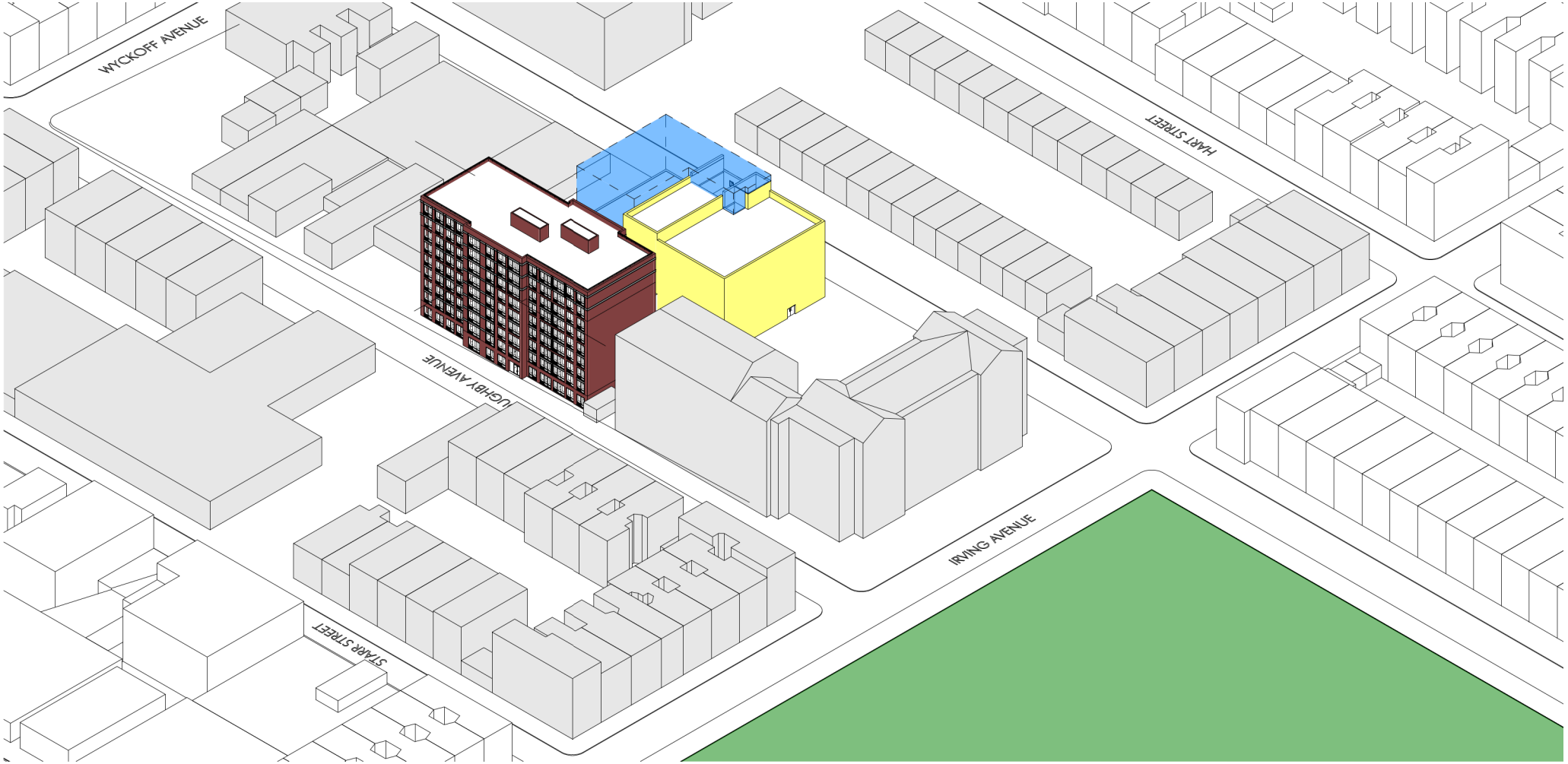


No-Action
Proposed Development Site 2 Perspective



With-Action
Proposed Development Site 1 Perspective

Residential Building Perspective



With-Action Proposed Development
Site 2

SUYDAM-WILLOUGHBY DEVELOPMENT
BROOKLYN, NY

1250 WILLOUGHBY AVENUE	
BLOCK: 3210	
LOTS: 16, 17, 18, 19, 20, 21	
LOT AREA =	15,000 SF
EXISTING ZONE:	M1-1
PROPOSED ZONE:	MX (R7D)
EXISTING USE:	VACANT
PROPOSED USE:	MULTI-FAMILY RESIDENTIAL
MAX F.A.R. - SEC 23-154 (R7D INCLUSIONARY HOUSING) =	5.60
MAX. ZONING FLOOR AREA = 5.60 x 15,000 SF =	84,000 SF
PROPOSED ZONING FLOOR AREA =	81,720 SF
MAX. BASE HEIGHT (ZR 23-664) =	95'-0"
MAX. BUILDING HEIGHT (ZR 23-664) =	110'-0"
PROPOSED BASE HEIGHT =	90'-0"
PROPOSED BUILDING HEIGHT =	90'-0"
REQUIRED PARKING (Sec 25-251) = 15% D.U. = 95 x 0.15 =	14 CARS
PROPOSED PARKING (Sec 25-261 ZR)	WAIVED
REQUIRED STREET TREES (Sec 25-251) = FRONTAGE/25' = 150'/25' =	6
PROPOSED STREET TREES	6

349 SUYDAM STREET	
BLOCK: 3210	
LOTS: 48 & 51	
LOT AREA =	17,500 SF
EXISTING ZONE:	M1-1
PROPOSED ZONE:	M1-5
EXISTING USE:	MANUFACTURING
PROPOSED USE:	MANUFACTURING
MAX. F.A.R. Sec 43-12 (M1-5) =	5.00
EXISTING FLOOR AREA =	42,528 SF
PROPOSED F.A.R. =	3.23
PROPOSED FLOOR AREA =	56,580 SF
MAXIMUM FRONT WALL HEIGHT (Sec 43-43) =	85'-0"
EXISTING FRONT WALL HEIGHT =	59'-0"
PROPOSED FRONT WALL HEIGHT =	67'-0"

APARTMENT DISTRIBUTION CHART

FLOOR	UNIT TYPE				TOTAL
	0BR	1BR	2BR	3BR	
1st	1	3	2	3	9
2nd	1	3	3	3	10
3rd	1	3	3	3	10
4th	1	4	5	1	11
5th	1	4	5	1	11
6th	1	4	5	1	11
7th	1	4	5	1	11
8th	1	4	5	1	11
9th	1	4	5	1	11
TOTAL	9	33	38	15	**95**

RESIDENTIAL FLOOR AREAS

ZONING SF	GROSS SF
9,080.00	9,600.00
9,080.00	9,600.00
9,080.00	9,600.00
9,080.00	9,600.00
9,080.00	9,600.00
9,080.00	9,600.00
9,080.00	9,600.00
9,080.00	9,600.00
9,080.00	9,600.00
81,720.0	**86,400.0**

MANUFACTURING FLOOR AREAS

FLOOR	MANUFACTURING (EXISTING)	MANUFACTURING (NEW)	MANUFACTURING (TOTAL)
1st	13,576.00		13,576.00
2nd	12,748.00		12,748.00
3rd	8,102.00	4,251.00	12,353.00
4th	8,102.00	4,251.00	12,353.00
5th		5,550.00	5,550.00
TOTAL	42,528.0	14,052.0	**56,580.0**



