21st Street Rezoning

Environmental Assessment Statement

CEQR Number:

24DCP027Q

Prepared For:

Astoria Park Warehouse LLC

Prepared By:

Environmental Studies Corporation

March 26, 2024

21st Street Rezoning

Environmental Assessment Statement

CEQR No.: 24DCP027Q

Table of Contents

I. Environmental Assessment Statement (EAS) Form

II. Project Description

III. Technical Analysis

IV. Attachments

Section I – EAS Form

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

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

Part I: GENERAL INFORMATION

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

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

2. *Project Name* 21st Street Rezoning

3. *Reference Numbers*

CEQR REFERENCE NUMBER (to be assigned by lead agency)	BSA REFERENCE NUMBER (if applicable)
24DCP027Q	
ULURP REFERENCE NUMBER (if applicable)	OTHER REFERENCE NUMBER(S) (if applicable) (*e.g.*, legislative intro, CAPA)
230250ZMQ, N230251ZRQ	

4a. *Lead Agency Information*			**4b. *Applicant Information***		
NAME OF LEAD AGENCY NYC Dept of City Planning			NAME OF APPLICANT Astoria Park Warehouse LLC		
NAME OF LEAD AGENCY CONTACT PERSON Stephanie Shellooe, Director, Environmental Assessment and Review Division			NAME OF APPLICANT'S REPRESENTATIVE OR CONTACT PERSON Raya DerBedrossian, Environmental Studies Corp		
ADDRESS 120 Broadway			ADDRESS 55 Water Mill Lane		
CITY New York	STATE NY	ZIP 10271	CITY Great Neck	STATE NY	ZIP 11021
TELEPHONE 212-720-3493	EMAIL sshellooe@planning.nyc.gov		TELEPHONE 718-343-0026	EMAIL hrothkrug@environmentalstudiescorp.com	

5. *Project Description*

Astoria Park Warehouse LLC ("The Applicant") is applying for land use actions from the City Planning Commission. The Applicant seeks a zoning map amendment and a zoning text amendment. The zoning map amendment would rezone an existing R5D/C1-3 and R5B district to a R6A/C1-4 district. The zoning text amendment is pursuant to Appendix F and would establish a Mandatory Inclusionary Housing ("MIH") Area coterminous to the area being rezoned, with both Options 1 and 2 being mapped. Together these two actions are referred to in this EAS as the "Proposed Actions". The Proposed Actions would affect an area that is located in the Steinway neighborhood of Queens Community District 1 that is bound by 21st Street to the northwest, 23 Terrace to the northeast, 24th Avenue to the southwest and 23rd Street to the southeast. This area includes Block 876, Lots 12, 14, 7501, and Block 874, Lots 68, 168, 268, 69, 169, 269, 70 and 167, and is referred to as the "Project Area". The approval of the Proposed Actions would facilitate development in the Project Area. With the approval of the Proposed Actions, the Applicant intends to develop two mixed-use buildings. Block 876, Lots 12 and 14 are controlled by the Applicant and is referred to in this EAS as "Projected Development Site 1". The development on Projected Development Site 1 would be a 68,811 gsf (55,802 zsf) mixed-use building with 53,829 gsf (48,943 zsf) of residential floor area (55 units) and 6,859 gsf (6,859 zsf) of commercial floor area (3.58 Total FAR). This development would also include 8,123 gsf of cellar space (accessory uses). Block 874, Lot 70 is also controlled by the Applicant and is referred to in this EAS as "Projected Development Site 2". The development on Projected Development Site 2 would be a 60,570 gsf (43,341 zsf) mixed-use building with 41,480 gsf (35,344 zsf) of residential floor area (39 units) and 7,997 gsf (7,997 zsf) of commercial floor area (3.29 Total FAR). This development would also include 11,093 gsf of cellar space (accessory uses). These developments are referred to in this EAS as the "Proposed Developments". The Applicant does not own Block 876, Lot 7501, and Block 874, Lots 68, 168, 268, 69, 169, 269, and 167, although these lots are within the Project Area. No development is expected to occur on these lots.

Project Location

BOROUGH Queens	COMMUNITY DISTRICT(S) 1	STREET ADDRESS 21st Avenue between 21st Street and 23rd Street
TAX BLOCK(S) AND LOT(S) Block 876, Lots 12, 14, 7501, and Block 874, Lots 68, 168, 268, 69, 169, 269, 70 and 167		ZIP CODE 11102

DESCRIPTION OF PROPERTY BY BOUNDING OR CROSS STREETS 21st Street to the northwest, 23 Terrace to the northeast, 24th Avenue to the southwest and 23rd Street to the southeast.

EXISTING ZONING DISTRICT, INCLUDING SPECIAL ZONING DISTRICT DESIGNATION, IF ANY R5D/C1-3 and R5B

ZONING SECTIONAL MAP NUMBER 9a

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

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

- ☐ CITY MAP AMENDMENT
- ☒ ZONING MAP AMENDMENT
- ☒ ZONING TEXT AMENDMENT
- ☐ SITE SELECTION—PUBLIC FACILITY
- ☐ HOUSING PLAN & PROJECT
- ☐ SPECIAL PERMIT (if appropriate, specify type: ☐ modification; ☐ renewal; ☐ other); EXPIRATION DATE:

SPECIFY AFFECTED SECTIONS OF THE ZONING RESOLUTION

- ☐ ZONING CERTIFICATION
- ☐ ZONING AUTHORIZATION
- ☐ ACQUISITION—REAL PROPERTY
- ☐ DISPOSITION—REAL PROPERTY
- ☐ OTHER, explain:

- ☐ CONCESSION
- ☐ UDAAP
- ☐ REVOCABLE CONSENT
- ☐ FRANCHISE

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

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

SPECIFY AFFECTED SECTIONS OF THE ZONING RESOLUTION

***Department of Environmental Protection*:** ☐ YES ☒ NO ☐ Cogeneration Facility ☐ Title V Permit

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

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

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

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

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

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

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

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

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

Physical Setting (both developed and undeveloped areas)

Total directly affected area (sq. ft.): 48,082

Roads, buildings, and other paved surfaces (sq. ft.): 0

Waterbody area (sq. ft) and type: 0

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): 129,381

NUMBER OF BUILDINGS: 2

HEIGHT OF EACH BUILDING (ft.): 85; 75

GROSS FLOOR AREA OF EACH BUILDING (sq. ft.): 68,811; 60,570

NUMBER OF STORIES OF EACH BUILDING: 8; 7

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: 28,671

The total square feet not owned or controlled by the applicant: 19,411

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: 28,671 sq. ft. (width x length)

VOLUME OF DISTURBANCE: 286,710 cubic ft. (width x length x depth)

AREA OF PERMANENT DISTURBANCE: 28,671 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.)	95,309	14,856	0	0
Type (*e.g.,* retail, office, school)	94 units			

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

If "yes," please specify: NUMBER OF ADDITIONAL RESIDENTS: +217 NUMBER OF ADDITIONAL WORKERS: -10

Provide a brief explanation of how these numbers were determined: Residential population is calculated based on 2.3 persons per household in the Steinway Neighborhood Tabulation Area per 2020 Census data. Worker estimate is caculated based on NYDCP factors of 1 worker per 25 dwelling units; 1 worker per 250 gsf of office space; 1 worker per 333.3 gsf of community facility or retail space; and 1 worker per 1,000 gsf of industrial space.

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): 2027

ANTICIPATED PERIOD OF CONSTRUCTION IN MONTHS: 22

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

BRIEFLY DESCRIBE PHASES AND CONSTRUCTION SCHEDULE:

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

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

Part II: TECHNICAL ANALYSIS

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

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

	YES	NO
1. *LAND USE, ZONING, AND PUBLIC POLICY*: CEQR Technical Manual Chapter 4		
(a) Would the proposed project result in a change in land use different from surrounding land uses?	☐	☒
(b) Would the proposed project result in a change in zoning different from surrounding zoning?	☒	☐
(c) Is there the potential to affect an applicable public policy?	☒	☐
(d) If "yes," to (a), (b), and/or (c), complete a preliminary assessment and attach. see attached		
(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		
○ **Early Childhood Programs:** 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)	☐	☒
○ **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)	☐	☒
○ **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)	☐	☒
○ **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 project change or eliminate existing open space?	☐	☒
(b) Would the project generate more than 200 additional residents or 500 additional employees?	☒	☐
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		

	YES	NO
(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 Protection Plan Project Tracking 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) Would the proposed project introduce new activities or processes using hazardous materials and increase the risk of human or environmental exposure?	☐	☒
(c) 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?	☐	☒
(d) 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 the Hazardous Materials Appendix (including nonconforming uses)?	☐	☒
(e) 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?	☐	☒
(f) 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)?	☐	☒
(g) 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?	☐	☒
(h) 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?	☐	☒
(i) Has a Phase I Environmental Site Assessment been performed for the site?	☒	☐
○ If "yes," were Recognized Environmental Conditions (RECs) identified? Briefly identify:	☐	☒
(j) Based on the Phase I Assessment, is a Phase II Investigation needed?	☐	☒
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?	☐	☒
(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?	☐	☒

	YES	NO
(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): 7,725 lbs/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): 15,289,002 BTUs		
(b) Would the proposed project affect the transmission or generation of energy?	☐	☒
13. *TRANSPORTATION*: CEQR Technical Manual Chapter 16		
(a) Would the proposed project exceed any threshold identified in Table 16-1 in Chapter 16?	☐	☒
(b) If "yes," conduct the screening analyses, attach appropriate back up data as needed for each stage and answer the following questions:		
○ Would the proposed project result in 50 or more Passenger Car Equivalents (PCEs) per project peak hour?	☐	☒
If "yes," would the proposed project result in 50 or more vehicle trips per project peak hour at any given intersection? ***It should be noted that the lead agency may require further analysis of intersections of concern even when a project generates fewer than 50 vehicles in the peak hour. See Subsection 313 of Chapter 16 for more information.*	☐	☐
○ Would the proposed project result in more than 200 subway/rail, bus trips, or 50 Citywide Ferry Service ferry 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), 200 subway/rail trips per station or line, or 25 or more Citywide Ferry Service ferry trips on a single route (in one direction), or 50 or more passengers at a Citywide Ferry Service landing?	☐	☐
○ 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, or Citywide Ferry Service landing?	☐	☐
14. *AIR QUALITY*: CEQR Technical Manual Chapter 17		
(a) *Mobile Sources*: Would the proposed project result in the conditions outlined in Section 210 in Chapter 17?	☐	☒
(b) *Stationary Sources*: Would the proposed project result in the conditions outlined in Section 220 in Chapter 17?	☒	☐
○ If "yes," would the proposed project exceed the thresholds in Figure 17-3, Stationary Source Screen Graph in Chapter 17? (Attach graph as needed)	☐	☒
(c) Does the proposed project involve multiple buildings on the project site?	☒	☐
(d) Does the proposed project require federal approvals, support, licensing, or permits subject to conformity requirements?	☐	☒
(e) Does the proposed project site have existing institutional controls (*e.g.*, (E) designation or Restrictive Declaration) relating to air quality that preclude the potential for significant adverse impacts?	☐	☒
15. *GREENHOUSE GAS EMISSIONS*: CEQR Technical Manual Chapter 18		
(a) Is the proposed project a city capital project or a power generation plant?	☐	☒
(b) Would the proposed project fundamentally change the City's solid waste management system?	☐	☒
(c) If "yes" to any of the above, would the project require a GHG emissions assessment based on the guidance in Chapter 18?	☐	☐
16. *NOISE*: CEQR Technical Manual Chapter 19		
(a) Would the proposed project generate or reroute vehicular traffic?	☒	☐
(b) Would the proposed project introduce new or additional receptors (see Section 114 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?	☐	☒
17. *PUBLIC HEALTH*: CEQR Technical Manual Chapter 20		

	YES	NO
(a) Based upon the analyses conducted, do any of the following technical areas require a detailed analysis: Air Quality; Hazardous Materials; Noise?	☐	☒
(b) If "yes," explain why an assessment of public health is or is not warranted based on the guidance in Chapter 20, "Public Health." Attach a preliminary analysis, if necessary.		
18. *NEIGHBORHOOD CHARACTER*: CEQR Technical Manual Chapter 21		
(a) Based upon the analyses conducted, do any of the following technical areas require a detailed analysis: Land Use, Zoning, and Public Policy; Socioeconomic Conditions; Open Space; Historic and Cultural Resources; Urban Design and Visual Resources; Shadows; Transportation; Noise?	☒	☐
(b) If "yes," explain why an assessment of neighborhood character is or is not warranted based on the guidance in Chapter 21, "Neighborhood Character." Attach a preliminary analysis, if necessary. The EAS does not identify any significant adverse impacts to Land Use, Zoning, and Public Policy; Socioeconomic Conditions; Open Space; Historic and Cultural Resources; Urban Design and Visual Resources; Shadows; Transportation; or Noise.		
19. *CONSTRUCTION*: CEQR Technical Manual Chapter 22		
(a) Would the project's construction activities involve:		
○ Construction activities lasting longer than two years?	☐	☒
○ Construction activities within a Central Business District or along an arterial highway or major thoroughfare?	☐	☒
○ Closing, narrowing, or otherwise impeding traffic, transit, or pedestrian elements (roadways, parking spaces, bicycle routes, sidewalks, crosswalks, corners, *etc.*)?	☐	☒
○ Construction of multiple buildings where there is a potential for on-site receptors on buildings completed before the final build-out?	☐	☒
○ The operation of several pieces of diesel equipment in a single location at peak construction?	☐	☒
○ Closure of a community facility or disruption in its services?	☐	☒
○ Activities within 400 feet of a historic or cultural resource?	☐	☒
○ Disturbance of a site containing or adjacent to a site containing natural resources?	☐	☒
○ Construction on multiple development sites in the same geographic area, such that there is the potential for several construction timelines to overlap or last for more than two years overall?	☐	☒
(b) If any boxes are checked "yes," explain why a preliminary construction assessment is or is not warranted based on the guidance in Chapter 22, "Construction." It should be noted that the nature and extent of any commitment to use the Best Available Technology for construction equipment or Best Management Practices for construction activities should be considered when making this determination. The buildings on Projected Development sites 1 and 2 would be constructed simultaneously over a 22 month construction. There is no potential for on-site receptors on buildings completed before the final build-out.		

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
Raya DerBedrossian, Environmental Studies Corp.	3/26/24

SIGNATURE

Raya DerBedrossian

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

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

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

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

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

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

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

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

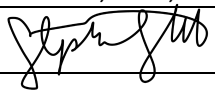
☐ **Positive Declaration**: If the lead agency has determined that the project may have a significant impact on the environment, and if a Conditional Negative Declaration is not appropriate, then the lead agency issues a *Positive Declaration* and prepares a draft Scope of Work for the Environmental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

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

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

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

TITLE	LEAD AGENCY
Director, Environmental Assessment and Review Division	Department of City Planning on behalf of the City Planning Commission
NAME	DATE
Stephanie Shellooe, AICP, Director	March 29, 2024

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, Astoria Park Warehouse LLC, is seeking a Zoning Map Amendment to rezone from R5B and R5D/C1-3 districts to an R6A/C1-4 zoning districts and a Zoning Text Amendment to Appendix F of the Zoning Resolution to map Mandatory Inclusionary Housing (MIH) (the "Proposed Actions") at Block 874, Lots 68, 69, 70, 167, 168, 169, 268, 269 and Block 876, Lots 12, 14, 7501 (the "Project Area") in the Astoria neighborhood, Community District 1, Queens. The Proposed Actions are projected to result in two mixed-use buildings on Projected Development Sites 1 and 2. Projected Development Site 1 (Block 876, Lots 12 and 14) would result in a 68,811 gross square foot (gsf) eight-story building (85 feet tall) with ground floor commercial (local retail) uses and 55 residential units (including 13-17 affordable units pursuant to MIH) and 23 parking spaces. Projected Development Site 2 (Block 874, Lot 70) would result in a 60,570 gsf seven-story building (75 feet tall) with ground floor commercial (local retail) uses and 39 residential units (including 10-12 affordable units pursuant to MIH) and 18 parking spaces. The Proposed Actions would result in a change in zoning, land use, and public policy, however the proposed change in land use and zoning would be compatible with the existing residential and commercial uses of the Project Area, and the surrounding Study Area. Therefore, the Proposed Actions would not result in a significant adverse impact to land use, zoning or public policy, and no further analysis is required.

Open Space

A detailed analysis related to open space is included in this EAS. In the quantitative analysis in the Future With-Action condition, the open space ratio would be 2.256 acres per 1,000 residents, which represents a .0616% decrease compared to that in the No-Action condition. This percentage change is below the 5% percentage change impact threshold defined by the CEQR Technical Manual. The qualitative assessment indicates that the area is well served by open space resources, and in located in a Walk-To-A-Park Service Area. As a result of the analysis, the Proposed Actions would not result in a significant adverse impact to open space, and no further analysis is required.

Shadows

A detailed analysis related to shadows is included in this EAS. The proposed development on Projected Development Site 2 is expected to cast shadows on Sitting Area. The shadows created by this building would cover about 2% of the open space for five minutes in the early morning of the June 21st analysis day. Although shadows would be cast on trees within the open space, the incremental shadow will be on such a small area for such a short duration, leaving more than 8 hours of sunlight a day. The shadows generated by the Proposed Actions will not affect the trees within the open space to such an extent that they affect public use and enjoyment of Sitting Area. By 6:02 AM, there are no portions of the open space receiving project-generated shadows. As a result of the detailed analysis, the Proposed Actions would not result in a significant adverse shadows impact, and no further analysis is required.

Urban Design and Visual Resources

A detailed analysis related to urban design and visual resources is included in this EAS. The Proposed Actions would create additional density and allow a greater maximum height in an area along a commercial corridor, however the Projected Developments would not significantly change the pedestrian experience or affect the visual character of the area. The Proposed Actions would not affect any natural resources or public view corridors to notable features or buildings in the immediate vicinity of the Rezoning Area. Accordingly, no impacts to the urban design and/or visual resources of the area are expected.

Hazardous Materials, Air Quality, and Noise

An (E) designation (E-762) related to hazardous materials, air quality, and noise would be established as part of the approval of the proposed actions. Refer to "Determination of Significance Appendix: (E) designation" for the applicable (E) designation requirements. The hazardous materials, air quality, and noise analyses conclude that with the (E) designation in place, the proposed actions would not result in a significant adverse impact related to hazardous materials, air quality, or noise.

No other significant effects upon the environment that would require the preparation of a Draft Environmental Impact Statement are foreseeable. This Negative Declaration has been prepared in accordance with Article 8 of the New York State Environmental Conservation Law (SEQRA). Should you have any questions pertaining to this Negative Declaration, you may contact Louise Cafiero at lcafiero@planning.nyc.gov.

TITLE	LEAD AGENCY
Director, Environmental Assessment and Review Division	Department of City Planning on behalf of the City Planning Commission 120 Broadway, 31st Fl. New York, NY 10271 | 212.720.3328
NAME Stephanie Shellooe, AICP	DATE 3/29/2024
SIGNATURE	

Project Name: 21st Street Rezoning
CEQR # 24DCP027Q
SEQRA Classification: Unlisted

TITLE Chair, City Planning Commission	
NAME Daniel R. Garodnick	DATE 4/1/2024
SIGNATURE	

Project Name: 21st Street Rezoning
CEQR # 24DCP027Q
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	Queens	Block 876, Lots 12 and 14
Projected Development Site 2	Queens	Block 874, Lot 70

(E) Designation Requirements

To ensure that the proposed actions would not result in significant adverse impacts related to hazardous materials, air quality, and noise an (E) designation (**E-762**) would be established as part of approval of the proposed actions on **Projected Development Sites 1 and 2** as described below:

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

Hazardous Materials

The (E) designation requirements applicable to **Projected Development Site 1 and 2** 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: 21st Street Rezoning
CEQR # 24DCP027Q
SEQRA Classification: Unlisted

Air Quality

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

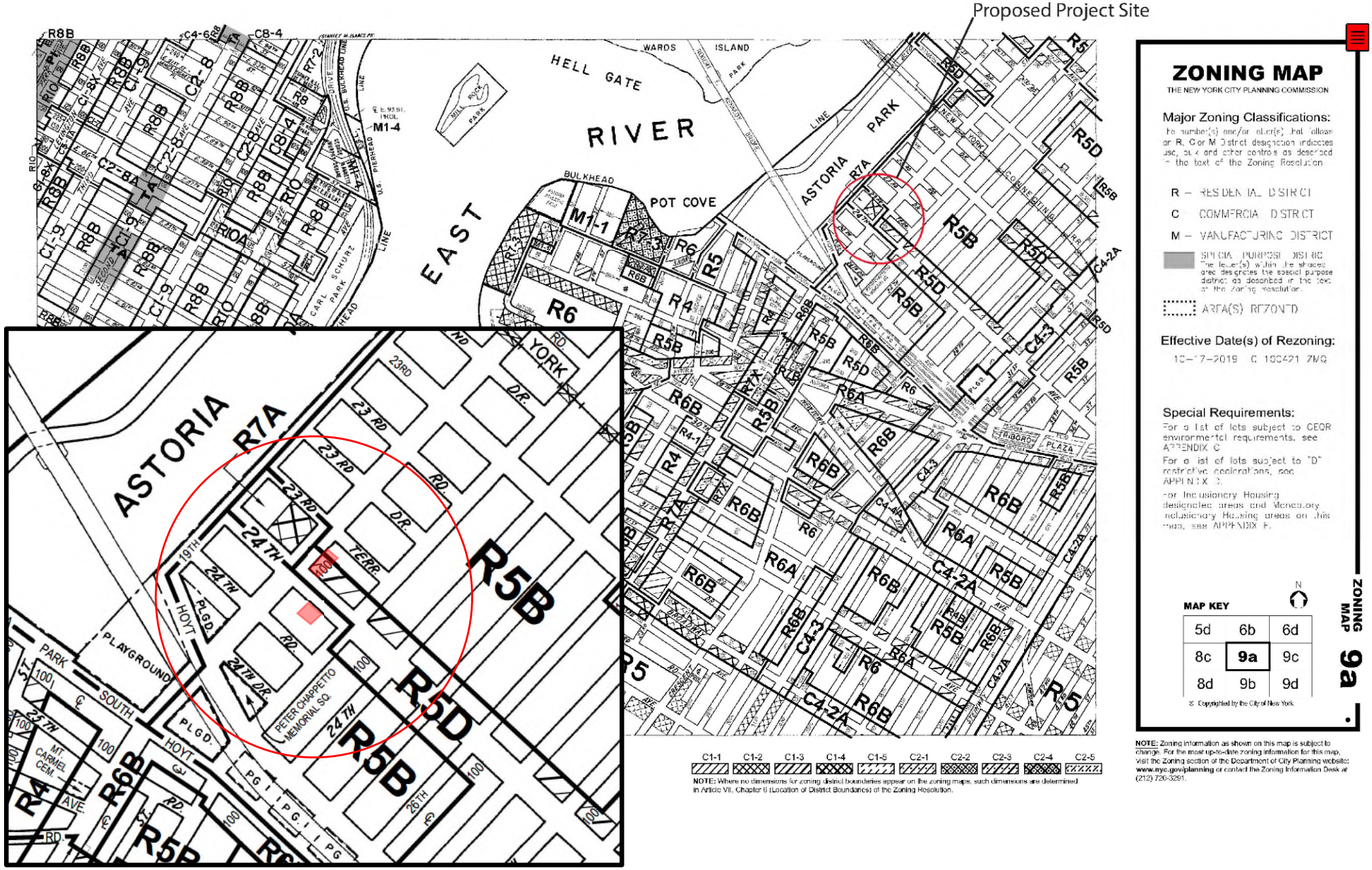
> ***Projected Development Site 1 (Block 876, Lots 12, and 14):*** *Any new residential or commercial development on the above-referenced property must exclusively use natural gas as the type of fuel for heating, ventilating and air conditioning (HVAC) system and hot water equipment and ensure that the HVAC system and hot water equipment stack is located at the building's highest level and at a minimum of 88 feet above grade to avoid any potential significant adverse air quality impacts.*
>
> ***Projected Development Site 2 (Block 874, Lot 70):*** *Any new residential or commercial development on the above-referenced property must exclusively use natural gas as the type of fuel for heating, ventilating and air conditioning (HVAC) system and hot water equipment and ensure that the HVAC system and hot water equipment stack is located at the building's highest level and at a minimum of 78 feet above grade to avoid any potential significant adverse air quality impacts.*

Noise

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

> ***Projected Development Site 1 (Block 876, Lots 12, and 14):*** *In order to ensure an acceptable interior noise environment, future residential/community facility uses must provide a closed-window condition with a minimum of 28 dBA window/wall attenuation on the façade facing 21st Street in order to ensure interior level not greater than 45 dBA for residential and community facility uses. To maintain a closed-window condition, an alternate means of ventilation must also be provided, Alternate means of ventilation includes, but is not limited to, central air conditioning.*

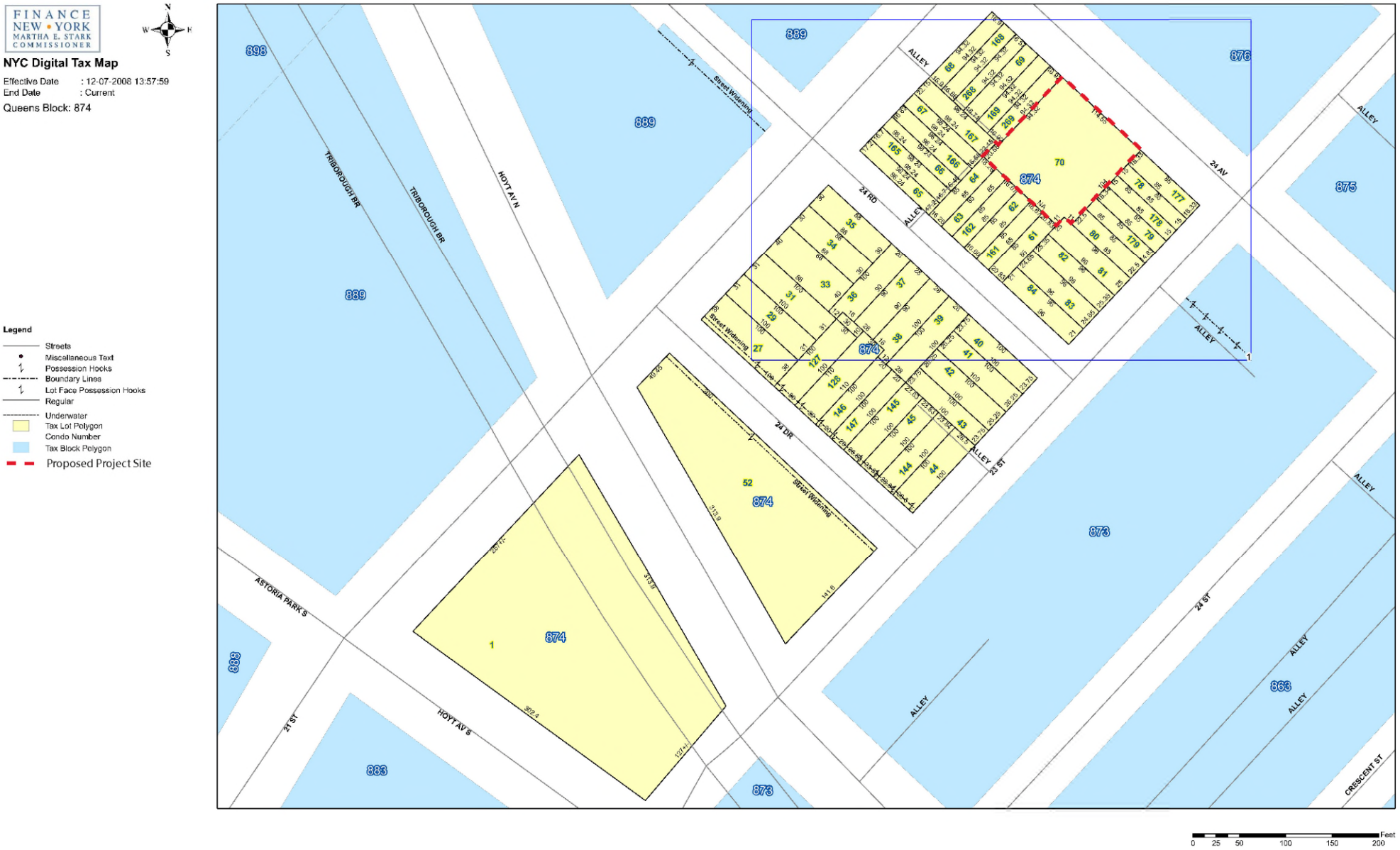
Zoning Map


Proposed Project Site
HELL GATE
RIVER
EAST
WARDS ISLAND
POT COVE
BULKHEAD
ASTORIA
R7A
R5B
R5D
R6
R6B
R6A
R5
R4
M1-1
M1-4
C4-2A
C4-3
C4-2A
23RD RD
YORK DR.
24TH RD
24TH DR.
19TH
HOYT
PLGD.
PLAYGROUND
PARK
SOUTH
PETER CHAPPETTO MEMORIAL SQ.
MT. CARMEL CEM.
TRIBORO PLAZA
ZONING MAP
ZONING MAP
9a
MAP KEY
5d 6b 6d
8c 9a 9c
8d 9b 9d
C1-1 C1-2 C1-3 C1-4 C1-5 C2-1 C2-2 C2-3 C2-4 C2-5
NOTE: Where no dimensions for zoning district boundaries appear on the zoning maps, such dimensions are determined in Article VII, Chapter 6 (Location of District Boundaries) of the Zoning Resolution.
NOTE: Zoning information as shown on this map is subject to change. For the most up-to-date zoning information for this map, visit the Zoning section of the Department of City Planning website: www.nyc.gov/planning or contact the Zoning Information Desk at (212) 720-3291.

Tax Map - Development Site 1



Tax Map - Development Site 2



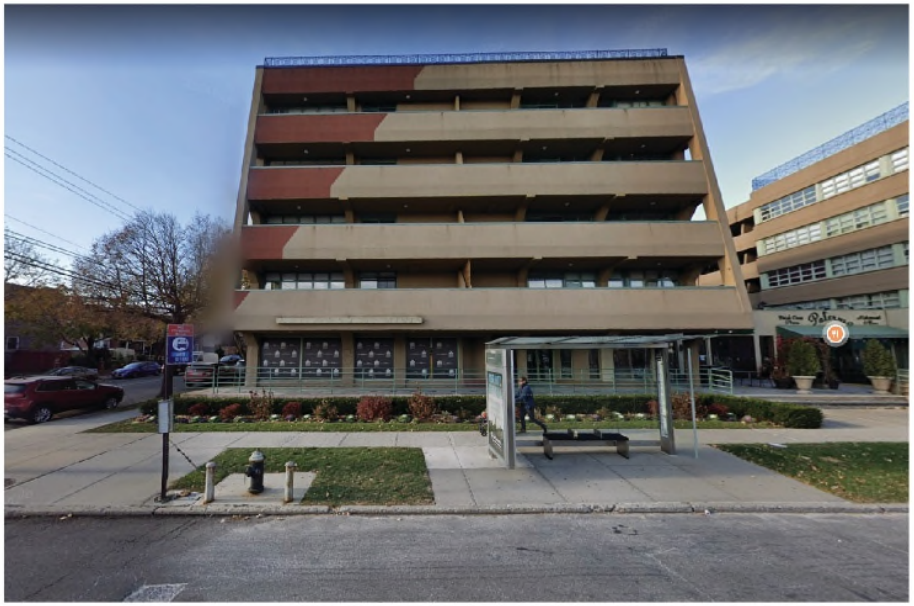
Photographs



1. Facing east towards project site on 21st St.



2. Facing south with project site to the left on 21st St.



3. Facing west with project site behind on 21st St.



4. Facing north with project site to the right on 21st St.

Photographs



5. Facing east with project site the left on the intersection of 24th Ave and 21st St.



6. Facing south with project site ahead on 24th Ave.



7. Facing west with project site ahead to the left on 24th Ave.

21st Street Rezoning, Queens

Area Map

Block: 874, Lots: 68, 69, 70 (p/o), 167 (p/o), 168, 169, 268 & 269

Block: 876, Lots: 12, 14 & 15

Project Information

- 600' Radius
- Projected Development Site
- Area Proposed to be Rezoned

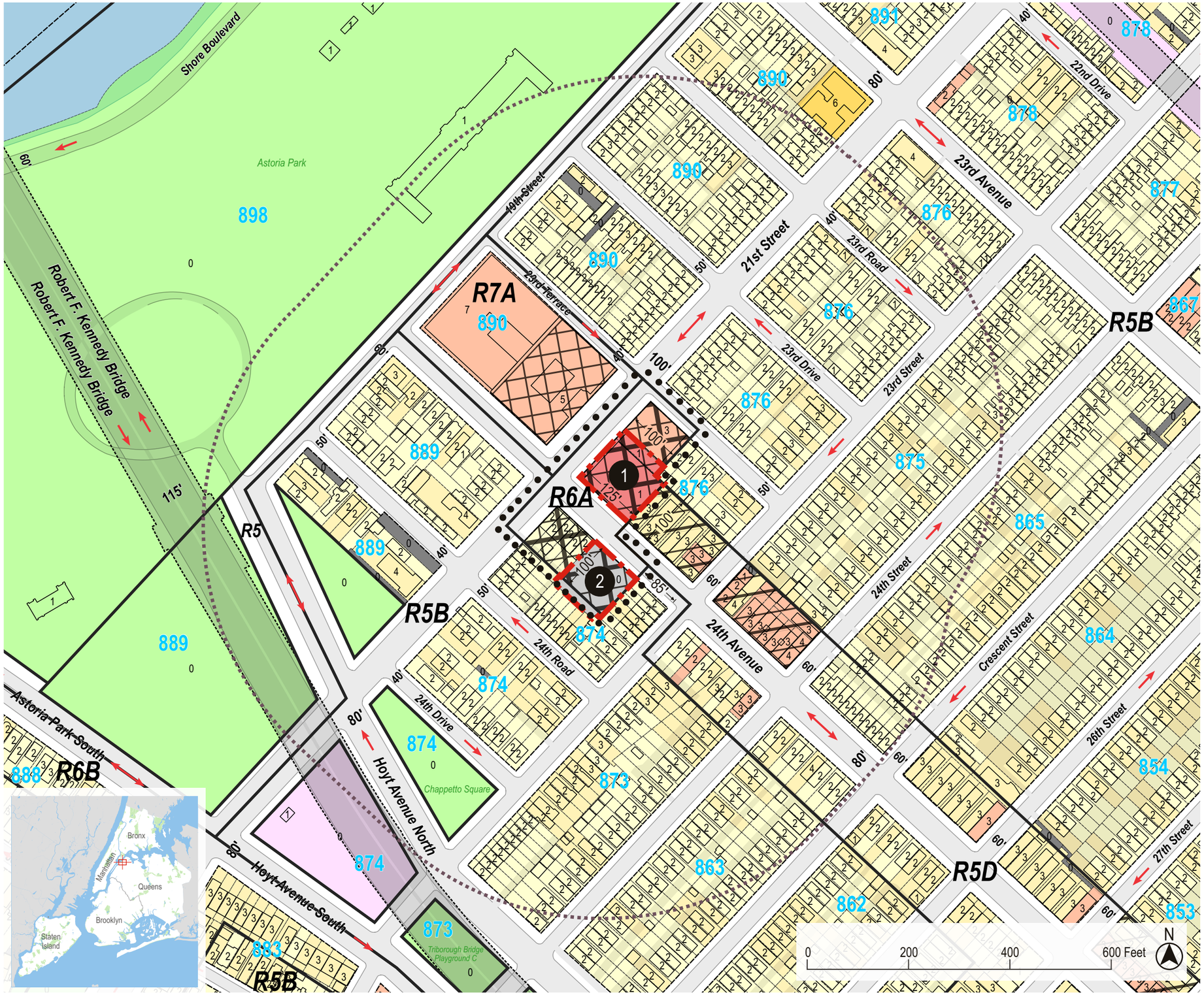
Existing Commercial Overlays & Zoning Districts

C1-1	C2-1	Zoning Districts	
C1-2	C2-2	Special Districts	
C1-3	C2-3		
C1-4	C2-4		
C1-5	C2-5		

- Elevated Rail Structure / Roadway Overpass
- 5037 Block Numbers
- Property Lines
- 5 Number of Floors

Land Uses

- One & Two Family Residential Buildings
- Multi-Family Residential Buildings (Walk-up)
- Multi-Family Residential Buildings (Elevator)
- Mixed Residential & Commercial Buildings
- Commercial/Office Buildings
- Industrial/Manufacturing
- Transportation/Utility
- Public Facilities & Institutions
- Open Space
- Parking Facilities
- Vacant Land
- No Data/Other



October 2022

Urban Cartographics

21st Street Rezoning, Queens

Land Use Map



Data Source: MapPLUTO 2023v1

Urban Cartographics

Section II - Project Description

Project Description

Introduction

Astoria Park Warehouse LLC ("The Applicant") is applying for land use actions from the City Planning Commission. The Applicant seeks a zoning map amendment and a zoning text amendment. The zoning map amendment would rezone an existing R5D/C1-3 and R5B district to a R6A/C1-4 district. The zoning text amendment is pursuant to Appendix F and would establish a Mandatory Inclusionary Housing ("MIH") Area coterminous to the area being rezoned, with both Options 1 and 2 being mapped. Together these two actions are referred to in this EAS as the "**Proposed Actions**". The Proposed Actions would affect an area that is located in the Steinway neighborhood of Queens Community District 1 that is bound by 21st Street to the northwest, 23 Terrace to the northeast, 24th Avenue to the southwest and 23rd Street to the southeast. This area includes Block 876, Lots 12, 14, 7501, and Block 874, Lots 68, 168, 268, 69, 169, 269, 70 and 167, and is referred to as the "**Project Area**". The approval of the Proposed Actions would facilitate development in the Project Area. With the approval of the Proposed Actions, the Applicant intends to develop two mixed-use buildings. Block 876, Lots 12 and 14 are controlled by the Applicant and is referred to in this EAS as "**Projected Development Site 1**". The development on Projected Development Site 1 would be a 68,811 gsf (55,802 zsf) mixed-use building with 53,829 gsf (48,943 zsf) of residential floor area (55 units) and 6,859 gsf (6,859 zsf) of commercial floor area (3.59 Total FAR). This development would also include 8,123 gsf of cellar space (accessory uses). Block 874, Lot 70 is also controlled by the Applicant and is referred to in this EAS as "**Projected Development Site 2**". The development on Projected Development Site 2 would be a 60,570 gsf (43,341 zsf) mixed-use building with 41,480 gsf (35,344 zsf) of residential floor area (39 units) and 7,997 gsf (7,997 zsf) of commercial floor area (3.29 Total FAR). This development would also include 11,093 gsf of cellar space (accessory uses). These developments are referred to in this EAS as the "**Proposed Developments**". The Applicant does not own Block 876, Lot 7501, and Block 874, Lots 68, 168, 268, 69, 169, 269, and 167, although these lots are within the Project Area. No development is expected to occur on these lots as a result of the Proposed Action.

