2840 KNAPP STREET REZONING
Sheepshead Nursing and Rehabilitation Center

Environmental Assessment Statement

Prepared for:
Lipkaw Realty, LLC

Environmental Studies Corp.

April 2021

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* Sheepshead Nursing and Rehabilitation Center

3. *Reference Numbers*

CEQR REFERENCE NUMBER (to be assigned by lead agency)	BSA REFERENCE NUMBER (if applicable)
20DCP077K	
ULURP REFERENCE NUMBER (if applicable)	OTHER REFERENCE NUMBER(S) (if applicable) (*e.g.*, legislative intro, CAPA)
200203ZMK, N200204ZRK	

4a. *Lead Agency Information*			**4b. *Applicant Information***		
NAME OF LEAD AGENCY New York City Department of City Planning Environmental Assessment and Review Division			NAME OF APPLICANT Lipkaw Realty, LLC		
NAME OF LEAD AGENCY CONTACT PERSON Olga Abinader			NAME OF APPLICANT'S REPRESENTATIVE OR CONTACT PERSON Hiram Rothkrug, Environmental Studies Corp		
ADDRESS 120 Broadway, 31st Floor			ADDRESS 55 Water Mill Lane		
CITY New York	STATE NY	ZIP 10271	CITY Great Neack	STATE NY	ZIP 11021
TELEPHONE 212-720-3493	EMAIL oabinad@planning.nyc.gov		TELEPHONE 718-343-0026	EMAIL hrothkrug@environmentalstudiescorp.com	

5. *Project Description*

The Applicant, Lipkaw Realty, LLC, seeks a zoning map amendment (Sectional Map 29a) and text amendment (Appendix F) to 2840 Knapp Street (Block 8808, Lot 45) in the Sheepshead Bay section of Brooklyn Community Board 15 (the "Premises"). The proposed zoning map amendment would rezone the Premises from R5 to R6 which would facilitate a modest enlargement and resolve the noncomplying status of the existing community facility building. The zoning text amendment would require residential development to provide permanent affordable housing (MIH).

Project Location

BOROUGH Brooklyn	COMMUNITY DISTRICT(S) 15	STREET ADDRESS 2840 Knapp Street
TAX BLOCK(S) AND LOT(S) Block 8808, Lot 45		ZIP CODE 11235
DESCRIPTION OF PROPERTY BY BOUNDING OR CROSS STREETS Knapp Street, Brigham Street and Shore Parkway.		
EXISTING ZONING DISTRICT, INCLUDING SPECIAL ZONING DISTRICT DESIGNATION, IF ANY R5		ZONING SECTIONAL MAP NUMBER 29a

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

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

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

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

SPECIFY AFFECTED SECTIONS OF THE ZONING RESOLUTION

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

☐ VARIANCE (use)

☐ VARIANCE (bulk)

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

SPECIFY AFFECTED SECTIONS OF THE ZONING RESOLUTION

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

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

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

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

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

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

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

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

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

Physical Setting (both developed and undeveloped areas)

Total directly affected area (sq. ft.): 29,519
Waterbody area (sq. ft) and type:
Roads, buildings, and other paved surfaces (sq. ft.): 29,519
Other, describe (sq. ft.):

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

SIZE OF PROJECT TO BE DEVELOPED (gross square feet): 101,534
NUMBER OF BUILDINGS: 1
GROSS FLOOR AREA OF EACH BUILDING (sq. ft.): 101,534
HEIGHT OF EACH BUILDING (ft.): 70
NUMBER OF STORIES OF EACH BUILDING: 6

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

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: sq. ft. (width x length) VOLUME OF DISTURBANCE: cubic ft. (width x length x depth)
AREA OF PERMANENT DISTURBANCE: 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.)	91,214		10,	
Type (*e.g.,* retail, office, school)	130 units		medical office	

Does the proposed project increase the population of residents and/or on-site workers? ☒ YES ☐ NO
If "yes," please specify: NUMBER OF ADDITIONAL RESIDENTS: 124 NUMBER OF ADDITIONAL WORKERS: -219
Provide a brief explanation of how these numbers were determined: 2.49 Avg HH size in neighborhood (nycpopfactfinder)324 - 200 existing pop=124 and 3/1000 sf of health care: 31 proposed - 250 existing = 219 fewer workers

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): 2022

ANTICIPATED PERIOD OF CONSTRUCTION IN MONTHS: 6-8

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: Com Fac

Part II: TECHNICAL ANALYSIS

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

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

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

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

	YES	NO
(f) Would the proposed project be located in an area that is partially sewered or currently unsewered?	☐	☒
(g) Is the project proposing an industrial facility or activity that would contribute industrial discharges to a Wastewater Treatment Plant and/or generate contaminated stormwater in a separate storm sewer system?	☐	☒
(h) Would the project involve construction of a new stormwater outfall that requires federal and/or state permits?	☐	☒
11. *SOLID WASTE AND SANITATION SERVICES*: CEQR Technical Manual Chapter 14		
(a) Using Table 14-1 in Chapter 14, the project's projected operational solid waste generation is estimated to be (pounds per week): 5,330		
○ 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): 19.2		
(b) Would the proposed project affect the transmission or generation of energy?	☐	☒
13. *TRANSPORTATION*: CEQR Technical Manual Chapter 16		
(a) Would the proposed project exceed any threshold identified in Table 16-1 in Chapter 16?	☒	☐
(b) If "yes," conduct the screening analyses, attach appropriate back up data as needed for each stage and answer the following questions:		
○ Would the proposed project result in 50 or more Passenger Car Equivalents (PCEs) per project peak hour?	☒	☐
If "yes," would the proposed project result in 50 or more vehicle trips per project peak hour at any given intersection? ***It should be noted that the lead agency may require further analysis of intersections of concern even when a project generates fewer than 50 vehicles in the peak hour. See Subsection 313 of Chapter 16 for more information.*	☐	☒
○ Would the proposed project result in more than 200 subway/rail or bus trips per project peak hour?	☐	☒
If "yes," would the proposed project result, per project peak hour, in 50 or more bus trips on a single line (in one direction) or 200 subway trips per station or line?	☐	☐
○ Would the proposed project result in more than 200 pedestrian trips per project peak hour?	☐	☒
If "yes," would the proposed project result in more than 200 pedestrian trips per project peak hour to any given pedestrian or transit element, crosswalk, subway stair, or bus stop?	☐	☐
14. *AIR QUALITY*: CEQR Technical Manual Chapter 17		
(a) *Mobile Sources*: Would the proposed project result in the conditions outlined in Section 210 in Chapter 17?	☒	☐
(b) *Stationary Sources*: Would the proposed project result in the conditions outlined in Section 220 in Chapter 17?	☐	☒
○ If "yes," would the proposed project exceed the thresholds in Figure 17-3, Stationary Source Screen Graph in Chapter 17? (Attach graph as needed)	☐	☐
(c) Does the proposed project involve multiple buildings on the project site?	☐	☒
(d) Does the proposed project require federal approvals, support, licensing, or permits subject to conformity requirements?	☐	☒
(e) Does the proposed project site have existing institutional controls (*e.g.*, (E) designation or Restrictive Declaration) relating to air quality that preclude the potential for significant adverse impacts?	☐	☒
15. *GREENHOUSE GAS EMISSIONS*: CEQR Technical Manual Chapter 18		
(a) Is the proposed project a city capital project or a power generation plant?	☐	☒
(b) Would the proposed project fundamentally change the City's solid waste management system?	☐	☒
(c) If "yes" to any of the above, would the project require a GHG emissions assessment based on the guidance in Chapter 18?	☐	☒
16. *NOISE*: CEQR Technical Manual Chapter 19		
(a) Would the proposed project generate or reroute vehicular traffic?	☒	☐
(b) Would the proposed project introduce new or additional receptors (see Section 124 in Chapter 19) near heavily trafficked roadways, within one horizontal mile of an existing or proposed flight path, or within 1,500 feet of an existing or proposed rail line with a direct line of site to that rail line?	☐	☒
(c) Would the proposed project cause a stationary noise source to operate within 1,500 feet of a receptor with a direct line of sight to that receptor or introduce receptors into an area with high ambient stationary noise?	☐	☒
(d) Does the proposed project site have existing institutional controls (*e.g.*, (E) designation or Restrictive Declaration) relating to noise that preclude the potential for significant adverse impacts?	☐	☒
17. *PUBLIC HEALTH*: CEQR Technical Manual Chapter 20		
(a) Based upon the analyses conducted, do any of the following technical areas require a detailed analysis: Air Quality;	☐	☒

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

20. *APPLICANT'S CERTIFICATION*

I swear or affirm under oath and subject to the penalties for perjury that the information provided in this Environmental Assessment Statement (EAS) is true and accurate to the best of my knowledge and belief, based upon my personal knowledge and familiarity with the information described herein and after examination of the pertinent books and records and/or after inquiry of persons who have personal knowledge of such information or who have examined pertinent books and records.

Still under oath, I further swear or affirm that I make this statement in my capacity as the applicant or representative of the entity that seeks the permits, approvals, funding, or other governmental action(s) described in this EAS.

APPLICANT/REPRESENTATIVE NAME	DATE
Kathleen M Feeney, Environmental Studies Corp.	April13, 2021

SIGNATURE

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

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

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

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

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

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

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

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

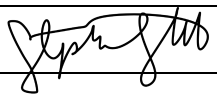
☐ **Positive Declaration**: If the lead agency has determined that the project may have a significant impact on the environment, and if a Conditional Negative Declaration is not appropriate, then the lead agency issues a *Positive Declaration* and prepares a draft Scope of Work for the Environmental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

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

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

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

TITLE	LEAD AGENCY
Deputy Director, Environmental Assessment and Review Division	City Planning Commission
NAME: Stephanie Shellooe	DATE: April 16, 2021

SIGNATURE 

NEGATIVE DECLARATION

Statement of No Significant Effect

Pursuant to Executive Order 91 of 1977, as amended, and the Rules of Procedure for City Environmental Quality Review, found at Title 62, Chapter 5 of the Rules of the City of New York and 6 NYCRR, Part 617, State Environmental Quality Review, the Department of City Planning acting on behalf of the City Planning Commission assumed the role of lead agency for the environmental review of the proposed actions. Based on a review of information about the project contained in this environmental assessment statement (EAS) and any attachments hereto, which are incorporated by reference herein, the lead agency has determined that the proposed actions would not have a significant adverse impact on the environment.