1



2



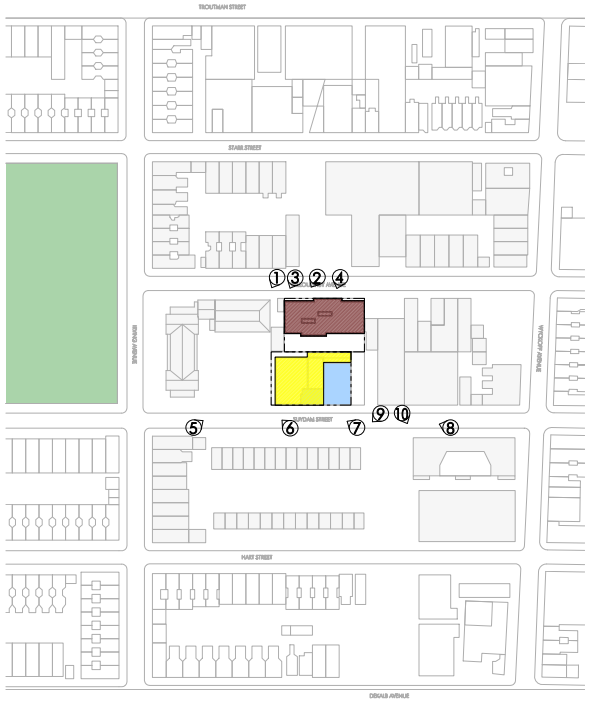
3



4



5





7



8



6



9



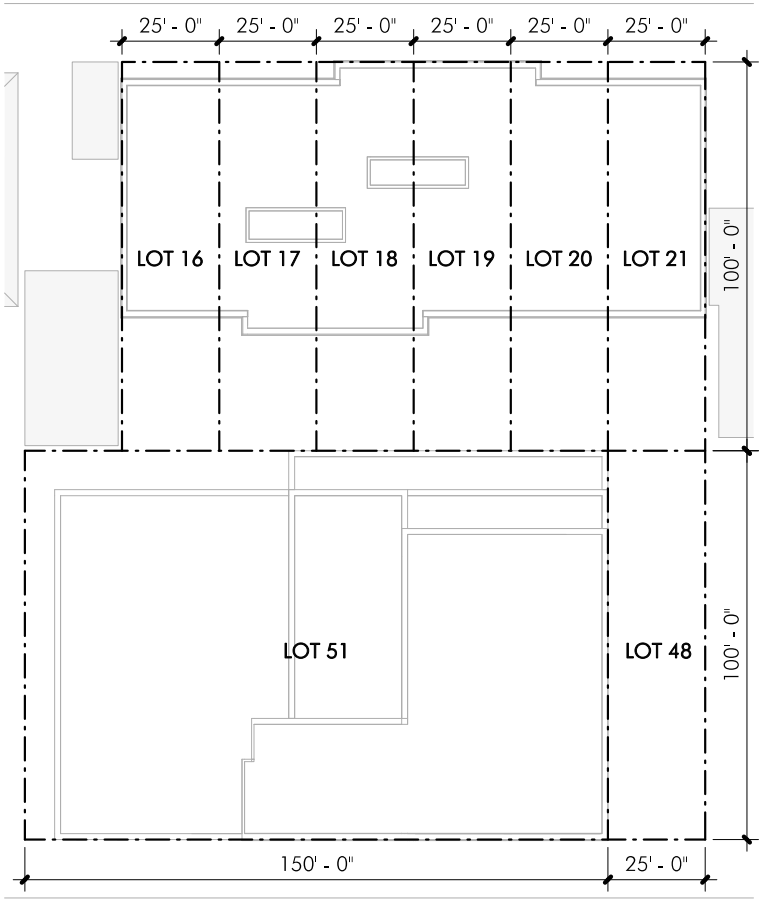
10

SUYDAM-WILLOUGHBY DEVELOPMENT

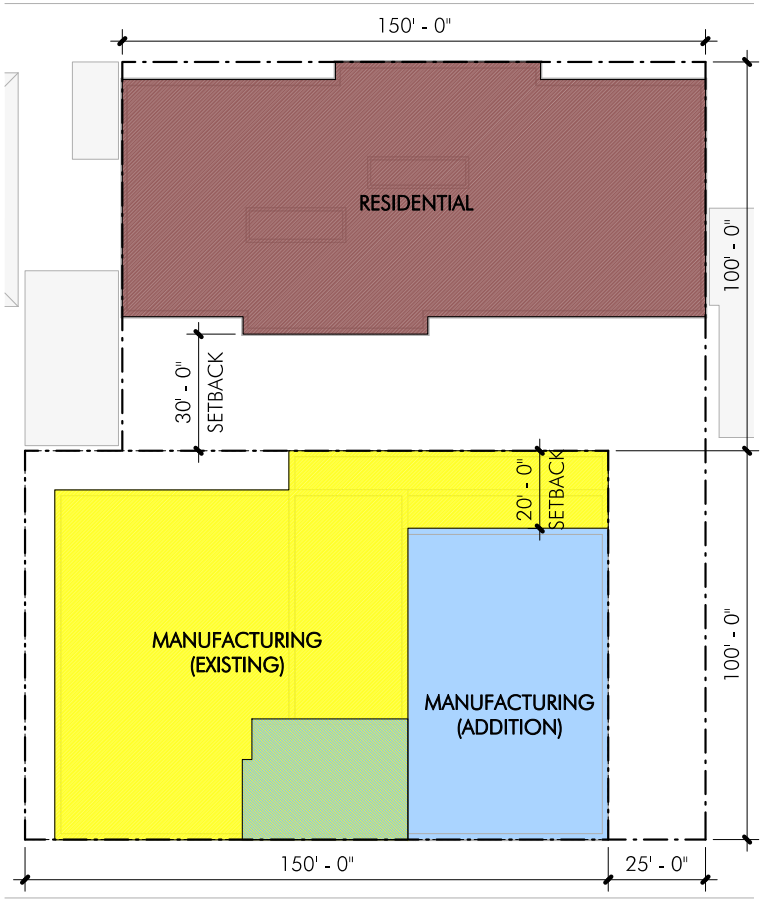
SITE PHOTOS

03/20/2017

OCV
OAKLANDER, COOGAN & VITTO, P.C.
ARCHITECTS



1 _Lot Diagram 1/32" = 1'-0"



2 Site Diagram 1/32" = 1'-0"

Applicant Proposed Development

SUYDAM-WILLOUGHBY DEVELOPMENT
1250 WILLOUGHBY AVE. BROOKLYN, NY 11237

DIAGRAMS
LOT AND SITE DIAGRAMS

03/20/2017

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OAKLANDER, COOGAN & VITTO, P.C.
ARCHITECTS



SUYDAM-WILLOUGHBY DEVELOPMENT

Applicant Development Project on Block 3210, Lots 16-21

OF

ELEVATION-NORTH

1250 WILLOUGHBY AVE

1/16" = 1'-0"

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OAKLANDER, COOGAN & VITTO, P.C.
ARCHITECTS



SUYDAM-WILLOUGHBY DEVELOPMENT
1250 WILLOUGHBY AVE. BROOKLYN, NY 11237

ELEVATION SOUTH
349 SUYDAM STREET

Applicant Proposed Development on Block 3210 , Lots

48 and 51

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SUYDAM-WILLOUGHBY DEVELOPMENT
1250 WILLOUGHBY AVE. BROOKLYN, NY 11237

349 SUYDAM STREET

03/20/2017

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Applicant Proposed Development (Site 1) on Block 3210 , Lots 48 and 51



Site 2- Residential Development

SUYDAM-WILLOUGHBY DEVELOPMENT
1250 WILLOUGHBY AVE. BROOKLYN, NY 11237

1250 WILLOUGHBY AVE

03/20/2017

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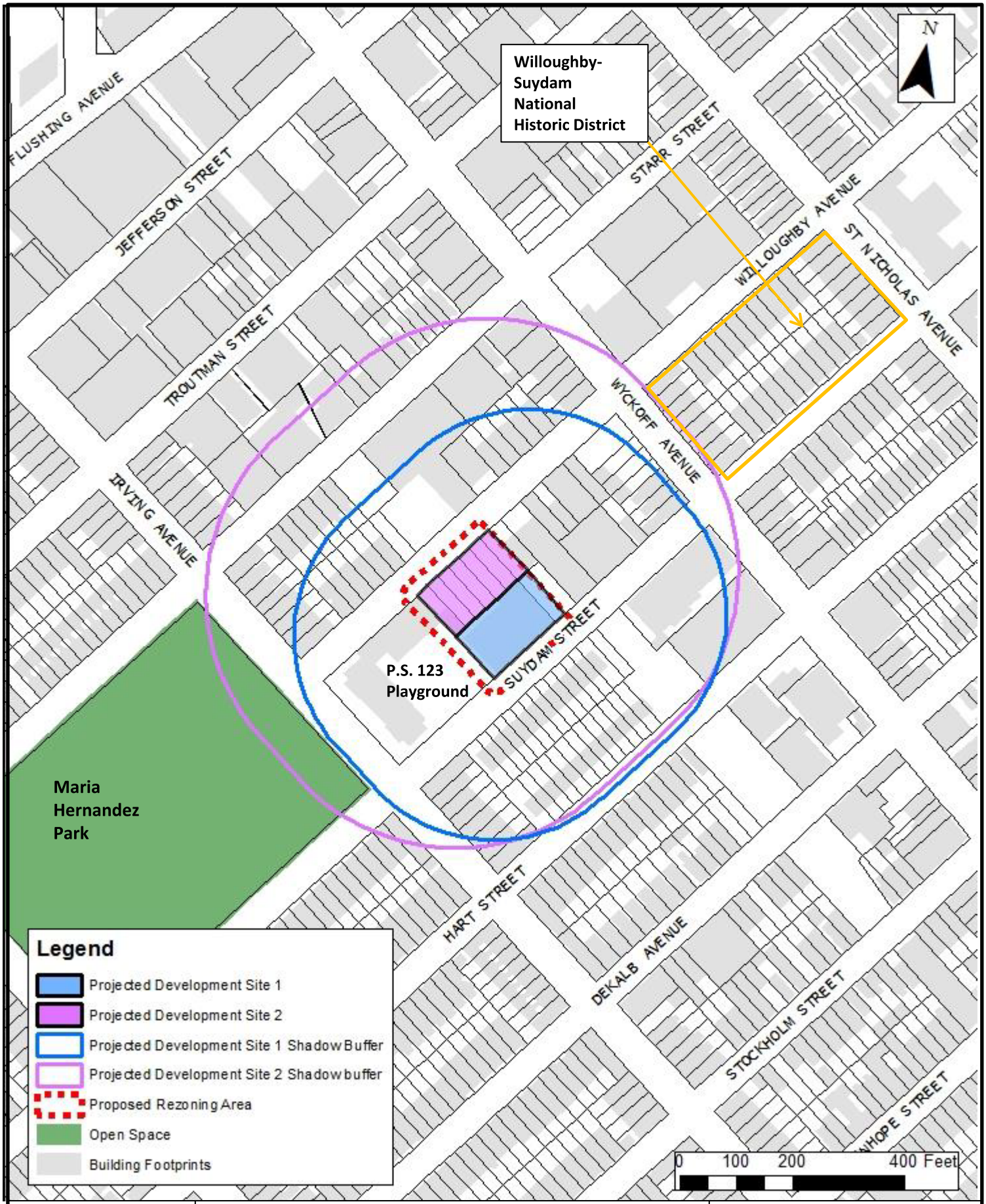
ARCHITECTS