The NYC Department of City Planning is proposing a citywide zoning text amendment, the City of Yes for Housing Opportunity "CHO" (CEQR No. 24DCP033Y) to expand opportunities for housing within all zoning districts, and across all 59 of the City's Community Districts. These changes to the City's Zoning Resolution would enable more housing and a wider variety of housing types in every neighborhood, from the lowest-density districts to the highest, to address the housing shortage and high cost of housing in New York City. It is anticipated that this proposed zoning text amendment would be

referred into public review in Spring 2024. Given that this project may be affected by the proposals included in the text amendment, a technical memorandum has been included in Appendix C that assesses whether the conclusion of the environmental review would by altered by CHO.

Purpose and Need

The Proposed Actions are needed to facilitate the Proposed Development on Projected Development Sites 1 and 2 (described above). The Project Area contains retail stores, low-density residential buildings, and an unlicensed parking lot. The R5D/C1-3 and R5B zoning on the Project Area allows for low density residential uses and some commercial space, but the area is largely underutilized. The goal is to increase the permitted density to allow for the much-needed development of new market-rate and permanently income-restricted housing units.

The Proposed Actions align with the nearby city sponsored Astoria Rezoning which was adopted on May 25, 2010. The rezoning aimed to preserve the existing scale and character of the area while allowing for a modest increase in residential and commercial density in appropriate limited locations.

Reasonable Worst-Case Development Scenario (RWCDS)

Discretionary actions sometimes permit a range of project characteristics, or development scenarios, to occur even though the action may be sought in order to facilitate a specific development. From the range of possible scenarios that are considered reasonable and likely, the scenario with the worst environmental consequences is chosen to present a conservative analysis. This development scenario is considered to be the Reasonable Worst-Case Development Scenario (RWCDS). By analyzing the potential for adverse impacts of the RWCDS the EAS ensures that, regardless of which scenario occurs, its impacts would be no worse than those considered in the environmental review. The EAS analyzes the incremental differences between the future with approval of the Proposed Actions (where the RWCDS occurs), the "With-Action condition" and the future without the approval of the Proposed Actions (where the RWCDS does not occur), the "No-Action condition"

The With-Action scenario used for analysis in this EAS, and described in detail below, is the same as the Applicant's Proposed Developments. The Applicant's Proposed Developments would reach the upper bounds of permitted FAR (3.58 and 3.31 FAR) under the proposed R6A/C1-4 zoning district. The Proposed Developments would also substantially reach the maximum permitted building height and available bulk. Therefore, the Proposed Development is assumed to be the same as the With-Action scenario.

Analysis Year

Based on an estimated duration of six months for the pre-certification process, a seven-month Uniform Land Use Review Procedure (ULURP) and a 22-month construction period, the proposed development is expected to be complete in 2027. The Build Year, or Analysis Year, used in this EAS reflects the date when all development expected to occur with the approval of the Proposed Actions is completed and occupied. The Build Year, or Analysis Year, used in this EAS is 2027.

Development Sites

As discussed above, the Proposed Actions would affect all of the lots within the Project Area. The Project Area includes Queens Block 876, Lots 12, 14, 7501, and Block 874, Lots 68, 168, 268, 69, 169, 269, 70 and 167. Block 876, Lot 7501, and Block 874, Lots 68, 168, 268, 69, 169, 269, and 167 are not controlled by the applicant but will be affected by the Proposed Actions. However, development is not expected to occur on the non-applicant controlled lots because the Proposed Actions would not increase the development potential of these lots by more than 50% (a criteria for establishing soft sites presented in the CEQR TM). Given the difficulty of assembling these sites under common ownership, it is unlikely that any new development would occur on these sites. Projected Development Site 1 includes Block 876, Lots 12 and 14. Projected Development Site 2 includes Block 874, Lot 70.

Existing Conditions

As discussed above the Project Area includes Queens Block 876, Lots 12, 14, 7501, and Block 874, Lots 68, 168, 268, 69, 169, 269, 70 and 167. All of the lots in the Project Area are currently occupied by structures, besides Block 874, Lot 70, which is occupied by an unlicensed parking lot. The Project Area is bound by 21st Street to the northwest, 23 Terrace to the northeast, 24th Avenue to the southwest and 23rd Street to the southeast.

Block 876, Lot 12 is currently occupied by a 14,600 gross square feet (gsf) retail building on a 12,971 sq. ft. lot.

Block 876, Lot 14 is currently occupied by a 5,188 gross square feet (gsf) retail building on a 2,594 sq. ft. lot.

Block 876, Lot 7501 is currently occupied by a 20,776 gross square feet (gsf) 3-story residential building on a 7,767 sq. ft. lot.

Block 874, Lot 68 is currently occupied by a 1,600 gross square feet (gsf) residential building on a 1,596 sq. ft. lot.

Block 874, Lot 168 is currently occupied by a 1,600 gross square feet (gsf) residential building on a 1,572 sq. ft. lot.

Block 874, Lot 268 is currently occupied by a 1,600 gross square feet (gsf) residential building on a 1,564 sq. ft. lot.

Block 874, Lot 69 is currently occupied by a 1,600 gross square feet (gsf) residential building on a 1,596 sq. ft. lot.

Block 874, Lot 169 is currently occupied by a 1,600 gross square feet (gsf) residential building on a 1,572 sq. ft. lot.

Block 874, Lot 269 is currently occupied by a 1,600 gross square feet (gsf) residential building on a 1,588 sq. ft. lot.

Block 874, Lot 70 is currently occupied by an unlicensed parking lot on a 13,106 sq. ft. lot.

Block 874, Lot 167 is currently occupied by a 1,700 gross square feet (gsf) residential building on a 2,156 sq. ft. lot.

This information is summarized in **Table 1-Applicant Owned Properties** and **Table 2 - Non-Applicant Owned Properties** below.

Table 1 - Applicant Owned Properties

Block	Lot	Projected Development Site	Lot Area (sf)	Land Use	# of Floors	Gross FA (sf)	Res. Floor Area	Com. Floor Area	Manu-Indust. Floor Area	Res. Unit	FAR
876	12	1	12,971	Commercial	1	14,600	0	14,600	0	0	1.12
876	14	1	2,594	Commercial	1	5,188	0	5,188	0	0	2.00
874	70	2	13,106	Vacant	0	0	0	0	0	0	0.00

Table 2 – Non-Applicant Owned Properties

Block	Lot	Projected Development Site	Lot Area (sf)	Land Use	# of Floors	Gross FA (sf)	Res. Floor Area	Com. Floor Area	Manu-Indust. Floor Area	Res. Unit	FAR
876	7501	N/A	7,767	Residential	3	20,776	20,776	0	0	11	1.86

874	68	N/A	1,596	Residential	2	1,600	1,600	0	0	2	1.00
874	168	N/A	1,572	Residential	2	1,600	1,600	0	0	2	1.00
874	268	N/A	1,564	Residential	2	1,600	1,600	0	0	2	1.00
874	69	N/A	1,596	Residential	2	1,600	1,600	0	0	2	1.00
874	169	N/A	1,572	Residential	2	1,600	1,600	0	0	2	1.00
874	269	N/A	1,588	Residential	2	1,600	1,600	0	0	2	1.00
874	167	N/A	2,156	Residential	2	1,700	1,700	0	0	2	0.79

Future No Action

In the future No-Action condition, no development would occur anywhere in the Project Area, and will remain the same as the Existing Conditions. The buildings on Block 876, Lots 12 and 14 are currently vacant. For the purposes of this analysis, we assume that the building is reoccupied in the future no-action scenario.

The existing R5D/C1-3 and R5B zoning does not allow for enough additional FAR to warrant replacing the existing structures and uses on the non-applicant owned sites. Block 876, Lot 15 does not have the same owner as the adjacent lots and was redeveloped in 2018, too recently to assume redevelopment. Block 874, Lots 68, 168, 268, 69, 169, 269, and 167 are small lots of less than 2,200 square feet in size. These lots are occupied by single- and two-family homes, each under separate ownership. Given the difficulty of assembling these sites under common ownership, it is unlikely that any new development would occur on these sites.

Future With-Action

As discussed above, for the purposes of presenting a conservative analysis the With-Action scenario discussed below is used in the technical analysis sections presented in this EAS, and is the same as the Proposed Development by the Applicant. The Applicant's Proposed Developments would reach the upper bounds of permitted FAR (3.58 and 3.31 FAR) under the proposed R6A/C1-4 zoning district. The Proposed Developments would also substantially reach the maximum permitted building height and available bulk.

With the approval of the Proposed Actions, the RWCDS projects the development of a mixed-use building on **Projected Development Site 1**. Projected Development Site 1 is a 68,811 gsf eight-story building (85 ft tall) with ground floor commercial (local retail) uses and 55 residential units would be developed on the Project Site. The building would have a total FAR of 3.59 (0.44 Commercial and 3.14 Residential). Projected Development Site 1 would include 6,859 gsf of commercial floor area (local retail uses) located on the ground floor and 53,829 gsf of residential area (55 Dwelling Units) on the 2nd through 8th floors. Of the 55 Dwelling Units, up to 17 would be affordable pursuant to MIH. Both MIH Options 1 and 2 would be mapped on the Project Area as part of the Proposed Actions.

The final compliance with MIH would be determined through the ULURP process. This site would also include 8,050 square feet of parking space (23 spaces).

With the approval of the Proposed Actions, the RWCDS projects the development of a mixed-use building on **Projected Development Site 2**. Projected Development Site 2 is a 60,570 gsf seven-story building (75 ft tall) with ground floor commercial (local retail) uses and 39 residential units would be developed on the Project Site. The building would have a total FAR of 3.29 (0.61 Commercial and 2.68 Residential). Projected Development Site 2 would include 7,997 gsf of commercial floor area (local retail uses) located on the ground floor and 41,480 gsf of residential area (39 Dwelling Units) on the 2nd through 7th floors. Of the 39 Dwelling Units, up to 12 would be affordable pursuant to MIH. Both MIH Options 1 and 2 would be mapped on the Project Area as part of the Proposed Actions. The final compliance with MIH would be determined through the ULURP process.
Table 4 -Analysis Framework below details the increment between the No-Action and the With-Action condition below. This increment is the subject of the analysis presented in Part III (Technical Analysis). This site would also include 6,300 square feet of parking space (18 spaces).

Description of Existing and Proposed Conditions **Part II - RWCDS Analysis Framework Table**

	EXISTING CONDITION	NO-ACTION CONDITION	WITH-ACTION CONDITION	INCREMENT
Land Use				
Residential ,	☐ Yes ☑ No	☐ Yes ☑ No	☑ Yes ☐ No	
If "yes," specify the following:				
Describe type of residential structures	N/A	N/A	mixed residential and commerical	
No. of dwelling units	0	0	94	+94
No. of low- to moderate-income units	0	0	24-29	+24-29
Gross floor area (sq. ft.)	0	0	95,309	+95,309
Commercial	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No	
If "yes," specify the following:				
Describe type (retail, office, other)	retail	retail	retail	
Gross floor area (sq. ft.)	19,788	19,788	14,856	-4,932
Manufacturing/Industrial	☐ Yes ☑ No	☐ Yes ☑ No	☐ Yes ☑ No	
If "yes," specify the following:				
Type of Use	N/A	N/A	N/A	
Gross floor area (sq. ft.)	N/A	N/A	N/A	
Open storage area (sq. ft.)	N/A	N/A	N/A	
If any enclosed activities, specify:	N/A	N/A	N/A	
Community Facility	☐ Yes ☑ No	☐ Yes ☑ No	☐ Yes ☑ No	
If "yes," specify the following:				
Type of Use	N/A	N/A	N/A	
Gross floor area (sq. ft.)	N/A	N/A	N/A	
Vacant Land	☐ Yes ☑ No	☐ Yes ☑ No	☐ Yes ☑ No	
If "yes", describe:	N/A	N/A	N/A	
Publicly Accessible Open Space	☐ Yes ☑ No	☐ Yes ☑ No	☐ Yes ☑ No	
If "yes," specify type (mapped City, State, or Federal Parkland, wetland-mapped or otherwise known, other):	N/A	N/A	N/A	
Other Land Uses	☐ Yes ☑ No	☐ Yes ☑ No	☐ Yes ☑ No	
If "yes," describe:	N/A	N/A	N/A	
Parking				
Garages	☐ Yes ☑ No	☐ Yes ☑ No	☐ Yes ☑ No	
If "yes," specify the following:				
No. of public spaces	N/A	N/A	N/A	
No. of accessory spaces	N/A	N/A	N/A	
Operating hours	N/A	N/A	N/A	
Attended or non-attended	N/A	N/A	N/A	
Lots	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No	
If "yes," specify the following:				
No. of public spaces	0	0	0	
No. of accessory spaces	40	40	41	+1
Operating hours	n/a	n/a	n/a	
Other (includes street parking)	☐ Yes ☑ No	☐ Yes ☑ No	☐ Yes ☑ No	
If "yes," describe:	N/A	N/A	N/A	
Population				

Description of Existing and Proposed Conditions **Part II - RWCDS Analysis Framework Table**

	EXISTING CONDITION	NO-ACTION CONDITION	WITH-ACTION CONDITION	INCREMENT
Residents	☐ Yes ☑ No	☐ Yes ☑ No	☑ Yes ☐ No	
If "yes," specify number:	N/A	N/A	217	+217
Briefly explain how the number of residents was calculated:	Based on 2.3 persons per household in the Steinway Neighborood Tabulation Area per 2020 Census data.			
Businesses	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No	
If "yes," specify the following:				
No. and type	2	2	2	
No. and type of workers by business	59	59	49	-10
No. and type of non-residents who are not workers	0	0	0	
Briefly explain how the number of businesses was calculated:	Observations and publicly-accessible data from NYC; worker estimates calculated based on NYDCP provides factors of 1 worker per 25 dwelling units; 1 worker per 250 gsf of office space; 1 worker per 333.3 gsf of community facility or retail space; and 1 worker per 1,000 gsf of industrial space.			
Other (students, visitors, concert-goers, *etc* .)	☐ Yes ☑ No	☐ Yes ☑ No	☐ Yes ☑ No	
If any, specify type and number:	N/A	N/A	N/A	
Briefly explain how the number was calculated:				
Zoning				
Zoning classification	R5D/C1-3 & R5B	R5D/C1-3 & R5B	R6A and R6A/C1-4	
Maximum amount of floor area that can be developed	3	3	3.58/3.31	+0.58/+0.31
Predominant land use and zoning classifications within land use study area(s) or a 400 ft. radius of proposed project	residential & commercial	residential & commercial	residential & commercial	

Attach any additional information that may be needed to describe the project.

If your project involves changes that affect one or more sites not associated with a specific development, it is generally appropriate to include total development projections in the above table and attach separate tables outlining the reasonable development scenarios for each site.

Building Heights

For assessments that consider building heights, the most conservative heights are assumed for their relevant sections with the maximum building envelope considered for assessments of Shadows and Urban Design. Air Quality (Stationary Source) analysis was conducted with a stack height of 50ft. The building heights used for the relevant technical analyses are summarized in Table 3 below.

Table 3 – Building Heights and Height Analysis Framework

Building Height			
	Air Quality	**Shadows**	**Urban Design**
Projected Development Site 1	85 Ft.	85 Ft.	85 Ft.
Projected Development Site 2	75 Ft.	75 Ft.	75 Ft.

Section III – Technical Analysis

1. **Land Use, Zoning and Public Policy (*Chapter 4*)**
2. **Open Space (*Chapter 7*)**
3. **Shadows (*Chapter 8*)**
4. **Urban Design and Visual Resources (*Chapter 10*)**
5. **Hazardous Materials (*Chapter 12*)**
6. **Air Quality *(Chapter 17)***
7. **Noise (*Chapter 19*)**

The analysis areas noted above correspond to the chapter number of the *CEQR Technical Manual.*

1. Land Use, Zoning and Public Policy

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

Land Use

Study Area

In order to assess the potential for project related impacts, the land use study area has been defined as the area located within a 400-foot radius of the site. Per the CEQR Technical Manual this is the area where land use and land use trends could be affected by the Proposed Development. This 400-foot radius is referred to as the "Study Area".

Existing Conditions

As discussed above the Project Area includes Queens Block 876, Lots 12, 14, 7501, and Block 874, Lots 68, 168, 268, 69, 169, 269, 70 and 167. These lots contain vacant commercial uses and residential use (See RWCDS - Existing Uses).

There are residential and commercial lots within the Study Area. The lots within the Study Area that have frontage on 24th Avenue contain predominantly residential uses. There are 2 vacant commercial buildings, a community facility building (daycare), and one mixed-use residential and commercial building in the study area.

The Study Area contains a range of building types. The 21st Street corridor is lined with residential buildings (condominiums and apartments), including the condominium building across the street from the Project Area that is the site of the Electric Eagle Building Rezoning of 2002. Outside of the 21st Street corridor, there are a mix of semi-detached and detached single, two, and multiple family residences. Residential buildings generally do not exceed three floors in height and are located on lots with a mixture of side and front yards. The buildings on 21st Street are also generally mid-rise with most being residential buildings. The majority of lots within the Study Area are occupied though there is an unlicensed parking lot on Block 874, Lot 70.

No-Action Condition

As discussed above, if the Proposed Actions are not approved no development is anticipated to occur within the Project Area. The lots within the Project Area are anticipated to remain in their present condition (including those lots not controlled by the Applicant). As such there would be no change to the land use pattern within the Study Area.

With-Action Condition

As discussed above, with the approval of the Proposed Actions, the RWCDS projects the development of a mixed-use building on **Projected Development Site 1**. Projected Development Site 1 is a 68,811 gsf eight-story building (85 ft tall) with ground floor commercial (local retail) uses and 55 residential units would be developed on the Project Site. The building would have a total FAR of 3.59 (0.44 Commercial and 3.14 Residential). Projected Development Site 1 would include 6,859 gsf of commercial floor area (local retail uses) located on the ground floor and 53,829 gsf of residential area (55 Dwelling Units) on the 2nd through 8th floors. Of the 55 Dwelling Units, up to 17 would be affordable pursuant to MIH. Both MIH Options 1 and 2 would be mapped on the Project Area as part of the Proposed Actions. The final compliance with MIH would be determined through the ULURP process. This site would also include 8,050 square feet of parking space (23 spaces).

Additionally, the RWCDS projects the development of a mixed-use building on **Projected Development Site 2**. Projected Development Site 2 is a 60,570 gsf seven-story building (75 ft tall) with ground floor commercial (local retail) uses and 39 residential units would be developed on the Project Site. The building would have a total FAR of 3.29 (0.61 Commercial and 2.68 Residential). Projected Development Site 2 would include 7,997 gsf of commercial floor area (local retail uses) located on the ground floor and 41,480 gsf of residential area (39 Dwelling Units) on the 2nd through 7th floors. Of the 39 Dwelling Units, up to 12 would be affordable pursuant to MIH. Both MIH Options 1 and 2 would be mapped on the Project Area as part of the Proposed Actions. The final compliance with MIH would be determined through the ULURP process. This site would also include 6,300 square feet of parking space (18 spaces).

The Proposed Actions do not introduce any land uses to the Study Area that are not already present in the existing condition. Although there are several other mixed-use buildings in the Study Area, the Proposed Action would result in the development of a building that is slightly larger than other existing mixed-use buildings. Currently there are no multifamily apartment buildings that exceed four floors within the 400ft Study Area.

Conclusion

The Proposed Actions are not anticipated to introduce land uses that are different from surrounding uses. The Proposed Actions would, however, result in a greater

concentration of residential use than is currently observed in the Study Area. The Proposed Actions would also generate new commercial retail space. The introduction of additional local retail space and residential uses are not anticipated to lead to additional land use changes in the Study Area. The Proposed Actions are not anticipated to result in significant adverse impacts to land use within the Study Area.

Zoning

Study Area

In order to assess the potential for project related impacts, the zoning study area has been defined as the area located within a 400-foot radius of the site. Per the CEQR Technical Manual this area is coterminous with the land use study area.

Existing Conditions

The Proposed Actions include a zoning map amendment and a zoning text amendment to rezone the Project Area from a R5D/C1-3 and R5B district to a R6A/C1-4 district and to map a Mandatory Inclusionary Housing (MIH) Area coterminous with the area to be rezoned. All of the lots within the Project Area are located in this R5B district, besides Block 876, Lot 12 which is in a R5D/C1-3 district. There are however several different zoning districts within the Study Area. The R5B district extends along to the northeast and southwest of the Project Area. Block 890 located across 21st Street from the Project Area is zoned R7A, with portions of the block with a C1-2 overlay. Southeast of the study area is zoned R5D, with portions of the block along 24th Avenue zoned with a C1-3 overlay. Each of these districts extends beyond the study area.

There have been two rezonings within the Study Area since the passage of the 1961 zoning resolution. The first is the Astoria Rezoning. In the Astoria Rezoning, all of the lots within the project area besides Block 874, Lot 70 were rezoned from R5/C1-2 to R5D and R5D/C1-3 effective 5/25/2010. Projected Development Site 2 (Block 874, Lot 70) was rezoned from R5 to R5B. This was done to 238 lots in the area in order to preserve the existing scale and character of the area while allowing for a modest increase in residential and commercial density in appropriate limited locations. Lots within the study area have not been rezoned since 1961, which allowed a variety of building envelopes and housing types, causing newly constructed buildings to be increasingly inconsistent with prevailing scale, density and built character. The 2010 rezoning's main goal was to preserve Astoria's scale through the mapping of contextual zoning districts to more closely reflect existing residential building types and development patterns that characterize the neighborhood on a block-by block basis.

The second rezoning in the study area was the Eagle Electric Building rezoning, effective January 30, 2002. This rezoned the blocks bounded by 19th Street, 23rd Terrace, 21st Street

and 24th Avenue from R5 to R7A. This allowed the development of a residential complex in a building that was previously a warehouse.

This project is located within the Transit Zone which includes areas where special lower accessory parking requirements apply for various types of affordable housing including income-restricted housing units, which are generally areas of the city beyond the Manhattan Core within one-half mile of a subway station where auto ownership rates are among the lowest in the city. Creation of housing in these areas is important to improve residents' access to transit.

No-Action Condition

If the Proposed Actions discussed above are not approved, no changes would occur to the zoning on the Project Area. The Project Area would continue to be zoned R5D/C1-3 and R5B. No changes are anticipated to occur within the Project Area or the surrounding Study Area within the Analysis year of 2027.

With-Action Condition

If the Proposed Actions discussed above are approved, the Project Area will be rezoned from a R5D/C1-3 and R5B district to a R6A/C1-4 district. The approval of the Proposed Actions will facilitate development on Projected Development Site 1 and Projected Development Site 2. These developments are described above (see RWCDS – With Action Scenario).

R6A w/ **C1-4 Commercial Overlay** zoning districts permit medium density mixed use buildings. The maximum floor area ratio (FAR) permitted in R6A zoning districts is 3.0 FAR for residential uses (3.6 FAR if providing Inclusionary Housing). The C1-4 commercial overlay allows for 2.0 FAR of commercial uses. The maximum height in R6A districts is 70ft or 75ft if providing a qualifying ground floor (85 feet if providing Inclusionary Housing). Quality Housing regulations allow for 100% lot coverage on corner lots and a maximum of 7 floors. One parking space must be provided for every 2 dwelling units although parking for income-restricted units is only required for 25% of total affordable units.

Conclusion

Approval of the Proposed Actions would change the underlying zoning district in the Project Area. The Proposed Actions change the zoning in the Project Area from R5D/C1-3 and R5B to R6A/C1-4. There are many commercial uses in the Study Area (as described above). The CEQR Technical manual states that an analysis of land use and zoning should," focus on the project's compatibility and consistency with surrounding uses and zoning as they would exist in the future without the project" and determine "whether the project would have the ability to generate land use change in the study area." The new zoning district introduced by Proposed Actions would not introduce any new uses to the Study Area. As discussed above the Study Area contains a mix of commercial and residential uses. The Proposed Actions would result in the development of buildings that

are taller and denser than the existing buildings in the Study Area. The introduction of new residential and commercial uses in these buildings remains compatible with the surrounding Study Area. Further, the Proposed Actions mirror the stated objectives of past city sponsored rezonings just beyond the Study Area by adding ground floor retail and residential units with Mandatory Inclusionary Housing (MIH). The R6A/C1-4 zoning district is denser than what exists in the study area today, but the proposed development site is a block in which an increase in density is appropriate due its frontage on 21st Street, a 100-foot wide street, and proximity to transit. The Proposed Actions are not anticipated to result in significant adverse impacts related to zoning within the Study Area.

Public Policy

Study Area

Per the CEQR Technical Manual, assessment of public policy accompanies a land use assessment because such policies may help determine whether or where land uses might change as the result of a proposed project. In addition, some projects may affect other specific public planning efforts by changing land uses in the area.

In order to assess the potential for project related impacts, the public policy study area has been defined as the area located within a 400-foot radius of the site. Per the CEQR Technical Manual this area is coterminous with the land use study area.

Existing Conditions

The Project Area is located in Steinway which is within Queens Community District 1. Existing public policies that could affect the Rezoning Area include:

- Housing New York: A Five-Borough, Ten-Year Plan
- Food Retail Expansion to Support Health (FRESH)
- One New York: The Plan for a Strong and Just City (OneNYC)
- Housing Our Neighbors: A Blueprint for Housing and Homelessness

Housing New York: A Five-Borough, Ten-Year Plan is the current plan under former Mayor Bill De Blasio to build or preserve 300,000 units of affordable housing in New York City within ten years of the start of his mayoralty.

The Food Retail Expansion to Support Health (FRESH) Program, designates areas where for zoning incentives are available for the development of a grocery store that sells fresh fruits and vegetables.

One New York: The Plan for a Strong and Just City (OneNYC), is the City's strategic plan for inclusive growth and climate action. A major goal of the program is with the creation of new affordable dwelling units.

Housing Our Neighbors: A Blueprint for Housing and Homelessness is the City's strategic plan for addressing homelessness and housing instability by creating and preserving affordable housing.

No other public policies relate to the Project Area or to the surrounding 400-foot radius study area. The Project Area is not located within a Federal Empowerment Zone or covered by any 197-a Community Development Plans, and is not located within a critical environmental area, a significant coastal fish and wildlife habitat, a wildlife refuge, or a special natural waterfront area.

No-Action Condition

As discussed above, if the Proposed Actions are not approved, no development is anticipated to occur anywhere within the Project Area. All of the lots in the Project area are anticipated to remain in their current condition.

With-Action Condition

As discussed above, if the Proposed Actions are approved, development is expected to occur on Projected Development Site 1 and Projected Development Site 2 within the Project Area.

Housing New York: A Five-Borough, Ten-Year Plan

The Proposed Actions include a zoning text amendment to map a Mandatory Inclusionary Housing Area on the Project Area. Of the 55 dwelling units projected in the Reasonable Worst Case Development Scenario, up to 17 of these units would be affordable (subject to the MIH option selected during the ULURP process). The creation of these units is consistent with this public policy as it furthers the goal of developing affordable units.

The Food Retail Expansion to Support Health (FRESH) Program

Projected Development Sites 1 and 2 do not include a supermarket nor is a supermarket. Although the FRESH program is mapped within the Study Area, none of the lots in the Project Area are within the FRESH program. The FRESH

program aims to incentivize the construction of supermarkets in areas where access to fresh produce is limited.

In the Project Area, zoning incentives from the FRESH Program would not be available. Projected Development Sites 1 and 2 also do not have sufficient lot size to reasonably accommodate a supermarket.

One New York: The Plan for a Strong and Just City (OneNYC)

The Proposed Actions would result in the creation of new residential units and ground floor local retail space. The development of dense, mixed use, and mixed income, residential developments further the housing objectives presented in OneNYC. Further, the Project Area is located within the Transit Zone which furthers the goals presented in OneNYC. The Transit Zone, includes areas where special lower accessory parking requirements apply for various types of affordable housing including income-restricted housing units, which are generally areas of the city beyond the Manhattan Core within one-half mile of a subway station where auto ownership rates are among the lowest in the city. Creation of housing in these areas is important to improve residents' access to transit.

Housing Our Neighbors: A Blueprint for Housing and Homelessness

The Proposed Actions include a zoning text amendment to map a Mandatory Inclusionary Housing Area on the Affected Area. Of the 55 dwelling units projected in the Reasonable Worst Case Development Scenario, up to 17 of these units would be affordable (subject to the MIH option selected during the ULURP process). The creation of these affordable units supports this policy's goal to create and preserve affordable housing in New York City.

Conclusion

The Proposed Actions would advance several public policy objectives as they would result in the development of dense, mixed use, and mixed income, buildings. These are stated policy goals in both *OneNYC* and *Housing New York.*

2. Open Space

Introduction

This chapter assesses the potential impacts of the proposed project on open space resources. Open space is defined by the 2021 *City Environmental Quality Review (CEQR) Technical Manual* as publicly accessible, publicly or privately-owned land that operates or is available for leisure, play, or sport, or serves to protect or enhance the natural environment. The CEQR Technical Manual guidelines indicate that an open space analysis should be conducted if an action would result in a direct effect, such as the physical loss or alteration of public open space, or an indirect effect, such as when a substantial new population could place added demand on an area's open spaces. The proposed project would introduce new residential population to the project area that would create new demands for open space. Therefore, an open space assessment was conducted to determine if the Proposed Actions would significantly affect open space.

Methodology

Direct Effects

Per the CEQR Technical Manual, direct effects may occur when the proposed project would encroach on, or cause a loss of, open space. Direct effects may also occur if the facilities within an open space would be so changed that the open space no longer serves the same user population. Limitation of public access and changes in the type and amount of public open space may also be considered direct effects. Other direct effects include the imposition of noise, air pollutant emissions, odors, or shadows on public open space that may alter its usability. The Proposed Development would not remove or alter any existing publicly accessible open spaces. In addition, study area open spaces would not experience project-related significant adverse shadows, air quality, or operational noise impacts, as discussed in this EAS.

Indirect Effects

Per the CEQR Technical Manual, indirect effects may occur when the population generated by the proposed project overtaxes the capacity of existing open spaces so that their service to the future population of the affected area would be substantially or noticeably diminished. For the majority of projects, an assessment is conducted if the proposed project would generate more than 200 residents or 500 employees. However,

the need for an open space assessment may vary in certain areas of the city that are considered either underserved or well-served by open space. Per the CEQR Technical Manual the Project Area is located in an area of the city is neither well served nor underserved. The Proposed Actions would introduce 94 units, with approximately 217 residents to the Project Area. No incremental workers are anticipated to be introduced to the Project Area with the approval of the Proposed Actions. As the Proposed Actions are expected to result in the introduction of more than 200 residents to the Project Area a preliminary analysis is needed.

Study Area

Per the CEQR Technical Manual, the first step in any open space analysis is to define and map a study area. Once the study area is defined, the next step is to determine which analysis is required through calculating the percentage change in the open space ratio between the No-Action condition and the future With-Action condition.

Open space study areas are defined to allow analysis of both the nearby open spaces and the population using those open spaces. They are generally defined by a reasonable walking distance that users would travel to reach local open space and recreation areas—typically 0.5 mile for residential users and 0.25 mile from commercial projects with a worker population.

The Proposed Actions would introduce more than 200 residents to the Project Area. Per the CEQR Technical Manual it is necessary to examine the change in residential population in the study area relative to total, active, and passive publicly accessible open space in the area and to determine whether the increase in population would significantly impact the adequacy of open space resources in the study area. An assessment of the adequacy of open space for the nonresidential (worker) population is not needed.

As recommended in the *CEQR Technical Manual*, the open space study area comprises all census tracts that have at least 50 percent of their area located within a ½-mile of the Project Area, as shown in **Figure 2-1: Open Space Facilities and Census Tracts** .

Analysis Framework

Indirect Effects Analysis

The indirect effects of a proposed action on open spaces may occur when the action adds enough population to substantially or noticeably reduce the capacity of the open space to serve the population. This can occur when the population generated by the proposed action exceeds the capacity of existing public open spaces.

In evaluating the impact of a project on open space, it is important to consider its location in relation to the Walk to a Park Service Area (WPSA). The WPSA is a part of the OneNYC 2050 plan, which aims to have 85% of New York City residents living within walking distance of a park by 2030. According to the plan, an area is considered to be within the WPSA if it is within a half mile walking distance of a park. Areas that are not within the WPSA are known as "walk gap" areas, meaning they are not within walking distance of a park. The Project Area is within a WPSA, as demonstrated in **Figure 2-2 Walk to Park Service Areas.**

To assess the adequacy of open space in the study area, both quantitative and qualitative methods can be used. The quantitative approach calculates the ratio of open space acreage to the population in the study area and compares it to guidelines. The qualitative assessment considers factors such as the proximity to additional resources beyond the study area, the availability of private recreational facilities, and the demographic characteristics of the area's population. This analysis is provided below.