Reasons Supporting this Determination

The above determination is based on information contained in this EAS, which finds the proposed actions sought before the City Planning Commission would not have a significant adverse impact on the environment. Reasons supporting this determination are noted below.

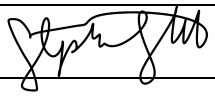
Land Use, Zoning, and Public Policy

A detailed analysis of land use, zoning, and public policy is included in the EAS. The proposed actions are a Zoning Map Amendment to rezone the project area (Brooklyn Block 8808, Lot 45) from an R5 district to an R6 district and a Zoning Text Amendment to establish a Mandatory Inclusionary Housing area coterminous with the rezoning area in the Sheepshead Bay neighborhood of Brooklyn Community District 15. The proposed actions would facilitate a proposal by the applicant to resolve an existing non-complying condition and to enlarge the existing community facility building on the Development Site from approximately 83,000 gross square feet (gsf) to approximately 93,000 gsf. The modification would entail renovation to the ground floor and basement, and mechanical renovations. The proposed zoning text amendment for MIH would require any future residential development to include a portion for affordable housing. The proposed action would not adversely affect or be incompatible with surrounding land uses or zoning. The proposed rezoning area is located within the coastal zone, and the proposed action would also be consistent with all applicable policies of the Waterfront Revitalization Program (WRP #18-065). The analysis concludes that there are no significant adverse impacts are anticipated to land use, zoning and public policy.

Air Quality and Noise

An (E) designation (E-611) related to 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 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 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 Stephanie Shellooe at +1 212-720-3328.

TITLE	LEAD AGENCY
Deputy Director, Environmental Assessment and Review Division	Department of City Planning on behalf of the City Planning Commission 120 Broadway, 31st Fl. New York, NY 10271 | 212.720.3328
NAME Stephanie Shellooe	DATE April 16, 2021
SIGNATURE 	
TITLE Chair, City Planning Commission	
NAME Marisa Lago	DATE April 19, 2021
SIGNATURE	

Project Name: 2840 Knapp Street Rezoning
CEQR # 20DCP077K
SEQRA Classification: Unlisted

Determination of Significance Appendix

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

Development Site	Borough	Block and Lot
Projected Development Site 1	Brooklyn	Block 8808, Lot 45

(E) Designation Requirements

To ensure that the proposed actions would not result in significant adverse impacts related to hazardous materials, air quality, and noise an (E) designation (**E-611**) would be established as part of approval of the proposed actions on **Projected Development Site 1** as described below:

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

Air Quality

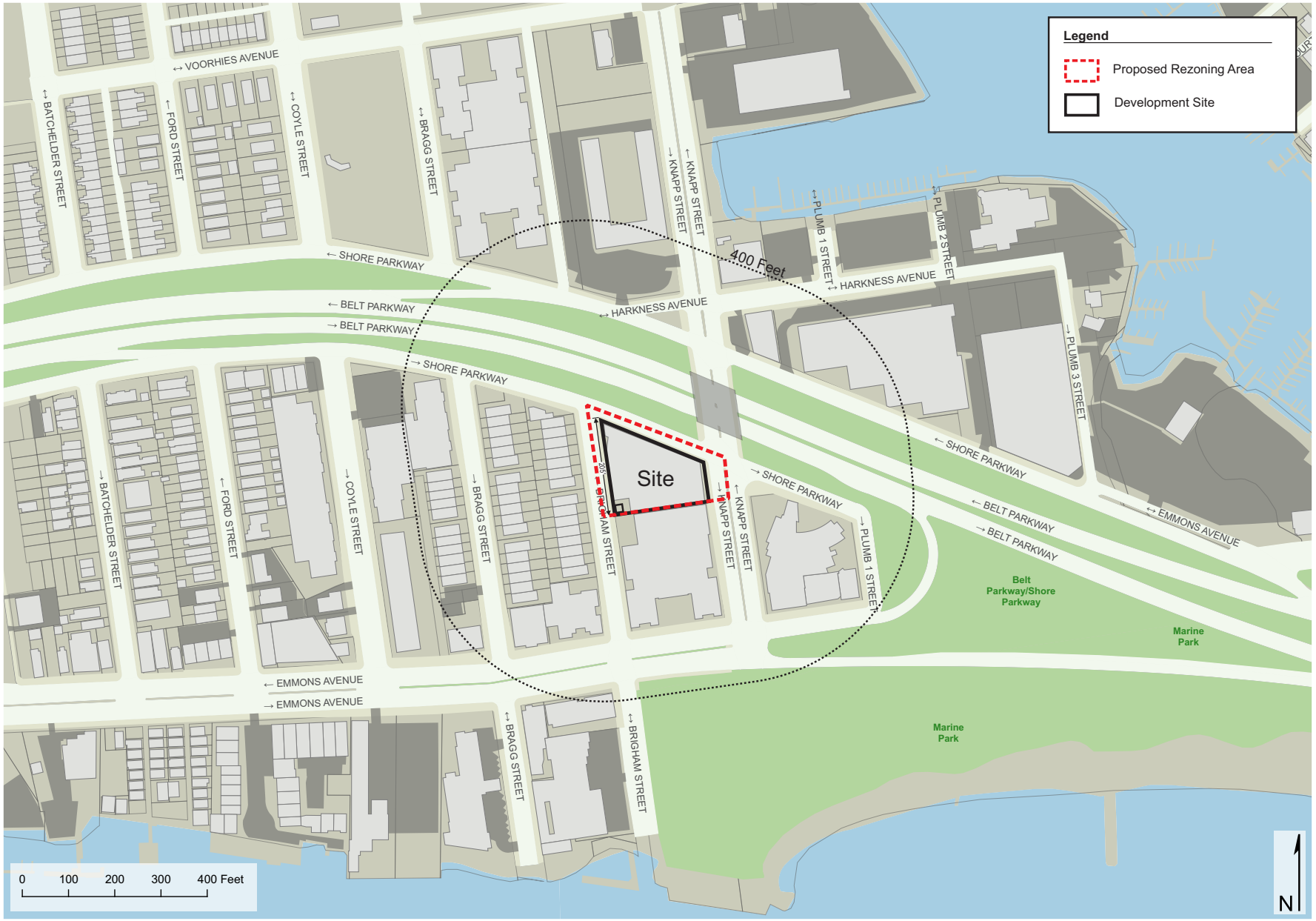
The (E) designation requirements for air quality would apply as follows:

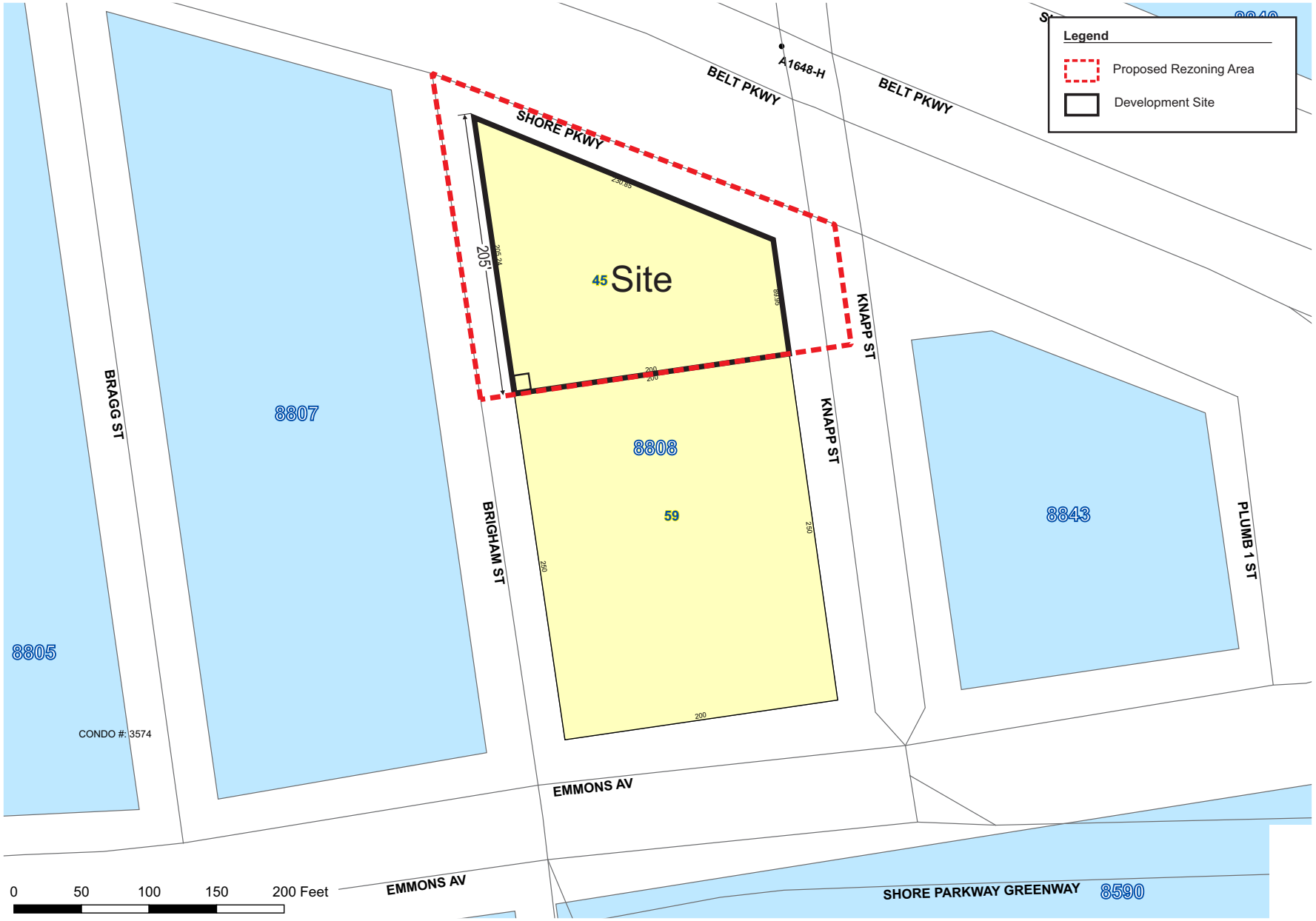
> ***Projected Development Site 1:*** *Any new residential or community facility development on the above-referenced property must ensure that HVAC stack is located at the highest tier or at least 70 feet above grade to avoid any potential significant adverse air quality impacts.*