Applicant Proposed Development on Block 3210,
Lots 16-21

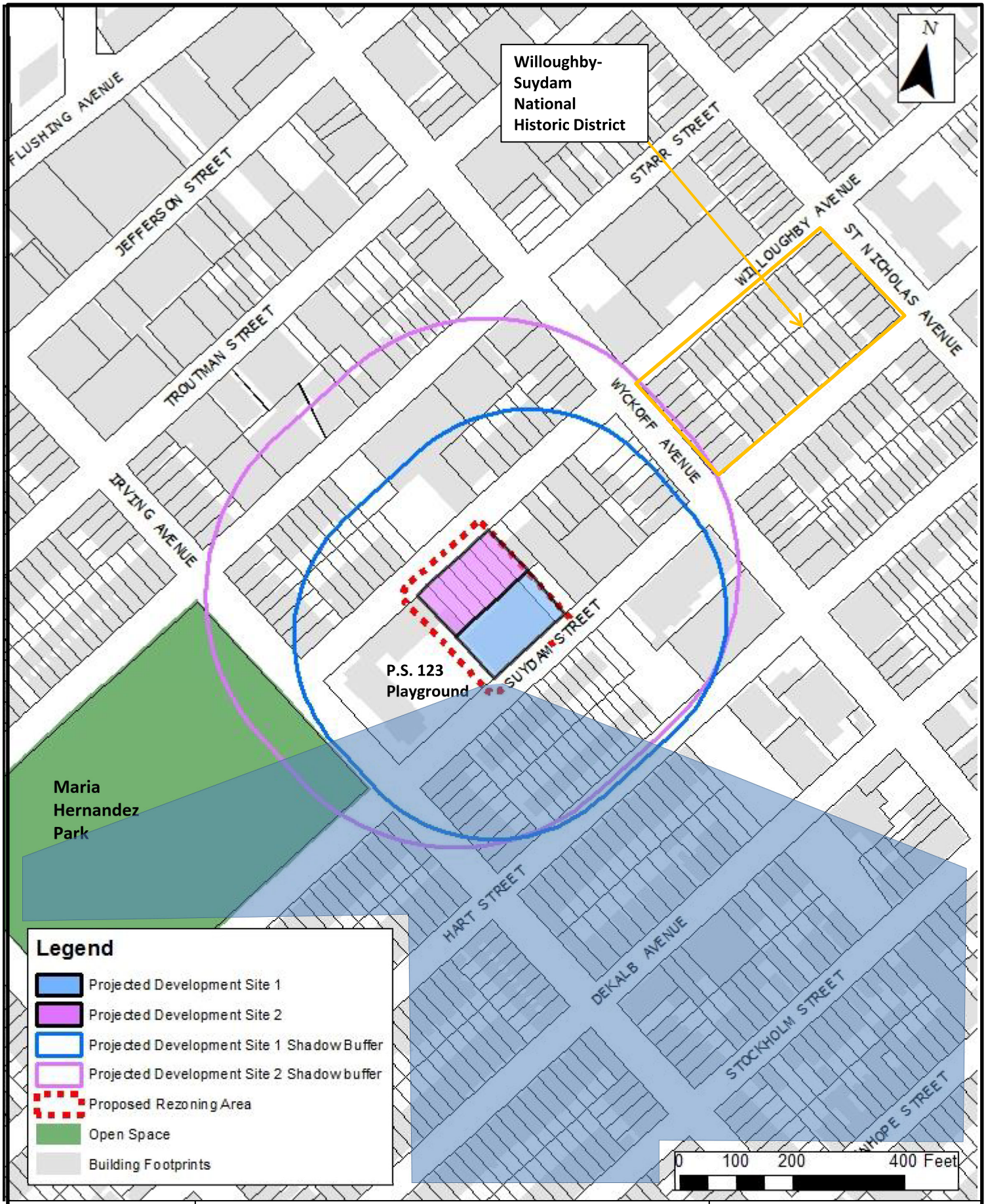
APPENDIX B – PROPOSED DEVELOPMENT SHADOW FIGURES



AECOM

Suydam Street Rezoning
Environmental Assessment Statement
Brooklyn, NY

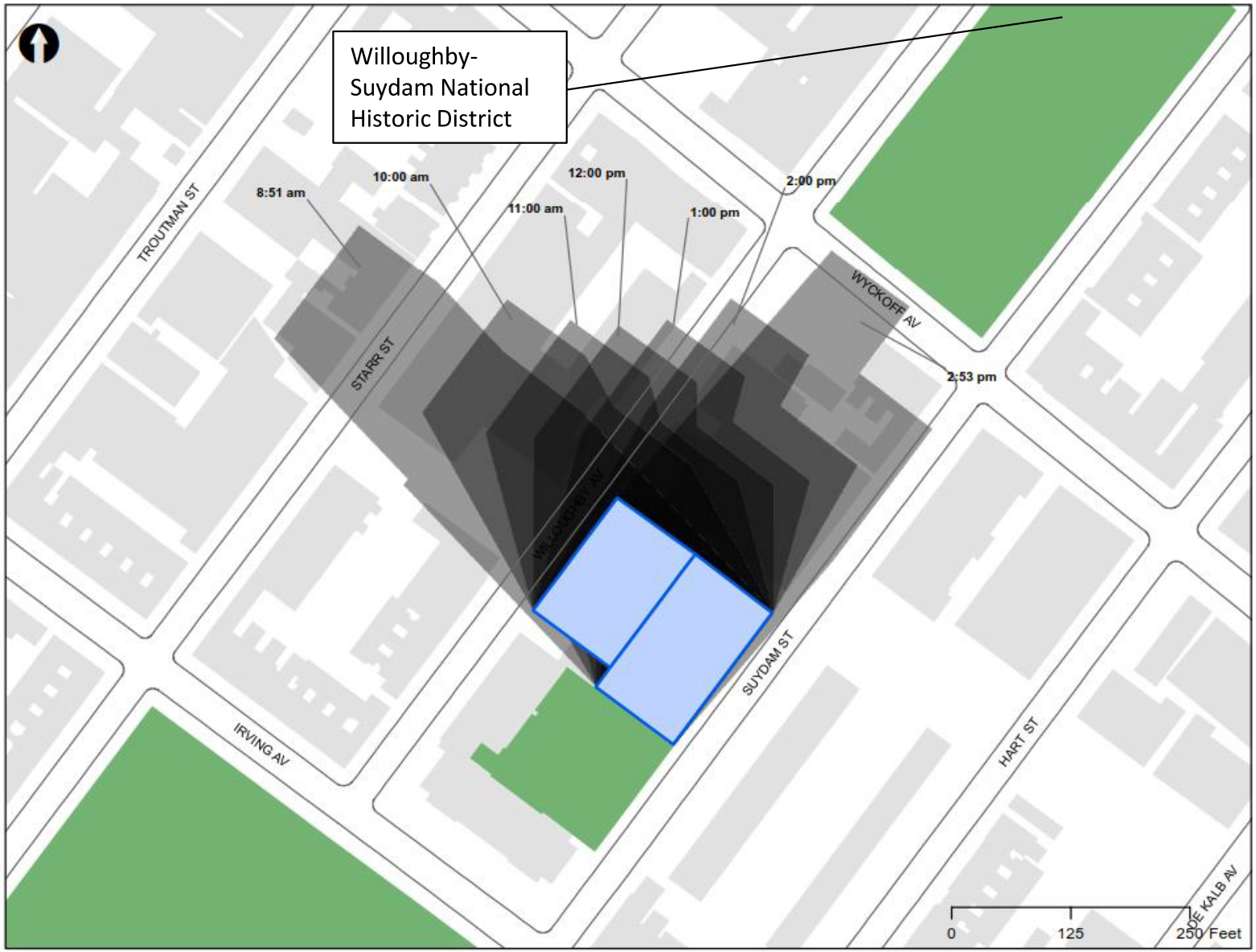
Figure 2.3-16
Proposed Development
Shadow Analysis
Tier 1 Screening