Impact Assessment

The impact of a project on an area's open spaces is evaluated using both quantitative and qualitative factors. This evaluation takes into account the project's location, the quality and quantity of open space in the area after the project is completed, and any new open space provided by the project. The impact of the project is also based on how it will affect the ratio of open space in the area, as well as other qualitative factors. According to the CEQR Technical Manual, a project that significantly reduces the ratio of open space (as defined in Table 2-1) may be considered to have a significant impact. The acceptable amount of change in the open space ratio is determined based on the open space ratio in the area and whether the area is within a WPSA (as defined in the CEQR Technical Manual). In a WPSA, a larger percentage change may be allowed. As discussed above, the Project Area is within a WPSA.

Table 2-1: Percent Change in Open Space Ratio

Open Space Ratio	Percent Change
2.01 to 2.50 or Greater	5%
1.51 to 2.0	4%
1.01 to 1.5	3%
0.51 to 1.0	2%
0.50 or Less	1%

Source: Table 7-1 in Chapter 7, "Open Space" of the 2021 CEQR Technical Manual.

Preliminary Assessment

Per the CEQR Technical Manual, projects in study areas where the open space ratio approaches or exceeds the city's planning goal of 2.5 acres per residence may generally tolerate up to a 5% decrease of the open space ratio before considering the need for more detailed analysis. For projects in study areas where the open space ratio is not near the city's planning goal of 2.5 acres per thousand residents the percentage decrease in open space ratio is weighted against how the open space ratio of the study area compares to the city's planning goal for open space. Per the 2021 CEQR Technical Manual, in areas of the city where the existing Open Space Ratio is between 2.01 and 2.50+ (as is the case in our study area as demonstrated below) a reduction in Open Space Ratio by less than 5% typically indicates that detailed assessment of Open Space is not warranted. A detailed analysis of Open Space is not needed for the Proposed Actions described in this EAS.

Existing Condition

Study Area Population

As recommended in the *CEQR Technical Manual*, the open space study area comprises all census tracts that have at least 50 percent of their area located within a ½-mile of the

Project Area. These tracts and their populations are visualized in **Table 2-2: Existing Population**. The total population of the Study Area is 33,122.

Table 2-2 Existing Population

Census Tract	Population
69, 71, 83, 91, 95, 97, 99, 101, 103, 115, 125	33,122

The Study Area population was estimated using data from the 2020 U. S. Census data for the census tracts located fully or at least 50 percent within the one-half mile study area. As discussed above, the population the study area contained a total of 33,122 residents within the 11 relevant census tracts.

Inventory of Open Space

According to the CEQR Technical Manual, open space can be either public or private, and can be used for either active or passive recreation. Public open space is defined as facilities that are open to the public at designated hours on a regular basis and are evaluated for impacts under CEQR guidance. Private open space is not regularly accessible to the general public and is therefore only considered qualitatively. The number, availability, and condition of publicly accessible open space in the study area was determined using field surveys and secondary sources.

Open space is classified as active, or passive based on the activities that are allowed in the space. Active open space is used for active play such as sports or exercise and may include playground equipment, playing fields, courts, swimming pools, skating rinks, golf courses, and multi-purpose play areas. Passive open space is used for sitting, strolling, and relaxation and may include benches, walkways, and picnicking areas.

All publicly accessible open spaces in the defined study area were inventoried and identified by their location, size, owner, type, utilization, equipment, hours, and condition. This information was obtained from the New York City Department of Parks and Recreation's website.

Table 2-3: Inventory of Open Space Resources

Map Key	Open Space Resource Name	Total Size (Acres)	Passive Acres	Active Acres
1	Astoria Park	59.96	38.974	20.986
2	Van Alst Playground	1.03	0.206	0.824
3	Columbus Square	0.10	0.10	0
4	Hoyt Playground	2.20	0.44	1.76
5	Triborough Bridge Playgound B	1.29	0.387	0.903
6	Triborough Bridge Playground C	0.46	0.23	0.23
7	Triborough Bridge Playground D	0.46	0.069	0.391
8	Whitney Ford Field	3.62	0.543	3.077
9	Chappetto Square Court	1.23	0.1845	1.0455
10	Ralph Demarco Park	5.82	2.91	2.91
11	Athens Square	0.93	0.465	0.465
Total		**77.1**	**44.5**	**32.59**

Source: NYC DPR (2021), ZoLa NYC's Zoning and and Use Map

As visualized in Table 2-3, there are a total of 11 open space resources within the census tracts that are more than 50% contained in the ½ mile radius around the Project Area. These open space resources are described below and summarized in **Table 2-3: Inventory of Open Space Resources.**

1. **Astoria Park**
   Astoria Park is a 59.96-acre open space with a combination of active and passive open space facilities, including outdoor tennis courts, a track, a bandstand, multiple trails, basketball courts, bocce courts, dog-friendly areas, fitness equipment, outdoor pools, restrooms, skate parks, spray showers, Wi-Fi hot spots, and playgrounds. This park is about 35% active and 65% passive.

2. **Van Alst Playground**

Van Alst Playground is a 1.03-acre jointly operated playground with both passive and active open spaces, including handball courts and playgrounds. This playground is about 80% active and 20% passive.

3. **Columbus Square**
   Columbus Square is a 0.10 acre triangle containing a statue. This square is 100% passive.

4. **Hoyt Playground**
   Hoyt Playground is a 2.2—acre community park including handball courts, playgrounds, and spray showers. This playground is about 80% active and 20% passive.

5. **Triborough Bridge Playground B**
   Triborough Bridge Playgrounds B is a 1.29 acre park beneath the Triborough Bridge extending from Astoria Park including fitness equipment, playground, public restrooms, and spray showers. This playground is about 70% active and 30% passive.

6. **Triborough Bridge Playground C**
   Triborough Bridge Playgrounds C is a 0.46 acre park beneath the Triborough Bridge extending from Astoria Park including basketball courts, dog-friendly areas, playgrounds. This playground is about 50% active and 50% passive.

7. **Triborough Bridge Playground D**
   Triborough Bridge Playgrounds D is a 0.46 acre park beneath the Triborough Bridge extending from Astoria Park including handball courts and playgrounds. This playground is about 85% active and 15% passive.

8. **Whitney Ford Field**
   Whiteny Ford Field is a 3.62 acre park including baseball fields and fitness equipment. This square is 85% active and 15% passive.

9. **Chappetto Square Court**
   Chappetto Square Court is a 1.23-acre open space containing recreation fields and basketball courts. This square is 85% active and 15% passive.

10. **Ralph Demarco Park**

Ralph Demarco Park is is a 5.82 acre park located on Shore Blvd. bet. Ditmars Blvd. and 20 Ave., and contains mostly passive open space including a dog-friendly area. This park includes a bikeway. This park is 50% active and 50% passive.

11. **Athens Square**
    Athens Square is a 0.93-acre jointly operated playground with both passive and active open spaces, including playgrounds, basketball courts, and public restrooms. This park is 50% active and 50% passive.

Quantitative Assessment

The quantitative assessment of open space is based on ratios of usable open space acreage to the study area populations (the "open space ratios"). In New York City, local open space ratios vary widely. The city's planning goal is a total of 2.5 acres of open space per 1,000 residents. This includes 0.50 acres of passive space and 2.0 acres of active open space per 1,000 residents.

Per the CEQR Technical Manual, projects in study areas where the open space ratio approaches or exceeds the city's planning goal of 2.5 acres per residence may generally tolerate up to a 5% decrease of the open space ratio before considering the need for more detailed analysis. For projects in study areas where the open space ratio is not near the city's planning goal of 2.5 acres per thousand residents the percentage decrease in open space ratio is weighted against how the open space ratio of the study area compares to the city's planning goal for open space. Per the 2021 CEQR Technical Manual, in areas of the city where the existing Open Space Ratio is between 2.01 and 2.50+ (as is the case in our study area as demonstrated below) a reduction in Open Space Ratio by less than 5% typically indicates that detailed assessment of Open Space is not warranted.

Table 2-4: Existing Open Space Ratios, summarizes the total, active and passive open space ratios within the study area.

Table 2-4: Existing Open Space Ratios

	Existing Conditions	CEQR TM Guideline
Publicly Accessible Open Space (Acreage)	77.1[1]	-

Active Open Space (Acreage)	32.59	
Passive Open Space (Acreage)	44.5	
Study Area Population	33,122[2]	-
Open Space Ratio (Acres/1,000 Residents)	2.328	2.5
Active Open Space Ratio (Acres/1,000 Residents)	0.98	2
Passive Open Space Ratio (Acres/1,000 Residents)	1.34	0.5

1) See Table 2-3 "Inventory of Open Space Resources" for a breakdown total Open Space
2) 2020 Decennial Census

Qualitative Assessment

A qualitative assessment of open space considers the presence of public open space that is excluded from the quantitative analysis, the condition and utilization of open space within the study area, and the presence of open and recreational facilities that do not meet the criteria of open space resources established in the CEQR Technical Manual.

Ralph Demarco Park and Columbus Square contain passive open spaces in the Study Area, as they provide shaded walking paths and public outdoor spaces without recreational facilities. Astoria Park, Hoyt Playground, Athens Square, Van Alst Playground, Chappetto Square Court, Whitney Ford Field, and Triborough Bridge playgrounds B, C, and D offer active open space facilities such as recreational fields, courts, and playground equipment.

There are two public open facilities that do not meet the criteria of an open space resource established in the CEQR Technical Manual. Sitting Area is an open facility located 280 feet from the Project Area that is not considered an open space because it contains only passive space with no benches or seating areas. Triborough Bridge Playground E is an open facility located 1,000 feet from the Project area that is not considered an open space because it is not actively used as an open space.

<u>No-Action Condition</u>

Study Area Population

In the future without the proposed actions, development is not anticipated to occur within the project area. No additional residents would be introduced in the No-Action Condition. In the No-Action Scenario, the Study Area includes 33,958 residents to account for an assumed annual growth factor of 0.5% per year through the 2027 build

year. The amount of open space would remain unchanged in the No-Action condition.

Inventory of Open Space

There will be no changes to the open space resources in the study area in the 2027 No-Action condition. As a result, the open space in the half-mile study area will remain at 77.10 acres.

Quantitative Assessment

Table 2-5 shows the open space ratios for the half-mile study area under the No-Action condition, based on the anticipated population increases. As shown in the table, the total open space ratios will be less than the City's goals of 2.5 acres of open space per 1,000 residents. The total open space ratio is expected to decrease from 2.328 to 2.270 acres per 1,000 residents in the No-Action condition. It is anticipated that residents of the study area will continue to use open space resources outside of the study area, which were not included in the quantitative assessment.

Table 2-5: No-Action Open Space Ratios

	Existing Conditions	**CEQR TM Guideline**
Publicly Accessible Open Space (Acreage)	77.10[1]	-
Active Open Space (Acreage)	32.59	
Passive Open Space (Acreage)	44.5	
Study Area Population	33,958[2]	-
Open Space Ratio (Acres/1,000 Residents)	2.270	2.5
Active Open Space Ratio (Acres/1,000 Residents)	0.959	2
Passive Open Space Ratio (Acres/1,000 Residents)	1.31	0.5

1) See Table 2-3 "Inventory of Open Space Resources" for a breakdown total Open Space
2) An annual growth rate of 0.5% per year over existing conditions through 2027 build-year was applied

<u>With-Action Condition</u>

Study Area Population

If the Proposed Actions are approved development is anticipated to occur on Projected Development Site 1 and Projected Development Site 2. In total the Proposed Development is expected to introduce 217 new residents to the Project Area by creating 94 dwelling units. The study area's population would increase to 34,175 in the With-Action condition.

Inventory of Open Space

In the with-action scenario, no additional open space resources are expected to be developed in the study area by the 2027 build year.

Quantitative Assessment

When compared to the "No-Action" condition the total open space ratio would decline by 0.616% in the "With-Action" condition. These changes are summarized in **Table 2-6: Open Space Ratio Totals**, below.

Table 2-6: Open Space Ratio Totals

	Future No-Action	Future With-Action	CEQR TM Guideline	Percent Change
Publicly Accessible Open Space (Acreage)	77.10[1]	77.10[1]	-	-
Active Open Space (Acreage)	32.59	32.59		
Passive Open Space (Acreage)	44.5	44.5		
Study Area Population	33,958	34,175	-	+0.64%
Open Space Ratio	**2.270**	**2.256**	**2.5**	**-0.616%**
Active Open Space Ratio	0.959	**0.953**	**2**	**-0.625%**
Passive Open Space Ratio	1.31	**1.30**	**0.5**	**-0.763**

1) See Table 2-3 "Inventory of Open Space Resources" for a breakdown total Open Space

The CEQR Technical Manual specifies that in areas where the existing open space ratio is between 2.01-2.5 a decrease in the open space ratio between the No-Action and With-Action condition approaching 5 percent, it is generally considered to be a substantial change which could potentially result in a significant adverse impact. The Proposed Actions would not exceed the guidelines listed in Table 2-1.

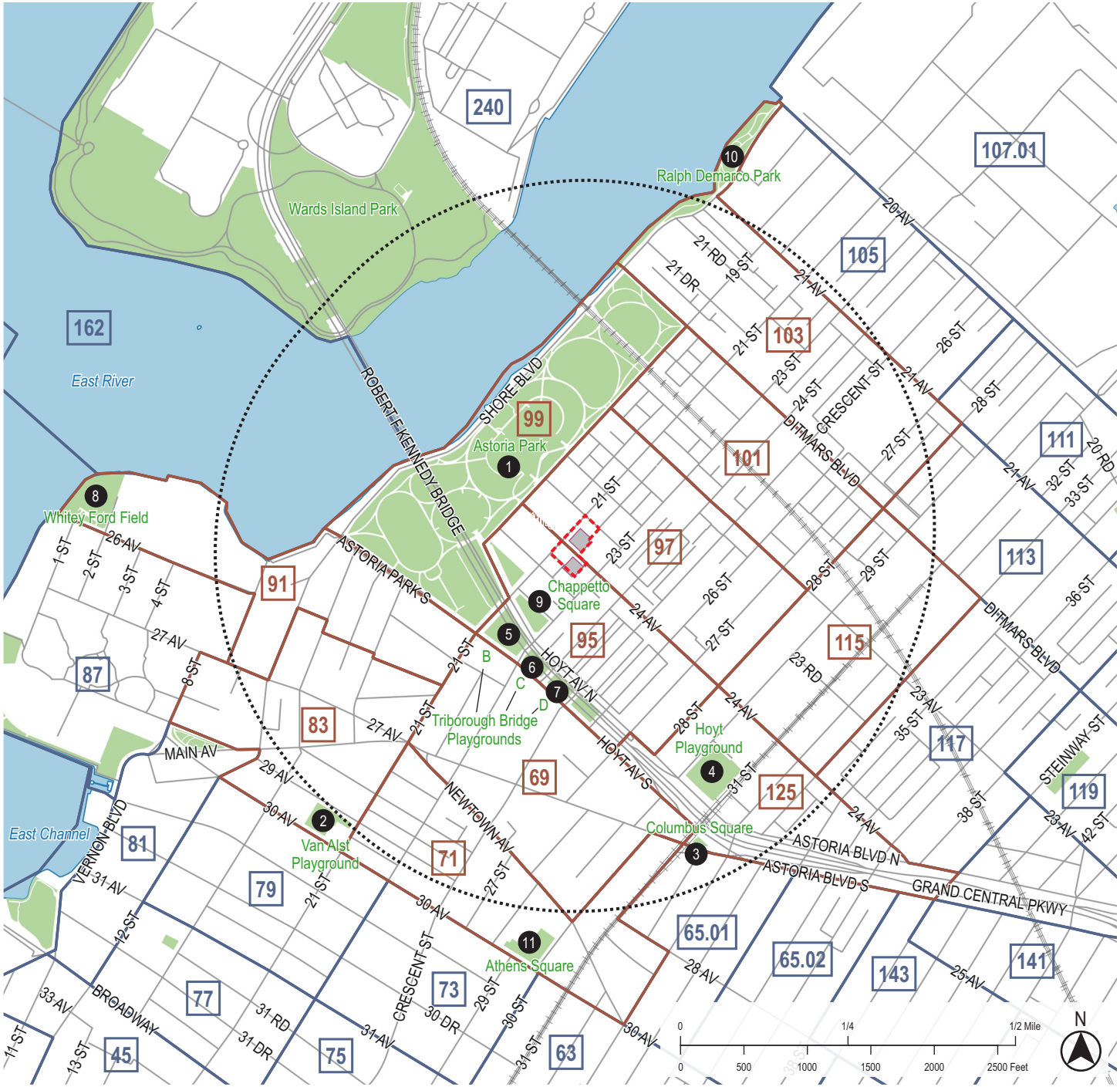
Conclusion

If the Proposed Actions are approved new development in the Project Area would introduce new residents to the Study Area. The Proposed Actions are anticipated to reduce the total open space ratio within the Study Area by 0.616%. A reduction of less than 5% in open space ratios is generally not expected to create a significant adverse impact within the Study Area given the existing OSR of 2.267. No further analysis is required since it does not meet the threshold for detailed analysis.

21st Street Rezoning, Queens

Figure 2-1: Open Space Facilities and Census Tracts

- Proposed Rezoning Area
- Projected Development Site (Applicant-Owned)
- 1/2-Mile Study Area
- Census Tract Boundaries
- 123 — 50% or More of Census Tract Within Study Area
- 123 — Less Than 50% of Census Tract Within Study Area
- 1 — Open Space Resources (see Table 7-3)

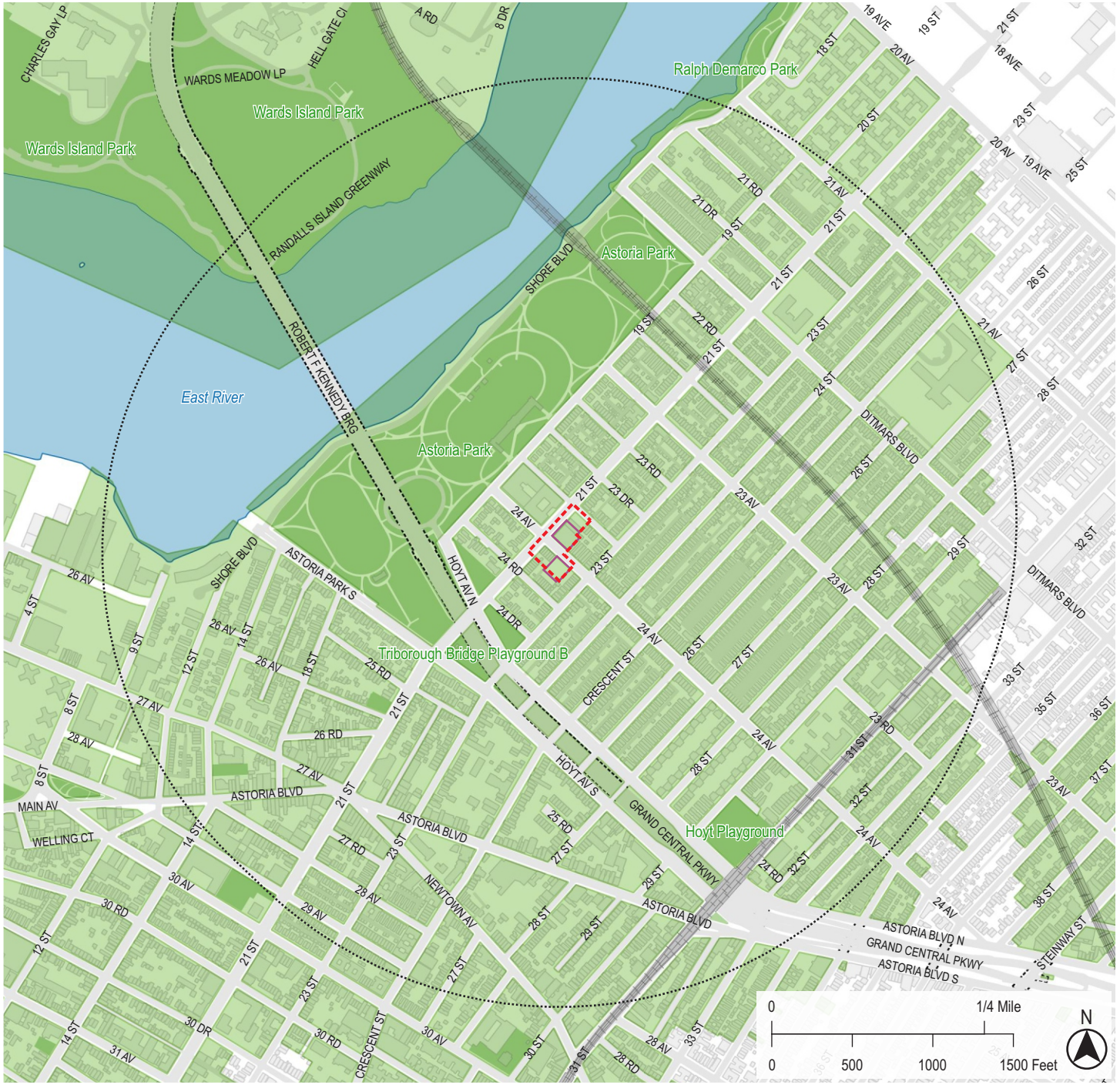


Urban Cartographics

21st Street Rezoning, Queens

Figure 2-2: Walk to Park Service Areas

- Proposed Rezoning Area
- Projected Development Sites (Applicant-Owned)
- 1/2-Mile Study Area
- Walk to Park Service Area



Urban Cartographics

3. Shadows

Introduction

Per the CEQR Technical Manual, the purpose of a shadows analysis is to assess whether new structures may cast shadows on sunlight sensitive publicly accessible resources or other resources of concern such as natural resources, and to assess the significance of their impact.

Sunlight sensitive resources of concern include Open Space Resources (see Open Space above), Architectural Resources (specifically features of landmark or historic structures that depend on direct sunlight), Natural Resources (see Natural Resources below), and "Green-streets".

Threshold Assessment

Per the CEQR Technical Manual, a shadows assessment is required if proposed actions would lead to the development of a structure at least 50 feet tall. Shorter structures that might cast substantial new shadows on an adjacent park, historic resource, or an important natural resource also require an analysis. The tallest portion of the Proposed Development is 110 feet tall, including mechanical bulk. A preliminary shadows assessment is required.

Preliminary Screening Assessment

Per the CEQR Technical Manual, a preliminary assessment of shadows impact, determines whether shadows from a proposed development could reach a sunlight sensitive resource.

Per the CEQR Technical Manual, the first step in conducting the screening assessment is to develop a base map that illustrates the Project Site location in relationship to the sunlight-sensitive resources. This base map is incorporated in the **Tier I Screening Assessment** and demonstrates that the Proposed Developments are not anticipated to cast shadows on any sunlight sensitive resources. A Tier I shadow assessment is nevertheless required.

Tier I Assessment

Per the CEQR Technical Manual, a Tier I shadow assessment creates a longest shadow study area. The longest shadow study area encompasses the Project Area and a perimeter around the area's boundary with a radius equal to the longest shadow that could be cast by the proposed structure. The longest shadow cast by the Proposed Developments is 4.3

times the height of the mechanical bulkhead above the building's roof: 473 Feet. The **Tier I Screening Assessment** in **Figure 3-1** demonstrates that two sunlight sensitive resources have the potential to receive shadows from the Projected Development Site 1 and Projected Development Site 2 as a result of the Proposed Actions: Sitting Area and Chappetto Square Court. A Tier II assessment is required.

Tier II Assessment

Per the CEQR Technical Manual, because of the path that the sun travels across the sky in the Northern hemisphere, no shadow can be cast in a triangular area between -108 and +108 degrees from true north of any given project site. **Figure 3-2: Tier II Screening Assessment** demonstrates that the sunlight sensitive resource identified above still has the potential to receive shadows as a result of the Proposed Actions. Of the two sunlight sensitive resources, only Sitting Area has the potential to receive shadows. A Tier III assessment is required.

Tier III Assessment

The Tier III screening assessment is used to determine whether shadows resulting from the proposed project can reach a sunlight-sensitive resource by introducing the use of three-dimensional computer modeling software with the capacity to accurately calculate shadow patterns. Because the sun rises in the east and travels across the southern part of the sky to set in the west, a project's earliest shadows would be cast almost directly westward. Throughout the day, they would shift clockwise (moving northwest, then north, then northeast) until sunset, when they would fall east. Also, because the direction and length of shadows vary throughout the course of the day and the time of year, the assessment of shadows is focused on representative times of the year relevant to the use and function of the identified sunlight-sensitive resources.

Per the CEQR Technical manual, the months of interest for an open space resource encompass the growing season (March through October) and one month between November and February (usually December) representing a cold-weather month. Representative days for the growing season are generally the March 21 vernal equinox (of the September 21 autumnal equinox, which is approximately the same), the June 21 summer solstice, and a spring or summer day halfway between the summer solstice and equinoxes such as Mary 6 or August 6 (which are approximately the same). For the cold weather months, the December 21 winter solstice is usually included to demonstrate conditions during cold weather when people who do not use open spaces rely most heavily on available sunlight for warmth. Project shadows that reach a sunlight-sensitive resource during any of these months could be of concern. These months and days are also

use for assessing shadows on historic or natural sunlight-sensitive resources as they represent the full range of possible shadows.

The Proposed Actions would facilitate the development of the Applicant's proposed project and generate additional development within the Project Area. The following figures demonstrate the extent of the shadows cast by the Proposed Developments throughout the year:

As demonstrated in **Figure 3-3: Tier III Screening Assessment for Dec. 21st**, the Proposed Development will cast shadows over 0% of Sitting Area.

As demonstrated in **Figure 3-4: Tier III Screening Assessment for Mar. 21st**, the Proposed Development will cast shadows over 0% of Sitting Area.

As demonstrated in **Figure 3-5: Tier III Screening Assessment for May 6th**, the Proposed Development will cast shadows over 0% of Sitting Area.

As demonstrated in **Figure 3-6: Tier III Screening Assessment for June 21st**, the Proposed Development will cast shadows over 2% of Sitting Area.

Time of Year	Percent of Sitting Area Covered by Incremental Shadow
Dec 21st	0%
Mar 21st	0%
May 6th	0%
June 21st	2%

As the Proposed Development has the potential to cast shadows on one or more of the analysis days on the sunlight sensitive resources (Sitting Area) a detailed analysis of shadows is needed.

Detailed Analysis

Per the CEQR Technical Manual, a detailed shadow analysis is warranted when the screening analyses described above does not rule out the possibility that project-generated shadows would reach any sunlight-sensitive resources. The detailed shadow

analysis establishes a baseline condition (future No-Action) that is compared to the future condition resulting from the proposed project (future With-Action) to illustrate the shadows cast by existing or future buildings and distinguish the additional (incremental) shadow cast by the project. The purpose of the detailed analysis is to determine the extent and duration of the new incremental shadows that fall on a sunlight-sensitive resource as a result of the proposed project. To evaluate the extent and duration of the new shadow that would be cast on a sunlight-sensitive resource as a result of the proposed project, shadows that would exist in the future without the proposed project are also defined. Because existing building may already cast shadows on a sun-sensitive resource (or a future building could be expected to cast shadows), the proposed project may not result in additional, or incremental, shadows upon that resource.

No Action Condition

As discussed above, if the Proposed Actions are not approved, no development is anticipated to occur anywhere within the Project Area. All of the lots in the Project Area are anticipated to remain in their existing conditions.

With Action Condition

If the Proposed Actions are approved, development is anticipated to occur on the applicant owned site within the Study Area (Projected Development Site 1 and Projected Development Site 2). As demonstrated in the detailed analysis graphic, there are currently shadows on Sitting Area. For the purposes of presenting a conservative analysis, these shadows are not considered in the No-Action scenario and therefore all shadows generated by the Proposed Actions are incremental. **Figure 3-7** uses 3D modeling to provide a detailed analysis by modeling all shadows created by the Projected Development Sites within the Project Area.

As demonstrated in **Figure 3-6: Tier III Screening Assessment for June 21st** and **Figure 3-7: Detailed Analysis for the June 21st Analysis Day**, the building on Projected Development Site 2 would cast shadows on Sitting Area. Shadows would enter the open space at 5:57 AM and remain on the open space until 6:02 AM, as demonstrated in **Figure 3-7**. Shadows would be cast on the open space for 5 minutes. These shadows would move from west to east throughout the day and cover 2% of the open space over the course of the day.

Time of Year	Duration of Time a Shadow is Over Sitting Area

Dec 21st	0 min
Mar 21st	0 min
May 6th	0 min
June 21st	5 minutes (5:57 AM – 6:02 AM)

The shadows cast on June 21st would affect mainly the southeast portion of the open space. This area of the open space is near the sidewalk and the shadows generated from the Proposed Actions would cast shadows over planted areas with several trees. The shadows are expected to be cast on walking paths used for passive recreation.

Conclusion

As discussed above in the detailed analysis, the building on Projected Development Site 2 is expected to cast shadows on Sitting Area. The shadows created by this building would cover about 2% of the open space for about five minutes in the early morning.

Although shadows would be cast on trees within the open space, the incremental shadow will be on such a small area for such a short duration, leaving more than 8 hours of sunlight a day. The shadows generated by the Proposed Actions will not affect the trees within the open space to such an extent that they affect public use and enjoyment of Sitting Area.

The Proposed Actions would generate shadows over this sunlight sensitive resource during the growing season, as demonstrated in **Figure 3-6: Tier III Screening Assessment for June 21st** and **Figure 3-7: Detailed Analysis for the June 21st Analysis Day**. These figures show that project-generated shadows would be present in the open space for approximately five minutes in the early morning. By 6:02 AM, there are no portions of the open space receiving project-generated shadows.

Public use and enjoyment of the open space includes the open area between the shaded trees. This use is not expected to be affected by shadows cast over the open space. Further, shadows from Projected Development Site 2 will no longer be present after 6:02 AM. Approval of the Proposed Actions is not expected to result in significant adverse shadows impacts.

21st Street Rezoning, Queens

Figure 3-1: Tier 1 Screening Assessment

- Project Site
- Projected Building Footprint
- Roof Above Base (65')
- Roof Above Bulkheads (110')
- Longest Shadow Study Area Boundary
- # Sunlight-Sensitive Open Space Resource
- Potentially Affected Open Space Resource

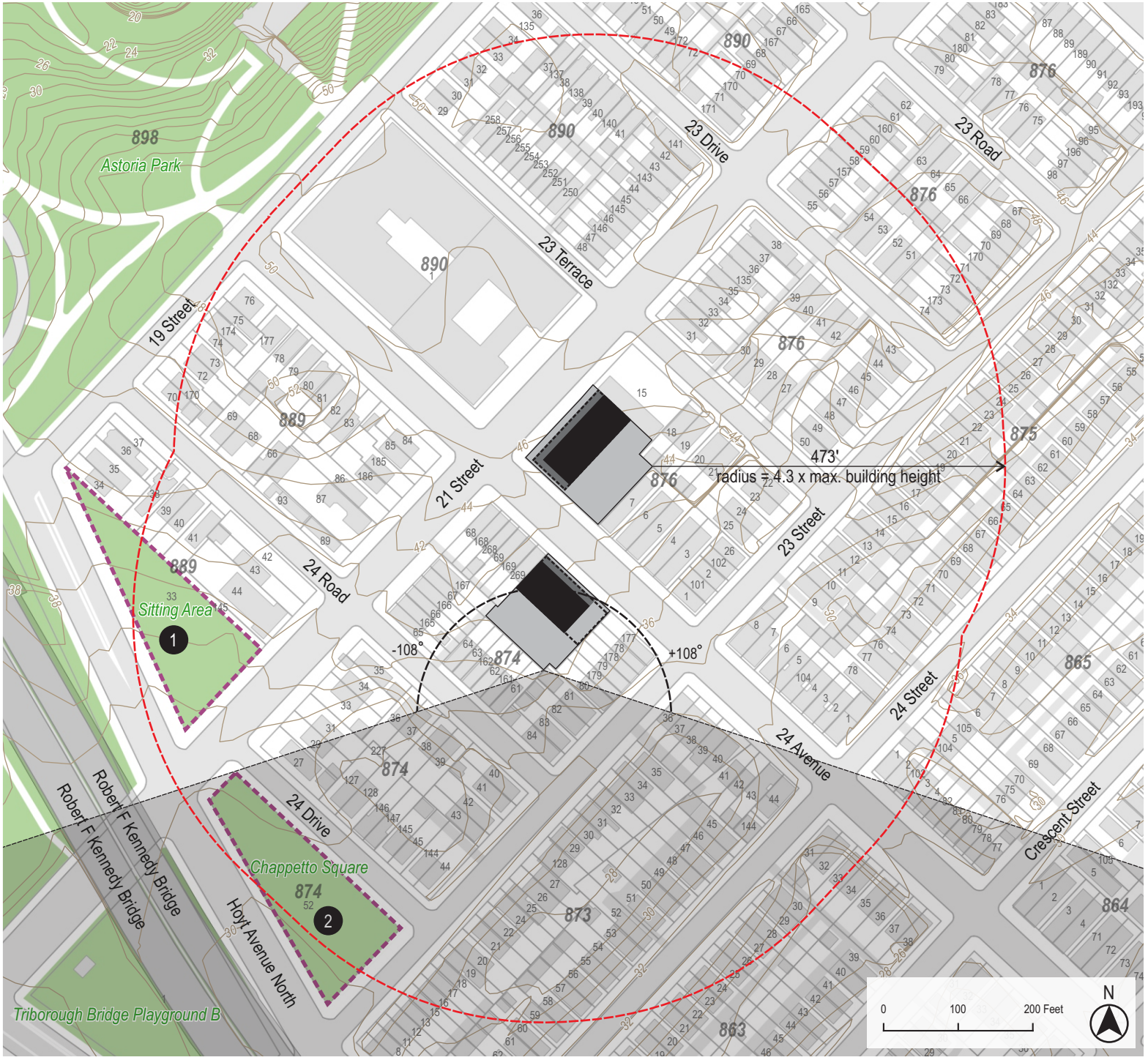


Urban Cartographics

21st Street Rezoning, Queens

Figure 3-2: Tier 2 Screening Assessment

- Project Site
- Projected Building Footprint
- Roof Above Base (65')
- Roof Above Bulkheads (110')
- Longest Shadow Study Area Boundary
- # Sunlight-Sensitive Open Space Resource
- Potentially Affected Open Space Resource
- Area That Cannot Be Shaded by the Proposed Building