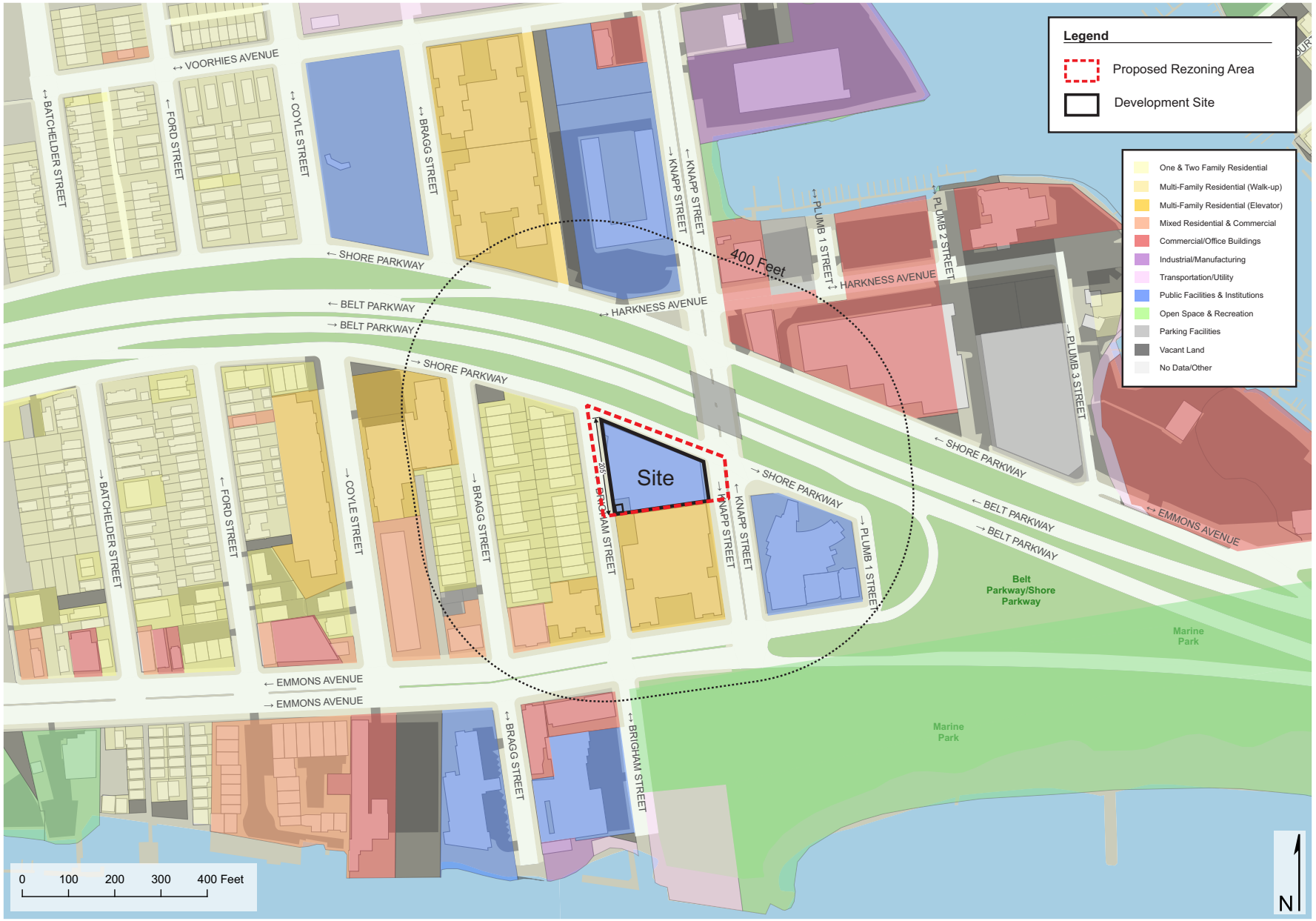
Noise

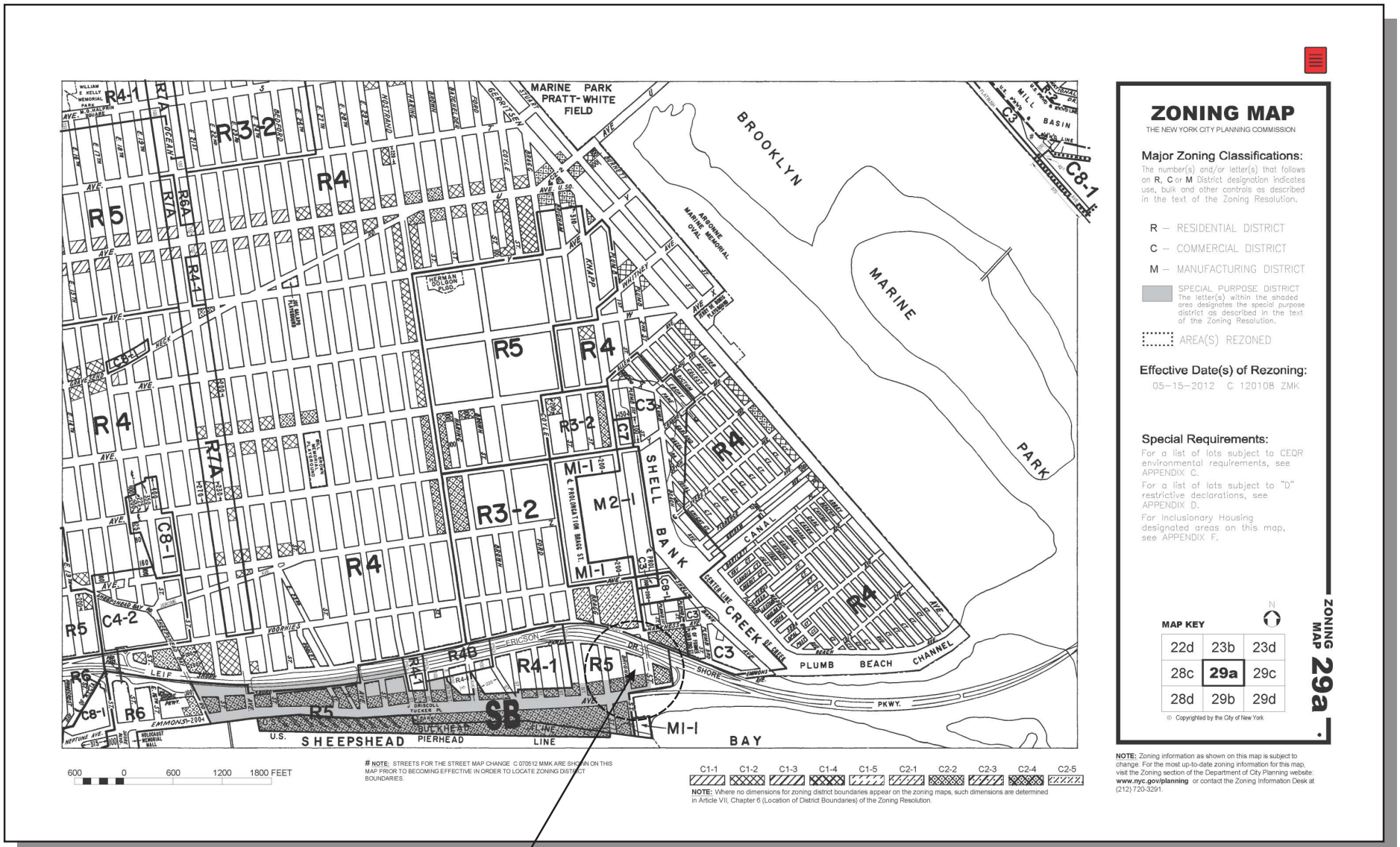
The (E) designation requirements for noise would apply as follows:

> ***Projected Development Site 1:*** *In order to ensure an acceptable interior noise environment, future residential/ community facility uses must provide a closed-window condition with a minimum of 31 dB(A) window/wall attenuation on all facades in order to maintain an interior noise level not greater than 45 dB(A) for residential and community facility uses. In order to maintain a closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, air conditioning.*


Legend
Proposed Rezoning Area
Development Site
Site
400 Feet
↔ VOORHIES AVENUE
↔ BATCHELDER STREET
← FORD STREET
↔ COYLE STREET
↔ BRAGG STREET
→ KNAPP STREET
← KNAPP STREET
↔ PLUMB 1 STREET
PLUMB 2 STREET
↔ HARKNESS AVENUE
→ PLUMB 3 STREET
← SHORE PARKWAY
← BELT PARKWAY
→ BELT PARKWAY
→ SHORE PARKWAY
↔ BRIGHAM STREET
→ PLUMB 1 STREET
↔ EMMONS AVENUE
Belt Parkway/Shore Parkway
Marine Park
0 100 200 300 400 Feet
N


Legend
Proposed Rezoning Area
Development Site
45 Site
59
8807
8808
8805
8843
8590
A1648-H
BELT PKWY
BELT PKWY
SHORE PKWY
KNAPP ST
KNAPP ST
BRIGHAM ST
BRAGG ST
PLUMB 1 ST
EMMONS AV
EMMONS AV
SHORE PARKWAY GREENWAY
CONDO #: 3574
205'
0 50 100 150 200 Feet


Legend
Proposed Rezoning Area
Development Site
One & Two Family Residential
Multi-Family Residential (Walk-up)
Multi-Family Residential (Elevator)
Mixed Residential & Commercial
Commercial/Office Buildings
Industrial/Manufacturing
Transportation/Utility
Public Facilities & Institutions
Open Space & Recreation
Parking Facilities
Vacant Land
No Data/Other
400 Feet
Site
VOORHIES AVENUE
BATCHELDER STREET
FORD STREET
COYLE STREET
BRAGG STREET
KNAPP STREET
PLUMB 1 STREET
PLUMB 2 STREET
PLUMB 3 STREET
HARKNESS AVENUE
SHORE PARKWAY
BELT PARKWAY
BRIGHAM STREET
EMMONS AVENUE
Belt Parkway/Shore Parkway
Marine Park
0 100 200 300 400 Feet
N


ZONING MAP
THE NEW YORK CITY PLANNING COMMISSION
Major Zoning Classifications:
The number(s) and/or letter(s) that follows an R, C or M District designation indicates use, bulk and other controls as described in the text of the Zoning Resolution.
R – RESIDENTIAL DISTRICT
C – COMMERCIAL DISTRICT
M – MANUFACTURING DISTRICT
SPECIAL PURPOSE DISTRICT
The letter(s) within the shaded area designates the special purpose district as described in the text of the Zoning Resolution.
AREA(S) REZONED
Effective Date(s) of Rezoning:
05-15-2012 C 120108 ZMK
Special Requirements:
For a list of lots subject to CEQR environmental requirements, see APPENDIX C.
For a list of lots subject to "D" restrictive declarations, see APPENDIX D.
For Inclusionary Housing designated areas on this map, see APPENDIX F.
MAP KEY
22d 23b 23d
28c 29a 29c
28d 29b 29d
ZONING MAP 29a
© Copyrighted by the City of New York
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.
MARINE PARK PRATT-WHITE FIELD
BROOKLYN
MARINE PARK
SHELL BANK
CREEK
PLUMB BEACH CHANNEL
SHEEPSHEAD BAY
BULKHEAD LINE
PIERHEAD LINE
SHORE PKWY.
R4-1
R3-2
R4
R5
R6
R7A
R6A
C8-1
C4-2
C3
C7
M1-1
M2-1
SB
600 0 600 1200 1800 FEET
NOTE: STREETS FOR THE STREET MAP CHANGE C 070512 MMK ARE SHOWN ON THIS MAP PRIOR TO BECOMING EFFECTIVE IN ORDER TO LOCATE ZONING DISTRICT BOUNDARIES.
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.