AECOM

Suydam Street Rezoning
Environmental Assessment Statement
Brooklyn, NY

Figure 2.3-17
Proposed Development
Shadow Analysis
Tier 2 Screening

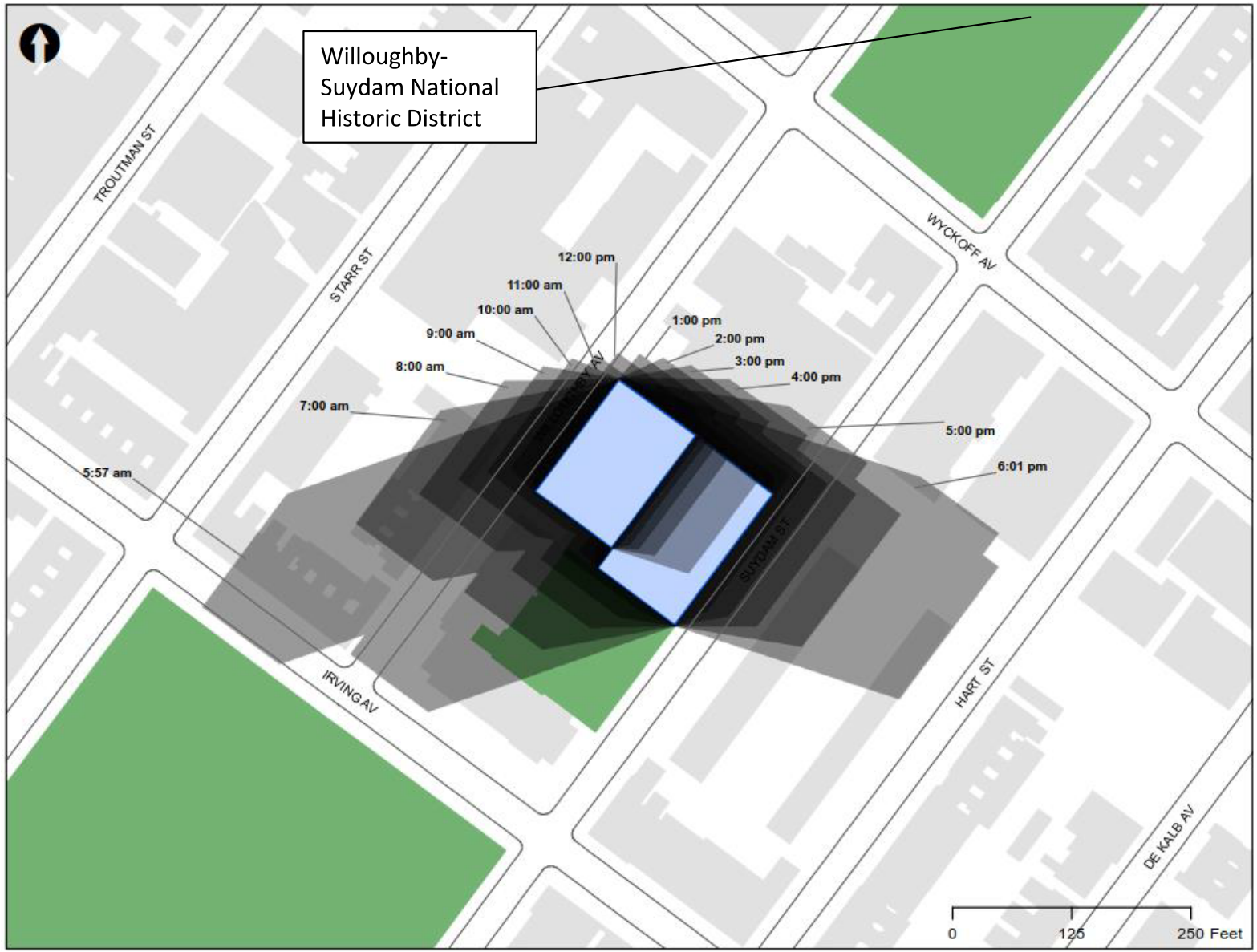


AECOM

Environmental Assessment Statement
Suydam Street Rezoning
Brooklyn, NY

Proposed Development Tier 3 Shadow Analysis - December

Figure 2.3-18

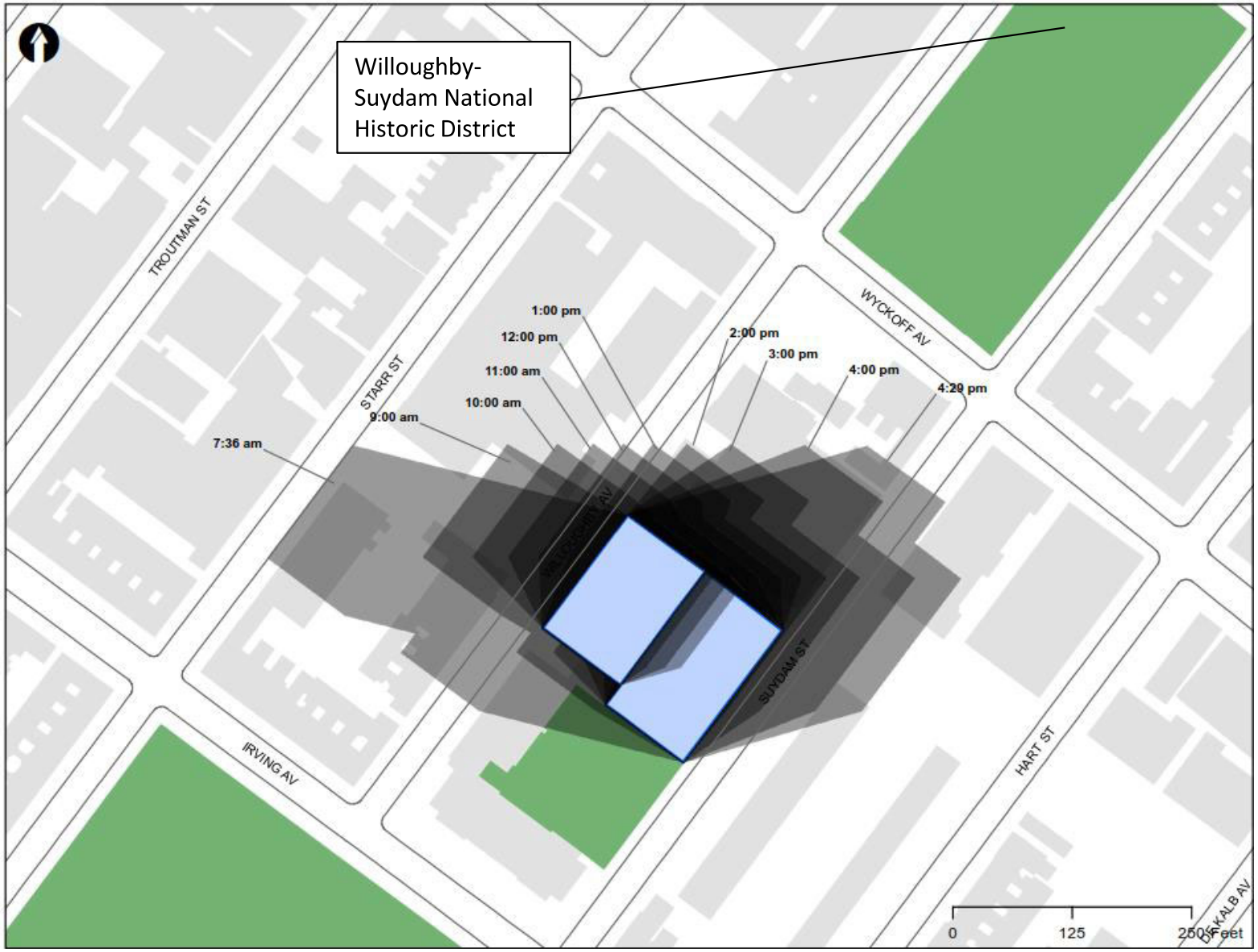


AECOM

Environmental Assessment Statement
Suydam Street Rezoning
Brooklyn, NY

Proposed Development
Tier 3 Shadow
Analysis - June

Figure 2.3-19

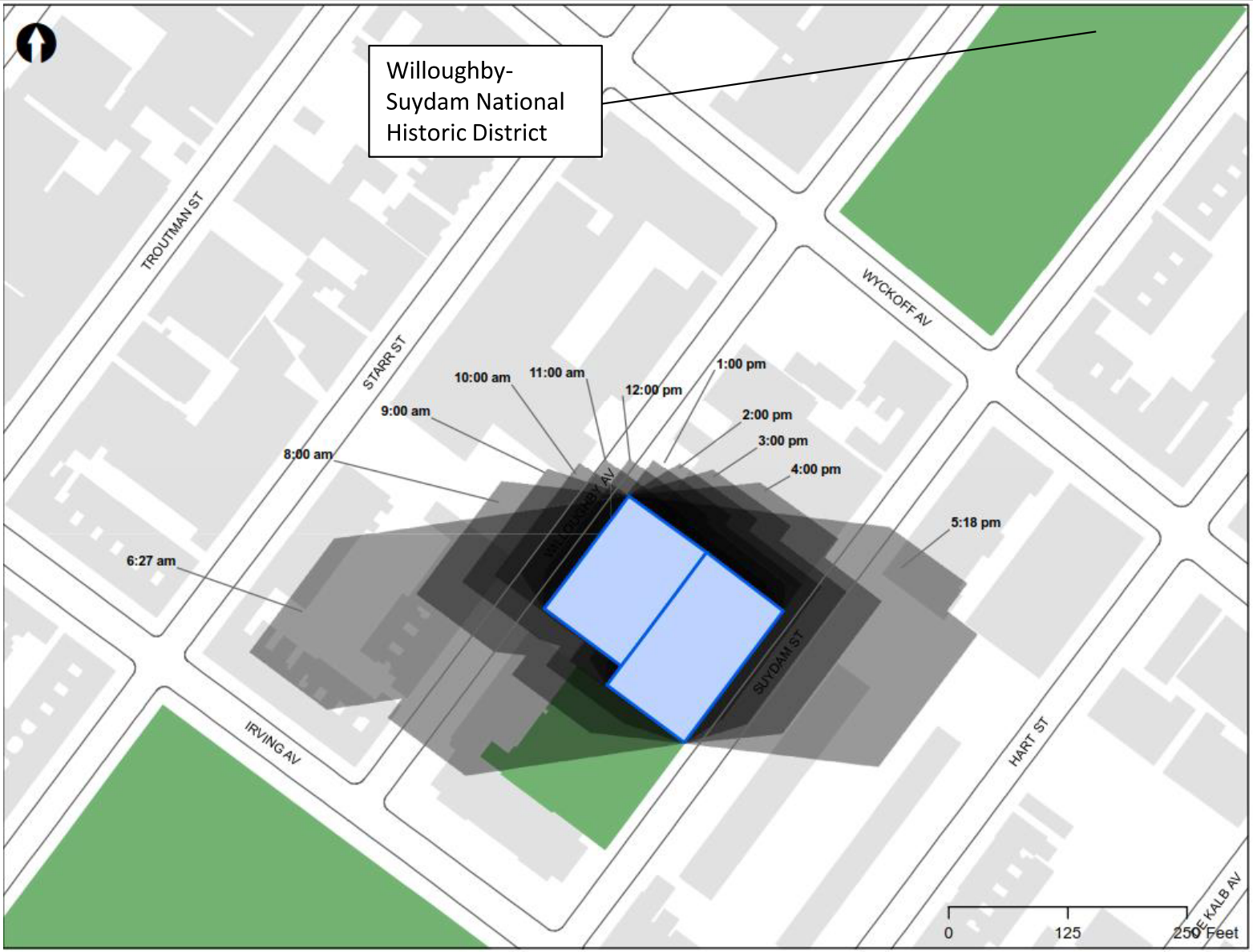


AECOM

Environmental Assessment Statement
Suydam Street Rezoning
Brooklyn, NY

Proposed Development
Tier 3 Shadow
Analysis - March

Figure 2.3-20



AECOM

Environmental Assessment Statement
Suydam Street Rezoning
Brooklyn, NY

Proposed Development
Tier 3 Shadow
Analysis - May

Figure 2.3-21

APPENDIX C – NYC LPC CORRESPONDENCE