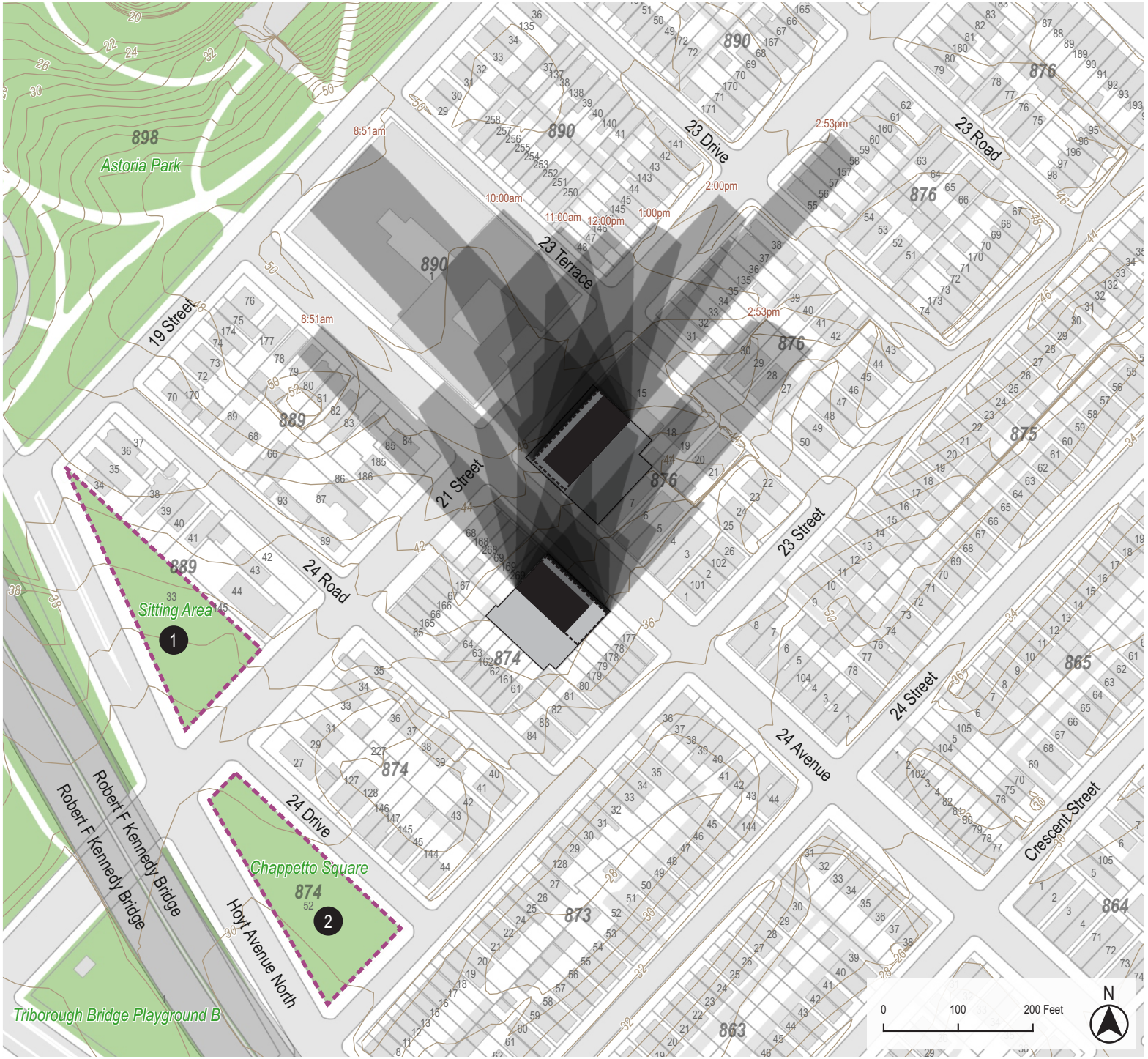


Urban Cartographics

21st Street Rezoning, Queens

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

- Project Site
- Projected Building Footprint
- Roof Above Base (65')
- Roof Above Bulkheads (110')
- 8:51am Shadow Cast/Analysis Time
- # Sunlight-Sensitive Open Space Resource
- Potentially Affected Open Space Resource

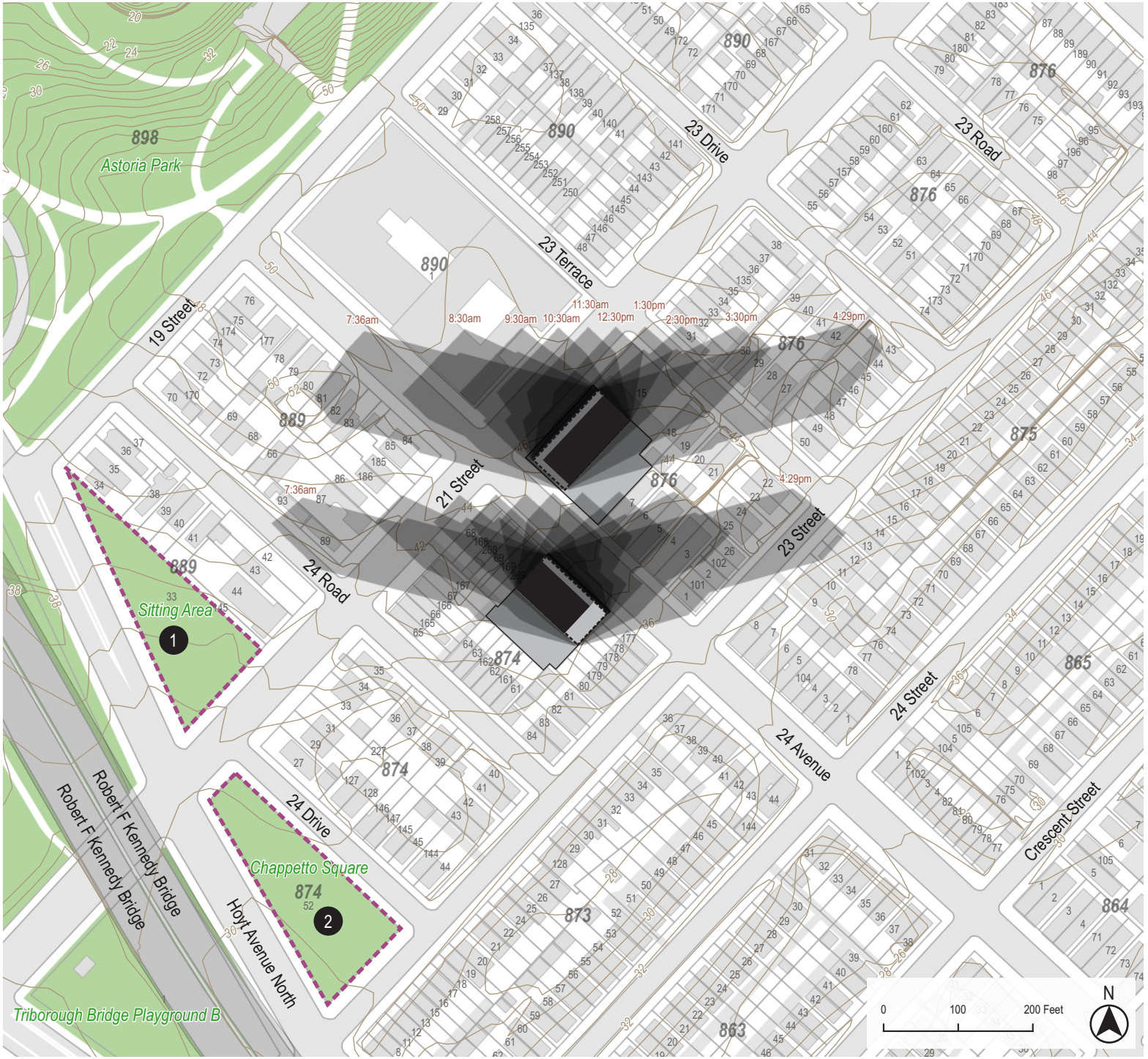


Urban Cartographics

21st Street Rezoning, Queens

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

- Project Site
- Projected Building Footprint
- Roof Above Base (65')
- Roof Above Bulkheads (110')
- 8:51am Shadow Cast/Analysis Time
- # Sunlight-Sensitive Open Space Resource
- Potentially Affected Open Space Resource

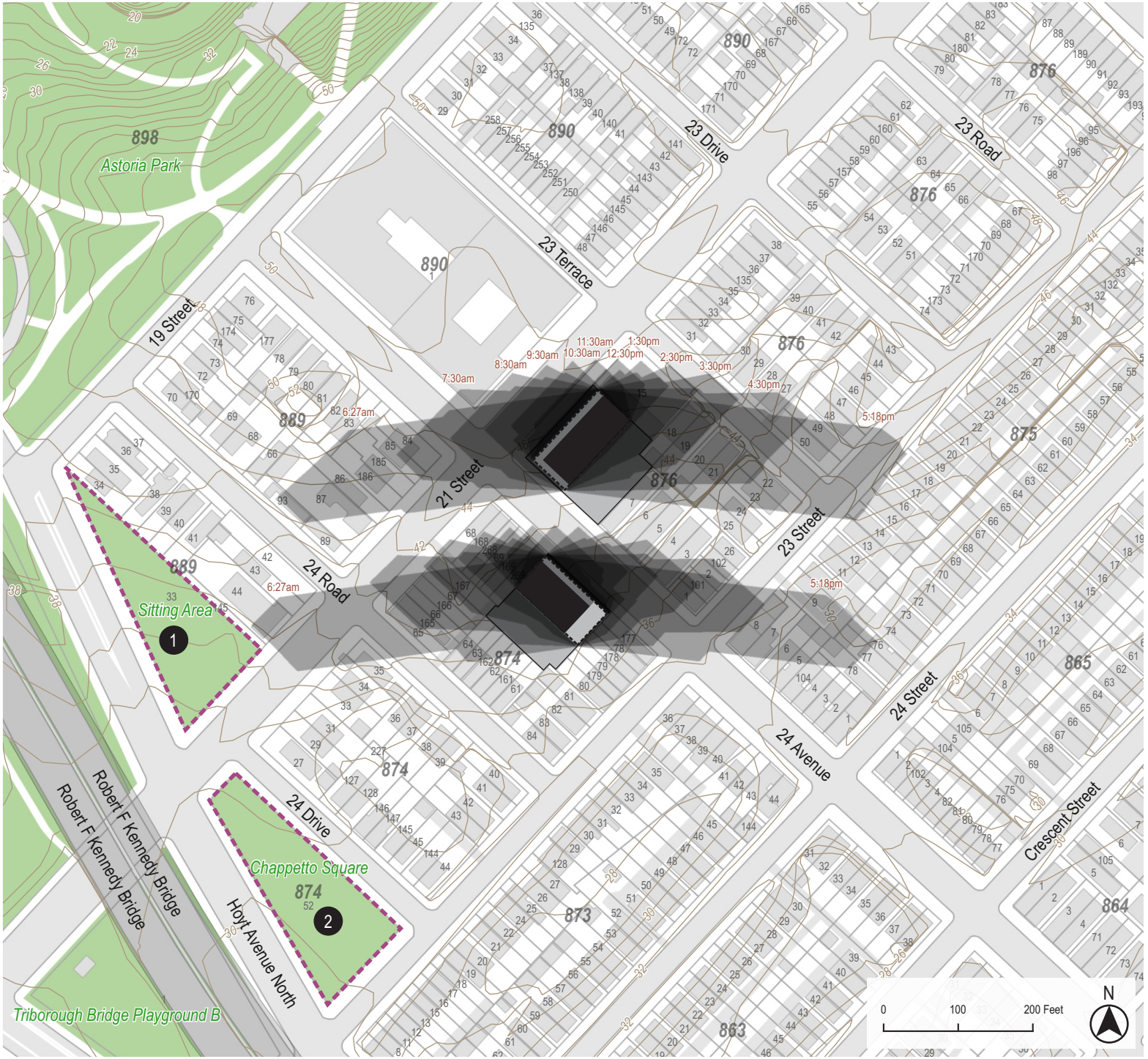


Urban Cartographics

21st Street Rezoning, Queens

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

- Project Site
- Projected Building Footprint
- Roof Above Base (65')
- Roof Above Bulkheads (110')
- 8:51am Shadow Cast/Analysis Time
- # Sunlight-Sensitive Open Space Resource
- Potentially Affected Open Space Resource

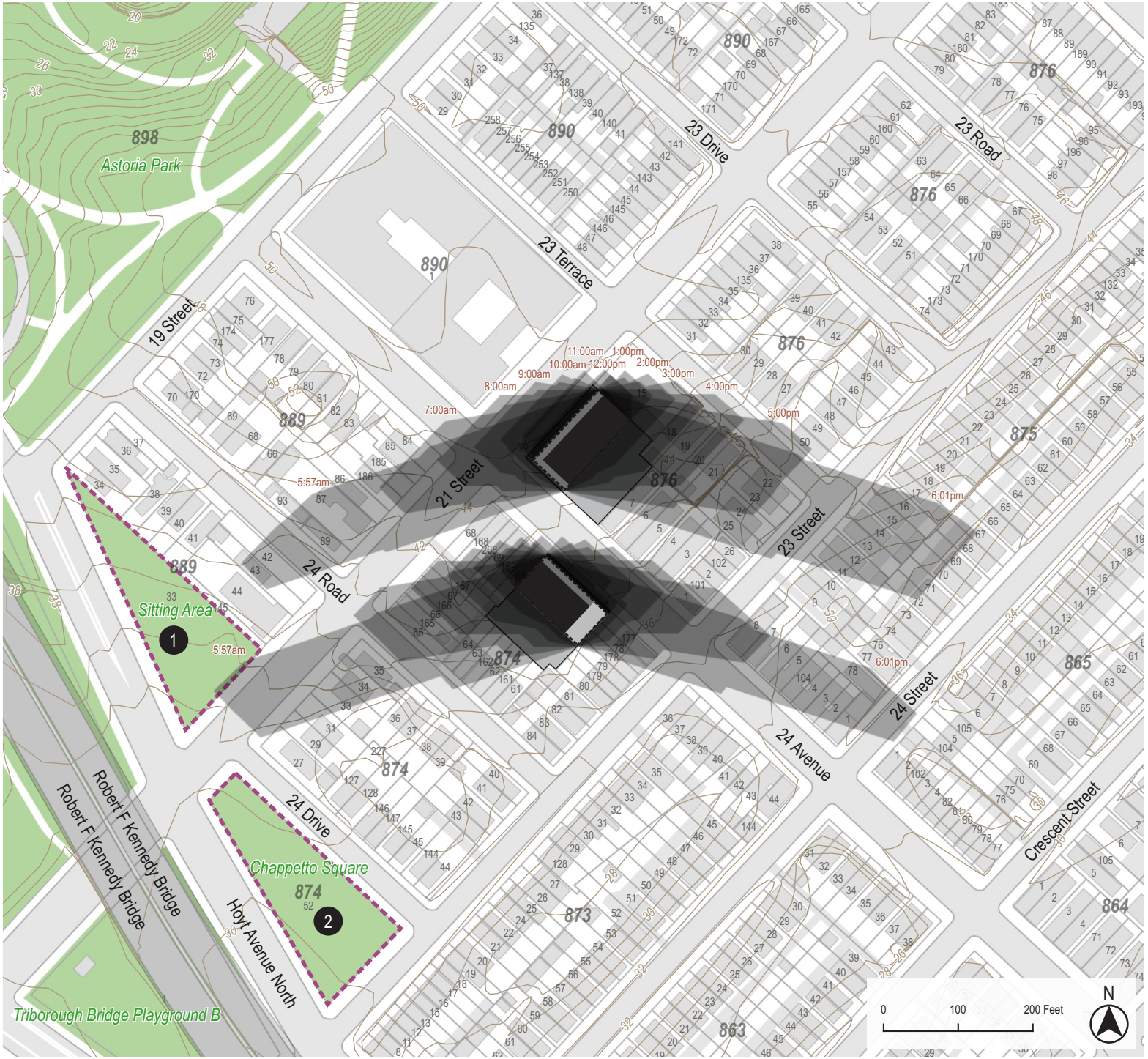


Urban Cartographics

21st Street Rezoning, Queens

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

- Project Site
- Projected Building Footprint
- Roof Above Base (65')
- Roof Above Bulkheads (110')
- 8:51am Shadow Cast/Analysis Time
- # Sunlight-Sensitive Open Space Resource
- Potentially Affected Open Space Resource



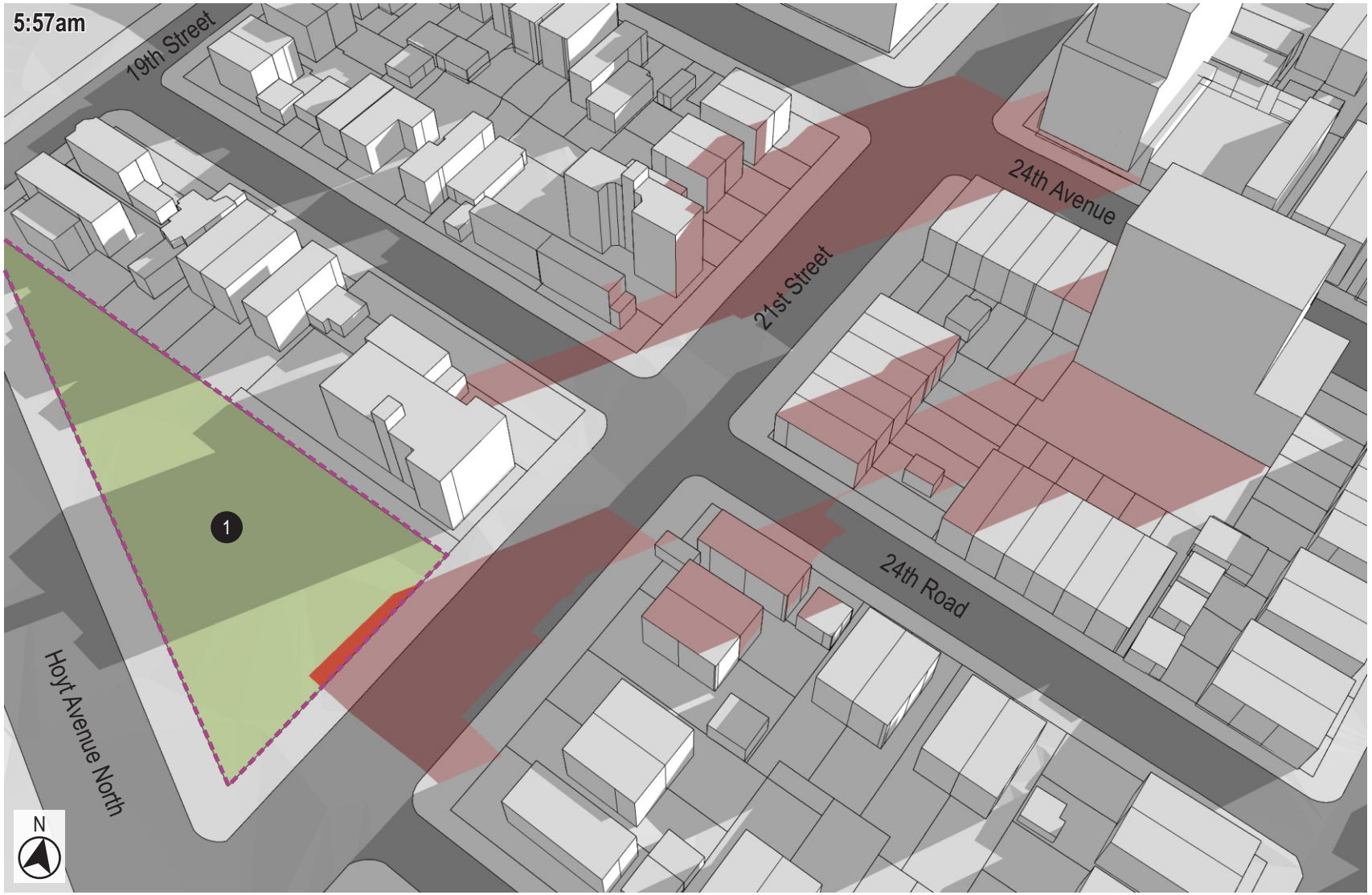
Urban Cartographics

21st Street Rezoning, Queens

Figure 3-7: Detailed Analysis for the June 21st Analysis Day

Shadows Cast on Sunlight-Sensitive Resources

1 5:57am – 6:02am



4. Urban Design and Visual Resources

Introduction

Per the CEQR Technical Manual, an urban design assessment considers whether and how a project may change the experience of a pedestrian in the project area. The assessment focuses on the components of a proposed project that may have the potential to alter the arrangement, appearance, and functionality of the built environment.

A preliminary assessment is appropriate when there is the potential for a pedestrian to observe, from the street level, a physical alteration beyond that allowed by existing zoning, including the following:

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

2. Projects that result in an increase in built floor area beyond what would be allowed 'as-of-right' or in the future without the Proposed Actions.

As discussed above in "Land Use, Zoning, and Public Policy", the Proposed Actions include zoning map and text amendments. These actions would both permit the modification of yard, height, and setback requirements and result in an increase in built floor area beyond what would be allowed 'as-of-right'.

The current R5D/C1-3 and R5B district is a non-contextual residential district that permits all housing types including garden apartments, row houses, detached homes, and walk-up apartment buildings. The maximum floor area ratio (FAR) is 1.25 for a R5B district and 3.00 for a R5D/C1-3 district. Minimum lot width and lot area depend upon the housing configuration. All structures require a 10-foot lot frontage and 2,850 square feet lot area. The maximum building height is 35 feet. One parking space is required per dwelling unit.

The Proposed Actions would rezone the Project Site to an R6A district with a C1-4 overlay. R6A/C1-4 districts permit medium density mixed-use buildings. The maximum FAR permitted in R6A zoning districts is 3.0 FAR for residential uses. The maximum height in R6A districts is 80ft (or 85ft if providing a qualifying ground floor). Quality Housing regulations allow for 65-100% lot coverage based the mapping of inclusionary housing areas). One parking space must be provided for every 2 dwelling units although parking is only required for 25% of income-restricted units. The C1-4 overlay allows for a commercial FAR of 2.0.

With the approval of the Proposed Actions, the RWCDS projects the development of a mixed-use building on **Projected Development Site 1.** Projected Development Site 1 is a 68,811 gsf eight-story building (85 ft tall) with ground floor commercial (local retail) uses

and 55 residential units would be developed on the Project Site. The building would have a total FAR of 3.59 (0.44 Commercial and 3.14 Residential). Projected Development Site 1 would include 6,859 gsf of commercial floor area (local retail uses) located on the ground floor and 53,829 gsf of residential area (55 Dwelling Units) on the 2nd through 8th floors. Of the 55 Dwelling Units, up to 17 would be affordable pursuant to MIH. Both MIH Options 1 and 2 would be mapped on the Project Area as part of the Proposed Actions. The final compliance with MIH would be determined through the ULURP process.

With the approval of the Proposed Actions, the RWCDS projects the development of a mixed-use building on **Projected Development Site 2**. Projected Development Site 2 is a 60,570 gsf seven-story building (75 ft tall) with ground floor commercial (local retail) uses and 39 residential units would be developed on the Project Site. The building would have a total FAR of 3.29 (0.61 Commercial and 2.68 Residential). Projected Development Site 2 would include 7,997 gsf of commercial floor area (local retail uses) located on the ground floor and 41,480 gsf of residential area (39 Dwelling Units) on the 2nd through 7th floors. Of the 39 Dwelling Units, up to 12 would be affordable pursuant to MIH. Both MIH Options 1 and 2 would be mapped on the Project Area as part of the Proposed Actions. The final compliance with MIH would be determined through the ULURP process.

As the Proposed Development is anticipated to result in a different built form at the street level, an assessment of urban design and visual resources is warranted.

Urban Design

The Urban design characteristics of a neighborhood are composed of various components that define the character of the area: building bulk, use, type and arrangement, block form and street pattern, streetscape elements, street hierarchy, and natural features. These components are discussed below.

Existing Building Bulk, Use, Type, and Arrangement

The Study Area contains a range of building types. Outside of the 21st Street corridor, there are a mix of semi-detached and detached single, two, and multiple family residences. Generally, these do not exceed three floors and include side yards, and or front yards. The buildings on 21st Street are also generally low-rise, with most buildings at two or three stories. The majority of lots within the Study Area are occupied and contain residential dwellings.

Future No-Action
If Proposed Actions are not approved, the built form, use, type, and arrangement of the Study Area and surrounding area would remain unchanged as no new development is expected to occur within the Project Area or anywhere else within the Study Area.

Future With-Action

If the Proposed Actions are approved, the built form, use, type, and arrangement of the Study Area remain unchanged. The Proposed Actions would facilitate construction on Projected Development Site 1 and Projected Development Site 2. The bulk and height of this development is visualized in the context of the Study Area in **Figures 4-1 through Figures 4-4: Urban Design Diagram.**

The buildings on Projected Development Site 1 and Projected Development Site 2 would be taller and have a higher lot coverage than the mixed-use building in the Study Area. The building on Projected Development Sites 1 and 2 in the with-action scenario would create a continuous street-wall with ground floor commercial uses in both the mixed-use development scenario and with the applicant's proposed development.

Block Form, Street Pattern, and Street Hierarchy

As discussed above, the Study Area is divided by 21st Street (100 feet wide). Within the Study Area smaller streets run in a regular grid pattern and provide access to the residential areas to the north and south of 21st Street.

Future No-Action
If the Proposed Actions are not approved the block form, street pattern and street hierarchy will remain as per existing conditions.

Future With-Action
If the Proposed Actions are approved the block form, street pattern and street hierarchy will remain as per existing conditions as the Proposed Actions would not result in any alterations to the surrounding road network. No new street will be built within the Study Area.

Streetscape Elements

The Study Area includes many street trees on 21st Street and the streets that intersect it. The residential streets surrounding 21st Street have sidewalks in good condition. 21st Street itself has wide sidewalks. There are bus shelters within the Study Area along 21st Street. Local buses run along 21st Street (Q69, Q100). The streets that run perpendicular to 21st Street do not contain crosswalks. There are many curb-cuts on both the main avenue and side streets.

Future No-Action
In the future without the Proposed Actions, the streetscape elements will remain.

Development within the Study Area is not expected to occur without the approval of the Proposed Actions.

Future With-Action

In the future with the Proposed Actions, the amount of street trees within the Study Area is expected to remain the same. No street infrastructure (such as benches, plazas, or bus shelters) would be removed as a result of the approval Proposed Actions. In total the Proposed Actions would not result in additional curb cuts on 21st Street. The remaining streetscape elements would otherwise remain.

Natural Features

There are no natural features in the Rezoning Area or within the surrounding 400 feet. Therefore, no natural features are visible from the Rezoning Area.

Assessment

Based on the above, the Proposed Actions would result in a higher density building than currently exist within the Study Area. These developments would be consistent with the ongoing developments along 21st Street. Further, previous city sponsored neighborhood plans along 21st Street encouraged development on larger commercial corridors and discouraged large developments from being constructed in the surrounding residential neighborhood. The larger mixed-use developments facilitated by the Proposed Actions are contextual with the surrounding commercial corridor. An illustrative display of building resulting from the Proposed Actions, as well as the newly permitted maximum permitted building envelopes, see **Figure 4-1 (Urban Design Diagram)**. Street wall regulations would require that these new buildings would be aligned, forming a more uniform street wall compared to the existing development.

The R6A/C1-4 district is anticipated to result in near continuous ground-floor commercial retail activity in the Future With-Action scenario. This will serve to further activate segments on 21st Street within the Project Area when compared to the existing and No-Action condition.

While these new buildings would be taller than adjacent properties, similar-sized developments are occurring in the surrounding area, as noted above, and would be consistent with the increasingly dense mixed-use character of the immediate area.

The Proposed Actions would not adversely affect the residential and mixed-use character of buildings within the Study Area. Lastly, the Proposed Actions would not affect any natural features.

Visual Resources

The Proposed Actions would not block the view of any natural resources, as no natural resources are within vicinity of the study area. Furthermore, there are no notable features or buildings in the immediate vicinity of the study area. Therefore, based on the criteria in the *CEQR Technical Manual,* the Proposed Actions would not result in the obstruction of views of a natural or built visual resource. In this context, the Proposed Actions would not result in the significant alteration of views from streets. Therefore, no significant impacts related to visual resources are expected.

Conclusion

The Proposed Actions would create additional density and allow a greater maximum height in an area along a commercial corridor. The Applicant feels the location and size of the affected area is appropriate, given the ongoing transition from a mix of densities to medium- and higher density mixed-use developments within the surrounding area, and would not impact the mixed-use character. Furthermore, the Proposed Actions would not affect any natural resources or public view corridors to notable features or buildings in the immediate vicinity of the Rezoning Area. Accordingly, no impacts to the urban design and/or visual resources of the area are expected.

21st Street Rezoning, Queens

Figure 4-1: Urban Design Diagram

No-Action Scenario

24th Avenue facing west (Site at left)



With-Action Scenario

24th Avenue facing west (Site at left)



Maximum Permitted Base Height (65')
Maximum Permitted Building Height (85')
Maximum Permitted Building Height (110')
Proposed Base Height
Proposed Building Height
Proposed Building Height

Urban Cartographics

21st Street Rezoning, Queens

Figure 4-2: Urban Design Diagram

No-Action Scenario

24th Avenue facing south (Site at right)



With-Action Scenario

24th Avenue facing south (Site at right)



Maximum Permitted Base Height (65')
Maximum Permitted Building Height (85')
Maximum Permitted Building Height (110')
Proposed Base Height
Proposed Building Height
Proposed Building Height

Urban Cartographics

21st Street Rezoning, Queens

Figure 4-3: Urban Design Diagram

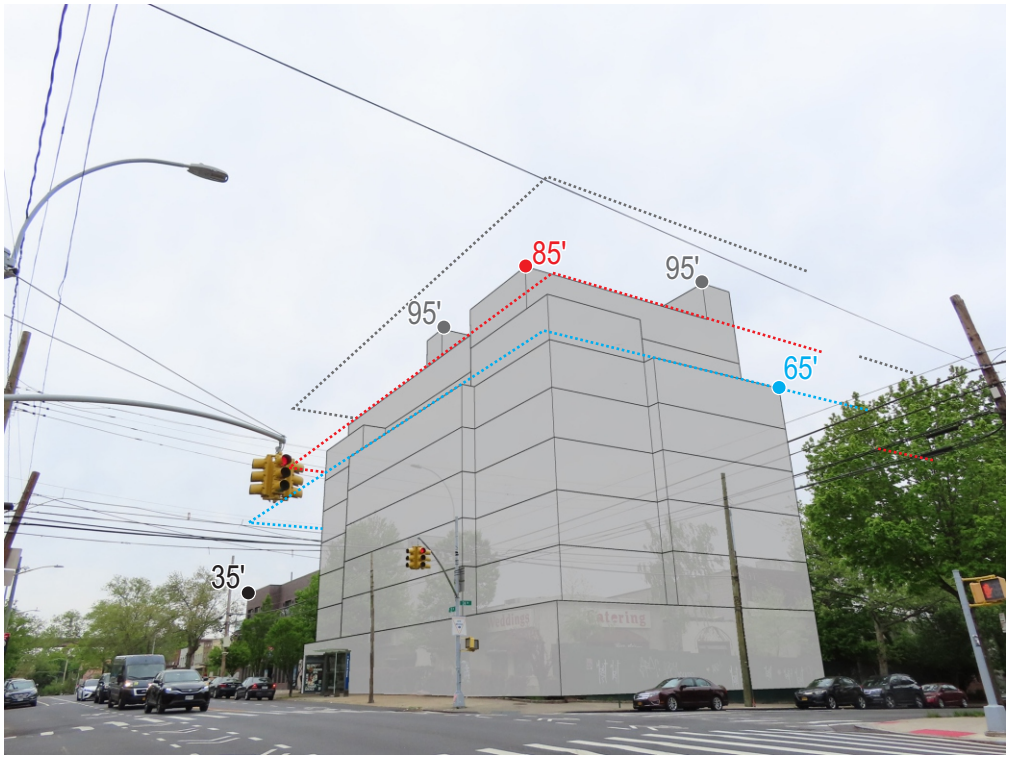
No-Action Scenario

21st Street facing east (Site at right)



With-Action Scenario

21st Street facing east (Site at right)



Maximum Permitted Base Height (65')
Maximum Permitted Building Height (85')
Maximum Permitted Building Height (110')
Proposed Base Height
Proposed Building Height
Proposed Building Height

Urban Cartographics

21st Street Rezoning, Queens

Figure 4-4: Urban Design Diagram

No-Action Scenario

21st Street facing south (Site at left)



With-Action Scenario

21st Street facing south (Site at left)



Maximum Permitted Base Height (65')
Maximum Permitted Building Height (85')
Maximum Permitted Building Height (110')
Proposed Base Height
Proposed Building Height
Proposed Building Height

Urban Cartographics

5. Hazardous Materials

Introduction

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 semivolatile organic compounds, methane, polychlorinated biphenyls, and hazardous wastes (defined as substances that are chemically reactive, ignitable, corrosive, or toxic). According to the CEQR Technical Manual, the potential for significant adverse impacts from hazardous materials can occur when: a) hazardous materials exist on a site and b) an action would increase pathways to their exposure; or c) an action would introduce new activities or processes using hazardous materials.

In accordance with the CEQR Technical Manual guidelines, an assessment was conducted to determine whether the proposed action could lead to increased exposure of people or the environment to hazardous materials and whether the increased exposure would result in significant adverse public health impacts or environmental damage.

Site Description

The subject property consists of three tax lots on two adjoining city blocks in the Astoria section of Queens, New York City, New York. Block 874, Lot 70 (21-16 24th Avenue) consists of a 13,106+/- square foot parking lot. The lot is paved with asphalt and surrounded by a chain-link fence. There is a small (approximately 100 square feet) parking attendant's kiosk located on the northwest part of the lot. No other buildings are located on this property. At the time of the site visit, there were three cars parked in this lot.

Block 876, Lot 12 (21-01 24th Avenue) is approximately 12,971 square feet in area, and consists of a vacant, 1-, 2-, and 3-story commercial building that was last occupied by Riccardo's by the Bridge, a catering hall and event venue. This building occupies the entire lot. Heating and air conditioning for the building were provided by rooftop, gas-fired heating, ventilation, and air conditioning (HVAC) units. Hot water was provided by a gas-fired boiler. Block 876, Lot 14 (23-91 21st Street) is a 2,594+/- square foot parcel that contains a vacant, 1-story commercial building. This building also occupies the entire lot and formerly contained the kitchen for Riccardo's by the Bridge.

Site History

Research into the history of the project site shows that the portion of the property at 21 16 24th Avenue has been used as a parking lot since the 1960s. Prior to this time, the lot was vacant and undeveloped from at least 1915 to the early 1960s. The 1898 Sanborn map

shows a small, octagonal structure on the southwest corner of this lot. A notation on the map states "Pump 1st, Tank 2nd". Given this notation, it is likely that this structure was a small water tower or similar structure.

The parts of the property at 21-01 24th Avenue and 23-91 21st Street have been occupied by a catering hall and event venue since at least the 1960s. Prior to this time, the lot at 21-01 24th Avenue was occupied by several small buildings containing retail stores, storage space, detached 1-car garages, stables, a bowling alley, a summer garden, a pavilion, and a dwelling. The identified former occupants/uses of the retail stores include bars and restaurants (Jos. J. Oetzel Soft Drinks, Dutch Tavern, Pheasant Tavern, Riccardo's).

The identified former uses of the property are not types of businesses or operations that typically involve the storage or use of hazardous substances or petroleum products in their operations. Given the identified former uses of the project site, it is considered unlikely that these uses would have impacted the property.

Site Drainage

Typical lavatory drainage structures such as sinks and toilets are located in the subject building. The drainage destination of these structures is not known; however, it is likely that they discharge to the municipal sewer system.

Petroleum Storage Tanks

No tank fillports, vent lines, or other indications of the presence of petroleum storage tanks were observed at the subject property during the site visit. The project site does not appear in the New York State Department of Environmental Conservation (NYSDEC) Petroleum Bulk Storage database, which lists all registered facilities with a total combined petroleum storage capacity in excess of 1,100 gallons. There were not any Oil Burner applications found on file for the subject property in the New York City Department of Buildings records reviewed.

Asbestos/Lead-Based Paints/PCBs

Given the age of the building (completed prior to 1970), it is possible that it contains asbestos building materials and lead-based paints in underlying layers. Given the former uses of the building, it is considered unlikely to contain electrical transformers or other large electrical equipment containing PCBs.