Site


Legend
Proposed Rezoning Area
Development Site
400 Feet
Site
BATCHELDER STREET
FORD STREET
COYLE STREET
BRAGG STREET
KNAPP STREET
PLUMB 1 STREET
PLUMB 2 STREET
PLUMB 3 STREET
BRIGHAM STREET
SHORE PARKWAY
BELT PARKWAY
HARKNESS AVENUE
EMMONS AVENUE
0 100 200 300 400 Feet
N



1. View of the Development Site facing southeast from the intersection of Shore Parkway and Brigham Street.



2. View of Brigham Street facing north (Development Site at right).



3. View of the Development Site facing northeast from Brigham Street.





4. View of the Development Site facing east from Brigham Street.



5. View of Shore Parkway facing southeast from Brigham Street (Development Site at right).



6. View of Brigham Street facing south from Shore Parkway (Development Site at left).





7. View of the Development Site facing southeast from Shore Parkway.



8. View of the Development Site facing southwest from Shore Parkway.



9. View of Knapp Street facing south from Shore Parkway (Development Site at right).





10. View of the Development Site facing southwest from the intersection of Shore Parkway and Knapp Street.



11. View of Shore Parkway facing northwest from Knapp Street (Development Site at left).



12. View of the Development Site facing west from Knapp Street.





13. View of the Development Site facing northwest from Knapp Street.



14. View of Knapp Street facing north (Development Site at left).



15. View of the west side of Knapp Street facing southwest between Shore Parkway and Emmons Avenue.





16. View of the west side of Knapp Street facing northwest between Shore Parkway and Emmons Avenue.



17. View of Emmons Avenue facing west from Knapp Street.



18. View the\intersection of Emmons Avenue and Knapp Street facing northwest.





19. View of Knapp Street facing north from Emmons Avenue.



20. View of the north side of Emmons Avenue facing north between Knapp Street and Brigham Street.



21. View of Brigham Street facing north from Emmons Avenue.





22. View of the intersection of Emmons Avenue and Brigham Street facing northeast.



23. View of Emmons Avenue facing east from Brigham Street.



24. View of the east side of Brigham Street facing northeast between Emmons Avenue and Shore Parkway.





25. View of the east side of Brigham Street facing southeast between Emmons Avenue and Shore Parkway.



26. View of the west side of Brigham Street facing southwest from the Development Site.



27. View of the west side of Brigham Street facing northwest from the Development Site.





28. View of the north side of Shore Parkway facing northwest from the Development Site.



29. View of the intersection of Shore Parkway and Knapp Street facing northeast from the Development Site.



30. View of the east side of Knapp Street facing southeast from the Development Site.





31. View of the east side of Knapp Street facing east between Emmons Avenue and Shore Parkway.



32. View of the intersection of Emmons Avenue and Knapp Street facing southeast.



33. View of the intersection of Emmons Avenue and Brigham Street facing southwest.



PROJECT DESCRIPTION
2840 KNAPP STREET, BROOKLYN, NY

Introduction

The Applicant, Lipkaw Realty, LLC., (the "Applicant"), seeks a zoning map amendment to Zoning Map 29a and a zoning text amendment to Appendix F that would include block 8808, lot 45 located at 2840 Knapp Street (the "Development Site") in the Sheepshead Bay section of Brooklyn, Community District 15.

The proposed zoning map amendment would rezone the Development Site from an R5 zoning district to an R6 zoning district which would facilitate a modest enlargement and resolve the existing noncomplying status of the community facility building on the Development Site. The proposed zoning text amendment would designate the Development Site a Mandatory Inclusionary Housing (MIH) area requiring all future residential development to include some permanent affordable housing.

The zoning amendments (the "Proposed Actions") would align with the lot lines of Block 8808, lot 45 which is an irregular shaped lot of approximately 29,519 square feet (sf) with frontage along three streets: approximately 205 feet along Brigham Street; approximately 231 feet along Shore Parkway; and approximately 90 feet along Knapp Street.

If approved, the proposed rezoning would resolve the noncomplying status of the Development Site as well as facilitate the enlargement of the existing nursing facility from 83,301 gsf (80,875 zsf, 2.74 FAR) to 92,305 gsf (85,971 zsf, 2.91 FAR). The renovations would primarily consist of modifications to the ground floor and basement facility, as well as much needed mechanical renovations. This includes moving the mechanical equipment from the ground floor to the roof and providing an on-site dialysis facility in its place. The overall bulk of the building would not change but the bulkhead would be renovated to accommodate the relocated mechanical equipment. In connection with the proposed rezoning, a new 20 space attended parking area would be provided within the basement. The single curb cut located along Brigham Street would remain.

For the purposes of a conservative analysis a Reasonable Worst Case Development Scenario (RWCDS) has been established for the Proposed Project Site allowing for the highest use while meeting zoning and parking requirements, based on the Proposed Actions. Based on this, the Proposed Project Site would allow for the development of a six-story 101,534 gsf (98,576 sf) mixed-use residential and community facility building with a total FAR of 3.34. In an R6 zoning district within Mandatory Inclusionary

Housing (MIH) area, the maximum residential FAR would be 3.0 or 91,214 gsf (88,557 sf, approximately 130 dwelling units). The maximum community facility FAR would be 1.0, but in order to provide the required parking spaces, the community facility FAR of the With-Action condition would be 0.34 or 10,320 gsf (10,019 zsf). For residential uses, parking for 50 percent of the dwelling units (65 parking spaces) is required. For community facility uses, one space for every 800 sf are generally required (13 spaces) but can be waived if 25 or fewer spaces are required (ZR §25-33). A total of 65 parking spaces would be provided.

Existing Conditions

The Development Site contains 29,519 sf of irregular lot area consisting of one tax and zoning lot, (Block 8808, Lots 45) in the Sheepshead Bay section of Brooklyn, Community District 15. It encompasses the northern end of Block 8808 and is bounded by Brigham Street to the west, Shore Parkway to the north, Knapp Street to the east and the lot line of Lot 59, Block 8808 to the south. Brigham Street is classified as a 'narrow' street with a width of 60 feet and Shore Parkway and Knapp Street are classified as 'wide' streets with widths in excess of 75 feet.

The existing nursing home (Use Group 4) was developed in the late 1960's. The building contains six-stories (and basement) with 80,875 square feet of floor area (2.74 FAR) where 2.0 FAR is permitted in R5 districts for community facility uses. The existing street wall measures 11 feet 7 inches. The facility currently contains 200 beds and 18 accessory parking spaces, which consist of surface parking located along the southern end of the property. A single curb cut exists on the lot along Brigham Street that provides access to a loading dock and the parking area.

The Development Site and surrounding area are located within the Coastal Zone Boundary and the Jamaica Bay Watershed Protection Plan (JBWPP). Surrounding land uses are predominately multi-family residential with some commercial uses along Emmons Avenue and additional community facility uses nearby.

Proposed Actions

The following land use actions are necessary to facilitate the Proposed Development, bring the existing community facility into compliance with the zoning bulk which is currently not permitted under the existing R5 zoning district as well as provide for future affordable housing.

- *R5 zoning district to an R6 zoning district (Block 8808, Lots 45)*
- *Zoning Text amendment (Appendix F) to make the rezoning area applicable as a Mandatory Inclusionary Housing (MIH) Area*

The proposed R6 zoning district would permit an FAR of 3.6 for residential use and an FAR of 4.80 for community facilities, facilitating the Proposed Development.

Development Site

The Applicant seeks to redevelop the Development Site, Block 8808, Lot 45, with renovations and a small expansion to the existing six-story community facility containing a nursing and rehabilitation center. For purposes of a conservative analysis a Reasonable Worst Case Development Scenario has been established for the Development Site.

Analysis Framework

Existing Conditions

The Development Site is within a R5 district which permits residential uses (Use Groups 1 and 2) and community facility uses (Use Groups 3 and 4). The maximum residential FAR is 1.25 and the maximum community facility FAR is 2.0. Commercial use is not permitted as-of-right.

Block 8808, Lot 45 has 29,519 square feet of lot area and is improved with a six-story community facility building with 80,875 square feet of floor area (2.47 FAR). The Development Site is currently used as nursing home and rehabilitation center. Built in 1969, this indicates that this non-complying bulk post-dates the enactment of the 1961 Zoning Resolution, creating a non-complying condition.

Future No-Action Scenario

The existing Nursing Home (Block 8808, Lot 45) is well utilized and not expected to close or relocate absent the Proposed Actions. The existing building on the Development Site is occupied by community facility use and is a non-complying condition. Therefore, in the future No-Action scenario, the Development Site is expected to remain in its current non-complying condition.

Future With-Action Scenario

In the future with the Proposed Actions, the Applicant's Proposed Project would be an enlargement of the existing nursing facility from 83,301 gsf (80,875 zsf, 2.74 FAR) to 92,305 gsf (85,971 zsf, 2.91 FAR). The renovations would primarily consist of

modifications to the ground floor and basement facility, as well as much needed mechanical renovations.