Landmarks Preservation Commission

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

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

ENVIRONMENTAL REVIEW

Project number: DEPARTMENT OF CITY PLANNING / LA-CEQR-K
Project: SUYDAM ST. REZONING
Date received: 9/15/2017

Properties with no Architectural or Archaeological significance:

1) ADDRESS: 349 Suydam Street, BBL: 3032100051
2) ADDRESS: 1250 Willoughby Avenue, BBL: 3032100016
3) ADDRESS: 1252 Willoughby Avenue, BBL: 3032100017
4) ADDRESS: 1254 Willoughby Avenue, BBL: 3032100018
5) ADDRESS: 1256 Willoughby Avenue, BBL: 3032100019
6) ADDRESS: 1258 Willoughby Avenue, BBL: 3032100020
7) ADDRESS: 1260 Willoughby Avenue, BBL: 3032100021
8) ADDRESS: 95 Irving Avenue, BBL: 3032100001
9) ADDRESS: 1248 Willoughby Avenue, BBL: 3032100015
10) ADDRESS: 371 Suydam Street, BBL: 3032100048

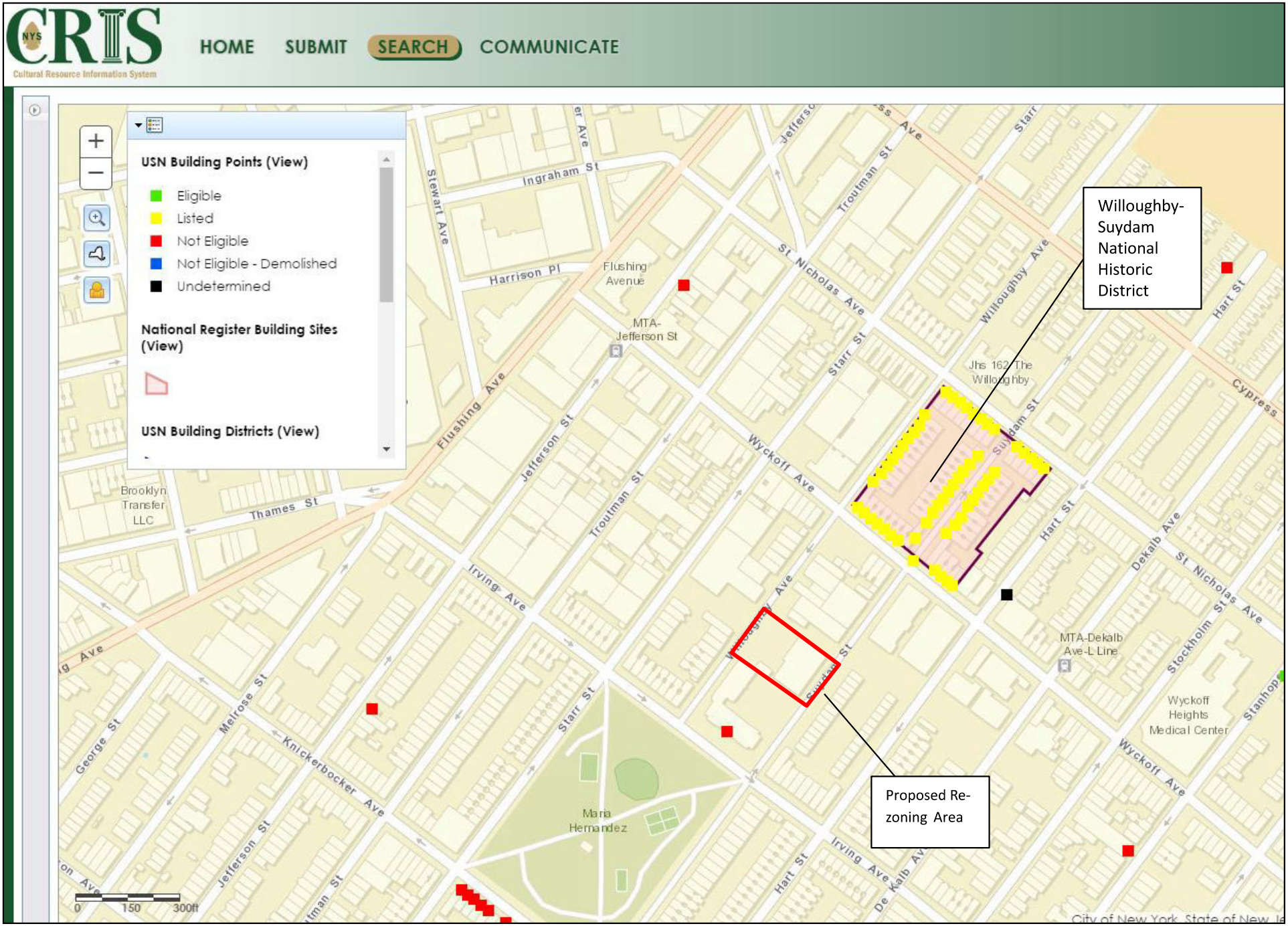
Within the radius: Willoughby-Suydam S/NR HD.