Regulatory Agency Database Records

The property does not appear in the Federal or State environmental databases reviewed including the United States Environmental Protection Agency (USEPA's) Superfund, CERCLIS or ERNS databases, the RCRA Hazardous Waste Handler database or the

Hazardous Waste Treatment/Storage/Disposal Facilities list, or the NYSDEC Spill Logs or Petroleum Bulk Storage (PBS) database, Solid Waste Facilities database, Voluntary Cleanup Program database, Brownfield Cleanup Program database, Registered Dry Cleaner database, or the Registry of Inactive Hazardous Waste Disposal Sites.

Surrounding Land Uses

The portion of the property at 21-16 24th Avenue is adjoined by residential uses on all sides. The portion of the property at 21-01 24th Avenue and 23-91 21st Street are adjoined by residential uses to the south and east. Adjacent and to the north of these lots is a recently constructed, 3-story mixed use building (i.e., residential with ground floor commercial). Adjacent and to the west is 21st Street, beyond which is a 5-story, mixed-use building (i.e., residential with ground floor retail). Land uses in the immediate vicinity of the property (i.e., within approximately 500 feet of the site) are comprised of a mix of residential uses, commercial/retail uses, and public parks. No gasoline filling stations or heavy industrial uses were located in the immediate vicinity of the project site.

A review of Sanborn historical maps shows that land uses in the immediate vicinity of the property have historically contained residential uses, commercial/retail uses, and public parks since at least the 1930s. The property located adjacent and to the west of Block 876, Lots 12 & 14 was formerly occupied by a silk mill (Newwitter & Migel Gotham Silk Mill and later the H.R. Mallinson & Co. Silk Mill). This property has since been re-developed with a mixed-use building (i.e., residential with ground floor retail). There are not any NYSDEC-reported spill incidents at this location.

The 1967 thorough 2006 Sanborn maps show a retail dry cleaner in the building at 23-81 21st Street, which is adjacent and to the north of lot at 23-91 21st Street (Block 876, Lot 14). There are not any NYSDEC-reported spill incidents at this adjacent location. This dry cleaner no longer operates at this location, and the site has been since re-developed with a recently constructed, 3-story mixed-use building (i.e., residential with ground floor commercial). The building approximately 250 feet west of the project site was formerly occupied by a manufacturing use (H.R. Mallinson & Co. Silk Weaving and later Eagle Electric Manufacturing Co). This building has since been converted to residential use and there are not any NYSDEC-reported spill incidents identified at this location.

Based on the contamination identified, DEP recommends that an E-762 Designation for hazardous materials should be placed on the zoning map pursuant to Section 11-15 of the New York City Zoning Resolution for Projected Development Site 1 and Projected Development Site 2. The E-762 Designation will ensure that testing and mitigation will be provided as necessary before any future development and/or soil disturbance. Further hazardous materials assessments should be coordinated through the Mayor's Office of Environmental Remediation. The Environmental Assessment Statement should also be revised as appropriate to incorporate the placement of the E-762 Designation.

Based on review of these reports, DEP recommends an E-762 designation for hazardous materials be placed on the zoning map in connection with this new application. The Applicant will be directed to coordinate further hazardous materials assessments through the Mayor's Office of Environmental Remediation (OER).

The E-762 designation requirements 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.

Conclusion

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527-13 of the project site referred to as the 21st Street Rezoning, located at 21-01 24th Avenue, 21-16 24th Avenue, and 23-91 21st Street, Queens, N.Y., the property. Any exceptions to or deletions from this standard are described in section A of the full Phase I report. This assessment has revealed no evidence of *Recognized Environmental Conditions, Historical Recognized Environmental Conditions,* or *Controlled Recognized Environmental Conditions* in connection with the property. Therefore, no significant adverse hazardous materials impacts are anticipated.

With this E-762 designation in place, no significant adverse impacts related to hazardous materials are expected, and no further analysis is warranted. Therefore, there is no potential for the Proposed Actions to result in significant adverse impacts related to hazardous materials on Projected Development Sites.

6. Air Quality

Ambient air quality, defined as pollutant levels in the surrounding environment to which the public has access, may be affected by air pollutants produced by motor vehicles, referred to as "mobile sources"; by fixed facilities, usually referenced as "stationary sources"; or by a combination of both. The pollutants of concern include six criteria pollutants—known as "criteria" pollutants, and air toxics or toxic air pollutants known as noncriteria pollutants, which include hazardous air pollutants (HAPs) and many other pollutants. Under the City Environmental Review (CEQR), an air quality assessment determines both a proposed project's effects on ambient air quality and the quality of the ambient air at the project. This analysis was conducted in accordance with the *2021 CEQR Technical Manual* methodology.

Project Description

The Project Area includes Block 876, Lots 12, 14, and 7501, and Block 874, Lots 68, 168, 268, 69, 169, 269, and portion of 70 and 167 in the Steinway neighborhood of Queens Community District 1. The Project Area is located within the blocks bounded by 23rd Terrace to the north, 23rd Street to the east, 24th Road to the south, and 21st Street to the west. The Proposed Actions would result in an increase of development potential (including height, bulk, and total FAR) on the Applicant-controlled Projected Development Site 1 (Block 876, 12 and 14) and Projected Development Site 2 (Block 874, Lot 70).

The Projected Development Site 1 is currently improved with two one-story buildings containing a total of 19,788 gross square feet (gsf) of local retail. The Projected Development Site 2 is currently improved with an accessory parking lot with 40 spaces. Absent the Proposed Actions, it is assumed that Projected Development Site 1 and Projected Development Site 2 within the Project Area would remain the same as the existing condition. New development within the remainder of the Project Area is unlikely and No-Action conditions are conservatively assumed to be the same as existing conditions.

Under Future With-Action conditions, the Applicant-controlled Projected Development Site 1 would be developed with an eight-story mixed-use building, containing 53,829 gsf of residential space, 6,859 gsf of commercial space, and 8,050 gsf of parking space for 23 accessory parking spaces. The proposed building would be 85 feet tall. The Projected Development Site 1's Reasonable Worst Case Development Scenario (RWCDS) would facilitate a similar dimension building.

The Applicant-controlled Projected Development Site 2 would be developed with a seven-story mixed-use building, containing 41,480 gsf of residential space, 7,997 gsf of commercial space, and 6,300 gsf of parking space for 18 accessory parking spaces. The proposed building would be 75 feet tall. The Projected Development Site 2's RWCDS would facilitate an 85 feet tall building. The proposed building heights were considered for the air quality analysis.

Air Quality Standards, Regulations, and Benchmarks

Criteria Pollutants

The US Environmental Protection Agency (EPA) has established national ambient air quality standards (NAAQS) for six of the most common air pollutants—known as "criteria" pollutants. The presence of these pollutants in ambient air is generally due to numerous diverse and widespread sources of emissions. The NAAQS primary standards are designed to protect public health with adequate margin of safety. The NAAQS secondary standards are designed to protect the public welfare from adverse effects, including those related to effects on soils, water, vegetation, visibility, and other aspects. As required by the Clean Air Act, EPA periodically conducts comprehensive reviews of the scientific literature on health and welfare effects associated with exposure to the criteria air pollutants. The NAAQS have been adopted as the ambient air quality standards for the State of New York.

In addition to the NAAQS, the *CEQR Technical Manual* requires that projects subject to CEQR apply particulate with aerodynamic less than or equal to 2.5 microns ($PM_{2.5}$) and carbon monoxide (CO) significant impact criteria. The *CEQR Technical Manual de minimis* criteria set allowable incremental increase in CO and $PM_{2.5}$ concentrations that would result as a consequence of a proposed project.

Non-Criteria Pollutants

As mentioned, New York State has adopted the national standard, NAAQS. In addition, the NYSDEC has established guidelines for maximum allowable concentration of noncriteria air contaminants, also referred to as toxic air contaminants, which are potentially toxic or carcinogenic pollutants. These include 188 hazardous air pollutants (HAPs) which are also regulated by the EPA. The maximum allowable guidelines set a maximum 1-hour and annual averaging time concentrations that are published (February 12, 2021 publication) in the DAR-1 Annual and Short-term Guideline Concentration (AGC/SGC Table).

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

Mobile Source

According to the *CEQR Technical Manual,* projects may result in significant mobile source air quality impacts when they increase or cause a redistribution of traffic, create any other mobile sources of pollutants (e.g., diesel trains, helicopters, boats), or add new uses near mobile sources (e.g., roadways, garages, parking lots). Certain types of projects may require further analysis, including microscale analyses.

Screening Assessment
The proposed project would not exceed the minimum development density potentially requiring a transportation analysis, as shown in Table 16-1 of the transportation chapter of the *2021 CEQR Technical Manual*. As such, the projected traffic volumes would not exceed the carbon monoxide (CO) screening threshold defined in the 2021 *CEQR Technical Manual* (170 peak hour vehicle trips at an intersection in the study area). Considering the low levels of project-generated traffic, emissions of particulate matter (PM) would not exceed the *de minimis* thresholds referenced in the *2021 CEQR Technical Manual*. Projected Development Site 1 Reasonable Worst Case Development Scenarios (RWCDSs) includes 23 parking spaces, and Projected Development Site 2 RWCDS includes 18 parking spaces. The incremental parking space between the With-Action and No-Action scenarios is 1, which is under the threshold for a detailed parking garage analysis. Therefore, air quality impact due to the proposed parking garage is unlikely.

In addition, the Proposed Actions would not result in operable windows or air intakes within 200 feet of an atypical roadway, nor would it result in creation of a covered roadway or be affect by covered roadway, and nor would it result in a new sensitive receptor placed near an existing large parking facility or significantly increase the vehicle miles traveled in a large area. As such, the Proposed Actions mobile source screens out, and no detailed analysis is warranted.

Stationary Source

According to the *CEQR Technical Manual*, air quality analyses of stationary sources may be warranted if a project would (i) create new stationary sources of pollutants – such as emission stacks of industrial plants, hospitals, other large institutional uses, or even a building's boilers – that may affect surrounding uses; (ii) introduce certain new uses near existing or planned emissions stacks that may affect the use, or (iii) introduce

structures near such stacks so that changes in the dispersion of emissions from the stacks may affect surrounding uses.

Heating and Hot Water Systems

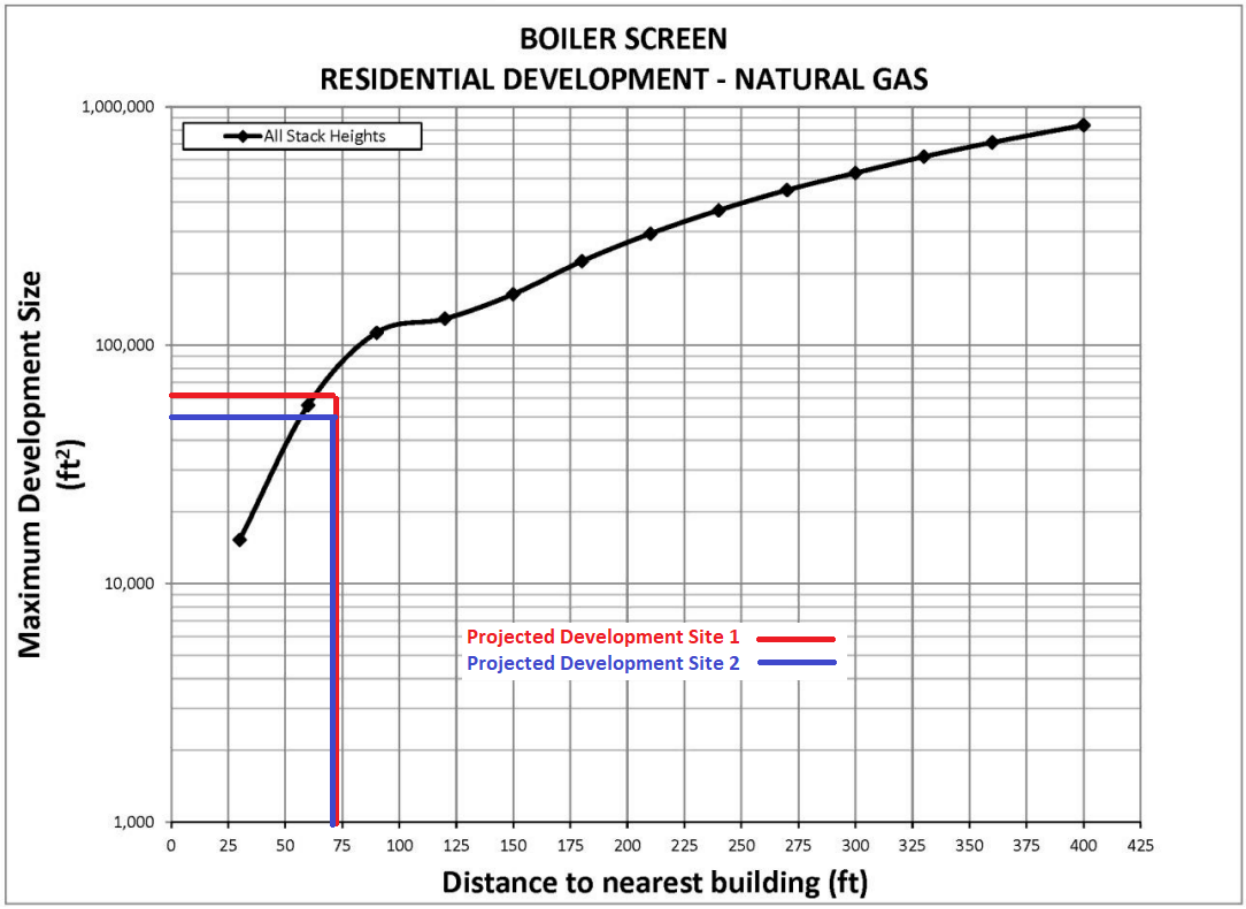
The heating/hot water, ventilation, and air conditioning (HVAC) systems analysis considered the potential for emissions from the HVAC system(s) of the Projected Development Site 1 to significantly impact existing land uses (project-on-existing). Based on the *CEQR Technical Manual*, a preliminary screening assessment is to be conducted as a first step to predict whether the potential impacts of the heat and hot water system(s) boiler emissions can be significant. A detailed analysis is required if the screening assessment failed. The following screening assessments were conducted:

The *2021 CEQR Technical Manual Appendices* Figure App 17-2 nomograph was used for the screening assessment. The nomograph depicts the size of the development versus the distance below which the potential impact can occur and provides a conservative estimate of the threshold distance. In addition, as screening analysis is only applicable to a single smokestack, for the purposes of a cumulative screening analysis emissions from multiple stacks were combined in a single stack situated as close as possible to the receiving building.

HVAC Screening - Project-on-Project

Natural gas was assumed to be the type of fuel used in the Projected Development Sites 1 and 2 HVAC systems. The CEQR nomograph depicted on Figure App 17-2 of the *CEQR Technical Manual Appendices* was used for the screening analysis. Figure App 17-2 boiler screen nomograph, of the *CEQR Technical Manual Appendices*, is applicable to natural gas fueled boiler serving a residential development. Projected Development Site 1 was analyzed as an 85-foot-tall building, containing 60,688 gsf, which is the RWCDS excluding the building parking facility gsf. Projected Development Site 2 was analyzed as a 75-foot-tall building, containing 49,477 gsf, which is the RWCDS excluding the building parking facility gsf. A distance of 72 feet was applied in the screening analysis nomograph, which is the distance between Projected Development Site 1 and Projected Development Site 2. **Figure 6-1** (using Figure App 17-2 of the *CEQR Technical Manual Appendices*) shows the Projected Development Site 2 on Projected Development Site 1 screening analysis.

Figure 6-1: Project-on-Project HVAC Screen



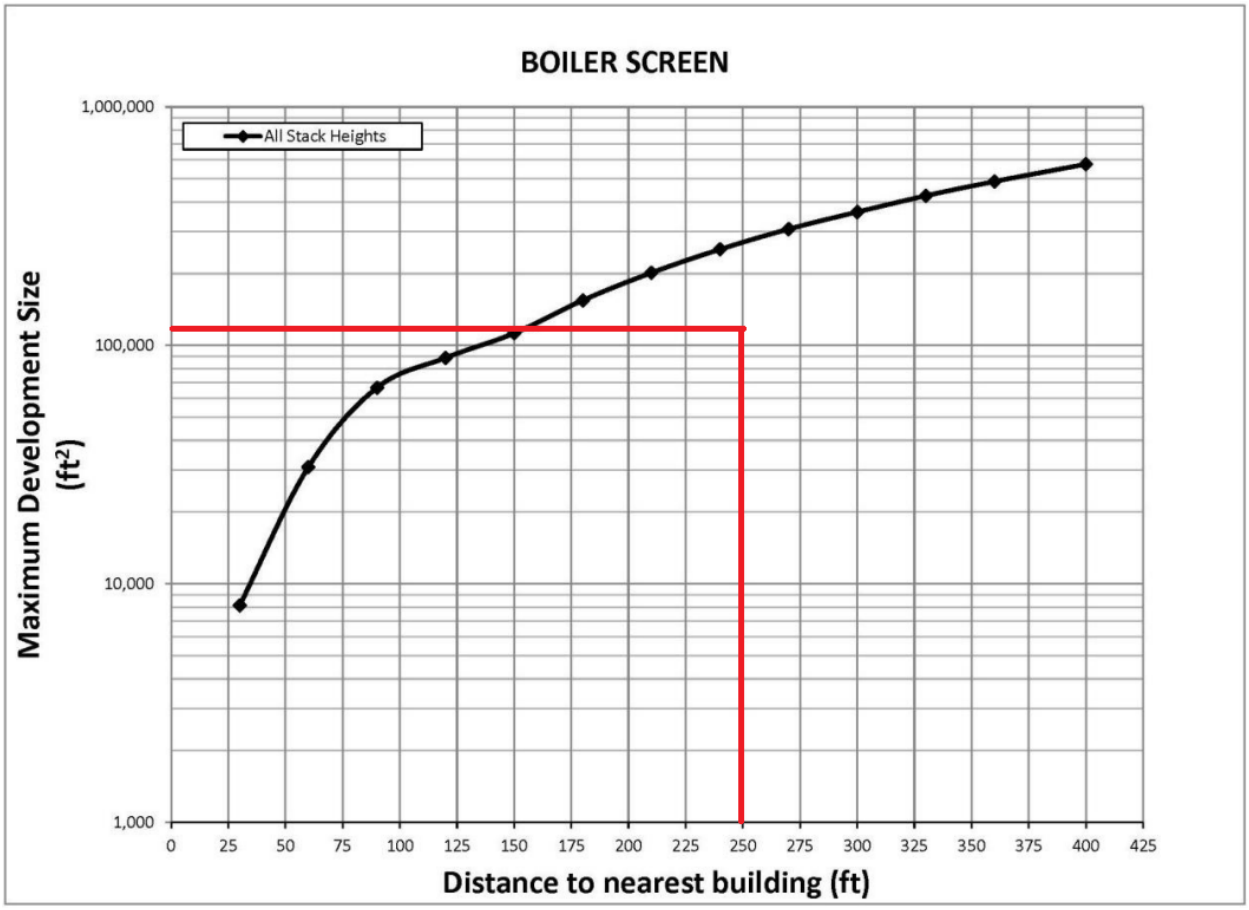
As seen in the screening analysis (see **Figure 6-1**), using the nomograph provided in the *CEQR Technical Manual Appendices*, the Projected Development Sites 1 and 2 gsf intersect the distance between the buildings below the curve for natural gas-fired HVAC systems. Therefore, Projected Development Sites 1 and 2 pass the HVAC screening analysis.

HVAC Screening - Project-on-Existing

The *CEQR Technical Manual* Figure 17-3 nomograph was used for the project-on-existing screening assessment. Projected Development Sites 1 and 2 were analyzed as a single 110,165 gsf building, which is the floor area of Projected Development Site 1 and Projected Development Site 2 combined gsf, excluding the parking facilities gsf. A height of 75 feet was assumed, which is the Projected Development Site 2 proposed building height. The nearest building of similar or greater height is the seven-story, 79-

foot-tall[1], mixed residential and commercial building at 19-19 24 Avenue (Block 890, Lot 7501). The seven-story building at 19-19 24 Avenue (Block 890, Lot 7501) is located approximately 250 feet from Projected Development Site 1. **Figure 6-2** shows the project-on-existing screening analysis.

Figure 6-2: Project on Existing – HVAC Screen



As shown in the screening analysis (see **Figure 6-2**), using the nomograph provided in the *CEQR Technical Manual*, the Projected Development Sites 1 and 2 combined gsf, excluding the developments parking facilities gsf, would fall below the curve for fossil fuel fired HVAC system. Therefore, the Proposed Actions passes the HVAC screening analysis on existing land uses.

Existing Stationary Sources

[1] New York City Department of Building (DOB). 2008. "Certificate of Occupancy." CO No. 401485638T002.

Industrial Sources

Per the *CEQR Technical Manual*, projects that would result in new uses (particularly schools, hospitals, parks, and residences) within 400 feet of manufacturing processing facilities may result in potentially significant adverse impacts. The analysis first determines if there are any existing manufacturing uses within the 400-foot study area containing exhaust stacks, vents, or other emission sources that may have the potential to adversely affect the uses introduced by the project. If warranted, an air dispersion analysis is then conducted for any existing industrial source(s) located in the study area.

Existing manufacturing uses with exhaust stacks, vents, or other emission sources that may have the potential to adversely affect the uses introduced by the project were identified by reviewing the DEP online Clean Air Tracking System (CATS) database, the NYSDEC online database (DECinfo Locator[2]), and through a fieldwork study. The fieldwork study was conducted on March 22nd, 2023.

The study area encompasses all or part of Blocks 863, 865, 873, 874, 875, 876, 889, 890, and 898, and includes properties along 19th Street, 21st Street, 23rd Street, 24th Street, 23rd Drive, 23rd Terrace, 24th Avenue, 24th Road, and 24th Drive. Land uses in the study area consist primarily of residential uses, public parks, and retail/professional office uses located along 21st Street and 24th Avenue. There were not any industrial or manufacturing uses identified in the study area.

The results of the study are as follows:

There were not any facilities with DEP processing permits found within the study area in a search of the DEP CATS database. No "major" source, "large" source, or a manufacturing processing facility with an Air Facility Registration (minor source) were identified in the NYSDEC DECinfo Locator database. There were not any potential sources of toxic air emissions observed in the study area during the field survey. There is a tall stack located approximately 275 feet west/northwest of the project site, at 19-19 24th Avenue. This stack is currently not in use. The stack was used when the building at that location was occupied by a silk knitting mill (H. R. Mallinson & Co., Silk Mill), and later by Eagle Electric Co., Inc., a manufacturer of electrical equipment such as switches, fuses, and outlets. This building was expanded and converted to residential uses with ground-floor retail stores in the early 2000s. This building is currently known as Pistilli River View East.

[2] New York State Department of Environmental Conservation. 2023. "DECinfo Locator." Accessed April 5, 2023. https://gisservices.dec.ny.gov/gis/dil/.

Conclusion

Based on the analysis, conditions associated with the Proposed Actions would not result in any violations of the ambient air quality standards. The summary results of the analysis are as follows:

- Project-increment traffic associated with the Proposed Actions will be less than the screening threshold that requires a detailed analysis.

- No existing industrial source within 400 feet of the Project Area, nor major/large source or odor producing facility within 1,000 feet of the Project Area were identified. Therefore, no significant adverse air quality impact is predicted from existing emission sources.

- No significant impact was predicted in the HVAC screening analysis with natural gas being the type of fuel used in the Projected Development Sites HVAC systems.

Accordingly, based on the results of the analyses described above, the following (E-762) Designation would be required:

(E-762) Designation

Block 876, Lots 12 and 14 (Projected Development Site 1): ***Any new residential or commercial development on the above-referenced property must exclusively use natural gas as the type of fuel for heating, ventilating and air conditioning (HVAC) system and hot water equipment and ensure that the HVAC system and hot water equipment stack is located at the building's highest level and at a minimum of 88 feet above grade to avoid any potential significant adverse air quality impacts.***

Block 874, Lot 70 (Projected Development Site 2): ***Any new residential or commercial development on the above-referenced property must exclusively use natural gas as the type of fuel for heating, ventilating and air conditioning (HVAC) system and hot water equipment and ensure that the HVAC system and hot water equipment stack is located at the building's highest level and at a minimum of 78 feet above grade to avoid any potential significant adverse air quality impacts.***

7. Noise

Introduction

Environmental Studies Corp (ESC) conducted noise monitoring on Wednesday, November 15, 2023 in support of zoning map amendment. The Project Area includes Block 876, Lots 12, 14, and 7501, and Block 874, Lots 68, 168, 268, 69, 169, 269, and portion of 70 and 167 in the Steinway neighborhood of Queens, Community District 1.

An assessment of the potential for adverse effects on project occupants from ambient noise is warranted. The projected development would not create a significant stationary noise generator. Additionally, project-generated traffic would not double vehicular traffic on nearby roadways, and therefore would not result in a perceptible increase in vehicular noise. Therefore, this noise assessment is limited to an assessment of ambient noise that could adversely affect occupants of the development. The predominant noise source at the Affected Area is vehicular traffic on surrounding streets.

Framework of Noise Analysis

Noise is defined as any unwanted sound, and sound is defined as any pressure variation that the human ear can detect. Humans can detect a large range of sound pressures, from 20 to 20 million micropascals, but only those air pressure variations occurring within a particular set of frequencies are experienced as sound. Air pressure changes that occur between 20 and 20,000 times a second, stated as units of Hertz (Hz), are registered as sound.

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

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

the characteristic of the human hearing mechanism, to simulate the frequency sensitivity of human hearing. The A-weighting is the most commonly used for environmental measurements, and sound levels measured using this weighting are denoted as dBA. The letter "A" indicates that the sound has been filtered to reduce the strength of very low and very high frequency sounds, much as the human ear does. C-weighting gives nearly equal emphasis to sounds of most frequencies. Mid-range frequencies approximate the actual (unweighted) sound level, while the very low and very high frequency bands are significantly affected by C-weighting.

Table 7-1: Noise Levels of Common Sources

Sound Source	SPL (dB(A))
Air Raid Siren at 50 feet	120
Maximum Levels at Rock Concerts (Rear Seats)	110
On Platform by Passing Subway Train	100
On Sidewalk by Passing Heavy Truck or Bus	90
On Sidewalk by Typical Highway	80
On Sidewalk by Passing Automobiles with Mufflers	70
Typical Urban Area	60-70
Typical Suburban Area	50-60
Quiet Suburban Area at Night	40-50
Typical Rural Area at Night	30-40
Isolated Broadcast Studio	20
Audiometric (Hearing Testing) Booth	10
Threshold of Hearing	0
Notes: A change in 3dB(A) is a just noticeable change in SPL. A change in 10 dB(A)Is perceived as a doubling or halving in SPL.	
Source: 2021 CEQR Technical Manual	

The following is typical of human response to relative changes in noise level:

- 3-dBA change is the threshold of change detectable by the human ear;

- 5-dBA change is readily noticeable; and
- 10-dBA change is perceived as a doubling or halving of the noise level.

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

- L_{eq} is the continuous equivalent sound level. The sound energy from the fluctuating SPLs is averaged over time to create a single number to describe the mean energy, or intensity, level. High noise levels during a measurement period will have a greater effect on the L_{eq} than low noise levels. L_{eq} has an advantage over other descriptors because L_{eq} values from various noise sources can be added and subtracted to determine cumulative noise levels.
- L_{max} is the highest SPL measured during a given period of time. It is useful in evaluating L_{eq}s for time periods that have an especially wide range of noise levels.
- $L_{eq(24)}$ is the continuous equivalent sound level over a 24-hour time period.

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

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

Noise Standards and Guidelines

In 1983, the New York City Department of Environmental Protection (NYCDEP) adopted the City Environmental Quality Review (CEQR) noise exposure guidelines for exterior noise levels. As shown in Table 7-2 below, noise standards classify noise exposure into four categories based on noise level limits and land use, for vehicular traffic, rail, and aircraft noise sources: Acceptable, Marginally Acceptable, Marginally Unacceptable and

Clearly Unacceptable, Table 19-3 of the *CEQR Technical Manual* defines attenuation requirements for buildings based on exterior noise exposure levels. Recommended noise attenuation values for buildings are designed to maintain interior noise levels of 45 dBA (L_{10} *or Ldn, depending on the source*) or below.

Table 7-2: Noise Exposure Guidelines for Use in City Environmental Impact Review

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

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

Notes:

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

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

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

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

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

Table 7-3 CEQR TM: Attenuation Values to Achieve Acceptable Interior Noise Levels

	Marginally Unacceptable				Clearly Unacceptable
Noise Level with Proposed Project	70 < L_{10} ≤ 73	73 < L_{10} ≤ 76	76 < L_{10} ≤ 78	78 < L_{10} ≤ 80	80 < L_{10}
Attenuation[1]	(i)	(ii)	(iii)	(iv)	See Notes 2

	28 dB(A)	31 dB(A)	33 dB(A)	35 dB(A)	

Source: New York City of Environmental Protection

Notes:

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

2 The required attenuation value is the difference between Lbuild and Linterior,, using the appropriate noise descriptor

Where:

Lbuild is the projected noise level under the build condition rounded up to the whole number

Linterior is the designed interior noise level (45 dB(A) for vehicular noise, 40 dB(A) for aircraft and train noise

Measurement Location and Equipment

Noise measurement was conducted during peak weekday vehicular travel periods (AM, Midday, PM) on a typical midweek day. The weather condition is normal with calm wind and is considered suitable for an ambient noise measurement.

A Type 1 sound level meter (Larson Davis LXT) with wind shield was used to conduct the noise monitoring. The meter was calibrated prior to and following each monitoring session. The meter was placed on a tripod at a height of approximately five feet above the ground, away from any reflective surfaces. Since the project sit is surrounded by scaffolding, the noise measurement locations were selected at the other side of the roadway.

The noise measurements were conducted at the following locations (as shown in Figure 7-1):

L1: at the midblock of 24th Ave between 21St Street and 23rd Street (Figure 7-2);

L2: at the frontage of the Projected Development Site 1 façade facing 21St Street (Figure 7-3).

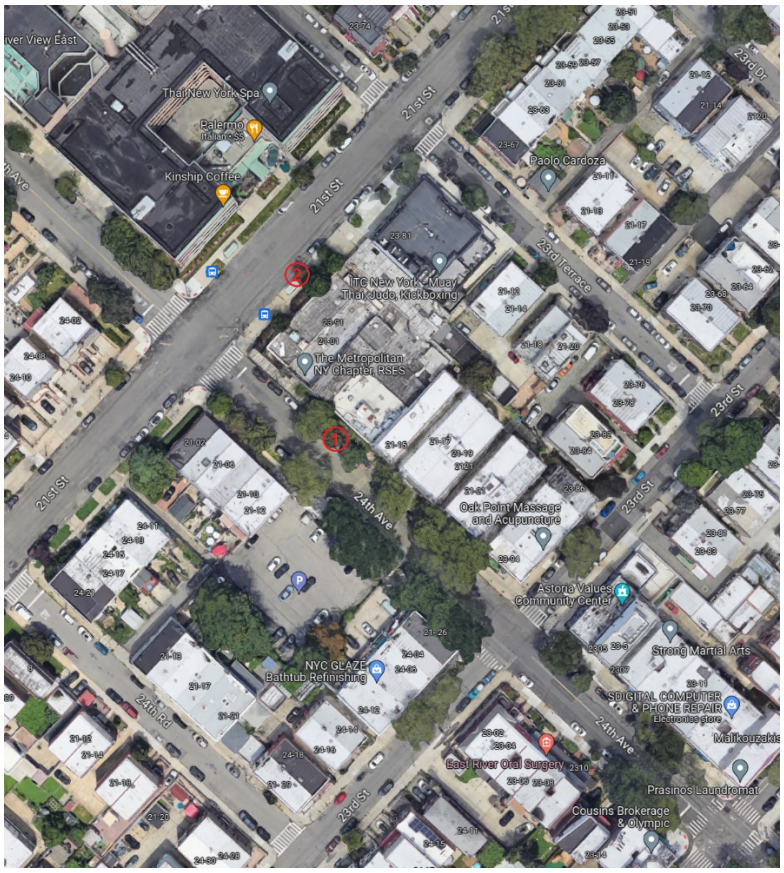


Figure 7-1: Noise Monitoring Locations



Figure 7-2: Meter Setup at Location 1



Figure 7-3: Meter Setup at Location

Measurement Conditions

Monitoring was conducted during typical midweek conditions, on November 15, 2023 (Wednesday). The weather was dry and wind speeds were moderate during all monitoring periods. The sound meter was calibrated before and after each monitoring session.

Existing Conditions

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

Table 7-4 and ***Table 7-5*** below *contain the results for the measurements taken at the Project Sites:*

Table 7-4

Noise Levels (dB) at Location 1

Nov 15, 2023 (Wednesday)

Time	**7:24 am – 7:44 am**	**12:17 pm – 12:37 pm**	**16:25 pm – 16:45 pm**
L_{eq}	65.0	66.8	63.7
L_{max}	83.4	91.4	81.3
L_{10}	66.8	66.9	66.6
L_{50}	58.2	59.6	60.4
L_{90}	52.6	56.8	56.7
L_{min}	51.0	55.0	54.9

Table 7-5

Noise Levels (dB) at Location 2

Nov 8, 2023 (Wednesday)

Time	**7:47 am – 8:07 am**	**12:39 pm – 12:59 pm**	**16:47 pm – 17:07 pm**
L_{eq}	68.3	65.9	64.6
L_{max}	90.0	79.6	74.4
L_{10}	**70.5**	68.5	68.1
L_{50}	63.9	62.2	62.5

L_{90}	57.2	56.0	56.9
L_{min}	52.5	53.8	55.2

Table 7-6 and ***Table 7-7*** *below contain the traffic counts and vehicle classifications during each monitoring period:*

Table 7-6

Location 1: *Traffic volumes and vehicle classifications*

Vehicle Classification	7:24 am – 7:44 am	12:17 pm – 12:37 pm	16:25 pm – 16:45 pm
Car/ Taxi/ Van/SUV	46/32	30/19	60/22
Bus	1/1	1/0	0/1
Medium Truck	4/0	4/0	1/2
Heavy Truck	7/0	1/1	0/0
Motorcycle	0/0	0/0	0/1

- EB/WB

Table 7-7

Location 2: *Traffic volumes and vehicle classifications*

Vehicle Classification	7:47 am – 8:07 am	12:39 pm – 12:59 pm	16:47 pm – 17:07 pm
Car/ Taxi/ Van/SUV	123/138	61/85	74/123
Bus	11/9	5/2	9/7
Medium Truck	7/1	3/6	1/4
Heavy Truck	3/2	2/1	0/1
Motorcycle	0/0	0/0	1/0

- SB/NB

Mobile Source

Since the Proposed Project is not expected to generate sufficient vehicular traffic to exceed the threshold for a detailed transportation analysis, according to the 2021 CEQR

Technical Manual, the Proposed Project would not result in a doubling of noise passenger car equivalents (PCEs), which would be necessary to cause a 3-dBA increase in noise levels. Therefore, the Proposed Action Project would not cause result in a significant adverse vehicular noise impact.

Stationary Source

It is assumed that the building mechanical systems (i.e., HVAC systems) would be designed to meet all applicable noise regulations (i.e., Subchapter 5, §24-227 of the New York City Noise Control Code, the New York City Department of Buildings Code) and to avoid producing levels that would result in any significant increase in ambient noise levels. Therefore, the Proposed Actions would not result in any significant adverse noise impacts related to building mechanical equipment.

Determination of Impacts/Building Attenuation Requirements

The 2021 *CEQR Technical Manual* Table 7-2 contains noise exposure guidelines. For residential use such as would occur under the proposed action, an L_{10} of between 65 and 70 dB(A) is identified as Marginally Acceptable general external exposure, an L_{10} of between 70 and 80 dB(A) is identified as Marginally Unacceptable general external exposure.