For the purposes of a conservative analysis a Reasonable Worst Case Development Scenario (RWCDS) has been established for the Proposed Actions, allowing for the highest use while meeting the zoning requirements for parking and bulk as well as the constraints of the site. The Development Site is located approximately 750 feet from the Atlantic Ocean to the south and Shell Bank Creek to the north and within the Coastal Zone Boundary. The depth to groundwater is approximately ten feet below grade and is very likely tidally influenced. The geology is generally sandy, and the elevation of the property is approximately ten feet above sea level which would require costly excavation, foundation and construction methods. As such, from a practical and/or economic standpoint, sub-basement parking is not a reasonable assumption. This With-Action scenario is based on a maximum allowable floor area and FAR of mixed-use residential and community facility building (medical office) in an R6 zoning district within an MIH area while providing the required number of parking spaces.

The Development Site would allow for the development of a six-story 101,534 gsf (98,576 sf) mixed-use residential and community facility building with a total FAR of 3.34. In an R6 zoning district within Mandatory Inclusionary Housing (MIH) area, the maximum residential FAR would be 3.0 or 91,214 gsf (88,557 sf, approximately 130 dwelling units). The maximum community facility FAR would be 1.0, but in order to provide the required parking spaces, the community facility FAR would be 0.34 or 10,320 gsf (10,019 zsf). The maximum height of a residential building in an R6 zoning district within an MIH area is 70 feet. For the residential uses, parking for 50 percent of the dwelling units (65 parking spaces) is required. For community facility uses, one space for every 800 sf are generally required (13 spaces) but can be waived if 25 or fewer spaces are required (ZR §25-33). A total of 65 parking spaces would be provided, which would be the maximum number of spaces that would reasonably fit on one level without requiring additional sub-basement construction.

The Proposed Actions would include an increase in 91,214 sf of residential use which would include 130 dwelling units, 26 of which would be affordable pursuant to MIH. (Typically, between 25-30 percent would be affordable pursuant to MIH, depending on the MIH Option selected, but 20 percent (approximately 26 units) is assumed to be affordable at or below 80 percent AMI for the purposes of publicly-funding child-care screening.) The Proposed Actions would also include a decrease of 72,981 sf of community facility use (nursing home), and an increase in 47 parking spaces. This would result in an increase of 124 residents and a decrease in 219 workers.

As proposed, the rezoning to R6 would allow an increase in floor area by moving the mechanical systems from the basement to the roof and freeing up existing basement space for additional community facility space and parking. The overall bulk of the building would not change but the bulkhead would be renovated to accommodate the relocated mechanical equipment.

Purpose and Need

Based on the Applicant's Proposed Project, the proposed rezoning would resolve the existing non-complying bulk issues of the Development Site, which closely resembles the built area surrounding it. Within the proposed R6 zone, the nursing facility could add additional floor area to help facilitate program needs, such as on-site dialysis. Located within the Coastal Zone Boundary, much needed flood proofing measures include moving updated mechanical systems from the basement to the roof of the building. Once relocated, new facilities and parking can be added to basement level and no additional floors or bulk would be added to the Development Site.

For both the Applicant's Proposed Project and the RWCDS, in addition to the zoning map amendment, a zoning text amendment to Appendix F of the New York City Zoning Resolution (ZR) would be required to make the Project Site applicable as a Mandatory Inclusionary Housing Area (MIH). MIH would require any future residential development on this site to include permanent affordable dwelling units, a demonstrated city-wide need.

Build Year

Based on an estimated 12-month approval process and 6- to 8-month construction period, the analysis year is assumed as 2022.

2840 KNAPP STREET
BROOKLYN, NEW YORK

INTRODUCTION

Based on the analysis and the screens contained in the Environmental Assessment Statement Short Form, the analysis areas that require further explanation include land use, zoning, and public policy; historic and cultural resources, urban design and visual resources, natural resources, transportation, air quality, and noise as further detailed below. The subject heading numbers below correlate with the relevant chapters of the *2020 CEQR Technical Manual*

The Applicant seeks a zoning map amendment which would rezone the Proposed Project Site (Block 8808, Lot 45) from an R5 zoning district to an R6 (Proposed Actions) to allow the redevelopment of the Proposed Project Site with an enlargement of the existing nursing facility from 80,875 sf (83,301 gsf) with an FAR of 2.74 to 85,971 sf (92,305 gsf) with an FAR of 2.91. The renovations would primarily consist of modifications to the ground floor and basement facility and moving the mechanical equipment from the ground floor to the roof in order to providing an on-site dialysis facility in its place. A new 20-space attended parking area would be provided in the basement. The existing single curb cut along Brigham Street would remain. The overall bulk of the building would not be modified.

The applicant also seeks a zoning text amendment which would designate the Proposed Project Site a Mandatory Inclusionary Housing (MIH) area requiring all future residential development to include some permanent affordable housing.

For the purposes of a conservative analysis a Reasonable Worst Case Development Scenario (RWCDS) has been established for the Proposed Project Site allowing for the highest use while meeting zoning and parking bulk requirements, based on the Proposed Actions. Based on this, the Proposed Project Site would allow for the development of a six-story 101,534 gsf (98,576 sf) mixed-use residential and community facility building with a total FAR of 3.34. In an R6 zoning district within Mandatory Inclusionary Housing (MIH) area, the maximum residential FAR would be 3.0 or 91,214 gsf (88,557 sf, approximately 130 dwelling units). The maximum community facility FAR would be 1.0, but in order to provide the required parking spaces, the community facility FAR would be 0.34 or 10,320 gsf (10,019 zsf). The maximum height of a residential building in an R6 zoning district within an MIH area is 70 feet. For the residential uses, parking for 50 percent of the dwelling units (65 parking spaces) is required. For community facility uses, one space for every 800 sf are generally required (13 spaces) but can be waived if 25 or fewer spaces are required (ZR §25-33). A total of 65 parking spaces would be required and provided.

4. LAND USE, ZONING AND PUBLIC POLICY

I. Introduction

The analysis of land use, zoning and public policy characterizes the existing conditions of the Proposed Project Site (Block 8808, Lot 45) 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 Proposed 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.

Figure 1 – Site Location
Figure 2 – Tax Map

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, which is an area within which the Proposed Project has the potential to affect land use or land use trends. The 400-foot radius study area is bounded roughly by Harkness Avenue to the north; Marine Park to the east; Sheepshead Bay to the south; and midblock between Bragg Street and Coyle Street to the west.

II. Land Use

Site Description (Existing Conditions)
Block 8808, Lot 45 (Proposed Project Site) has 29,519 square feet of irregular lot area and is improved with a six-story community facility building with 80,875 square feet of floor area (2.74 FAR). It is currently used as a nursing home (Use Group 3).

The study area surrounding the Proposed Project Site is predominantly multi-family residential buildings, mixed-use buildings with residential and commercial uses along Emmons Avenue, open space (Marine Park) and two additional community facilities (senior living centers) nearby.

Figure 3 – Land Use Map

Future No-Action (No-Build) Scenario

In the future and absent the Proposed Actions, no land use changes would be made to the Proposed Project Site and the study area would continue to remain in its existing condition.

The Proposed Project Site is assumed to remain in its existing non-complying condition (bulk) community facility.

With-Action (Build) Scenario

In the future with the Proposed Actions, the existing bulk of the building would be permitted on the Proposed Project Site. This would resolve the non-complying status of the existing building and/or facilitate its redevelopment.

The Proposed R6 district permits a maximum of 3.6 FAR for residential and 4.8 FAR for community facility uses. Commercial uses are not permitted as-or-right.

The Proposed Project Site would allow for the development of a six-story 101,534 gsf (98,576 sf) mixed-use residential (Use Group 2) and community facility building (Use Group 4) with a total FAR of 3.34. In an R6 zoning district within Mandatory Inclusionary Housing (MIH) area, the maximum residential FAR on this site would be 3.0 or 91,214 gsf (88,557 sf, approximately 130 dwelling units). The maximum community facility FAR would be 1.0 but in order to provide the required parking spaces, the community facility FAR would be 0.34 or 10,320 gsf (10,019 zsf). A total of 65 parking spaces are required.

Residential and community facility uses are permitted as-of- right in both the existing R5 and proposed R6 districts (Use Groups 1, 2, 3, 4). There are similar mixed residential uses in the neighborhood.

Conclusion

The Proposed Actions are not anticipated to result in any new land uses that are significantly different from surrounding uses. The Proposed Actions would not be a departure from adjacent land use and would not be incompatible with the land uses in the surrounding area.

No potentially significant adverse impacts related to land use are expected to occur as a result of the Proposed Actions. Therefore, further analysis of land use is not warranted.

III. Zoning

Existing Conditions
The Proposed Project Site is currently zoned R5, which permits a maximum FAR of 1.25 for residential and 2.00 for community facilities. The Proposed Project Site is currently improved with a nursing home and rehabilitation facility. The existing community facility use is permitted within the R5 zone however it exceeds the allowable bulk within the R5 zone. This includes the 2.74 FAR (2.0 is permitted), approximately 61' height (40' maximum) and 18 parking spaces (20 required (1/20 beds for nursing homes)).

Built in the late 1960's, this non-compliance use post-dates the enactment of the 1961 Zoning Resolution, creating the non-complying condition.

Within the study area, R5 is the predominant zone with a C2-2 commercial overlay along Emmons Avenue. C2-2 zones are located within residential districts to serve local retail needs of the community.

Figure 4 – Zoning Map

Future No-Action (No-Build) Scenario
In the future and absent the Proposed Actions, development of the Proposed Project Site would continue to be governed by the provisions of the existing R5 zoning district. Block 8808, Lot 45 is assumed to remain in its existing condition as a nursing home and rehabilitation facility. Subsequently, the site is anticipated to remain in a non-complying condition in the future without the Proposed Actions.

Therefore, in the future No-Action scenario, the site is anticipated to remain as 80,875 sf of community facility use (2.74 FAR).

No changes are anticipated to the zoning districts and zoning regulations relating to the Proposed Project Site or the surrounding study area by the project build year of 2022.

Future With-Action (Build) Scenario
In the future with the Proposed Actions, the Proposed Project Site would be zoned R6, with MIH.

The Proposed Project Site would allow for the development of a six-story 101,533 gsf (98,576 sf) mixed-use residential and community facility building with a total FAR of 3.34. In an R6 zoning district within Mandatory Inclusionary Housing (MIH) area, the maximum residential FAR would be 3.0 or 91,214 gsf (88,557 sf, approximately 130 dwelling units). The maximum

community facility FAR would be 1.0, but in order to provide the required parking spaces, the community facility FAR would be 0.34 or 10,320 gsf (10,019 zsf). The maximum height of a residential building in an R6 zoning district within an MIH area is 70 feet. For residential uses, parking for 50 percent of the dwelling units (65 parking spaces) is required. For community facility uses, one space for every 800 sf are generally required (13 spaces) but can be waived if 25 or fewer spaces are required (ZR §25-33).