Gina Santucci 9/19/2017

SIGNATURE DATE
Gina Santucci, Environmental Review Coordinator

File Name: 32776_FSO_DNP_09192017.doc

APPENDIX C1 – WILLOUGHBY-SUYDAM NATIONAL HISTORIC DISTRICT


CRIS
Cultural Resource Information System
HOME
SUBMIT
SEARCH
COMMUNICATE
USN Building Points (View)
Eligible
Listed
Not Eligible
Not Eligible - Demolished
Undetermined
National Register Building Sites (View)
USN Building Districts (View)
Willoughby-Suydam National Historic District
Proposed Re-zoning Area
Flushing Avenue
MTA-Jefferson St
Jhs 162 The Willoughby
MTA-Dekalb Ave-L Line
Wyckoff Heights Medical Center
Maria Hernandez
Brooklyn Transfer LLC
Ingraham St
Harrison Pl
Stewart Ave
Troutman St
St Nicholas Ave
Willoughby Ave
Hart St
Cypress
Starr St
Jefferson St
Wyckoff Ave
Thames St
Irving Ave
Dekalb Ave
Stockholm St
Knickerbocker Ave
Melrose St
George St
0
150
300ft

APPENDIX D – PHASE I ENVIRONMENTAL SITE ASSESSMENT



GEI Consultants

Consulting
Engineers and
Scientists

Phase I Environmental Site Assessment

349-369 Suydam Street & 1250-1252 Willoughby Avenue
Brooklyn, New York 11237

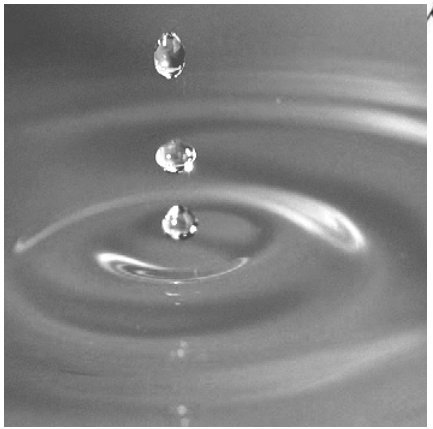
Prepared For:
Suydam Inc.
48 Liberty Avenue
New Rochelle, New York 10801

Prepared By:
GEI Consultants, Inc., P. C.
110 Walt Whitman Road, Suite 204
Huntington Station, New York 11746
631.760.9300

October 2017
Project No.: 1701982

Richard Fasciani
Project Manager

Gary A. Rozmus, P.E.
Senior Consultant



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Executive Summary

GEI Consultants, Inc., P. C. (GEI) conducted a Phase I Environmental Site Assessment (ESA) on behalf of Suydam Inc of the site consisting of 349-369 Suydam Street & 1250-1252 Willoughby Avenue, Brooklyn, New York. This site is identified in this report as the "project site." According to the New York City Department of Buildings, the project site occupies Block 3210, Lots 16-21, 48 and 51.

The project site is basically rectangular in shape, zoned for manufacturing, has 150 feet of frontage along Willoughby Avenue and 175 feet of frontage along Suydam Street and is located between Irvine Avenue and Wyckoff Avenue in the Borough of Brooklyn, New York City (NYC) New York. Its location is shown on **Figure 1 –** Site Location Map, **Figure 2 –** NYC Tax Map, **Figure 3 –** 2012 Site Aerial Map, and **Figure 4 –** 2007 Sanborn Map.

The 2-and 4-story masonry and wood framed building on the project site is approximately 43,250 square feet. The building has two partial basements, one under the 4-story portion of the building and another under the 2-story portion of the building. The ground floor has a loading dock area, a bakery business and a clothing manufacturing (sewing and knitting) business. The second floor was vacant; however, it was most recently occupied by a clothing manufacturer. The third floor was occupied by a furniture company that has a showroom, an assembly and an upholstery area. The fourth floor was partially occupied by a clothing manufacturing business and by the same furniture company that was on the third floor.

Portions of the project site not occupied by the building consisted of a 2,500-square foot parking lot area on the east side of the building along Suydam Street and a 15,000-square foot parking lot on the Willoughby Avenue (north) side of the project site. Additionally, there is a walkway area on the west side of the building.

The objective of this assessment was to evaluate the property for evidence of RECs. A *recognized environmental condition* is defined in ASTM E1527-13 as "the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property." GEI identified RECs in connection with the project site as follows:

- **1,500-Gallon Underground Storage Tank (UST) –** A 1,500-gallon UST is located in the loading dock area. According to a Phase II investigation performed by CA Rich Environmental Specialists (CA Rich), this tank was confirmed to be filled with water. Additionally, a soil sample was obtained within the vicinity of this tank and

the results indicated that no contamination was encountered. If it has not already been done, this tank should be properly closed in accordance with NYSDEC regulations.

- **Underground Storage Tank on West Side of Property –** An UST was identified in the CA Rich Phase II Report as being located on the west side of the property. CA Rich stated that the size of the tank could not be determined as it was filled with sand. Additionally, one soil sample was obtained in the vicinity of this tank at a depth of 0-2 feet below ground surface and tested for TAL Metals. CA Rich stated that the sample was collected from the shallow soils as there was no evidence of contamination. GEI feels that regardless of the soil observation the sample should have been obtained from deeper soils and analyzed for Total Petroleum Hydrocarbons as well as Target Analyte List (TAL Metals) Metals.

- **Gasoline Storage Tank –** A gasoline storage tank was observed on historical Sanborn maps in the vicinity of the loading dock area.

- **Demolition Debris and Buried Structure –** Potential presence of demolition debris and buried structures, as determined by the presence of past on-site structures that are no longer present.

- **Soil, Soil Vapor and Groundwater Sampling –** It is noted that the CA Rich Phase II concentrated solely on TAL Metals. Except for the one soil boring sample obtained from the vicinity of the 1,500-gallon fuel oil tank (mentioned above) all the rest of the samples were analyzed for TAL Metals. It is GEI's opinion that due to historical on-site and/or surrounding area land uses soil and groundwater sampling should be performed to included Volatile and Semi Volatile Organic Compounds (VOC's and SVOC's), Pesticides as well as TAL Metals. Furthermore, soil vapor testing should be performed and tested for VOCs.

APPENDIX D1 – PHASE II ENVIRONMENTAL SITE ASSESSMENT



GEI Consultants

Consulting
Engineers and
Scientists

Phase I Environmental Site Assessment

349-369 Suydam Street & 1250-1252 Willoughby Avenue
Brooklyn, New York 11237

Prepared For:
Suydam Inc.
48 Liberty Avenue
New Rochelle, New York 10801

Prepared By:
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Huntington Station, New York 11746
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October 2017
Project No.: 1701982

Richard Fasciani
Project Manager

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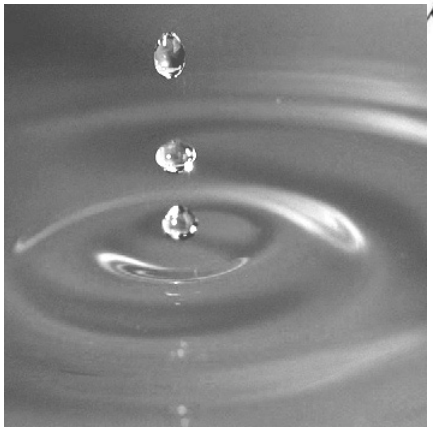
Senior Consultant



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Executive Summary

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Portions of the project site not occupied by the building consisted of a 2,500-square foot parking lot area on the east side of the building along Suydam Street and a 15,000-square foot parking lot on the Willoughby Avenue (north) side of the project site. Additionally, there is a walkway area on the west side of the building.

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the results indicated that no contamination was encountered. If it has not already been done, this tank should be properly closed in accordance with NYSDEC regulations.