Based on the highest measured L_{10} noise level of 66.9 dBA during midday peak period at Location 1, no window/wall attenuation is required for the façade facing 24th Avenue. Based on the highest measured L_{10} noise level of 70.5 dBA during AM peak period at Location 2, window/wall attenuation of 28 dBA is required for the façade facing 21st Street. Therefore, there would be no potential adverse noise impacts from the proposed action.

To implement these attenuation requirements, it is anticipated that an (E) Designation (E-762) for noise would be applied to the Development Site specifying the appropriate amount of window/wall attenuation and an alternate means of ventilation. The text for the (E) Designation (E-762) would be as follows:

Projected Development Site 1 (Block 876, Lots 12, and 14)

In order to ensure an acceptable interior noise environment, future residential/community facility uses must provide a closed-window condition with a minimum of 28 dBA window/wall attenuation on the façade facing 21st Street in order

to ensure interior level not greater than 45 dBA for residential and community facility uses. To maintain a closed-window condition, an alternate means of ventilation must also be provided, Alternate means of ventilation includes, but is not limited to, central air conditioning.

APPENDIX A: PHASE I ENVIRONMENTAL ASSESSMENT EXECUTIVE SUMMARY

B. EXECUTIVE SUMMARY

Site Description

The subject property consists of three tax lots on two adjoining city blocks in the Astoria section of Queens, New York City, New York. Block 874, Lot 70 (21-16 24th Avenue) consists of a 13,106+/- square foot parking lot. The lot is paved with asphalt and surrounded by a chain-link fence. There is a small (approximately 100 square feet) parking attendant's kiosk located on the northwest part of the lot. No other buildings are located on this property. At the time of the site visit, there were three cars parked in this lot.

Block 876, Lot 12 (21-01 24th Avenue) is approximately 12,971 square feet in area, and consists of a vacant, 1-, 2-, and 3-story commercial building that was last occupied by Riccardo's by the Bridge, a catering hall and event venue. This building occupies the entire lot. Heating and air conditioning for the building were provided by rooftop, gas-fired heating, ventilation, and air conditioning (HVAC) units. Hot water was provided by a gas-fired boiler. Block 876, Lot 14 (23-91 21st Street) is a 2,594+/- square foot parcel that contains a vacant, 1-story commercial building. This building also occupies the entire lot and formerly contained the kitchen for Riccardo's by the Bridge.

Site History

Research into the history of the project site shows that the portion of the property at 21-16 24th Avenue has been used as a parking lot since the 1960s. Prior to this time, the lot was vacant and undeveloped from at least 1915 to the early 1960s. The 1898 Sanborn map shows a small, octagonal structure on the southwest corner of this lot. A notation on the map states "Pump 1st, Tank 2nd". Given this notation, it is likely that this structure was a small water tower or similar structure.

The parts of the property at 21-01 24th Avenue and 23-91 21st Street have been occupied by a catering hall and event venue since at least the 1960s. Prior to this time, the lot at 21-01 24th Avenue was occupied by several small buildings containing retail stores, storage space, detached 1-car garages, stables, a bowling alley, a summer garden, a pavilion, and a dwelling. The identified former occupants/uses of the retail stores include bars and restaurants (Jos. J. Oetzel Soft Drinks, Dutch Tavern, Pheasant Tavern, Riccardo's).

The identified former uses of the property are not types of businesses or operations that typically involve the storage or use of hazardous substances or petroleum products in their operations. Given the identified former uses of the project site, it is considered unlikely that these uses would have impacted the property.

Site Drainage

Typical lavatory drainage structures such as sinks and toilets are located in the subject building. The drainage destination of these structures is not known; however, it is likely that they discharge to the municipal sewer system.

Petroleum Storage Tanks

No tank fillports, vent lines, or other indications of the presence of petroleum storage tanks were observed at the subject property during the site visit. The project site does not appear in the New York State Department of Environmental Conservation (NYSDEC) Petroleum Bulk Storage database, which lists all registered facilities with a total combined petroleum storage capacity in excess of 1,100 gallons. There were not any Oil Burner applications found on file for the subject property in the New York City Department of Buildings records reviewed.

Asbestos/Lead-Based Paints/PCBs

Given the age of the building (completed prior to 1970), it is possible that it contains asbestos building materials and lead-based paints in underlying layers. Given the former uses of the building, it is considered unlikely to contain electrical transformers or other large electrical equipment containing PCBs.

Regulatory Agency Database Records

The property does not appear in the Federal or State environmental databases reviewed including the United States Environmental Protection Agency (USEPA's) Superfund, CERCLIS or ERNS databases, the RCRA Hazardous Waste Handler database or the Hazardous Waste Treatment/Storage/Disposal Facilities list, or the NYSDEC Spill Logs or Petroleum Bulk Storage (PBS) database, Solid Waste Facilities database, Voluntary Cleanup Program database, Brownfield Cleanup Program database, Registered Dry Cleaner database, or the Registry of Inactive Hazardous Waste Disposal Sites.

Surrounding Land Uses

The portion of the property at 21-16 24th Avenue is adjoined by residential uses on all sides. The portion of the property at 21-01 24th Avenue and 23-91 21st Street are adjoined by residential uses to the south and east. Adjacent and to the north of these lots is a recently constructed, 3-story mixed use building (i.e., residential with ground floor commercial). Adjacent and to the west is 21st Street, beyond which is a 5-story, mixed-use building (i.e., residential with ground floor retail). Land uses in the immediate vicinity of the property (i.e., within approximately 500 feet of the site) are comprised of a mix of residential uses, commercial/retail uses, and public parks. No gasoline filling stations or heavy industrial uses were located in the immediate vicinity of the project site.

A review of Sanborn historical maps shows that land uses in the immediate vicinity of the property have historically contained residential uses, commercial/retail uses, and public parks since at least the 1930s. The property located adjacent and to the west of Block 876, Lots 12 & 14 was formerly occupied by a silk mill (Newwitter & Migel Gotham Silk Mill and later the H.R. Mallinson & Co. Silk Mill). This property has since been re-developed with a mixed-use building (i.e., residential with ground floor retail). There are not any NYSDEC-reported spill incidents at this location.

The 1967 thorough 2006 Sanborn maps show a retail dry cleaner in the building at 23-81 21st Street, which is adjacent and to the north of lot at 23-91 21st Street (Block 876, Lot 14). There are not any

NYSDEC-reported spill incidents at this adjacent location. This dry cleaner no longer operates at this location, and the site has since been re-developed with a recently constructed, 3-story mixed-use building (i.e., residential with ground floor commercial). The building approximately 250 feet west of the project site was formerly occupied by a manufacturing use (H.R. Mallinson & Co. Silk Weaving and later Eagle Electric Manufacturing Co.). This building has since been converted to residential use and there are not any NYSDEC-reported spill incidents identified at this location.

Conclusions

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527-13 of the project site referred to as the 21st Street Rezoning, located at 21-01 24th Avenue, 21-16 24th Avenue, and 23-91 21st Street, Queens, N.Y., the property. Any exceptions to or deletions from this standard are described in section A of this report. This assessment has revealed no evidence of *Recognized Environmental Conditions, Historical Recognized Environmental Conditions* or *Controlled Recognized Environmental Conditions* in connection with the property.

Environmental Professional Statement

We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in 312.1 of 40 CFR 312 and we have the specified qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed the all appropriate inquires in conformance with the standards and practices set forth in 40 CFR Part 312.

Respectfully Submitted,

Hiram A. Rothkrug, Director
Environmental Studies Corp.

APPENDIX B: NOISE DATA

Calibration Certificate

Certificate Number 2023002773
Customer:

Model Number	LxT SE	***Procedure Number***	D0001.8378		
Serial Number	0005473	***Technician***	Jacob Cannon		
Test Results	**Pass**	***Calibration Date***	6 Mar 2023		
Initial Condition	AS RECEIVED same as shipped	***Calibration Due***	6 Mar 2024		
Description	Sound Expert LxT Class 1 Sound Level Meter Firmware Revision: 2.404	***Temperature***	23.61	°C	± 0.25 °C
		Humidity	50	%RH	± 2.0 %RH
		Static Pressure	86.13	kPa	± 0.13 kPa

Evaluation Method Tested electrically using Larson Davis PRMLxT1 S/N 075306 and a 12.0 pF capacitor to simulate microphone capacitance. Data reported in dB re 20 µPa assuming a microphone sensitivity of 50.0 mV/Pa.

Compliance Standards Compliant to Manufacturer Specifications and the following standards when combined with Calibration Certificate from procedure D0001.8384:

IEC 60651:2001 Type 1	ANSI S1.4-2014 Class 1
IEC 60804:2000 Type 1	ANSI S1.4 (R2006) Type 1
IEC 61252:2002	ANSI S1.25 (R2007)
IEC 61672:2013 Class 1	ANSI S1.43 (R2007) Type 1

Issuing lab certifies that the instrument described above meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the International System of Units (SI) through the National Institute of Standards and Technology (NIST), or other national measurement institutes, and meets the requirements of ISO/IEC 17025:2017. **Test points marked with a ‡ in the uncertainties column do not fall within this laboratory's scope of accreditation.**

The quality system is registered to ISO 9001:2015.

This calibration is a direct comparison of the unit under test to the listed reference standards and did not involve any sampling plans to complete. No allowance has been made for the instability of the test device due to use, time, etc. Such allowances would be made by the customer as needed.

The uncertainties were computed in accordance with the ISO Guide to the Expression of Uncertainty in Measurement (GUM). A coverage factor of approximately 2 sigma (k=2) has been applied to the standard uncertainty to express the expanded uncertainty at approximately 95% confidence level.

This report may not be reproduced, except in full, unless permission for the publication of an approved abstract is obtained in writing from the organization issuing this report.

Correction data from Larson Davis LxT Manual for SoundTrack LxT & SoundExpert Lxt, I770.01 Rev O Supporting Firmware Version 4.0.5, 2019-09-10

Calibration Check Frequency: 1000 Hz; Reference Sound Pressure Level: 114 dB re 20 µPa

Periodic tests were performed in accordance with procedures from IEC 61672-3:2013 / ANSI/ASA S1.4-2014/Part3.

LARSON DAVIS – A PCB DIVISION
1681 West 820 North
Provo, UT 84601, United States
716-684-0001

ACCREDITED CERT #3622.01

LARSON DAVIS
A PCB DIVISION

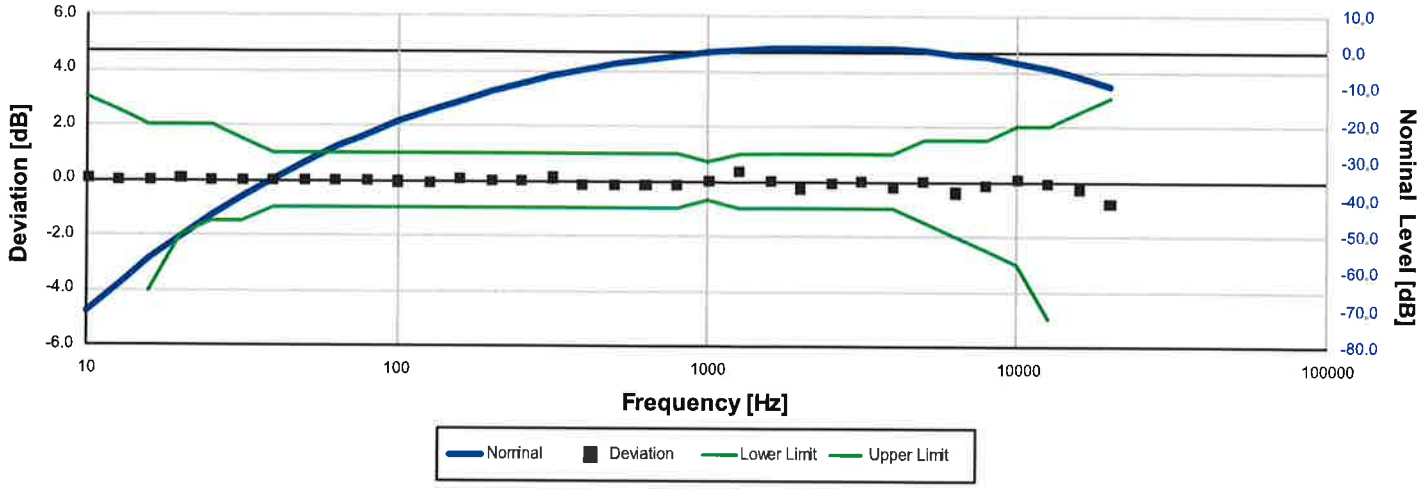
No Pattern approval for IEC 61672-1:2013 / ANSI/ASA S1.4-2014/Part 1 available.

The sound level meter submitted for testing successfully completed the periodic tests of IEC 61672-3:2013 / ANSI/ASA S1.4-2014/Part 3, for the environmental conditions under which the tests were performed. However, no general statement or conclusion can be made about conformance of the sound level meter to the full specifications of IEC 61672-1:2013 / ANSI/ASA S1.4-2014/Part 1 because (a) evidence was not publicly available, from an independent testing organization responsible for pattern approvals, to demonstrate that the model of sound level meter fully conformed to the class 1 specifications in IEC 61672-1:2013 / ANSI/ASA S1.4-2014/Part 1 or correction data for acoustical test of frequency weighting were not provided in the Instruction Manual and (b) because the periodic tests of IEC 61672-3:2013 / ANSI/ASA S1.4-2014/Part 3 cover only a limited subset of the specifications in IEC 61672-1:2013 / ANSI/ASA S1.4-2014/Part 1.

Standards Used

Description	Cal Date	Cal Due	Cal Standard
Hart Scientific 2626-H Temperature Probe	2021-08-25	2023-05-25	006798
SRS DS360 Ultra Low Distortion Generator	2022-03-29	2023-03-29	007635

A-weight Filter Response

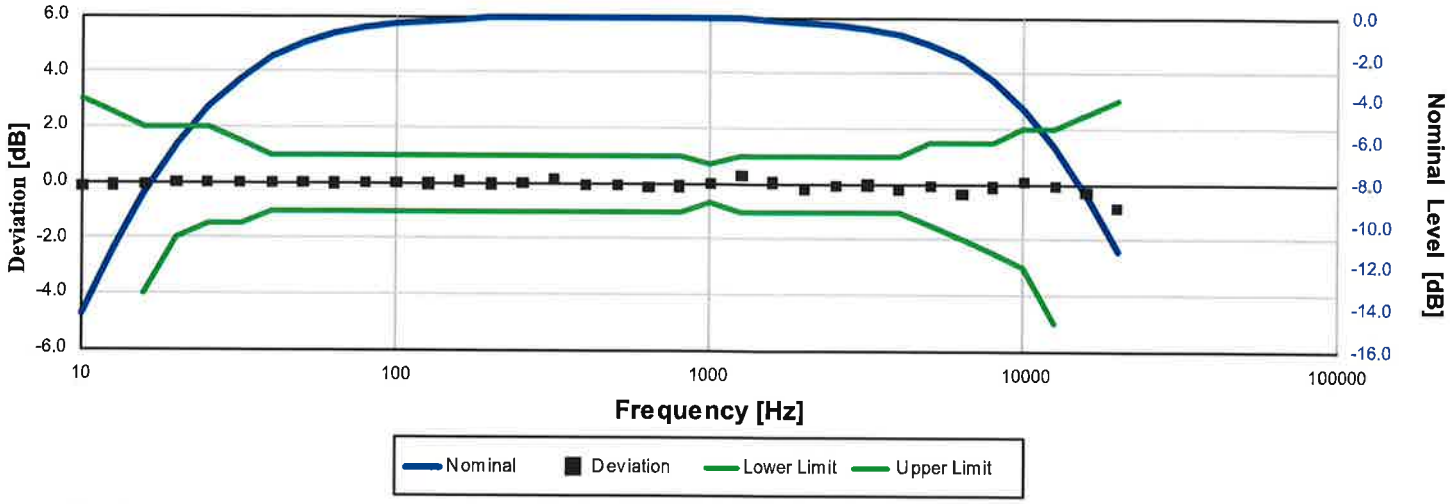


Electrical signal test of frequency weighting performed according to IEC 61672-3:2013 13 and ANSI S1.4-2014 Part 3: 13 for compliance to IEC 61672-1:2013 5.5; IEC 60651:2001 6.1 and 9.2.2; IEC 60804:2000 5; ANSI S1.4:1983 (R2006) 5.1 and 8.2.1; ANSI S1.4-2014 Part 1: 5.5

Frequency [Hz]	Test Result [dB]	Deviation [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
10.00	-70.31	0.09	-inf	3.00	0.25	Pass
12.59	-63.37	0.03	-inf	2.50	0.25	Pass
15.85	-56.70	0.00	-4.00	2.00	0.25	Pass
19.95	-50.41	0.09	-2.00	2.00	0.25	Pass
25.12	-44.68	0.02	-1.50	2.00	0.25	Pass
31.62	-39.40	0.00	-1.50	1.50	0.25	Pass
39.81	-34.62	-0.02	-1.00	1.00	0.25	Pass
50.12	-30.17	0.03	-1.00	1.00	0.25	Pass
63.10	-26.20	0.00	-1.00	1.00	0.25	Pass
79.43	-22.47	0.03	-1.00	1.00	0.25	Pass
100.00	-19.13	-0.03	-1.00	1.00	0.25	Pass
125.89	-16.16	-0.06	-1.00	1.00	0.25	Pass
158.49	-13.33	0.07	-1.00	1.00	0.25	Pass
199.53	-10.87	0.03	-1.00	1.00	0.25	Pass
251.19	-8.61	0.00	-1.00	1.00	0.25	Pass
316.23	-6.48	0.12	-1.00	1.00	0.25	Pass
398.11	-4.91	-0.11	-1.00	1.00	0.25	Pass
501.19	-3.35	-0.15	-1.00	1.00	0.25	Pass
630.96	-2.06	-0.16	-1.00	1.00	0.25	Pass
794.33	-0.95	-0.15	-1.00	1.00	0.25	Pass
1,000.00	0.00	0.00	-0.70	0.70	0.25	Pass
1,258.93	0.94	0.34	-1.00	1.00	0.25	Pass
1,584.89	1.01	0.01	-1.00	1.00	0.25	Pass
1,995.26	0.96	-0.25	-1.00	1.00	0.25	Pass
2,511.89	1.22	-0.08	-1.00	1.00	0.25	Pass
3,162.28	1.18	-0.02	-1.00	1.00	0.25	Pass
3,981.07	0.79	-0.21	-1.00	1.00	0.25	Pass
5,011.87	0.50	0.00	-1.50	1.50	0.25	Pass
6,309.57	-0.49	-0.39	-2.00	1.50	0.25	Pass
7,943.28	-1.21	-0.11	-2.50	1.50	0.25	Pass
10,000.00	-2.41	0.09	-3.00	2.00	0.25	Pass
12,589.25	-4.36	-0.06	-5.00	2.00	0.25	Pass
15,848.93	-6.85	-0.25	-16.00	2.50	0.25	Pass
19,952.62	-10.12	-0.82	-inf	3.00	0.25	Pass

-- End of measurement results--

C-weight Filter Response

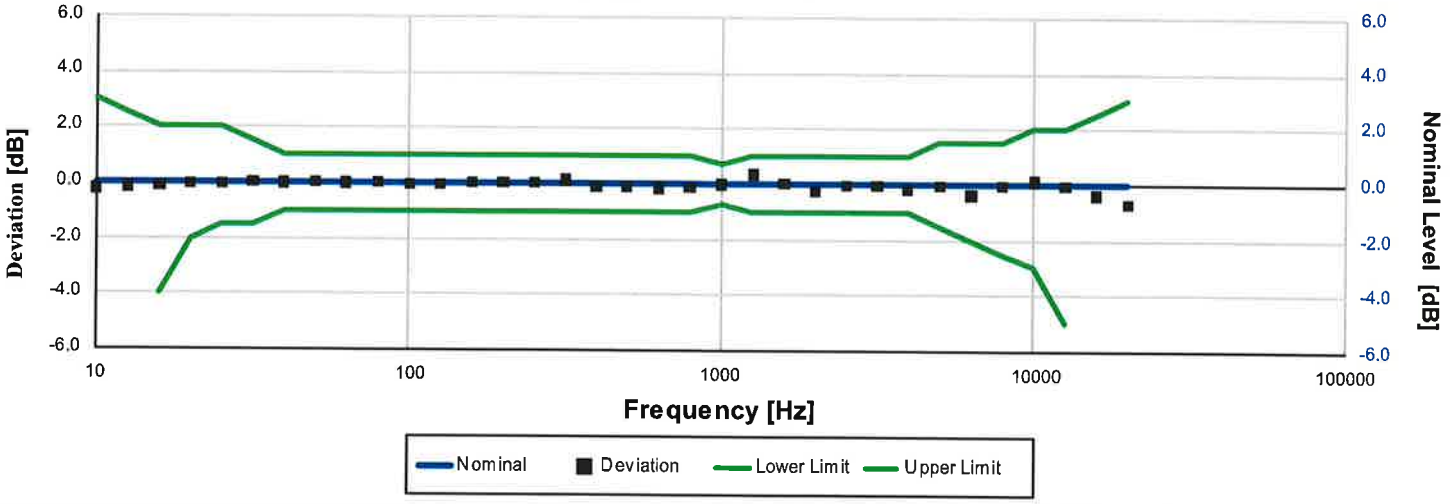


Electrical signal test of frequency weighting performed according to IEC 61672-3:2013 13 and ANSI S1.4-2014 Part 3: 13 for compliance to IEC 61672-1:2013 5.5; IEC 60651:2001 6.1 and 9.2.2; IEC 60804:2000 5; ANSI S1.4:1983 (R2006) 5.1 and 8.2.1; ANSI S1.4-2014 Part 1: 5.5

Frequency [Hz]	Test Result [dB]	Deviation [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
10.00	-14.44	-0.14	-inf	3.00	0.25	Pass
12.59	-11.29	-0.09	-inf	2.50	0.25	Pass
15.85	-8.55	-0.05	-4.00	2.00	0.25	Pass
19.95	-6.19	0.01	-2.00	2.00	0.25	Pass
25.12	-4.38	0.02	-1.50	2.00	0.25	Pass
31.62	-2.97	0.03	-1.50	1.50	0.25	Pass
39.81	-1.98	0.02	-1.00	1.00	0.25	Pass
50.12	-1.30	0.00	-1.00	1.00	0.25	Pass
63.10	-0.82	-0.02	-1.00	1.00	0.25	Pass
79.43	-0.46	0.04	-1.00	1.00	0.25	Pass
100.00	-0.28	0.02	-1.00	1.00	0.25	Pass
125.89	-0.22	-0.02	-1.00	1.00	0.25	Pass
158.49	-0.06	0.04	-1.00	1.00	0.25	Pass
199.53	-0.02	-0.02	-1.00	1.00	0.25	Pass
251.19	0.03	0.03	-1.00	1.00	0.25	Pass
316.23	0.15	0.15	-1.00	1.00	0.25	Pass
398.11	-0.07	-0.07	-1.00	1.00	0.25	Pass
501.19	-0.08	-0.08	-1.00	1.00	0.25	Pass
630.96	-0.13	-0.13	-1.00	1.00	0.25	Pass
794.33	-0.10	-0.10	-1.00	1.00	0.25	Pass
1,000.00	0.00	0.00	-0.70	0.70	0.25	Pass
1,258.93	0.32	0.32	-1.00	1.00	0.25	Pass
1,584.89	-0.05	0.05	-1.00	1.00	0.25	Pass
1,995.26	-0.41	-0.21	-1.00	1.00	0.25	Pass
2,511.89	-0.35	-0.05	-1.00	1.00	0.25	Pass
3,162.28	-0.52	-0.02	-1.00	1.00	0.25	Pass
3,981.07	-0.99	-0.19	-1.00	1.00	0.25	Pass
5,011.87	-1.33	-0.03	-1.50	1.50	0.25	Pass
6,309.57	-2.37	-0.37	-2.00	1.50	0.25	Pass
7,943.28	-3.10	-0.10	-2.50	1.50	0.25	Pass
10,000.00	-4.32	0.08	-3.00	2.00	0.25	Pass
12,589.25	-6.28	-0.08	-5.00	2.00	0.25	Pass
15,848.93	-8.77	-0.27	-16.00	2.50	0.25	Pass
19,952.62	-12.05	-0.85	-inf	3.00	0.25	Pass

-- End of measurement results--

Z-weight Filter Response



Electrical signal test of frequency weighting performed according to IEC 61672-3:2013 13 and ANSI S1.4-2014 Part 3: 13 for compliance to IEC 61672-1:2013 5.5; IEC 60651:2001 6.1 and 9.2.2; IEC 60804:2000 5; ANSI S1.4:1983 (R2006) 5.1 and 8.2.1; ANSI S1.4-2014 Part 1: 5.5

Frequency [Hz]	Test Result [dB]	Deviation [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
10.00	-0.23	-0.23	-inf	3.00	0.25	Pass
12.59	-0.14	-0.14	-inf	2.50	0.25	Pass
15.85	-0.10	-0.10	-4.00	2.00	0.25	Pass
19.95	-0.02	-0.02	-2.00	2.00	0.25	Pass
25.12	-0.03	-0.03	-1.50	2.00	0.25	Pass
31.62	0.01	0.01	-1.50	1.50	0.25	Pass
39.81	-0.01	-0.01	-1.00	1.00	0.25	Pass
50.12	0.01	0.01	-1.00	1.00	0.25	Pass
63.10	-0.01	-0.01	-1.00	1.00	0.25	Pass
79.43	0.04	0.04	-1.00	1.00	0.25	Pass
100.00	-0.02	-0.02	-1.00	1.00	0.25	Pass
125.89	-0.05	-0.05	-1.00	1.00	0.25	Pass
158.49	0.03	0.03	-1.00	1.00	0.25	Pass
199.53	0.01	0.01	-1.00	1.00	0.25	Pass
251.19	0.03	0.03	-1.00	1.00	0.25	Pass
316.23	0.14	0.14	-1.00	1.00	0.25	Pass
398.11	-0.09	-0.09	-1.00	1.00	0.25	Pass
501.19	-0.10	-0.10	-1.00	1.00	0.25	Pass
630.96	-0.15	-0.15	-1.00	1.00	0.25	Pass
794.33	-0.12	-0.12	-1.00	1.00	0.25	Pass
1,000.00	0.00	0.00	-0.70	0.70	0.25	Pass
1,258.93	0.36	0.36	-1.00	1.00	0.25	Pass
1,584.89	0.04	0.04	-1.00	1.00	0.25	Pass
1,995.26	-0.24	-0.24	-1.00	1.00	0.25	Pass
2,511.89	-0.05	-0.05	-1.00	1.00	0.25	Pass
3,162.28	-0.02	-0.02	-1.00	1.00	0.25	Pass
3,981.07	-0.18	-0.18	-1.00	1.00	0.25	Pass
5,011.87	-0.05	-0.05	-1.50	1.50	0.25	Pass
6,309.57	-0.36	-0.36	-2.00	1.50	0.25	Pass
7,943.28	-0.06	-0.06	-2.50	1.50	0.25	Pass
10,000.00	0.15	0.15	-3.00	2.00	0.25	Pass
12,589.25	-0.03	-0.03	-5.00	2.00	0.25	Pass
15,848.93	-0.37	-0.37	-16.00	2.50	0.25	Pass
19,952.62	-0.71	-0.71	-inf	3.00	0.25	Pass

-- End of measurement results--

High Level Stability

Electrical signal test of high level stability performed according to IEC 61672-3:2013 21 and ANSI S1.4-2014 Part 3: 21 for compliance to IEC 61672-1:2013 5.15 and ANSI S1.4-2014 Part 1: 5.15

Measurement	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
High Level Stability	0.05	-0.10	0.10	0.00 ‡	Pass

-- End of measurement results--

Long-Term Stability

Electrical signal test of long term stability performed according to IEC 61672-3:2013 15 and ANSI S1.4-2014 Part 3: 15 for compliance to ISC 61672-1:2013 5.14 and ANSI S1.4-2014 Part 1: 5.14

Test Duration [min]	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
32	-0.05	-0.10	0.10	0.01 ‡	Pass

-- End of measurement results--

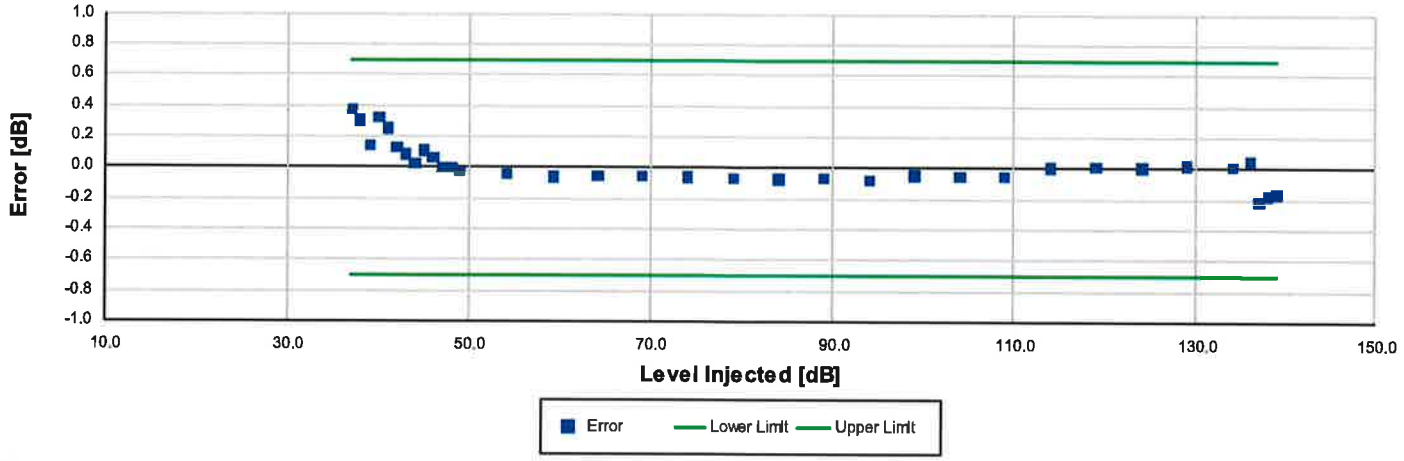
1 kHz Reference Levels

Frequency weightings and time weightings at 1 kHz (reference is A weighted Fast) performed according to IEC 61672-3:2013 14 and ANSI S1.4-2014 Part 3: 14 for compliance to IEC 61672-1:2013 5.5.9 and 5.8.3 and ANSI S1.4-2014 Part 1: 5.5.9 and 5.8.3

Measurement	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
C weight	115.29	115.09	115.49	0.15	Pass
Z weight	115.29	115.09	115.49	0.15	Pass
Slow	115.29	115.19	115.39	0.15	Pass
Impulse	115.29	115.19	115.39	0.15	Pass

-- End of measurement results--

A-weighted Broadband Log Linearity: 8,000.00 Hz



Broadband level linearity performed according to IEC 61672-3:2013 16 and ANSI S1.4-2014 Part 3: 16 for compliance to IEC 61672-1:2013 5.6, IEC 60804:2000 6.2, IEC 61252:2002 8, ANSI S1.4 (R2006) 6.9, ANSI S1.4-2014 Part 1: 5.6, ANSI S1.43 (R2007) 6.2

Level [dB]	Error [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
37.00	0.38	-0.70	0.70	0.16	Pass
38.00	0.31	-0.70	0.70	0.16	Pass
39.00	0.15	-0.70	0.70	0.16	Pass
40.00	0.32	-0.70	0.70	0.16	Pass
41.00	0.25	-0.70	0.70	0.16	Pass
42.00	0.13	-0.70	0.70	0.16	Pass
43.00	0.09	-0.70	0.70	0.16	Pass
44.00	0.03	-0.70	0.70	0.17	Pass
45.00	0.11	-0.70	0.70	0.16	Pass
46.00	0.07	-0.70	0.70	0.16	Pass
47.00	0.00	-0.70	0.70	0.16	Pass
48.00	0.00	-0.70	0.70	0.16	Pass
49.00	-0.02	-0.70	0.70	0.16	Pass
54.00	-0.04	-0.70	0.70	0.16	Pass
59.00	-0.06	-0.70	0.70	0.16	Pass
64.00	-0.05	-0.70	0.70	0.16	Pass
69.00	-0.05	-0.70	0.70	0.16	Pass
74.00	-0.06	-0.70	0.70	0.16	Pass
79.00	-0.06	-0.70	0.70	0.16	Pass
84.00	-0.07	-0.70	0.70	0.16	Pass
89.00	-0.07	-0.70	0.70	0.16	Pass
94.00	-0.08	-0.70	0.70	0.16	Pass
99.00	-0.05	-0.70	0.70	0.15	Pass
104.00	-0.05	-0.70	0.70	0.15	Pass
109.00	-0.06	-0.70	0.70	0.15	Pass
114.00	0.00	-0.70	0.70	0.15	Pass
119.00	0.01	-0.70	0.70	0.15	Pass
124.00	0.01	-0.70	0.70	0.15	Pass
129.00	0.02	-0.70	0.70	0.15	Pass
134.00	0.01	-0.70	0.70	0.15	Pass
136.00	0.05	-0.70	0.70	0.15	Pass
137.00	-0.21	-0.70	0.70	0.15	Pass
138.00	-0.18	-0.70	0.70	0.15	Pass
139.00	-0.16	-0.70	0.70	0.15	Pass

-- End of measurement results--

Slow Detector

Toneburst response performed according to IEC 61672-3:2013 18 and ANSI S1.4-2014 Part 3: 18 for compliance to IEC 61672-1:2013 5.9, IEC 60651:2001 9.4.2, ANSI S1.4:1983 (R2006) 8.4.2 and ANSI S1.4-2014 Part 1: 5.9

Amplitude [dB]	Duration [ms]	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
137.00	200	-7.55	-7.92	-6.92	0.15	Pass
	2	-27.14	-29.99	-25.99	0.15	Pass

-- End of measurement results--

Fast Detector

Toneburst response performed according to IEC 61672-3:2013 18 and ANSI S1.4-2014 Part 3: 18 for compliance to IEC 61672-1:2013 5.9, IEC 60651:2001 9.4.2, ANSI S1.4:1983 (R2006) 8.4.2 and ANSI S1.4-2014 Part 1: 5.9

Amplitude [dB]	Duration [ms]	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
137.00	200.00	-1.03	-1.48	-0.48	0.26	Pass
	2.00	-18.41	-19.49	-16.99	0.15	Pass
	0.25	-27.38	-29.99	-25.99	0.15	Pass

-- End of measurement results--

Sound Exposure Level

Toneburst response performed according to IEC 61672-3:2013 18 and ANSI S1.4-2014 Part 3: 18 for compliance to IEC 61672-1:2013 5.9, IEC 60651:2001 9.4.2, ANSI S1.4:1983 (R2006) 8.4.2 and ANSI S1.4-2014 Part 1: 5.9

Amplitude [dB]	Duration [ms]	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
137.00	200.00	-7.01	-7.49	-6.49	0.15	Pass
	2.00	-27.03	-28.49	-25.99	0.15	Pass
	0.25	-36.14	-39.02	-35.02	0.15	Pass

-- End of measurement results--

Peak C-weight

C-weighted peak sound level performed according to IEC 61672-3:2013 19 and ANSI S1.4-2014 Part 3: 19 for compliance to IEC 61672-1:2013 5.13 and ANSI S1.4-2014 Part 1: 5.13

Level [dB]	Frequency [Hz]	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
135.00	31.50	138.20	135.50	139.50	0.15	Pass
135.00	500.00	138.57	137.50	139.50	0.15	Pass
135.00	8,000.00	137.77	136.40	140.40	0.15	Pass
135.00, Negative	500.00	137.12	136.40	138.40	0.15	Pass
135.00, Positive	500.00	137.16	136.40	138.40	0.15	Pass