In addition to the zoning map amendment, a zoning text amendment to Appendix F of the New York City Zoning Resolution (ZR) would be required to make the Project Site applicable as a Mandatory Inclusionary Housing Area (MIH). MIH would require any future residential development on this site to include permanent affordable dwelling units, a demonstrated city-wide need.

Therefore, the Future With-Action Scenario would facilitate the development of the Proposed Project, which would also resolve the non-complying zoning status and provide for future affordable housing.

Conclusion

No significant impacts to zoning patterns in the area would be expected. The Proposed Actions would result in a zoning map amendment that creates a new R6 zoning district, which would legalize pre-existing community facility bulk on the Proposed Project Site and facilitate the redevelopment of the site. The Proposed Project Site would allow for the development of a six-story mixed-use residential and community facility building with a total FAR of 3.34, less than the maximum permitted in an R6 zone. In an R6 zoning district within Mandatory Inclusionary Housing (MIH) area, the maximum residential FAR would be 3.6 and the maximum community facility FAR would be 4.8. The maximum height of a residential building in an R6 zoning district within an MIH area is 70 feet.

In addition to the Proposed Project Site being rezoned to R6, the Proposed Actions also includes a zoning text amendment to Appendix F of the New York City Zoning Resolution (ZR) would be required to make the Project Site applicable as a Mandatory Inclusionary Housing Area (MIH). While the Proposed Actions would facilitate a redevelopment on the Proposed Project Site, it would also ensure the provision of future affordable housing.

Therefore, the Propose Actions will not have a significant impact on the extent of conformity with the current zoning in the surrounding area, and it would not adversely affect the viability of conforming uses on nearby properties.

Potentially significant adverse impacts related to zoning are not expected to occur as a result of the Proposed Actions, and further assessment of zoning is not warranted.

IV. Public Policy

Existing Conditions

The Proposed Project Site is within the Sheepshead Bay section of Brooklyn, Community District 15, two blocks north of Sheepshead Bay.

The Proposed Project Site is located within the Resilient Neighborhoods Sheepshead Bay initiative. This initiative identifies land use, zoning and other actions that support the continued vitality of the neighborhood, reduces its risk associated with coastal flooding, and ensures the long-term resiliency of its built environment.

The Proposed Project Site is also located within the Coastal Zone boundary as determined by the New York City Waterfront Revitalization Program (WRP). The WPR establishes the City's policies for waterfront planning, preservation and development to ensure consistency over the long term. The goal of the program is to maximize the benefits derived from economic development, environmental conservation and public use of the waterfront, while minimizing any potential conflicts among these objectives.

No other public policies relate to the Proposed Project Site or to the surrounding 400-foot radius study area. The site and the 400-foot radius area are not located within an Historic District and do not contain any designated historic resources and are therefore not subject to any historic regulations. Neither the Proposed Project Site nor the study area are located within a Federal Empowerment Zone, nor is it covered by any 197-a Community Development Plans and is not located within a critical environmental area (The Jamaica Bay Watershed Protection Plan is discussed in Section 11: Natural Resources, of this document.).

Future No-Action (No-Build) Scenario

No new public policy initiatives or changes to existing initiatives are anticipated to affect the Proposed Project Site or the surrounding 400-foot study area by the analysis year of 2022.

Future With-Action (Build) Scenario

The future with the Proposed Actions would result in a zoning map amendment to the existing R5 zoning, creating a new R6 zoning district. It would also result in a zoning text amendment to Appendix F to include MIH. This R6 district would facilitate the redevelopment of the Proposed Project Site. The R6 district permits a maximum FAR of 3.6 for residential use under MIH and 4.8 FAR for community facility use. As noted within the land use analysis above, the proposed uses would be compatible with the existing land uses within a 400-foot radius of the Proposed Project Site.

The Proposed Actions are required in order to allow the Proposed Project Site to be redeveloped. The Proposed Actions would meet The City's public policy goals by

reducing the degree of non-compliance with zoning in the study area, specifically on the Proposed Project Site with the Proposed Project. The land use and zoning would be consistent with the those in the neighborhood.

The Proposed Actions would facilitate development that would include flood proofing measures which would be consistent with the goals of the Resilient Neighborhood initiative and the WPR of reducing risk of flood damage and increasing resiliency while allowing for economic development. See the NYC Waterfront Revitalization Program Consistency Assessment (WRP #18-065) for in **Appendix A**.

The zoning text amendment to Appendix F required to make the Project Site applicable as a Mandatory Inclusionary Housing Area (MIH) would ensure future residential development on the Proposed Project Site would include permanent affordable housing, a demonstrated city-wide need.

No adverse impact to public policies would occur as a result of the Proposed Actions.

Conclusion
The Proposed Actions, which would facilitate a new mixed residential and community facility on the Proposed Project Site, would not be inconsistent with the goals of the existing public policies for the area, as discussed above.

No potentially significant adverse impacts related to public policy are anticipated to occur as a result of the Proposed Actions, and further assessment of public policy is not warranted.

Figure 5 – Aerial Map
Figures 6-1 through 6-11 - Photographs

V. Conclusion

No significant adverse impacts related to land use, zoning, and public policy are anticipated to occur as a result of the Proposed Actions. Therefore, the Proposed Project is not expected to result in any of the conditions that warrant the need for further assessment of land use, zoning, or public policy.

9. HISTORIC AND CULTURAL RESOURCES

Historic and cultural resources include both architectural and archaeological resources. Architectural resources generally include historically important buildings, structures, objects, sites, and districts. They may include bridges, canals, piers, wharves, and railroad transfer bridges that may be wholly or partially visible above ground. Archaeological resources are physical remains, usually subsurface, of the prehistoric, Native American, and historic periods—such as burials, foundations, artifacts, wells, and privies. As a general rule, archaeological resources do not include 20th and 21st Century artifacts.

According to the *2020 CEQR Technical Manual*, a historic and cultural resources assessment is required if a project has the potential to affect either archaeological or architectural resources. The attached letter dated August 14, 2017 from the New York City Landmarks Preservation Commission (NYC LPC), affirms that the Proposed Project Site has no architectural or archaeological significance. See **Appendix B**.

Conclusion

Based on the above, there is no potential for impacts related to architectural historic resources or archaeological historic resources as a result of the Proposed Actions and further analysis is not required.

10. URBAN DESIGN AND VISUAL RESOURCES

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

1. Projects that permit the modification of yard, height, and setback requirements; and
2. Projects that result in an increase in built floor area beyond what would be allowed 'as-of-right'.

The Applicant seeks a zoning map amendment to Zoning Map 29a and a zoning text amendment to Appendix F that would include block 8808, lot 45 located at 2840 Knapp Street (the "Development Site") in the Sheepshead Bay section of Brooklyn.

The proposed zoning map amendment would rezone the existing R5 zone to an R6 district and facilitate the development of a mixed residential and commercial facility building and the proposed zoning text amendment would provide for future affordable housing (the "Proposed Actions").

The renovations of the existing building primarily consist of modifications to the ground floor and basement. This would include moving the mechanical equipment from the basement to the rooftop. The overall bulk of the building would not change but the bulkhead would be renovated to accommodate the relocated mechanical equipment.

With the Proposed Actions, the Proposed Project Site would allow for the development of a six-story 101,533 gsf (98,576 sf) mixed-use residential (Use Group 2) and community facility (Use Group 6) building with a total FAR of 3.34. In an R6 zoning district within Mandatory Inclusionary Housing (MIH) area, the maximum residential FAR would be 3.0 or 91,214 gsf (88,557 sf, approximately 130 dwelling units). The maximum community facility FAR would be 1.0, but in order to provide the required parking spaces, the community facility FAR would be 0.34 or 10,320 gsf (10,019 zsf). The maximum height of a residential building in an R6 zoning district within an MIH area is 70 feet. For residential uses, parking for 50 percent of the dwelling units (65 parking spaces) is required. For community facility uses, one space for every 800 sf are generally required (13 spaces) but can be waived if 25 or fewer spaces are required. A total of 65 parking spaces would be provided.

The Proposed Actions comply with the permitted height of the R6 zoning district and is similare in size and bulk to other mixed residential buildings in the surrounding area that are currently zoned R5. Therefore, the Proposed Actions would be consistent with

the character of the neighborhood.

The Proposed Actions would not alter the essential character of the neighborhood, impair the appropriate use or development of the adjacent properties, or be detrimental to the public welfare. The impacts would be similar to those of the nearby mixed residential and community facility buildings.

The Proposed Actions would allow a maximum building height of 70 feet. This would be approximately 10 feet higher than the maximum height allowed by existing nearby R5 zoning district. It would be consistent with other mixed residential building size and bulk in the neighborhood and therefore, the there is no potential for a pedestrian to observe, from street level, a physical alteration beyond that allowed by the existing zoning.

Based on the above, a detailed urban design assessment is not warranted and no urban design or visual resources impacts would occur.

11. NATURAL RESOURCES

The Proposed Project Site is located within the boundaries of the Jamaica Bay Watershed Protection Plan (See **Jamaica Bay Watershed Form**, **Appendix C**). As such, a preliminary assessment of the Proposed Actions' potential effect on natural resources is required. Relative to the requirements of the Natural Resources chapter of the *2020 CEQR Technical Manual*, the Proposed Project Site is currently developed with active community facility use and is within the highly urbanized area of Sheepshead Bay, making the site devoid of any significant natural resource. The site is fully covered by impervious surfaces and does not contain any vegetarian or animal habitat. The Proposed Actions are not anticipated to create a significant adverse impact on natural resources and no further analysis is warranted.

16. TRANSPORTATION

INTRODUCTION

Pursuant to the methodologies identified in the *2020 CEQR Technical Manual,* trip generation (Level 1) and trip assignment (Level 2) screening analyses were performed to determine the potential for the Proposed Action to result in significant adverse transportation impacts. Based on the proposed mixed-use development trip generation (Level 1) and trip assignment screening (Level 2) analyses results, it was determined that the Proposed Action would not result in significant adverse impacts, as summarized below.