- **Underground Storage Tank on West Side of Property –** An UST was identified in the CA Rich Phase II Report as being located on the west side of the property. CA Rich stated that the size of the tank could not be determined as it was filled with sand. Additionally, one soil sample was obtained in the vicinity of this tank at a depth of 0-2 feet below ground surface and tested for TAL Metals. CA Rich stated that the sample was collected from the shallow soils as there was no evidence of contamination. GEI feels that regardless of the soil observation the sample should have been obtained from deeper soils and analyzed for Total Petroleum Hydrocarbons as well as Target Analyte List (TAL Metals) Metals.

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- **Soil, Soil Vapor and Groundwater Sampling –** It is noted that the CA Rich Phase II concentrated solely on TAL Metals. Except for the one soil boring sample obtained from the vicinity of the 1,500-gallon fuel oil tank (mentioned above) all the rest of the samples were analyzed for TAL Metals. It is GEI's opinion that due to historical on-site and/or surrounding area land uses soil and groundwater sampling should be performed to included Volatile and Semi Volatile Organic Compounds (VOC's and SVOC's), Pesticides as well as TAL Metals. Furthermore, soil vapor testing should be performed and tested for VOCs.

APPENDIX C1 – PHASE II ENVIRONMENTAL SITE ASSESSMENT



PHASE II
ENVIRONMENTAL SITE ASSESSMENT

349-369 Suydam Street
Brooklyn, New York
Block: 3210; Lots: 16-21, 48 & 51

June 2013

Prepared for:

Prepared by:

CA RICH CONSULTANTS, INC.
17 Dupont Street
Plainview, NY 11803
(516) 576-8844

CA RICH
ENVIRONMENTAL SPECIALISTS

June 26, 2013

Re: Phase II Environmental Site Assessment
349-369 Suydam Street
Brooklyn, New York 11237
Block: 3210; Lots: 16-21, 48 & 51

The following report summarizes a Phase II Environmental Site Assessment (ESA) of the above-referenced location (herinafter referred to as the Property or the Site), performed by CA Rich Consultants, Inc. (CA RICH).

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

Sincerely,

CA RICH CONSULTANTS, INC.

Victoria Whelan
Project Environmental Scientist, E.P.

Reviewed by:

Eric Weinstock, CPG
Vice President

Additional Authorized Users

1.0 INTRODUCTION

CA RICH Consultants, Inc. ("CA RICH") of Plainview, New York has completed this Phase II Environmental Site Assessment (ESA) of the property located at 349-369 Suydam Street, Brooklyn, New York (hereinafter referred to as the "Property" or "Site"). The subject Property is located on the west side of Suydam Street between Wyckoff Avenue and Irving Avenue and is improved with a four-story building with a two-story addition. There are two partial basements; one located in the front of the four story building and a second located in the center of the two-story building. The buildings are currently occupied by multiple tenants including a custom furniture manufacturer, furniture repair facility, multiple sewing factories, a furniture showroom and bakery. The Site is connected to municipal sewers and water. ConEdison provides electricity to the buildings and natural gas is used to power the heating system. The Property also contains a 17,000-square foot parking lot. A Property Location Map is attached as Figure 1.

This report documents the results of Phase II testing activities recently completed by CA RICH as a result of a Phase I Environmental Site Assessment conducted in May 2013 and subsequent follow up conversations with the owner.

2.0 SITE HISTORY

In May 2013, CA RICH issued a Phase I Environmental Site Assessment (ESA) for the subject Property (Ref. 1). The Phase I ESA identified the following "Recognized Environmental Conditions" (RECs) and other issues in connection with the subject Property:

REC-1 A fill port was identified during the Site inspection. The fill port was observed in the sidewalk in front of the four-story building near the truck/elevator entrance. Additional suspect piping was also located inside of the elevator/truck entrance. According to the NYSDEC records two underground storage tanks were abandoned in place. This fill port and suspect piping should be investigated to determine if the piping and fill port are associated with the abandoned tanks or of they are additional unregistered tanks.

REC-2 According to the Sanborn Maps, the Property has historically been a 'manufacturer'. In 1888 a painter was located within the Property boundary, in 1907 a thermometer manufacturer was located along Willoughby Avenue, and from at least 1933 to at least 1995 the property is listed as "Macaroni Manufacturer". As the Property has been used historically for manufacturing, purposes it is recommended that a Phase II Investigation be conducted. The Phase II Investigation should address soil and groundwater sampling to confirm the presence or absence of impacted media.

REC-3 Various types of chemicals were identified throughout the Property. The basement of the two-story building appeared to be used as chemical storage area. In its rear yard, drums and various containers were being stored. These chemicals should be properly stored in secondary containment to avoid accidental spills or removed.

REC-4 Multiple drains were located throughout the Property. Also there were drains located in the rear yard and south side of the building. There were drains observed throughout the first floor of the Property and the basement. These drains should be investigated to ensure they have been and currently are connected to the New York City sewer system.

The report recommended a limited subsurface investigation to determine if the environmental quality of the Site had been adversely impacted by former and/or current on-site activities. Based on this information, a Phase II investigation was conducted. This report documents the results of the geophysical survey and the testing activities recently completed by CA RICH.

3.0 SCOPE AND PURPOSE

The purpose of this Investigation is to: 1) conduct a geophysical and ground penetrating radar (GPR) survey across the Site to determine the presence of subsurface anomalies and potential USTs; 2) install four soil borings utilizing the Geoprobe™ drilling system and analyze soil samples to identify suspect subsurface contamination; and, 3) collect one groundwater sample using the Geoprobe™ drilling system to determine the quality of groundwater beneath the Site.

4.0 SUMMARY OF WORK ACTIVITIES

4.1 GEOPHYSICAL SURVEY

The geophysical survey was performed by NAEVA Geophysics, Inc. (NAEVA) of Congers, New York on June 12, 2013. The survey consisted of a GPR survey across accessible areas of the exterior of the Property to: confirm a connection to the New York City sewer system; and to determine the location of potentially buried USTs or other subsurface features. The GPR survey utilizes antennas capable of providing useful and relevant data in an urban environment, and penetrates the subsurface environment sufficiently to characterize metal objects and other subsurface structures. Two antennas of significantly different frequencies (i.e. 250 MHz and 1,000 MHz) with a digital control unit were utilized in this effort.

The survey identified numerous anomalies beneath the surface of the Site. The anomalies identified were generally smaller than one-foot in diameter and were assumed to be metal debris. Two larger anomalies were identified and the findings are summarized below:

One of the larger anomalies was identified between the four-story and two-story building, beneath the loft connection fronting on Suydan Street. This anomaly was confirmed to be an underground storage tank. The locations of the identified underground tanks are illustrated on Figure 1. The anomaly was approximately nine feet by five feet and was determined to be associated with the suspect piping identified during the Phase I ESA site inspection. The anomaly was also

confirmed to be connected to a tank gauge located in the basement. This was further investigated on June 13, 2013 to confirm the abandonment. The top of the tank was opened and was found to be full of water. Based on typical tank capacity charts, the estimated size of the tank is approximately 1,500 gallons.

A second large anomaly located on the south side of the building was identified during the process of tracing the orientation of the underground drain lines. A solid manhole cover was identified to be an access-way to an underground storage tank. The tank was confirmed to be connected to a fill port located on the sidewalk at the south corner of the building. This anomaly was further investigated on June 13, 2013 to confirm the abandonment. The top of the tank was opened and was found to be full of sand. The size of the tank could not be confirmed as the sand fills the void normally seen by the geophysical survey.

Two drains were identified during the Phase I ESA inspection. The drain located in the center of the bakery floor was confirmed to be connected to a pipe heading south to the outside of the building then to the east to the NYC sewer system along Suydam Street. The second drain located in the center of the rear yard was confirmed to be connected to a pipe heading out to Willoughby Avenue to the NYC sewer system. The location of the drain lines are illustrated on Figure 1.

4.2 SOIL BORING INSTALLATION AND SOIL SAMPLING

On June 13, 2013, a series of four strategically placed soil borings were installed utilizing a Geoprobe™ drilling system. The soil borings, identified as SB-1 through SB-4, were each advanced to approximately 20 feet below grade for the purposes of screening the subsurface soils. A soil sample was collected from the soil exhibiting the highest degree of impact based upon both a visual inspection and field Photo-Ionization Detector (PID) readings or from the shallow soils if no evidence of impacted soil was observed.

The soil boring identified as SB-1 was placed near the tank that was identified during the geophysical investigation under the loft building connection. The soil could be characterized as a light to dark brown sand with minor amounts of red brick to ten feet. From ten feet to the base of the boring native sand was observed. The sample was collected between five to ten feet. The boring locations are presented on Figure 1.

The soil boring identified as SB-2 was located near the abandoned UST identified during the geophysical investigation on the south side of the building. The soil observed is characterized as a light to dark medium sand and gravel to ten feet with native light brown sand to the base of the

boring. A sample was collected from the shallow soils as there was no evidence of contamination.