-- End of measurement results--

Peak Z-weight

Z-weighted peak sound level performed according to IEC 60651:2001 9.4.4 and ANSI S1.4:1983 (R2006) 8.4.4

Amplitude [dB]	Duration[µs]		Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
134.85	100	Negative Pulse	136.08	133.75	137.75	0.15	Pass
	100	Positive Pulse	136.10	133.74	137.74	0.15	Pass
124.85	100	Negative Pulse	126.16	123.77	127.77	0.15	Pass
	100	Positive Pulse	126.19	123.83	127.83	0.15	Pass
114.85	100	Negative Pulse	116.33	113.99	117.99	0.15	Pass
	100	Positive Pulse	116.37	114.01	118.01	0.15	Pass
104.85	100	Negative Pulse	106.02	103.62	107.62	0.15	Pass
	100	Positive Pulse	106.05	103.62	107.62	0.15	Pass

-- End of measurement results--

Overload Detector

Overload indication performed according to IEC 61672-3:2013 20 and ANSI S1.4-2014 Part 3: 20 for compliance to IEC 61672-1:2013 5.11, IEC 60804:2000 9.3.5, IEC 61252:2002 11, ANSI S1.4 (R2006) 5.8, and ANSI S1.4-2014 Part 1: 5.11, ANSI S1.25 (R2007) 7.6, ANSI S1.43 (R2007) 7

Measurement	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
Positive	140.90	140.00	143.00	0.15	Pass
Negative	140.90	140.00	143.00	0.15	Pass
Difference	0.00	-1.50	1.50	0.15	Pass

-- End of measurement results--

Peak Rise Time

Peak rise time performed according to IEC 60651:2001 9.4.4 and ANSI S1.4:1983 (R2006) 8.4.4

Amplitude [dB]	Duration [µs]		Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
137.85	40	Negative Pulse	135.22	133.76	135.76	0.15	Pass
		Positive Pulse	135.25	133.81	135.81	0.15	Pass
	30	Negative Pulse	134.23	133.76	135.76	0.15	Pass
		Positive Pulse	134.28	133.81	135.81	0.15	Pass

-- End of measurement results--

Positive Pulse Crest Factor

200 µs pulse tests at 2.0, 12.0, 22.0, 32.0 dB below Overload Limit

Crest Factor measured according to IEC 60651:2001 9.4.2 and ANSI S1.4:1983 (R2006) 8.4.2

Amplitude [dB]	Crest Factor	Test Result [dB]	Limits [dB]	Expanded Uncertainty [dB]	Result
136.85	3	OVLD	± 0.50	0.15 ‡	Pass
	5	OVLD	± 1.00	0.15 ‡	Pass
	10	OVLD	± 1.50	0.15 ‡	Pass
126.85	3	-0.21	± 0.50	0.15 ‡	Pass
	5	-0.18	± 1.00	0.16 ‡	Pass
	10	OVLD	± 1.50	0.15 ‡	Pass
116.85	3	-0.23	± 0.50	0.15 ‡	Pass
	5	-0.18	± 1.00	0.15 ‡	Pass
	10	-0.07	± 1.50	0.15 ‡	Pass
106.85	3	-0.17	± 0.50	0.15 ‡	Pass
	5	-0.16	± 1.00	0.15 ‡	Pass
	10	-0.03	± 1.50	0.15 ‡	Pass

-- End of measurement results--

Negative Pulse Crest Factor

200 µs pulse tests at 2.0, 12.0, 22.0, 32.0 dB below Overload Limit

Crest Factor measured according to IEC 60651:2001 9.4.2 and ANSI S1.4:1983 (R2006) 8.4.2

Amplitude [dB]	Crest Factor	Test Result [dB]	Limits [dB]	Expanded Uncertainty [dB]	Result
136.85	3	OVLD	± 0.50	0.15 ‡	Pass
	5	OVLD	± 1.00	0.15 ‡	Pass
	10	OVLD	± 1.50	0.15 ‡	Pass
126.85	3	-0.21	± 0.50	0.15 ‡	Pass
	5	-0.20	± 1.00	0.15 ‡	Pass
	10	OVLD	± 1.50	0.15 ‡	Pass
116.85	3	-0.25	± 0.50	0.15 ‡	Pass
	5	-0.23	± 1.00	0.15 ‡	Pass
	10	-0.10	± 1.50	0.15 ‡	Pass
106.85	3	-0.21	± 0.50	0.15 ‡	Pass
	5	-0.21	± 1.00	0.15 ‡	Pass
	10	-0.08	± 1.50	0.15 ‡	Pass

-- End of measurement results--

Tone Burst

2kHz tone burst tests at 2.0, 12.0, 22.0, 32.0 dB below Overload Limit

Tone burst response measured according to IEC 60651:2001 9.4.2 and ANSI S1.4:1983 (R2006) 8.4.2

Amplitude [dB]	Crest Factor	Test Result [dB]	Limits [dB]	Expanded Uncertainty [dB]	Result
136.85	3	OVLD	± 0.50	0.15	Pass
	5	OVLD	± 1.00	0.15	Pass
126.85	3	-0.12	± 0.50	0.15	Pass
	5	-0.05	± 1.00	0.15	Pass
116.85	3	-0.25	± 0.50	0.15	Pass
	5	-0.17	± 1.00	0.15	Pass
106.85	3	-0.14	± 0.50	0.15	Pass
	5	-0.07	± 1.00	0.15	Pass

-- End of measurement results--

Impulse Detector - Repeat

Impulse Detector measured according to IEC 60651:2001 9.4.3 and ANSI S1.4:1983 (R2006) 8.4.3

Amplitude [dB]	Repitition Rate [Hz]	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
140	100.00	-2.82	-3.71	-1.71	0.15	Pass
	20.00	-7.76	-9.57	-5.57	0.20	Pass
	2.00	-8.81	-10.76	-6.76	0.15	Pass
Step	2.00	4.97	4.00	6.00	0.15	Pass

-- End of measurement results--

Impulse Detector - Single

Impulse Detector measured according to IEC 60651:2001 9.4.3 and ANSI S1.4:1983 (R2006) 8.4.3

Amplitude [dB]	Duration [ms]	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
140	20.00	-3.62	-5.11	-2.11	0.15	Pass
	5.00	-8.91	-10.76	-6.76	0.16	Pass
	2.00	-12.56	-14.55	-10.55	0.16	Pass
Step	2.00	9.99	9.00	11.00	0.16	Pass

-- End of measurement results--

Gain

Gain measured according to IEC 61672-3:2013 17.3 and 17.4 and ANSI S1.4-2014 Part 3: 17.3 and 17.4

Measurement	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
0 dB Gain	93.97	93.91	94.11	0.15	Pass
0 dB Gain, Linearity	41.22	40.31	41.71	0.16	Pass
OBA Low Range	94.01	93.91	94.11	0.15	Pass
OBA Normal Range	94.01	93.20	94.80	0.15	Pass

-- End of measurement results--

Broadband Noise Floor

Self-generated noise measured according to IEC 61672-3:2013 11.2 and ANSI S1.4-2014 Part 3: 11.2

Measurement	Test Result [dB]	Upper limit [dB]	Result
A-weight Noise Floor	26.85	36.00	Pass
C-weight Noise Floor	26.59	35.00	Pass
Z-weight Noise Floor	32.47	39.00	Pass

-- End of measurement results--

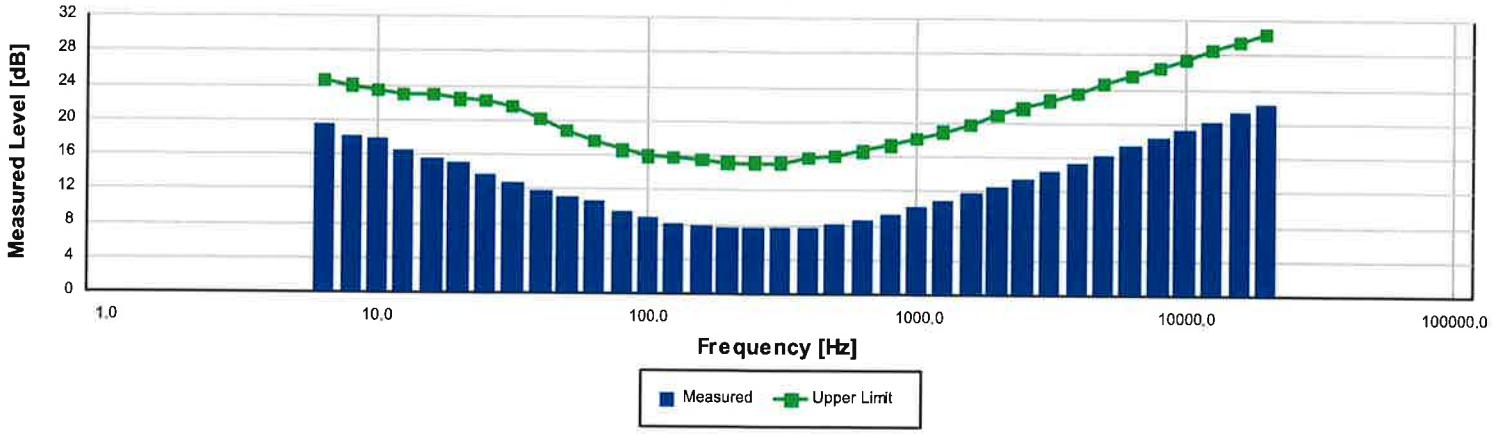
Total Harmonic Distortion

Measured using 1/3-Octave filters

Measurement	Test Result [dB]	Lower Limit [dB]	Upper Limit [dB]	Expanded Uncertainty [dB]	Result
10 Hz Signal	135.88	135.05	136.65	0.15	Pass
THD	-66.45		-58.00	0.00 ‡	Pass
THD+N	-62.45		-58.00	0.00 ‡	Pass

-- End of measurement results--

1/3-Octave Self-Generated Noise



The SLM is set to low range.

Frequency [Hz]	Test Result [dB]	Upper limit [dB]	Result
6.30	19.41	24.60	Pass
8.00	18.20	24.00	Pass
10.00	17.94	23.50	Pass
12.50	16.51	23.00	Pass
16.00	15.49	22.90	Pass
20.00	15.18	22.40	Pass
25.00	13.60	22.30	Pass
31.50	12.88	21.50	Pass
40.00	11.91	20.20	Pass
50.00	11.17	18.80	Pass
63.00	10.67	17.60	Pass
80.00	9.61	16.60	Pass
100.00	8.83	15.90	Pass
125.00	8.22	15.70	Pass
160.00	7.83	15.50	Pass
200.00	7.59	15.20	Pass
250.00	7.75	15.20	Pass
315.00	7.57	15.20	Pass
400.00	7.76	15.70	Pass
500.00	8.14	16.00	Pass
630.00	8.66	16.60	Pass
800.00	9.38	17.30	Pass
1,000.00	10.12	18.10	Pass
1,250.00	10.80	18.90	Pass
1,600.00	11.76	19.80	Pass
2,000.00	12.56	20.80	Pass
2,500.00	13.53	21.70	Pass
3,150.00	14.46	22.60	Pass
4,000.00	15.35	23.50	Pass
5,000.00	16.31	24.50	Pass
6,300.00	17.36	25.50	Pass
8,000.00	18.31	26.50	Pass
10,000.00	19.31	27.40	Pass
12,500.00	20.30	28.50	Pass
16,000.00	21.32	29.50	Pass
20,000.00	22.31	30.40	Pass

-- End of measurement results--

-- End of Report--

Signatory: *Jacob Cannon*

LARSON DAVIS – A PCB DIVISION
1681 West 820 North
Provo, UT 84601, United States
716-684-0001

Calibration Certificate

Certificate Number 2023002763
Customer:

Model Number	PRMLxT1	***Procedure Number***	D0001.8383	
Serial Number	075306	***Technician***	Eric Olson	
Test Results	**Pass**	***Calibration Date***	6 Mar 2023	
Initial Condition	Adjusted	***Calibration Due***	6 Mar 2024	
Description	Larson Davis 1/2" Preamplifier for LxT Class 1 -23 dB	***Temperature***	23.56 °C	± 0.01 °C
		Humidity	50.9 %RH	± 0.5 %RH
		Static Pressure	85.79 kPa	± 0.03 kPa

Evaluation Method Tested electrically using a 12.0 pF capacitor to simulate microphone capacitance. Data reported in dB re 20 µPa assuming a microphone sensitivity of 50.0 mV/Pa.

Compliance Standards Compliant to Manufacturer Specifications

Issuing lab certifies that the instrument described above meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the SI through the National Institute of Standards and Technology (NIST), or other national measurement institutes, and meets the requirements of ISO/IEC 17025:2017. **Test points marked with a ‡ in the uncertainties column do not fall within this laboratory's scope of accreditation.**

The quality system is registered to ISO 9001:2015.

This calibration is a direct comparison of the unit under test to the listed reference standards and did not involve any sampling plans to complete. No allowance has been made for the instability of the test device due to use, time, etc. Such allowances would be made by the customer as needed.

The uncertainties were computed in accordance with the ISO Guide to the Expression of Uncertainty in Measurement (GUM). A coverage factor of approximately 2 sigma (k=2) has been applied to the standard uncertainty to express the expanded uncertainty at approximately 95% confidence level. Tests are considered to pass when the measured value is within the acceptance limits, which are derived from industry standards.

Simple acceptance criteria is used with an expanded uncertainty not to exceed 0.20 dB for all measurements below 100 kHz and 0.50 dB for measurements above 100 kHz.

This report may not be reproduced, except in full, unless permission for the publication of an approved abstract is obtained in writing from the organization issuing this report.

Standards Used

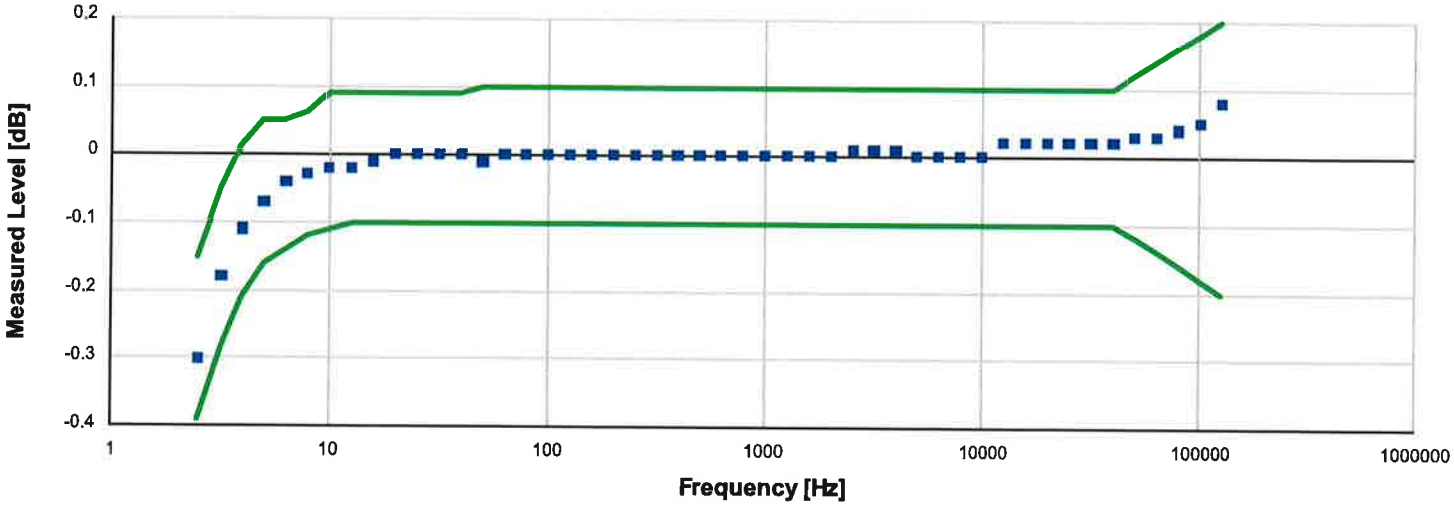
Description	Cal Date	Cal Due	Cal Standard
Larson Davis Model 2900 Real Time Analyzer	02/13/2023	02/13/2024	001447
Hart Scientific 2626-H Temperature Probe	08/25/2021	05/25/2023	006798
Agilent 34401A DMM	08/16/2022	08/16/2023	007116
SRS DS360 Ultra Low Distortion Generator	03/30/2022	03/30/2023	007174

LARSON DAVIS – A PCB DIVISION
1681 West 820 North
Provo, UT 84601, United States
716-684-0001

ACCREDITED CERT #3622.01

LARSON DAVIS A PCB DIVISION

Frequency Response



Frequency response electrically tested at 120.0 dB re 1 µV

Frequency [Hz]	Test Result [dB re 1 kHz]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
2.50	-0.30	-0.39	-0.15	0.15	Pass
3.20	-0.18	-0.28	-0.05	0.14	Pass
4.00	-0.11	-0.21	0.01	0.14	Pass
5.00	-0.07	-0.16	0.05	0.14	Pass
6.30	-0.04	-0.14	0.05	0.09	Pass
7.90	-0.03	-0.12	0.06	0.09	Pass
10.00	-0.02	-0.11	0.09	0.09	Pass
12.60	-0.02	-0.10	0.09	0.06	Pass
15.80	-0.01	-0.10	0.09	0.06	Pass
20.00	0.00	-0.10	0.09	0.06	Pass
25.10	0.00	-0.10	0.09	0.06	Pass
31.60	0.00	-0.10	0.09	0.06	Pass
39.80	0.00	-0.10	0.09	0.06	Pass
50.10	-0.01	-0.10	0.10	0.06	Pass
63.10	0.00	-0.10	0.10	0.06	Pass
79.40	0.00	-0.10	0.10	0.06	Pass
100.00	0.00	-0.10	0.10	0.06	Pass
125.90	0.00	-0.10	0.10	0.06	Pass
158.50	0.00	-0.10	0.10	0.06	Pass
199.50	0.00	-0.10	0.10	0.06	Pass
251.20	0.00	-0.10	0.10	0.06	Pass
316.20	0.00	-0.10	0.10	0.06	Pass
398.10	0.00	-0.10	0.10	0.06	Pass
501.20	0.00	-0.10	0.10	0.06	Pass
631.00	0.00	-0.10	0.10	0.06	Pass
794.30	0.00	-0.10	0.10	0.06	Pass
1,000.00	0.00	-0.10	0.10	0.06	Pass
1,258.90	0.00	-0.10	0.10	0.06	Pass
1,584.90	0.00	-0.10	0.10	0.06	Pass
1,995.30	0.00	-0.10	0.10	0.06	Pass
2,511.90	0.01	-0.10	0.10	0.06	Pass
3,162.30	0.01	-0.10	0.10	0.06	Pass

Frequency [Hz]	Test Result [dB re 1 kHz]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
3,981.10	0.01	-0.10	0.10	0.06	Pass
5,011.90	0.00	-0.10	0.10	0.06	Pass
6,309.60	0.00	-0.10	0.10	0.06	Pass
7,943.30	0.00	-0.10	0.10	0.06	Pass
10,000.00	0.00	-0.10	0.10	0.06	Pass
12,589.30	0.02	-0.10	0.10	0.06	Pass
15,848.90	0.02	-0.10	0.10	0.06	Pass
19,952.60	0.02	-0.10	0.10	0.06	Pass
25,118.90	0.02	-0.10	0.10	0.07	Pass
31,622.80	0.02	-0.10	0.10	0.07	Pass
39,810.70	0.02	-0.10	0.10	0.07	Pass
50,118.70	0.03	-0.12	0.12	0.10	Pass
63,095.70	0.03	-0.14	0.14	0.10	Pass
79,432.80	0.04	-0.16	0.16	0.10	Pass
100,000.00	0.05	-0.18	0.18	0.10	Pass
125,892.50	0.08	-0.20	0.20	0.54	Pass

Gain Measurement

Measurement	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
Output Gain @ 1 kHz	-23.81	-24.80	-23.20	0.06	Pass

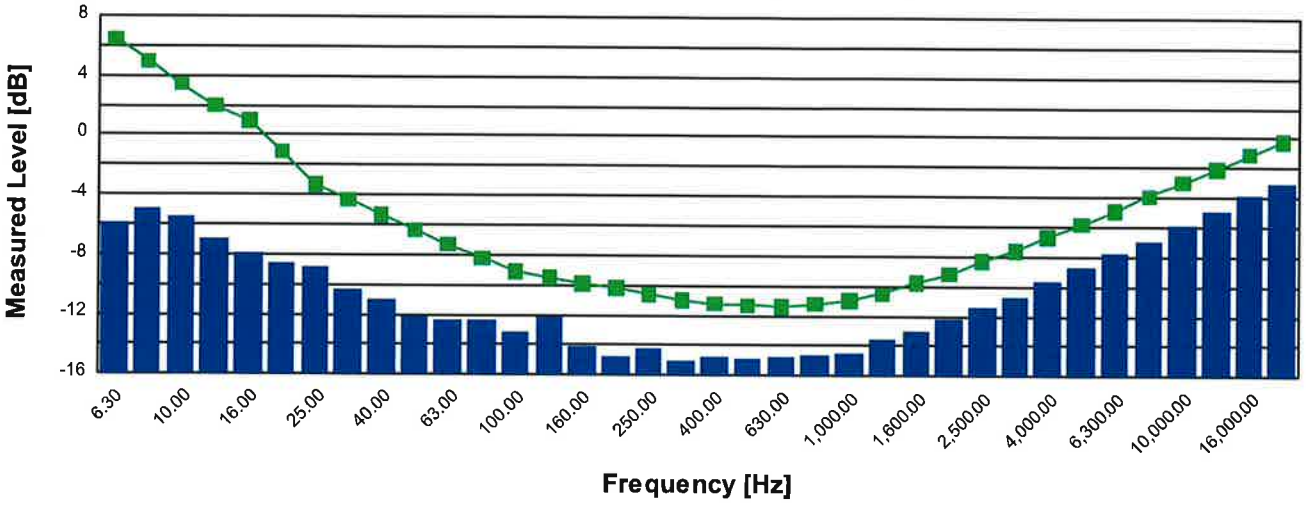
-- End of measurement results--

DC Bias Measurement

Measurement	Test Result [V]	Lower limit [V]	Upper limit [V]	Expanded Uncertainty [V]	Result
DC Voltage	3.53	2.90	3.80	0.01	Pass

-- End of measurement results--

1/3-Octave Self-Generated Noise



Frequency [Hz]	Test Result [dB re 1 µV]	Upper limit [dB re 1 µV]	Result
6.30	-5.80	6.50	Pass
8.00	-4.90	5.00	Pass
10.00	-5.40	3.50	Pass
12.50	-6.90	2.00	Pass
16.00	-7.90	1.00	Pass
20.00	-8.50	-1.10	Pass
25.00	-8.80	-3.30	Pass
31.50	-10.30	-4.30	Pass
40.00	-11.00	-5.30	Pass
50.00	-12.00	-6.30	Pass
63.00	-12.40	-7.30	Pass
80.00	-12.30	-8.20	Pass
100.00	-13.20	-9.10	Pass
125.00	-12.10	-9.50	Pass
160.00	-14.10	-9.90	Pass
200.00	-14.70	-10.20	Pass
250.00	-14.20	-10.60	Pass
315.00	-15.00	-11.00	Pass
400.00	-14.70	-11.20	Pass
500.00	-14.90	-11.30	Pass
630.00	-14.80	-11.40	Pass
800.00	-14.60	-11.20	Pass
1,000.00	-14.50	-11.00	Pass
1,250.00	-13.60	-10.50	Pass
1,600.00	-13.00	-9.80	Pass
2,000.00	-12.20	-9.20	Pass
2,500.00	-11.40	-8.30	Pass
3,150.00	-10.70	-7.60	Pass
4,000.00	-9.60	-6.70	Pass
5,000.00	-8.70	-5.80	Pass
6,300.00	-7.80	-4.90	Pass
8,000.00	-6.90	-3.90	Pass
10,000.00	-5.90	-3.00	Pass
12,500.00	-4.90	-2.10	Pass
16,000.00	-3.80	-1.10	Pass
20,000.00	-3.10	-0.20	Pass

-- End of measurement results--

Self-generated Noise

Bandwidth	Test Result [µV]	Test Result [dB re 1 µV]	Upper limit [dB re 1 µV]	Result
Broadband (1 Hz - 20 kHz)	1.82	5.20	6.50	Pass
A-weighted (1 Hz - 20 kHz)	1.24	1.90	3.00	Pass

– End of measurement results–

Signatory: *Eric Olson*

LARSON DAVIS – A PCB DIVISION
1681 West 820 North
Provo, UT 84601, United States
716-684-0001

ACCREDITED CERT #3622.01

LARSON DAVIS A PCB DIVISION

Initial Assessment

Certificate Number 2023002745
Customer:

Model Number	PRMLxT1	***Procedure Number***	D0001.8383
Serial Number	075306	***Technician***	Jacob Cannon
Test Results	**Fail**	***Calibration Date***	3 Mar 2023
Initial Condition	As Received	***Calibration Due***	
Description	Larson Davis 1/2" Preamplifier for LxT Class 1 -23 dB	***Temperature***	23.56 °C ± 0.01 °C
		Humidity	49.4 %RH ± 0.5 %RH
		Static Pressure	85.69 kPa ± 0.03 kPa

Evaluation Method Tested electrically using a 12.0 pF capacitor to simulate microphone capacitance. Data reported in dB re 20 µPa assuming a microphone sensitivity of 50.0 mV/Pa.

Compliance Standards

Issuing lab certifies that the instrument described above meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the SI through the National Institute of Standards and Technology (NIST), or other national measurement institutes, and meets the requirements of ISO/IEC 17025:2017. **Test points marked with a ‡ in the uncertainties column do not fall within this laboratory's scope of accreditation.**

The quality system is registered to ISO 9001:2015.

This calibration is a direct comparison of the unit under test to the listed reference standards and did not involve any sampling plans to complete. No allowance has been made for the instability of the test device due to use, time, etc. Such allowances would be made by the customer as needed.

The uncertainties were computed in accordance with the ISO Guide to the Expression of Uncertainty in Measurement (GUM). A coverage factor of approximately 2 sigma (k=2) has been applied to the standard uncertainty to express the expanded uncertainty at approximately 95% confidence level. Tests are considered to pass when the measured value is within the acceptance limits, which are derived from industry standards.

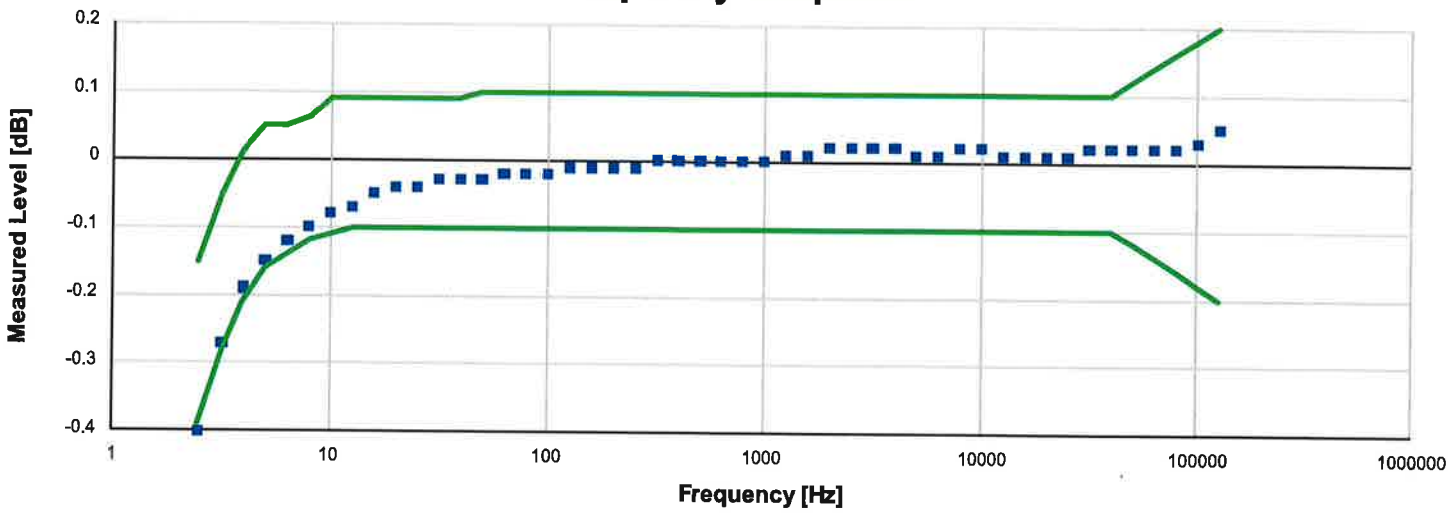
Simple acceptance criteria is used with an expanded uncertainty not to exceed 0.20 dB for all measurements below 100 kHz and 0.50 dB for measurements above 100 kHz.

This report may not be reproduced, except in full, unless permission for the publication of an approved abstract is obtained in writing from the organization issuing this report.

Standards Used

Description	Cal Date	Cal Due	Cal Standard
Larson Davis Model 2900 Real Time Analyzer	10/31/2022	10/31/2023	001150
Hart Scientific 2626-H Temperature Probe	08/25/2021	05/25/2023	006798
Keysight 34401A DMM	06/24/2022	06/24/2023	007485
SRS DS360 Ultra Low Distortion Generator	03/29/2022	03/29/2023	007635

Frequency Response



Frequency response electrically tested at 120.0 dB re 1 µV

Frequency [Hz]	Test Result [dB re 1 kHz]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
2.50	-0.40	-0.39	-0.15	0.15	Fail
3.20	-0.27	-0.28	-0.05	0.14	Pass
4.00	-0.19	-0.21	0.01	0.14	Pass
5.00	-0.15	-0.16	0.05	0.14	Pass
6.30	-0.12	-0.14	0.05	0.09	Pass
7.90	-0.10	-0.12	0.06	0.09	Pass
10.00	-0.08	-0.11	0.09	0.09	Pass
12.60	-0.07	-0.10	0.09	0.06	Pass
15.80	-0.05	-0.10	0.09	0.06	Pass
20.00	-0.04	-0.10	0.09	0.06	Pass
25.10	-0.04	-0.10	0.09	0.06	Pass
31.60	-0.03	-0.10	0.09	0.06	Pass
39.80	-0.03	-0.10	0.09	0.06	Pass
50.10	-0.03	-0.10	0.10	0.06	Pass
63.10	-0.02	-0.10	0.10	0.06	Pass
79.40	-0.02	-0.10	0.10	0.06	Pass
100.00	-0.02	-0.10	0.10	0.06	Pass
125.90	-0.01	-0.10	0.10	0.06	Pass
158.50	-0.01	-0.10	0.10	0.06	Pass
199.50	-0.01	-0.10	0.10	0.06	Pass
251.20	-0.01	-0.10	0.10	0.06	Pass
316.20	0.00	-0.10	0.10	0.06	Pass
398.10	0.00	-0.10	0.10	0.06	Pass
501.20	0.00	-0.10	0.10	0.06	Pass
631.00	0.00	-0.10	0.10	0.06	Pass
794.30	0.00	-0.10	0.10	0.06	Pass
1,000.00	0.00	-0.10	0.10	0.06	Pass
1,258.90	0.01	-0.10	0.10	0.06	Pass
1,584.90	0.01	-0.10	0.10	0.06	Pass
1,995.30	0.02	-0.10	0.10	0.06	Pass
2,511.90	0.02	-0.10	0.10	0.06	Pass
3,162.30	0.02	-0.10	0.10	0.06	Pass

Frequency [Hz]	Test Result [dB re 1 kHz]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
3,981.10	0.02	-0.10	0.10	0.06	Pass
5,011.90	0.01	-0.10	0.10	0.06	Pass
6,309.60	0.01	-0.10	0.10	0.06	Pass
7,943.30	0.02	-0.10	0.10	0.06	Pass
10,000.00	0.02	-0.10	0.10	0.06	Pass
12,589.30	0.01	-0.10	0.10	0.06	Pass
15,848.90	0.01	-0.10	0.10	0.06	Pass
19,952.60	0.01	-0.10	0.10	0.06	Pass
25,118.90	0.01	-0.10	0.10	0.07	Pass
31,622.80	0.02	-0.10	0.10	0.07	Pass
39,810.70	0.02	-0.10	0.10	0.07	Pass
50,118.70	0.02	-0.12	0.12	0.10	Pass
63,095.70	0.02	-0.14	0.14	0.10	Pass
79,432.80	0.02	-0.16	0.16	0.10	Pass
100,000.00	0.03	-0.18	0.18	0.10	Pass
125,892.50	0.05	-0.20	0.20	0.54	Pass

Gain Measurement

Measurement	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
Output Gain @ 1 kHz	-24.21	-24.80	-23.20	0.06	Pass

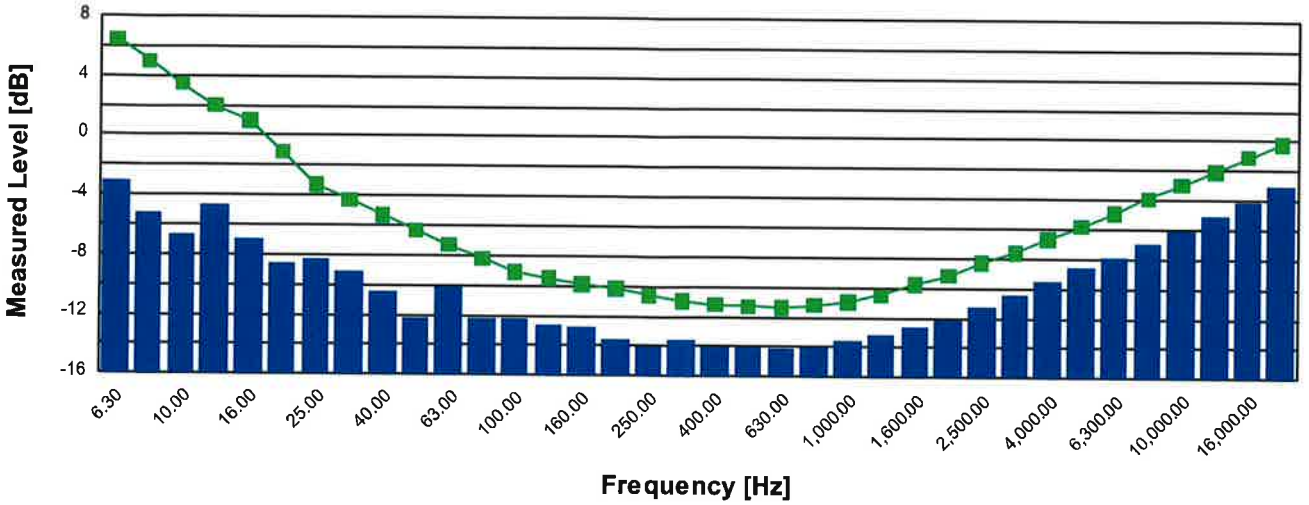
-- End of measurement results--

DC Bias Measurement

Measurement	Test Result [V]	Lower limit [V]	Upper limit [V]	Expanded Uncertainty [V]	Result
DC Voltage	3.50	2.90	3.80	0.01	Pass

-- End of measurement results--

1/3-Octave Self-Generated Noise



Frequency [Hz]	Test Result [dB re 1 µV]	Upper limit [dB re 1 µV]	Result
6.30	-3.00	6.50	Pass
8.00	-5.20	5.00	Pass
10.00	-6.70	3.50	Pass
12.50	-4.60	2.00	Pass
16.00	-6.90	1.00	Pass
20.00	-8.50	-1.10	Pass
25.00	-8.30	-3.30	Pass
31.50	-9.10	-4.30	Pass
40.00	-10.40	-5.30	Pass
50.00	-12.20	-6.30	Pass
63.00	-10.10	-7.30	Pass
80.00	-12.20	-8.20	Pass
100.00	-12.20	-9.10	Pass
125.00	-12.60	-9.50	Pass
160.00	-12.70	-9.90	Pass
200.00	-13.50	-10.20	Pass
250.00	-13.90	-10.60	Pass
315.00	-13.50	-11.00	Pass
400.00	-14.00	-11.20	Pass
500.00	-14.00	-11.30	Pass
630.00	-14.10	-11.40	Pass
800.00	-13.90	-11.20	Pass
1,000.00	-13.50	-11.00	Pass
1,250.00	-13.10	-10.50	Pass
1,600.00	-12.60	-9.80	Pass
2,000.00	-12.00	-9.20	Pass
2,500.00	-11.20	-8.30	Pass
3,150.00	-10.50	-7.60	Pass
4,000.00	-9.50	-6.70	Pass
5,000.00	-8.60	-5.80	Pass
6,300.00	-7.90	-4.90	Pass
8,000.00	-6.90	-3.90	Pass
10,000.00	-6.00	-3.00	Pass
12,500.00	-5.10	-2.10	Pass
16,000.00	-4.10	-1.10	Pass
20,000.00	-3.10	-0.20	Pass

-- End of measurement results--

Self-generated Noise

Bandwidth	Test Result [µV]	Test Result [dB re 1 µV]	Upper limit [dB re 1 µV]	Result
A-weighted (1 Hz - 20 kHz)	1.26	2.00	3.00	Pass
Broadband (1 Hz - 20 kHz)	1.86	5.40	6.50	Pass

– End of measurement results–

Signatory: Jacob Cannon

LARSON DAVIS – A PCB DIVISION
1681 West 820 North
Provo, UT 84601, United States
716-684-0001

ACCREDITED CERT #3622.01

LARSON DAVIS A PCB DIVISION

Calibration Certificate

Certificate Number 2023002803

Customer:

Model Number	377C20		***Procedure Number***	D0001.8387	
Serial Number	319406		***Technician***	Abraham Ortega	
Test Results	**Pass**		***Calibration Date***	6 Mar 2023	
Initial Condition	AS RECEIVED same as shipped		***Calibration Due***	6 Mar 2024	
Description	1/2 inch Microphone - RI - 0V		***Temperature***	23.0 °C	± 0.01 °C
			Humidity	38.6 %RH	± 0.5 %RH
			Static Pressure	101.57 kPa	± 0.03 kPa

Evaluation Method Tested electrically using an electrostatic actuator.