PROJECT AREA

The Project Site (Block 8808, Lot 45) is located within a block, bounded by Knapp Street, a two-way (divided with a raised median) northbound/southbound roadway, on the east, Brigham Street, a one-way northbound roadway, on the west, Emmons Avenue, a two-way (divided with a raised median in study area) eastbound/westbound roadway, on the south and Shore Parkway Service Road (e/b), a one-way eastbound roadway, on the north, as shown in **Figure 1 (Appendix D).**

EXISTING CONDITIONS

The Development Site is located at 2840 Knapp Street in the Sheepshead Bay section of Brooklyn, Community Board 15. The Development Site currently includes a total of 83,301 gross square feet (200 bed) of nursing home space (***Sheepshead Nursing and Rehabilitation Center***), with 20 on-site accessory parking spaces.

NO-ACTION SCENARIO

Absent the proposed action, the Development, nursing home facility, is expected to remain unchanged in the Project Area. It would continue to be noncomplying in status and in need of additional facility floor area and flood-proofing of mechanical equipment.

WITH-ACTION (RWCDS) SCENARIO

Based on this revised RWCDS, the Proposed Project Site would continue to allow for the development of a six-story 101,534 gsf (98,576 sf) mixed-use residential and community facility building with a total FAR of 3.34. In an R6 zoning district within Mandatory Inclusionary Housing (MIH) area, the maximum residential FAR would be 3.0 or 91,214 gsf (88,557 sf, approximately 130 dwelling units). The maximum community facility FAR would be 1.0, but in order to provide the required parking spaces for residential development, the community facility FAR would be 0.34 or 10,320 gsf (10,019 zsf). The maximum height of a residential building in an R6 zoning district within an MIH area is 70 feet. For residential uses, parking for 50 percent of the dwelling units (65 parking spaces) is required. For community facility uses, one space

for every 800 sf are generally required (13 spaces) but can be waived if 25 or fewer spaces are required (ZR §25-33). The accessory parking garage would be accessed via one ingress and egress point along Brigham Street, as illustrated in the **Site Plan, and Figure 1 (Appendix D).**

The increment between the Existing/ No-Action, With-Action development scenarios, and the Increment are summarized in **Table 1.**

Table 1 – Existing/No-Action, With-Action Scenarios and Increment

	Existing/No-Action	With-Action	Increment
Land Use	200 beds (83.301 gsf)	0	-200 beds
Residential D.U.	0	130 d.u. (91,214 gsf)	130 d.u.
Medical Office GSF	0	10,320gsf	10,320 gsf
Accessory Parking Spaces	20	65	45

Source: Approved Revised RWCDS, October 2020.

INCREMENT

The Proposed Action would result in an increase of 130 new residential dwelling units (91,214 gsf), 10,320 gsf of medical office space, a net increase of 45 accessory parking spaces, and a decrease of 200-bed nursing home space (83,301 gsf), as summarized in **Table 1**.

PRINCIPAL CONCLUSIONS

The following detailed trip generation (Level-One Screening) and trip assignments (Level-Two Screening) analyses are conducted for the project increment, which is summarized and shown in **Table 1**.

Traffic and Parking

Based on the results of trip generation (Level 1) screening analysis, the project would generate more than 50 vehicle trip-ends during the AM, and PM peak hours, as summarized in **Tables 4, and 7** (Appendix D). Based on the results of trip assignment (Level 2) screening analysis, it is concluded that in the future with the Proposed Action, none of the intersections in the study area would experience 50 or more peak hour vehicle trip-ends, as summarized in **Table 4,** and shown in **Figures 2 and 3** (**Appendix D**) for the AM, and PM peak hours, respectively (the proposed project would generate fewer than 50 vehicle-trip-ends, during both the Weekday and Saturday Midday peak hours). Therefore, in accordance with the *CEQR Technical Manual* 50-vehicle trip-ends threshold, the vehicular trip-ends generated by the Proposed Action would not result in any conditions to warrant a detailed assessment of traffic and parking impacts.

Parking

The Proposed Action would provide an on-site accessory parking garage with 65 spaces (45 spaces would be added to 20 spaces in no-action conditions), per zoning requirement for residential development. The accessory parking garage would be accessed via one ingress and egress point along Brigham Street. The proposed project would screen for vehicular traffic as detailed below, and per the *CEQR Technical Manual,* no detailed parking assessment would be required.

Transit

Subway

Based on the results of trip generation screening analysis (Level 1), the Proposed Action, would generate fewer than the *CEQR Technical Manual* 200-subway trip-ends threshold, as summarized in **Table 3 (Appendix D)** for the AM, and PM peak hour periods, respectively. Therefore, in accordance with the *CEQR Technical Manual* 200-subway trip-ends threshold, the subway trip-ends generated by the Proposed Action would not result in any conditions to warrant a detailed assessment of subway impacts.

Bus

Based on the results of trip generation screening analysis (Level 1), the Proposed Action, would generate fewer than the *CEQR Technical Manual* 50-bus trip-ends threshold, as summarized in **Table 3 (Appendix D)** for the AM, and PM peak hour periods, respectively. Therefore, in accordance with the *CEQR Technical Manual* 50-bus trip-ends threshold, the bus trip-ends generated by the Proposed Action would not result in any conditions to warrant a detailed assessment of bus impacts.

Pedestrian

Based on the results of trip generation screening analysis (Level 1), the Proposed Action, would generate fewer than the *CEQR Technical Manual* 200-pedestrian threshold, as summarized in **Tables 3 and 6 (Appendix D)** for the AM, Midday, PM, and Saturday Midday peak hour periods, respectively. Therefore, in accordance with the *CEQR Technical Manual* 200-pedestrian threshold, the pedestrian trip-ends generated by the Proposed Action would not result in any conditions that would warrant a detailed assessment of pedestrian impacts.

BUILD YEAR

Project is expected to be completed by 2022 (approximately 18 months for the approval process and construction is anticipated).

ANALYSIS FRAMEWORK

The transportation analyses are based on the net difference between the proposed action and no-action scenarios (Increment). The Proposed Action would result in an increase of 130 new residential dwelling units (91,214 gsf), 10,320 gsf of medical office space, a net increase of 45 accessory parking spaces, and a decrease of 200-bed nursing home space (83,301 gsf), as summarized in **Table 1**.

PRELIMINARY ANALYSIS METHODOLOGY AND SCREENING ASSESSMENT

This level of development would exceed the minimum development density potentially requiring a transportation analysis as shown in Table 16-1 of the transportation chapter of the *2020 CEQR Technical Manual*. The applicable minimum development density for the location of the project site in Zone 5 is 100 new residential dwelling units; 10,000 additional square feet of local retail space; 15,000 additional square feet of community facility, or 60 new off-street parking spaces.

Transportation related vehicle trip, transit trip, and pedestrian trip generation resulting from the Proposed Action could potentially exceed the relevant *2020 CEQR Technical Manual thresholds* for conducting a detailed analysis of transportation impacts, therefore, the following Level 1 and Level 2 Screening assessments have been prepared.

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

LEVEL 1 SCREENING ASSESSMENT

A Level 1 trip generation screening assessment was conducted to estimate the numbers

of person and vehicle trips by mode expected to be generated by the Proposed Project during the weekday AM, midday, PM, and Saturday Midday peak hours. These estimates were then compared to the *CEQR Technical Manual thresholds* to determine if a Level 2 screening and/or quantified operational analyses would be warranted.

Traffic and Parking

The proposed project would generate a total of 57 (15 inbound, and 42 outbound), 46 (21 inbound, and 25 outbound), 50 (35 inbound and 15 outbound), and 40 (18 inbound and 22 outbound) net vehicle trip ends during the AM, Midday, PM, and Saturday Midday peak hours, respectively, as detailed in **Tables 4 and 7 (see Appendix D).** The proposed project would screen for vehicular traffic for both the Weekday and Saturday Midday peak hours, per the *CEQR Technical Manual.*

A Level 2 screening analysis (trip assignment) would be required for the Weekday AM, and PM peak hours (exceeding 50 vehicle tri-ends), per the *CEQR Technical Manual*, as detailed below.

Transit

Subway

Based on the results of trip generation screening analysis (Level 1), the Proposed Action, would generate 12, and 12 subway trip-ends, as summarized in **Table 3 (Appendix D)** for the AM, and PM peak hour periods, respectively. Therefore, in accordance with the *CEQR Technical Manual* 200-subway trip-ends threshold, the subway trip-ends generated by the Proposed Action would not result in any conditions to warrant a detailed assessment of subway impacts.

Bus

Based on the results of trip generation screening analysis (Level 1), the Proposed Action, would generate 26, and 27 bus trip-ends, as summarized in **Table 3 (Appendix D)** for the AM, and PM peak hour periods, respectively. Therefore, in accordance with the *CEQR Technical Manual* 200-bus trip-ends/50-bus trip-ends threshold, per bus line per direction, the bus trip-ends generated by the Proposed Action would not result in any conditions to warrant a detailed assessment of bus impacts.

Pedestrian

Based on the results of trip generation screening analysis (Level 1), the Proposed Action, would generate 48, 31, 44, and 41 pedestrian trip-ends, as summarized in **Tables 3 and 6 (Appendix D)** for the AM, Midday, PM, and Saturday Midday peak hour periods, respectively. Therefore, in accordance with the *CEQR Technical Manual* 200-pedestrian thresholds, the pedestrian trip-ends generated by the Proposed Action

would not result in any conditions to warrant a detailed assessment of pedestrian impacts.

LEVEL 2 SCREENING ASSESSMENTS

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

Traffic and Parking

Based on the results of trip generation (Level 1) screening analysis, the project would generate more than 50 vehicle trip-ends during the AM, and PM peak hours, as summarized in **Tables 4, and 7** (**Appendix D**). Based on the results of trip assignment (Level 2) screening analysis, as detailed below, it is concluded that in the future with the Proposed Action, none of the intersections in the study area would experience 50 or more peak hour vehicle trip-ends, as summarized in **Table 4,** and shown in **Figures 2 and 3** (**Appendix D**) for the AM, and PM peak hours, respectively (the proposed project would generate fewer than 50 vehicle-trip-ends, during both the Weekday and Saturday Midday peak hours).

A Level 2 screening analysis (trip assignment) for the AM, and PM peak hours is conducted, as described below.

Vehicular trips are conservatively assigned to the proposed on-site parking garage on Brigham Street, according to the existing traffic patterns. Based on trip assignments, and as summarized in **Table 4** and shown in **Figures 2 and 3** (**Appendix D**) for Weekday AM, and PM peak hours**,** none of the intersections in the study area would experience 50 or more vehicle trip-ends.