The soil boring identified as SB-3 was located near the chemical drum storage area that was identified during the Phase I ESA inspection. The soil in the upper ten feet was observed to be dark brown medium sand with gravel and small amounts of red brick. The soil from ten to fifteen feet was observed include a darker ash and a blackish medium sand. Native soils were observed from fifteen to twenty feet. A sample was collected between ten to fifteen feet based on visual observations.

The soil boring identified as SB-4 was located in the historic thermometer factory that was identified on the Sanborn maps during the Phase I ESA. The soil to five feet was observed to be dark brown/blackish sand with gravel and minor amounts of brick. Soil below five feet appeared to be native brown medium sand. A sample was collected from the shallow soils based on visual inspection.

No elevated PID readings were recorded in any of the soil borings. All soil samples were placed in an ice-filled cooler and submitted to American Analytical Laboratories (a State-certified laboratory) in Farmingdale, New York for chemical analysis. The results have been compared to Part 375 Soil Cleanup Objectives for Commercial Use (Ref. 2). Soil boring logs detailing subsurface conditions are included as Appendix A.

4.3 GROUNDWATER SAMPLING

On June 13, 2013, one groundwater quality sample was collected using the Geoprobe™ drilling system and new polyethylene tubing in the location of SB-4 which is the location of the historical thermometer factory. There were no petroleum odors or sheens observed on the water table during the sampling.

The groundwater sample was identified as GW-1 and was placed in a cooler with ice and submitted to American Analytical Laboratories of Farmingdale, New York for chemical analysis. The specified analysis included both filtered and unfiltered TAL metals based on the turbidy observed in the sample during collection.

5.0 FINDINGS

5.1 GEOPHYSICAL SURVEY

The geophysical survey identified one out-of-service UST estimated to be 1,500 gallons in capacity under the loft connection. At the time of our visit, the tank appeared to be filled with water. Additionally, a second tank was identified on the south side of the building during the process of tracing the orientation of the subsurface drain lines. The tank was further investigated and found to be filled with sand and connected to a fill port located on the southeast corner of the building. The results of the geophysical survey also indicated that the drains identified in the Phase I ESA are connected to the NYC municipal sewer system.

5.2 SOIL QUALITY

The results of the chemical analysis of the four soil samples indicate the following:

- VOCs and SVOCs – One soil sample was collected from the soil boring installed adjacent to the out-of-service UST (SB-1) and analyzed for the CP-51 list of VOCs and SVOCs. There were no detections of VOCs and only low detections of SVOCs, none of which exceeded the Part 375 commercial standards (Ref. 2). As such, there is no indication that this UST has leaked. The results are summarized on Table 1.

- Target Analyte List (TAL) Metals – One soil sample from each of the four borings were analyzed for TAL metals. There were several metals including arsenic, barium, chromium, copper, lead, nickel, and zinc that were detected at levels below the Part 375 commercial standard. These detections are common in historic urban areas. One metal, mercury, was detected in the boring placed in the former thermometer factory (SB-4) at a concentration of 14.8 mg/kg. This detection exceeds the Part 375 commercial standard of 2.8 mg/kg. The results are summarized on Table 2.

- Toxicity Characteristics Leaching Procedure (TCLP) Metals – A TCLP analysis was performed on the sample from boring SB-4 that exceeded the Part 375 commercial standard for mercury. There was no detection of mercury in this sample indicating that this metal did not leach out for the sample. In addition, there were no detections of any of the eight metals included in this test that exceeded the TCLP standards indicating that

the soil collected in this sample is not hazardous by characteristics with respect to metals. The results are summarized on Table 3.

5.3 GROUNDWATER QUALITY

The results of the chemical analysis of the groundwater sample collected indicates the following:

- TAL Metals – A groundwater sample collected from the boring placed in the former thermometer factory (SB-4) was analyzed for both total and dissolved TAL metals. The filtered sample (which is representative of the metals dissolved in the groundwater) displayed detections of numerous naturally occurring metals including aluminum, barium, calcium, iron, magnesium, manganese, potassium, nickel, sodium and zinc. Of these detections iron, manganese and sodium were measured at concentrations exceeding groundwater standards (Ref. 3). Detections such as these are common in shallow groundwater below urbanized areas and are not considered an environmental concern. Mercury was not detected in the filtered sample.

  The unfiltered sample (which is representative of the total of the metals dissolved in the groundwater as well as the metals suspended as particles in the water) displayed detections of numerous naturally occurring metals including aluminum, arsenic, barium, calcium, chromium, copper, iron, lead, magnesium, manganese, mercury, nickel, potassium, sodium and zinc. Of these detections arsenic, barium, chromium, copper, iron, lead, magnesium, manganese, mercury, nickel, and sodium were measured at concentrations exceeding groundwater standards. Since the unfiltered sample (which was collected using a geoprobe sampling device) was turbid, these detections are believed to be a function of the sediment in the sample and not representative of actual groundwater conditions.

A summary of the analytical detections and applicable guidance values are provided on Table 4. A complete copy of the original laboratory analytical report is included as Appendix B.

6.0 CONCLUSIONS AND RECOMMENDATIONS

This Phase II Environmental Investigation was performed in accordance with customary practice and generally accepted protocols within the environmental consulting industry. At the time of this study, and based upon the limitations inherent to the kind of information that can be generated by the specific data that were acquired, CA RICH provides the following Conclusions and Recommendations:

- The geophysical survey did reveal the presence of one out-of-service UST estimated to be 1,500 gallons in capacity. The VOC and SVOC analytical results of a soil sample collected next to this tank indicates that the UST has not leaked. We recommend that the water in the tank be pumped out and properly disposed, that the tank be properly abandoned, and that the tank be added to the Petroleum Bulk Storage (PBS) facility registration with a status of closed-in place.

- The subsurface soils at the Site were investigated for TAL metals at four separate locations resulting in the analysis of a total of four soil samples from beneath the Site. None of the soil sample results exceeded the Part 375 Commercial soil cleanup values with the exception of mercury in the boring placed in the former thermometer factory. The results of a TCLP metals analysis performed on this sample indicated that the mercury does not leach from the sample and the soil analyzed is not a hazardous waste by characteristics with respect to metals. Therefore, based on these results, this soil would be classified as historic urban fill.

- The uppermost groundwater underlying the Site occurs at approximately 43 feet below grade. The analyses of the dissolved metals in the groundwater sample revealed the presence of iron, manganese and sodium above the NYSDEC groundwater. Detections such as these are common in shallow groundwater below urbanized areas and are not considered an environmental concern. Mercury was not detected in the dissolved or "filtered" sample. Numerous naturally occurring metals were detected in the total or "unfiltered" sample. Since the unfiltered sample was turbid, these detections are believed to be a function of the sediment in the sample and not representative of actual groundwater conditions.

7.0 INVESTIGATION LIMITATIONS

CA RICH performed the environmental work described herein in accordance with an approved limited scope of work and generally accepted protocols utilized within the environmental consulting profession. There were no intentional deviations or deletions from standard procedures in the performance of this work. The approved scope of work, as jointly agreed upon, was limited to the review of selected readily available and reasonably accessible documents/reports made available to CA RICH, and our evaluation of specific areas on the Site utilizing approved specific methods of investigation. As such, our findings and conclusions are limited to only those areas and media as described and studied herein.

CA RICH cannot warrant site-wide conditions because there may remain unknown or hidden conditions that could not be revealed during the limited testing conducted. Also, the undersigned cannot be held responsible for innocent or intentional misrepresentations or inaccurate information furnished to CA RICH regarding the environmental integrity of the area that may pose any potential for further environmental risk given a proposed redevelopment plan. However, we do acknowledge that to the best of our belief, the information we have supplied is true, complete and correct, and that facts or figures that may have an adverse effect upon the validity of the findings, conclusions and/or any recommendations provided in this report have not purposely been omitted.

Should future testing/remediation activities reveal additional areas of environmental concern, then the findings and conclusions of this investigation and any further agency review may be subject to additional information needs and revision. In addition, CA RICH subcontracted State-certified American Analytical Laboratories of Farmingdale, NY as an independent entity to chemically analyze the environmental samples collected by CA RICH as part of this investigation.

CA RICH has no interest other than professional in this assignment and neither its performance, nor compensation for same, is contingent upon the findings or conclusions represented herein.

REFERENCES

1) CA RICH, (May 2013), Phase I Environmental Site Assessment, 349-369 Suydam Street Brooklyn, New York

2) New York State Department of Environmental Conservation, (December 2006), 6NYCRR Part 375; Subparts 375-1 to 375-4 & 375-6; Table 375-6.8(a): Commercial Use Soil Cleanup Objectives.

3) New York State Department of Environmental Conservation, (June 1998), Division of Water Technical and Operation Guidance Series (1.1.1): Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations.

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