Compliance Standards Compliant to Manufacturer Specifications.

Issuing lab certifies that the instrument described above meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the SI through the National Institute of Standards and Technology (NIST), or other national measurement institutes, and meets the requirements of ISO/IEC 17025:2017.
Test points marked with a ‡ do not fall within this laboratory's scope of accreditation.

The quality system is registered to ISO 9001:2015.

This calibration is a direct comparison of the unit under test to the listed reference standards and did not involve any sampling plans to complete. No allowance has been made for the instability of the test device due to use, time, etc. Such allowances would be made by the customer as needed.

The uncertainties were computed in accordance with the ISO Guide to the Expression of Uncertainty in Measurement (GUM). A coverage factor of approximately 2 sigma (k=2) has been applied to the standard uncertainty to express the expanded uncertainty at approximately 95% confidence level.

For microphone sensitivity measurements, simple acceptance criteria is used with an expanded uncertainty not to exceed 0.25 dB for microphone sensitivities above 1 mV/Pa and 0.65 dB for microphone sensitivities below 1 mV/Pa.

This report may not be reproduced, except in full, unless permission for the publication of an approved abstract is obtained in writing from the organization issuing this report.

LARSON DAVIS – A PCB DIVISION
1681 West 820 North
Provo, UT 84601, United States
716-684-0001

ACCREDITED CERT #3622.01

LARSON DAVIS A PCB DIVISION

Standards Used

Description	Cal Date	Cal Due	Cal Standard
Agilent 34401A DMM	12/08/2022	12/08/2023	001329
Larson Davis 1/2" Preamplifier 7-pin LEMO	07/08/2022	07/08/2023	006507
1/2 inch Microphone - RI - 200V	03/24/2022	03/24/2023	006511
1/2 inch Microphone - RI - 200V	07/08/2022	07/08/2023	006519
Larson Davis 1/2" Preamplifier 7-pin LEMO	07/08/2022	07/08/2023	006530
Larson Davis CAL250 Acoustic Calibrator	03/06/2023	03/06/2024	PCB0013615
Larson Davis 1/2" Preamplifier 7-pin LEMO	07/13/2022	07/13/2023	PCB0070355
Microphone Calibration System	08/19/2022	08/19/2023	PCB0089382
Larson Davis Model 2900 Real Time Analyzer	11/01/2022	11/01/2023	PCB0089383
1/2" Preamplifier	09/23/2022	09/23/2023	PCB0089384
1/2" Preamplifier	07/18/2022	07/18/2023	PCB0089385

Sensitivity

Measurement	Test Result [mV/Pa]	Lower limit [mV/Pa]	Upper limit [mV/Pa]	Expanded Uncertainty [mV/Pa]	Result
Open Circuit Sensitivity	43.64	42.17	59.57	1.00	Pass

-- End of measurement results--

Capacitance

Measurement	Test Result [pF]				
Capacitance	13.00				‡

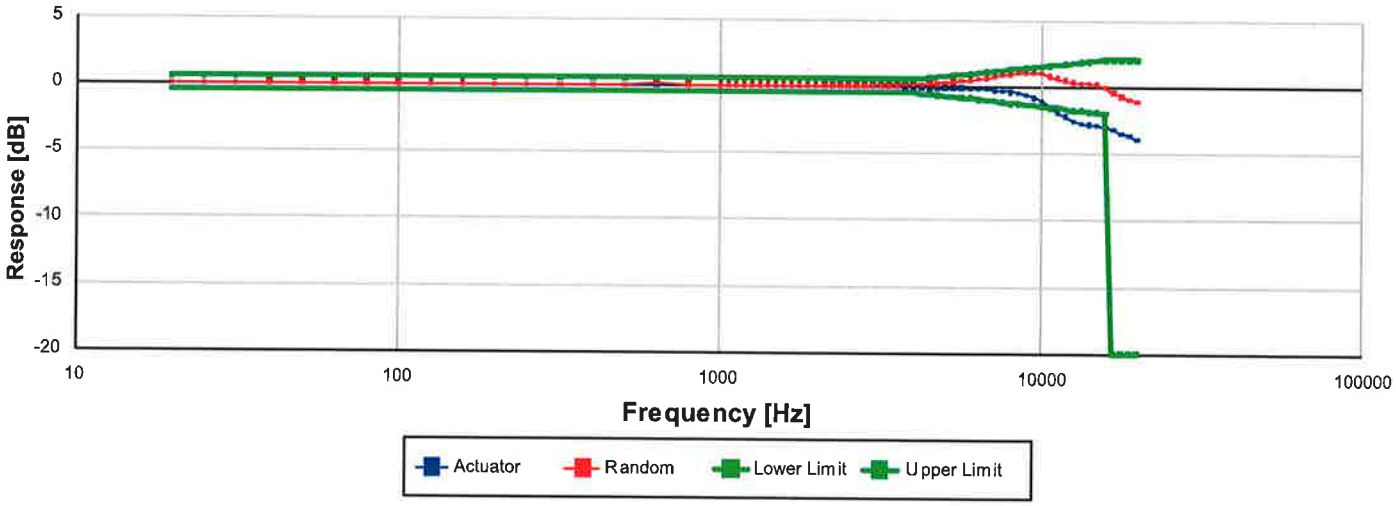
-- End of measurement results--

Lower Limiting Frequency

Measurement	Test Result [Hz]	Lower limit [Hz]	Upper limit [Hz]	Result
-3 dB Frequency	1.79	1.00	2.40	Pass ‡

-- End of measurement results--

Frequency Response



Data is normalized for 0 dB @ 251.19 Hz.

LARSON DAVIS – A PCB DIVISION
1681 West 820 North
Provo, UT 84601, United States
716-684-0001

Frequency [Hz]	Actuator [dB]	Random [dB]	Lower limit [dB]	Upper limit [dB]	Result
19.95	-0.05	-0.05	-0.50	0.50	Pass ‡
25.12	-0.01	-0.01	-0.50	0.50	Pass ‡
31.62	0.00	0.00	-0.50	0.50	Pass ‡
39.81	0.01	0.01	-0.50	0.50	Pass ‡
50.12	0.02	0.02	-0.50	0.50	Pass ‡
63.10	0.02	0.02	-0.50	0.50	Pass ‡
79.43	0.01	0.01	-0.50	0.50	Pass ‡
100.00	0.01	0.01	-0.50	0.50	Pass ‡
125.89	0.02	0.02	-0.50	0.50	Pass ‡
158.49	0.01	0.01	-0.50	0.50	Pass ‡
199.53	0.00	0.00	-0.50	0.50	Pass ‡
251.19	0.00	0.00	-0.50	0.50	Pass ‡
316.23	0.00	0.00	-0.50	0.50	Pass ‡
398.11	-0.01	0.00	-0.50	0.50	Pass ‡
501.19	-0.01	0.00	-0.50	0.50	Pass ‡
630.96	-0.02	0.16	-0.50	0.50	Pass ‡
794.33	-0.01	0.01	-0.50	0.50	Pass ‡
1,000.00	-0.02	0.01	-0.50	0.50	Pass ‡
1,059.25	-0.02	0.01	-0.50	0.50	Pass ‡
1,122.02	-0.02	0.01	-0.50	0.50	Pass ‡
1,188.50	-0.02	0.01	-0.50	0.50	Pass ‡
1,258.93	-0.02	0.01	-0.50	0.50	Pass ‡
1,333.52	-0.03	0.01	-0.50	0.50	Pass ‡
1,412.54	-0.03	0.01	-0.50	0.50	Pass ‡
1,496.24	-0.03	0.01	-0.50	0.50	Pass ‡
1,584.89	-0.03	0.01	-0.50	0.50	Pass ‡
1,678.80	-0.03	0.01	-0.50	0.50	Pass ‡
1,778.28	-0.03	0.01	-0.50	0.50	Pass ‡
1,883.65	-0.04	0.01	-0.50	0.50	Pass ‡
1,995.26	-0.04	0.01	-0.50	0.50	Pass ‡
2,113.49	-0.04	0.01	-0.50	0.50	Pass ‡
2,238.72	-0.04	0.02	-0.50	0.50	Pass ‡
2,371.37	-0.04	0.02	-0.50	0.50	Pass ‡
2,511.89	-0.04	0.03	-0.50	0.50	Pass ‡
2,660.73	-0.04	0.03	-0.50	0.50	Pass ‡
2,818.38	-0.05	0.03	-0.50	0.50	Pass ‡
2,985.38	-0.05	0.04	-0.50	0.50	Pass ‡
3,162.28	-0.06	0.05	-0.50	0.50	Pass ‡
3,349.65	-0.06	0.06	-0.50	0.50	Pass ‡
3,548.13	-0.06	0.08	-0.50	0.50	Pass ‡
3,758.37	-0.07	0.09	-0.50	0.50	Pass ‡
3,981.07	-0.08	0.11	-0.50	0.50	Pass ‡
4,216.97	-0.08	0.15	-0.63	0.56	Pass ‡
4,466.84	-0.10	0.18	-0.60	0.63	Pass ‡
4,731.51	-0.11	0.22	-0.70	0.69	Pass ‡
5,011.87	-0.12	0.27	-0.80	0.75	Pass ‡
5,308.84	-0.13	0.33	-0.80	0.81	Pass ‡
5,623.41	-0.15	0.39	-0.90	0.88	Pass ‡
5,956.62	-0.17	0.46	-0.90	0.94	Pass ‡
6,309.57	-0.19	0.55	-1.00	1.00	Pass ‡
6,683.44	-0.22	0.64	-1.10	1.06	Pass ‡
7,079.46	-0.26	0.74	-1.10	1.13	Pass ‡
7,498.94	-0.32	0.84	-1.20	1.19	Pass ‡

Frequency [Hz]	Actuator [dB]	Random [dB]	Lower limit [dB]	Upper limit [dB]	Result
7,943.28	-0.39	0.94	-1.30	1.25	Pass ‡
8,413.95	-0.48	1.04	-1.30	1.31	Pass ‡
8,912.51	-0.64	1.08	-1.40	1.38	Pass ‡
9,440.61	-0.85	1.07	-1.40	1.43	Pass ‡
10,000.00	-1.12	1.02	-1.50	1.50	Pass ‡
10,592.54	-1.56	0.79	-1.60	1.56	Pass ‡
11,220.19	-1.93	0.63	-1.60	1.63	Pass ‡
11,885.02	-2.25	0.49	-1.70	1.68	Pass ‡
12,589.25	-2.57	0.33	-1.80	1.75	Pass ‡
13,335.21	-2.71	0.30	-1.80	1.81	Pass ‡
14,125.38	-2.82	0.25	-1.90	1.87	Pass ‡
14,962.36	-2.91	0.16	-1.93	1.93	Pass ‡
15,848.93	-3.03	-0.02	-2.00	2.00	Pass ‡
16,788.04	-3.21	-0.43		2.00	Pass ‡
17,782.80	-3.49	-0.71		2.00	Pass ‡
18,836.49	-3.67	-0.94		2.00	Pass ‡
19,952.62	-3.97	-1.07		2.00	Pass ‡

– End of measurement results--

Signatory: *Abraham Ortega*

LARSON DAVIS – A PCB DIVISION
1681 West 820 North
Provo, UT 84601, United States
716-684-0001

ACCREDITED CERT #3622.01

LARSON DAVIS A PCB DIVISION

Calibration Certificate

Certificate Number 2023002812
Customer:

Model Number	LxT SE	***Procedure Number***	D0001.8384		
Serial Number	0005473	***Technician***	Jacob Cannon		
Test Results	**Pass**	***Calibration Date***	6 Mar 2023		
Initial Condition	AS RECEIVED same as shipped	***Calibration Due***	6 Mar 2024		
Description	Sound Expert LxT Class 1 Sound Level Meter Firmware Revision: 2.404	***Temperature***	23.63	°C	± 0.25 °C
		Humidity	49.3	%RH	± 2.0 %RH
		Static Pressure	86.12	kPa	± 0.13 kPa

Evaluation Method ***Tested with:*** ***Data reported in dB re 20 µPa.***

Larson Davis PRMLxT1. S/N 075306
PCB 377C20. S/N 319406
Larson Davis CAL200. S/N 9079
Larson Davis CAL291. S/N 0108

Compliance Standards Compliant to Manufacturer Specifications and the following standards when combined with Calibration Certificate from procedure D0001.8378:

IEC 60651:2001 Type 1	ANSI S1.4-2014 Class 1
IEC 60804:2000 Type 1	ANSI S1.4 (R2006) Type 1
IEC 61252:2002	ANSI S1.11 (R2009) Class 1
IEC 61260:2001 Class 1	ANSI S1.25 (R2007)
IEC 61672:2013 Class 1	ANSI S1.43 (R2007) Type 1

Issuing lab certifies that the instrument described above meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the International System of Units (SI) through the National Institute of Standards and Technology (NIST), or other national measurement institutes, and meets the requirements of ISO/IEC 17025:2017.
Test points marked with a ‡ in the uncertainties column do not fall within this laboratory's scope of accreditation.

The quality system is registered to ISO 9001:2015.

This calibration is a direct comparison of the unit under test to the listed reference standards and did not involve any sampling plans to complete. No allowance has been made for the instability of the test device due to use, time, etc. Such allowances would be made by the customer as needed.

The uncertainties were computed in accordance with the ISO Guide to the Expression of Uncertainty in Measurement (GUM). A coverage factor of approximately 2 sigma (k=2) has been applied to the standard uncertainty to express the expanded uncertainty at approximately 95% confidence level.

This report may not be reproduced, except in full, unless permission for the publication of an approved abstract is obtained in writing from the organization issuing this report.

Correction data from Larson Davis LxT Manual for SoundTrack LxT & SoundExpert Lxt, I770.01 Rev O Supporting Firmware Version 4.0.5, 2019-09-10

For 1/4" microphones, the Larson Davis ADP024 1/4" to 1/2" adaptor is used with the calibrators and the Larson Davis ADP043 1/4" to

1/2" adaptor is used with the preamplifier.

Calibration Check Frequency: 1000 Hz; Reference Sound Pressure Level: 114 dB re 20 µPa

Periodic tests were performed in accordance with procedures from IEC 61672-3:2013 / ANSI/ASA S1.4-2014/Part3.

No Pattern approval for IEC 61672-1:2013 / ANSI/ASA S1.4-2014/Part 1 available.

The sound level meter submitted for testing successfully completed the periodic tests of IEC 61672-3:2013 / ANSI/ASA S1.4-2014/Part 3, for the environmental conditions under which the tests were performed. However, no general statement or conclusion can be made about conformance of the sound level meter to the full specifications of IEC 61672-1:2013 / ANSI/ASA S1.4-2014/Part 1 because (a) evidence was not publicly available, from an independent testing organization responsible for pattern approvals, to demonstrate that the model of sound level meter fully conformed to the class 1 specifications in IEC 61672-1:2013 / ANSI/ASA S1.4-2014/Part 1 or correction data for acoustical test of frequency weighting were not provided in the Instruction Manual and (b) because the periodic tests of IEC 61672-3:2013 / ANSI/ASA S1.4-2014/Part 3 cover only a limited subset of the specifications in IEC 61672-1:2013 / ANSI/ASA S1.4-2014/Part 1.

Standards Used

Description	Cal Date	Cal Due	Cal Standard
Larson Davis CAL291 Residual Intensity Calibrator	2022-09-09	2023-09-09	001250
Hart Scientific 2626-H Temperature Probe	2021-08-25	2023-05-25	006798
Larson Davis CAL200 Acoustic Calibrator	2022-07-21	2023-07-21	007027
Larson Davis Model 831	2023-02-22	2024-02-22	007182
PCB 377A13 1/2 inch Prepolarized Pressure Microphone	2023-03-06	2024-03-06	007185
SRS DS360 Ultra Low Distortion Generator	2022-03-29	2023-03-29	007635
Larson Davis 1/2" Preamplifier for Model 831 Type 1	2022-09-28	2023-09-28	PCB0004783

Acoustic Calibration

Measured according to IEC 61672-3:2013 10 and ANSI S1.4-2014 Part 3: 10

Measurement	Test Result [dB]	Lower Limit [dB]	Upper Limit [dB]	Expanded Uncertainty [dB]	Result
1000 Hz	114.01	113.80	114.20	0.14	Pass

Adjusted Level: 114.01
As Received Level: 115.56

-- End of measurement results--

Loaded Circuit Sensitivity

Measurement	Test Result [dB re 1 V / Pa]	Lower Limit [dB re 1 V / Pa]	Upper Limit [dB re 1 V / Pa]	Expanded Uncertainty [dB]	Result
1000 Hz	-50.96	-52.82	-48.72	0.14	Pass

-- End of measurement results--

Acoustic Signal Tests, C-weighting

Measured according to IEC 61672-3:2013 12 and ANSI S1.4-2014 Part 3: 12 using a comparison coupler with Unit Under Test (UUT) and reference SLM using slow time-weighted sound level for compliance to IEC 61672-1:2013 5.5; ANSI S1.4-2014 Part 1: 5.5

Frequency [Hz]	Test Result [dB]	Expected [dB]	Lower Limit [dB]	Upper Limit [dB]	Expanded Uncertainty [dB]	Result
125	-0.19	-0.20	-1.20	0.80	0.23	Pass
1000	0.07	0.00	-0.70	0.70	0.23	Pass
8000	-2.78	-3.00	-5.50	-1.50	0.32	Pass

-- End of measurement results--

Self-generated Noise

Measured according to IEC 61672-3:2013 11.1 and ANSI S1.4-2014 Part 3: 11.1

Measurement	Test Result [dB]
A-weighted	40.71

-- End of measurement results--

-- End of Report--

Signatory: Jacob Cannon

Calibration Certificate

Certificate Number 2023002755

Customer:

Model Number	CAL200	***Procedure Number***	D0001.8386
Serial Number	15175	***Technician***	Scott Montgomery
Test Results	**Pass**	***Calibration Date***	3 Mar 2023
Initial Condition	AS RECEIVED same as shipped	***Calibration Due***	3 Mar 2024
Description	Larson Davis CAL200 Acoustic Calibrator	***Temperature***	22 °C ± 0.3 °C
		Humidity	38 %RH ± 3 %RH
		Static Pressure	101.2 kPa ± 1 kPa

Evaluation Method The data is aquired by the insert voltage calibration method using the reference microphone's open circuit sensitivity. Data reported in dB re 20 µPa.

Compliance Standards Compliant to Manufacturer Specifications per D0001.8190 and the following standards:
IEC 60942:2017 ANSI S1.40-2006

Issuing lab certifies that the instrument described above meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the SI through the National Institute of Standards and Technology (NIST), or other national measurement institutes, and meets the requirements of ISO/IEC 17025:2017.
Test points marked with a ‡ in the uncertainties column do not fall within this laboratory's scope of accreditation.

The quality system is registered to ISO 9001:2015.

This calibration is a direct comparison of the unit under test to the listed reference standards and did not involve any sampling plans to complete. No allowance has been made for the instability of the test device due to use, time, etc. Such allowances would be made by the customer as needed.

The uncertainties were computed in accordance with the ISO Guide to the Expression of Uncertainty in Measurement (GUM). A coverage factor of approximately 2 sigma (k=2) has been applied to the standard uncertainty to express the expanded uncertainty at approximately 95% confidence level.

This report may not be reproduced, except in full, unless permission for the publication of an approved abstract is obtained in writing from the organization issuing this report.

Standards Used

Description	Cal Date	Cal Due	Cal Standard
Agilent 34401A DMM	07/07/2022	07/07/2023	001021
Larson Davis Model 2900 Real Time Analyzer	03/31/2022	03/31/2023	001051
Microphone Calibration System	02/22/2023	02/22/2024	005446
1/2" Preamplifier	08/23/2022	08/23/2023	006506
Larson Davis 1/2" Preamplifier 7-pin LEMO	08/08/2022	08/08/2023	006507
1/2 inch Microphone - RI - 200V	03/24/2022	03/24/2023	006511
Hart Scientific 2626-S Humidity/Temperature Sensor	11/14/2022	05/14/2024	006943
Pressure Sensor	11/02/2022	11/02/2023	007827

LARSON DAVIS – A PCB DIVISION
1681 West 820 North
Provo, UT 84601, United States
716-684-0001

ACCREDITED CERT #3622.01

LARSON DAVIS A PCB DIVISION

Output Level

Nominal Level [dB]	Pressure [kPa]	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
114	101.2	113.99	113.80	114.20	0.14	Pass
94	101.2	93.99	93.80	94.20	0.14	Pass

-- End of measurement results--

Frequency

Nominal Level [dB]	Pressure [kPa]	Test Result [Hz]	Lower limit [Hz]	Upper limit [Hz]	Expanded Uncertainty [Hz]	Result
114	101.2	999.92	993.00	1,007.00	0.20	Pass
94	101.2	999.92	993.00	1,007.00	0.20	Pass

-- End of measurement results--

Total Harmonic Distortion + Noise (THD+N)

Nominal Level [dB]	Pressure [kPa]	Test Result [%]	Lower limit [%]	Upper limit [%]	Expanded Uncertainty [%]	Result
114	101.2	0.35	0.00	2.00	0.25 ‡	Pass
94	101.2	0.45	0.00	2.00	0.25 ‡	Pass

-- End of measurement results--

Level Change Over Pressure

Tested at: 114 dB, 22 °C, 35 %RH

Nominal Pressure [kPa]	Pressure [kPa]	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
108.0	107.6	-0.03	-0.25	0.25	0.04 ‡	Pass
101.3	100.9	0.00	-0.25	0.25	0.04 ‡	Pass
92.0	91.9	0.02	-0.25	0.25	0.04 ‡	Pass
83.0	83.1	0.03	-0.25	0.25	0.04 ‡	Pass
74.0	74.3	0.01	-0.25	0.25	0.04 ‡	Pass
65.0	65.3	-0.07	-0.25	0.25	0.04 ‡	Pass

-- End of measurement results--

Frequency Change Over Pressure

Tested at: 114 dB, 22 °C, 35 %RH

Nominal Pressure [kPa]	Pressure [kPa]	Test Result [Hz]	Lower limit [Hz]	Upper limit [Hz]	Expanded Uncertainty [Hz]	Result
108.0	107.6	0.01	-7.00	7.00	0.20 ‡	Pass
101.3	100.9	0.00	-7.00	7.00	0.20 ‡	Pass
92.0	91.9	0.00	-7.00	7.00	0.20 ‡	Pass
83.0	83.1	-0.01	-7.00	7.00	0.20 ‡	Pass
74.0	74.3	-0.01	-7.00	7.00	0.20 ‡	Pass
65.0	65.3	-0.02	-7.00	7.00	0.20 ‡	Pass

-- End of measurement results--

Total Harmonic Distortion + Noise (THD+N) Over Pressure

Tested at: 114 dB, 22 °C, 35 %RH

Nominal Pressure [kPa]	Pressure [kPa]	Test Result [%]	Lower limit [%]	Upper limit [%]	Expanded Uncertainty [%]	Result
108.0	107.6	0.35	0.00	2.00	0.25 ‡	Pass
101.3	100.9	0.35	0.00	2.00	0.25 ‡	Pass
92.0	91.9	0.33	0.00	2.00	0.25 ‡	Pass
83.0	83.1	0.33	0.00	2.00	0.25 ‡	Pass
74.0	74.3	0.32	0.00	2.00	0.25 ‡	Pass
65.0	65.3	0.32	0.00	2.00	0.25 ‡	Pass

-- End of measurement results--

Signatory: *Scott Montgomery*

LARSON DAVIS – A PCB DIVISION
1681 West 820 North
Provo, UT 84601, United States
716-684-0001

ilac-MRA A2LA ACCREDITED CERT #3622.01

LARSON DAVIS A PCB DIVISION

APPENDIX C: CITY OF YES FOR HOUSING OPPORTUNITY TECHNICAL MEMORANDUM

City of Yes for Housing Opportunity

Introduction

The NYC Department of City Planning is proposing a citywide zoning text amendment, the City of Yes for Housing Opportunity "CHO" (CEQR No. 24DCP033Y) to expand opportunities for housing within all zoning districts, and across all 59 of the City's Community Districts. These changes to the City's Zoning Resolution would enable more housing and a wider variety of housing types in every neighborhood, from the lowest-density districts to the highest, to address the housing shortage and high cost of housing in New York City. It is anticipated that this proposed zoning text amendment would be referred into public review in Spring 2024. Given that this project may be affected by the proposals included in the text amendment, this technical memorandum assesses whether the analysis conclusion of the environmental review would by altered by CHO.

As discussed above, with the approval of the Proposed Actions, the RWCDS projects the development of a mixed-use building on **Projected Development Site 1**. Projected Development Site 1 is a 68,811 gsf eight-story building (85 ft tall) with ground floor commercial (local retail) uses and 55 residential units would be developed on the Project Site. The building would have a total FAR of 3.59 (0.44 Commercial and 3.14 Residential). Projected Development Site 1 would include 6,859 gsf of commercial floor area (local retail uses) located on the ground floor and 53,829 gsf of residential area (55 Dwelling Units) on the 2nd through 8th floors. Of the 55 Dwelling Units, up to 17 would be affordable pursuant to MIH. Both MIH Options 1 and 2 would be mapped on the Project Area as part of the Proposed Actions. The final compliance with MIH would be determined through the ULURP process. This site would also include 8,050 square feet of parking space (23 spaces).

Additionally, the RWCDS projects the development of a mixed-use building on **Projected Development Site 2**. Projected Development Site 2 is a 60,570 gsf seven-story building (75 ft tall) with ground floor commercial (local retail) uses and 39 residential units would be developed on the Project Site. The building would have a total FAR of 3.29 (0.61 Commercial and 2.68 Residential). Projected Development Site 2 would include 7,997 gsf of commercial floor area (local retail uses) located on the ground floor and 41,480 gsf of residential area (39 Dwelling Units) on the 2nd through 7th floors. Of the 39 Dwelling Units, up to 12 would be affordable pursuant to MIH. Both MIH Options 1 and 2 would be mapped on the Project Area as part of the Proposed Actions. The final compliance with MIH would be determined through the ULURP process. This site would also include 6,300 square feet of parking space (18 spaces).

In order to present a conservative environmental analysis, a preliminary assessment of the effects of CHO on the Projected Development is provided. The City of Yes for Housing Opportunity would change the allowable FAR for this project's proposed

zoning district to 3.6 in R6A/C1-4 (pursuant to Mandatory Inclusionary Housing) to 3.9 (pursuant to CHO's Proposed Universal Affordability Preference).

The With-Action Condition analyzes Projected Development 1 as an 85 foot-tall, mixed-use building with 68,811 total gross square feet (GSF) including 53,829 gross sq. ft. residential floor area (48,943 zoning square feet) and 6,859 sq. ft. commercial space. CHO's proposed Universal Affordability Preference ("UAP") would increase the allowable developable floor area by 5,052 sq. ft., resulting in the addition of 5 dwelling units (60 total dwelling units). CHO would also change the maximum height for the proposed R6A/C1-4 district from 85 feet to 95 feet. No parking spaces would be provided because CHO eliminates parking requirements for all new residential developments.

The With-Action Condition also analyzes Projected Development 2 as a 75 foot-tall, mixed-use building with 60,570 total gross square feet (GSF) including 41,480 sq. ft. residential floor area (35,344 zoning square feet) and 7,997 sq. ft. commercial space. CHO's proposed Universal Affordability Preference ("UAP") would increase the allowable developable floor area by 8,012 sq. ft., resulting in the addition of 8 dwelling units (47 total dwelling units). CHO would also change the maximum height for the proposed R6A/C1-4 district from 85 feet to 95 feet. No parking spaces would be provided because CHO eliminates parking requirements for all new residential developments.

Future No-Action Condition

In the future No-Action Condition, the built form, use, type, and arrangement of the Study Area and surrounding area would remain unchanged as no new development is expected to occur within the Affected Area or anywhere else within the Study Area. CHO would not alter the findings of the EAS.

Future With-Action Condition

CEQR Chapter 4: Land Use, Zoning, and Public Policy

Changes to the EAS facilitated by CHO would not alter the findings of the EAS as the proposal would continue to be mixed-use buildings within the same proposed zoning district and use type as is analyzed in the EAS.

CEQR Chapter 5: Socioeconomic Conditions

Changes to the EAS facilitated by CHO would not result in new analysis as the buildings with CHO would contain 60 and 48 units and this would be below the threshold for Socioeconomic Conditions analysis of 200 units.

CEQR Chapter 6: Community Facilities and Services

Changes to the EAS facilitated by CHO would not result in new analysis as the buildings with CHO would not directly eliminate, displace, or alter public or publicly funded community facilities. The addition of 5 dwelling units in Projected Development 1 and 8 dwelling units in Projected Development 2 do not exceed the screening threshold for this analysis.

CEQR Chapter 7: Open Space

Changes to the EAS facilitated by CHO would not alter the findings of the EAS as the proposal would not change or eliminate existing open spaces. The additional 13 dwelling units would add 29 residents to the study area, based on the 2.3 persons per household in the Steinway Neighborhood Tabulation Area per 2020 census data.

CEQR Chapter 8: Shadows

Changes to the EAS facilitated by CHO would not alter the findings of the EAS as Projected Development 1 with CHO would be increased in height by 10 feet and Projected Development 2 with CHO would be increased in height by 20 feet and these increases will not cast new shadows on any additional sunlight-sensitive resources. The detailed analysis provided in the chapter identified new incremental shadows on Sitting Area. However, similar to the Proposed Project, the shadows on the sitting area would be 10 minutes long. Although shadows would be cast on trees within the open space, the incremental shadow will be on such a small area for such a short duration, leaving more than 8 hours of sunlight a day. The shadows generated by the Proposed Actions will not affect the trees within the open space to such an extent that they affect public use and enjoyment of Sitting Area. Therefore, the Proposed Actions would not result in significant changes to the shadows analysis, and would result in no significant shadows impact to the sitting area, and no further analysis is necessary.

CEQR Chapter 9: Historic and Cultural Resources

Changes to the EAS facilitated by CHO would not result in new analysis as the buildings with CHO would not involve construction resulting in in-ground disturbance to an area not previously excavated.

CEQR Chapter 10: Urban Design and Visual Resources

CHO would change the maximum height for the proposed R6A/C1-4 district to 95 feet. Projected Development 1 with CHO would be increased in height by 10 feet and Projected Development 2 with CHO would be increased in height by 20 feet. The increase in height to Projected Development 1 and Projected Development 2 would not alter the findings of the EAS as the proposal with CHO would maintain the same arrangement, appearance, or functionality as is analyzed in the EAS. Furthermore, the Proposed Actions would not affect any natural resources or public view corridors to notable features or buildings in the immediate vicinity of the Rezoning Area. Accordingly, no impacts to the urban design and/or visual resources of the area would occur.

CEQR Chapter 11: Natural Resources

Changes to the EAS facilitated by CHO would not result in new analysis as the Study Area with CHO would not be adjacent to a natural resource.

CEQR Chapter 12: Hazardous Materials

Changes to the EAS facilitated by CHO would not alter the findings of the EAS as the existing Phase I Environmental Site Assessment would not be impacted. This project would retain its E-762 designation for hazardous materials.

CEQR Chapter 13: Water and Sewer Infrastructure

Changes to the EAS facilitated by CHO would not result in new analysis as the buildings with CHO would not result in water demand of more than one million gallons per day.

CEQR Chapter 14: Solid Waste and Sanitation Services

Changes to the EAS facilitated by CHO would not result in new analysis as the buildings with CHO would not have the potential to generate 100,000 pounds (50 tons) or more of solid waste per week.

CEQR Chapter 15: Energy

Changes to the EAS facilitated by CHO would not result in new analysis as the buildings with CHO would not affect the transmission or generation of energy.

CEQR Chapter 16: Transportation

Changes to the EAS facilitated by CHO would not result in new analysis as the buildings with CHO would contain 5 and 8 units and this would be below the threshold for Transportation analysis of 200 units.

CEQR Chapter 17: Air Quality

Changes to the EAS facilitated by CHO would not alter the findings of the EAS as the proposal with CHO would not result in any violations of the ambient air quality standards. The E-762 designation would still be required and would not need to be altered.

CEQR Chapter 18: Greenhouse Gas Emissions and Climate Change

Changes to the EAS facilitated by CHO would not result in new analysis as the buildings with CHO are not city capital projects or a power generation plant and they would not fundamentally change the City's solid waste management system.

CEQR Chapter 19: Noise

Changes to the EAS facilitated by CHO would not alter the findings of the EAS as the proposal with CHO would only be altered slightly in terms of height and bulk and would not adversely impact the EAS's existing noise readings. The E-762 designation would still be required and would not need to be altered.

CEQR Chapter 20: Public Health

Changes to the EAS facilitated by CHO would not result in new analysis as the buildings with CHO would not require detailed analysis of the following technical areas: Air Quality; Noise; Hazardous Materials.

CEQR Chapter 21: Neighborhood Character

Changes to the EAS facilitated by CHO would not result in new analysis as the buildings with CHO would not require detailed analysis of the following technical areas: Land Use,

Zoning and Public Policy; Socioeconomic Conditions; Open Space; Historic and Cultural Resources; Urban Design and Visual Resources; Shadows; Transportation; Noise.

CEQR Chapter 22: Construction

Changes to the EAS facilitated by CHO would not result in new analysis as the buildings with CHO would not involve construction activities with the following: construction 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; 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.

Conclusion

This technical memorandum concludes that the implementation of CHO does not alter the findings of this EAS and does not require additional analysis.