Figure 2 shows the highest vehicle trip-ends of 48 at the intersection of Shore Parkway Service Road (E/B) and Knapp Street, during the AM peak hour. **Figure 3** shows the highest vehicle trip-ends of 39 at the intersection of Emmons Avenue and Brigham Street, during the PM peak hour. Therefore, in accordance with the *CEQR Technical Manual* 50-vehicle trip-end threshold, the vehicular trip-ends generated by the Proposed Action would not result in any conditions that would warrant a detailed assessment of traffic and parking impacts.

TRANSPORTATION PLANNING ASSUMPTIONS

Trip generation factors for the Proposed Project were determined based on information from the *2020 City Environmental Quality Review* (CEQR) Technical Manual, U.S. Census Data, recent NYCDOT trip rates and mode of travel, and other approved EASs and EISs. The travel demand assumptions and trip generation sources are summarized in **Table 2 (see Appendix D).**

Nursing Home

There are three (3) components to Nursing Home use trip generation information, as described below:

Employees
Person and vehicular trips, generated by the existing nursing home, including truck trips, are all based upon the trip rates, utilized for the recently approved *Hebrew Home For The Aged EAS (CEQR # 18DCP134X, Table 2.8-1)*. The mode of travel and auto occupancy rate are both based on *the 5-year 2012-2016 American Community Survey (ACS) Reverse-Journey-to-Work (RJTW) information for census tract numbers 598, 608, 622, 628 and 666* in Brooklyn NY (*per EARD comment*), as all shown in Exhibits A, B, and summarized in **Table 2 and Table 5**.

Patients
Person and vehicular trips, generated by the existing nursing home, including truck trips, and vehicle occupancy rates are all based upon the trip rates and modal split information, utilized for the recently approved *Hebrew Home for The Aged EAS (CEQR # 18DCP134X, Table 2.8-1),* as summarized in **Table 2 and Table 5.**

Visitors
Person and vehicular trips, generated by the existing nursing home, including truck trips, and vehicle occupancy rates are all based upon the trip rates and modal split information, utilized for the recently approved *Hebrew Home for The Aged EAS (CEQR # 18DCP134X, Table 2.8-1),* as summarized in **Table 2and Table 5.**

Residential Development

Future With-Action Scenario generated person and vehicular trips, including truck trips, are based upon the rates and percent temporal distribution as provided in the *2020 CEQR Technical Manual (Table 16-2),* for residential development. The modal split information and auto occupancy rate are both based on *the 5-year 2013-2017 American Community Survey (ACS) Journey-to-Work (JTW) information for census tract numbers 598,*

608, 622, and 628 in Brooklyn NY, as shown in Exhibits C and D and summarized in **Table 2 and Table 5**.

Medical Office

Future With-Action Scenario generated person and vehicular trips, including truck trips, are all based upon the rates, percent temporal distribution, modal split information and vehicle occupancy rates as recently provided by *NYCDOT for medical office development, outside of transit zone in Brooklyn NY*, as summarized in **Table 2 and Table 5.**

CONCLUSIONS

Based on the above transportation analyses, the Proposed Project would have no significant adverse transportation impacts on neighborhood transportation systems. Therefore, based on the *2020 CEQR Technical Manual,* no detailed transportation analyses would be warranted.

17. AIR QUALITY

INTRODUCTION

Analysis Framework

Ambient air quality, or the quality of the surrounding air, may be affected by air pollutants produced by motor vehicles, referred to as "mobile sources"; by fixed facilities, usually referenced as "stationary sources"; or by a combination of both. Under CEQR, an air quality assessment determines both a proposed project's effects on ambient air quality as well as the effects of ambient air quality on the project. The analysis framework, as mandated by the State Environmental Review Act, followed the *New York City Environmental Quality Review 2020 Technical Manual*.

Project Description

The Proposed Actions

The proposed rezoning only affects the Development Site (Block 8808, Lot 45) and no additional properties. The applicant seeks a zoning map amendment from R5 to R6. If approved, the proposed rezoning would resolve the nonconforming status of the Development Site as well as facilitate the enlargement of the existing 6-story, 65'-6 ¼" feet high, nursing facility from 83,301 gross square feet (gsf) to 92,305 gsf. The proposed building would rise to a height of 65'-6 ¼" feet above grade and include a 7-story bulkhead. The bulkhead would rise to a height of 77 feet. The renovation would primarily consist of changes to the ground floor and cellar facility, as well as much needed mechanical renovations. The overall bulk of the building would not be modified. In connection with the proposed rezoning, a new 20 space attended parking area would be provided within the cellar.

The Reasonable Worst Case Development Scenario (RWCDS) would allow for the development of a 141,691 gsf of mixed-use residential and community facility building. The building would rise to a height of 70 feet. A total of 83 parking spaces are required. The project build year is 2022.

The Development Site is located at 2840 Knapp Street in the Sheepshead Bay section of Brooklyn Community Board 15 (Block 8808, Lot 45). It contains 29,519 square feet of irregular lot area with frontage along Brigham Street, Shore Parkway, and Knapp Street. A single curb cut exists on the lot along Brigham Street that provides access to a loading dock and the parking area. Brigham Street has a single traffic lane towards Shore Parkway. Shore Parkway is a two-lane west-east collector roadway. Knapp Street is a two-lane in each direction principal arterial roadway.

Air Pollutants and Applicable Standards and Guidelines

Criteria Pollutants - National Air Quality Standards

The U.S. Environmental Protection Agency (EPA) has identified six pollutants, known as criteria pollutants, which are of concern nationwide. As required by the Clean Air Act, National Ambient Air Quality Standards (NAAQS) have been established for the criteria pollutants by EPA, and New York State has adopted the NAAQS as the State ambient air quality standards.

In addition to the NAAQS, the *CEQR Technical Manual* require that projects subject to CEQR apply CO and $PM_{2.5}$ significant impact (*de minimis* threshold), which are based on concentration increments. $PM_{2.5}$ significant impact concentrations are evaluated as follows:

- Predicted 24-hour maximum $PM_{2.5}$ concentration increase of more than half the difference between the 24-hour background concentration and the 24-hour standard; or
- Predicted annual average $PM_{2.5}$ concentration increments greater than 0.1 $\mu g/m^3$ at ground level on a neighborhood scale (i.e., the annual increase in concentration representing the average over an area of approximately 1 square kilometer, centered on the location where the maximum ground-level impact is predicted for stationary sources; or for mobile sources, at a distance from a roadway corridor similar to the minimum distance defined for locating neighborhood scale monitoring stations); or
- Predicted annual average $PM_{2.5}$ concentration increments greater than 0.3 $\mu g/m^3$ at any receptor location for stationary sources.

Per the *CEQR Technical Manual*, CO significant impact concentration is:

- An increase of 0.5 parts per million (ppm) or more in the maximum 8-hour average CO concentration at a location where the predicted No-Action 8-hour concentration is equal to 8 ppm or between 8 ppm and 9 ppm; or
- An increase of more than half the difference between baseline (i.e., No-Action) concentrations and the 8-hour standard, when No-Action concentrations are below 8 ppm.

To determine compliance with the NAAQS, the predicted impact concentrations are added to the background concentrations. Background concentrations, at the nearest New York State Department of Environmental Conservation (NYSDEC) monitoring station(s), of the criteria pollutants for which detailed analyses were conducted, were obtained from the NYSDEC's annual report for 2018. Table 17-1 shows the background concentrations at the nearest NYSDEC monitoring stations and the NAAQS.

Table 17-1: The NAAQS and 2018 Background Concentrations at the Nearest NYSDEC Monitoring Stations

Pollutant	Averaging Period	National and State Standards	Background Concentration	Monitoring Station
$PM_{2.5}$	24-Hour	35 µg/m³	17.2 µg/m³	JHS 126
	Average of 3 consecutive annual means	12 µg/m³	7.7 µg/m³	
PM_{10}	24-hour	150 µg/m³	40 µg/m³	Division Street
CO	1-hour	35 ppm	1.95 ppm	Queens College
	8-hour	9 ppm	1.30 ppm	

The concentrations increments, the NYC Guidelines *de minimis*, for CO and $PM_{2.5}$ are presented below:

- 24-hour $PM_{2.5}$ 8.90 µg/m³
- Annual $PM_{2.5}$ 0.3 µg/m³ (for stationary source)
- Annual $PM_{2.5}$ 0.1 µg/m³ (on a neighborhood scale)
- CO 8-hour 3.85 ppm

Noncriteria Pollutants

The NYSDEC has established guidelines for maximum allowable concentration of "noncriteria pollutants," which are potentially toxic or carcinogenic pollutants. The maximum allowable guidelines set a maximum 1-hour and annual averaging time concentrations and are published in the DAR-1 AGC/SGC Table, where AGC/SGC refers to Annual and Short-term Guideline Concentrations. The most recent DAR-1 guidelines were created on August 10, 2016. NYSDEC also regulates pollutants that produce discomfort due to odors, where significant discomfort is evaluated on quantity, characteristic, or duration.

MOBILE SOURCE

Introduction

Projects may result in significant mobile source impacts when they create mobile sources of pollutants, change traffic patterns, or add new uses near mobile sources of pollutants. Per CEQR guidelines, a detailed analysis is required to predict whether the Proposed Actions could potentially have a significant adverse air quality impact if certain threshold criterions are met or exceeded, while Proposed Actions that do not meet or exceed the threshold criterions (screen out) are not expected to have a mobile source impact.

Mobile Source Screen

Project-Generated Traffic

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

Per the transportation analysis for this project, the Proposed Actions would generate a total of 57 (15 inbound and 42 outbound), 46 (21 inbound and 25 outbound), 50 (35 inbound and 15 outbound), and 40 (18 inbound and 22 outbound) vehicle trip ends, during the AM, Midday, PM, and Saturday Midday peak hours, respectively.

The maximum trip generation increment between the Future With-Action and the Future No-Action do not exceed the threshold of 170 vehicular trip generation. Therefore, no CO detailed analysis was required.

The $PM_{2.5}$ equivalent truck calculation in vehicular emission threshold screen ranges from 12 to 23 HDDVs, depending on the type of road. Peak hours traffic traversing the intersections of Brigham Street and Shore Parkway, Shore Parkway and Knapp Street, Knapp Street and Emmons Avenue, and Emmons Avenue and Brigham Street, the intersections surrounding the proposed project, were obtained from the transportation analysis for this project. Knapp Street and Emmons Avenue are principal arterial roadways; Brigham Street is a paved roadway; Shore Parkway is a major collector roadway[1]. The transportation analysis also provided the project-generated truck traffic during the peak-hours. The HDDVs screen does not apply to passenger cars; however, the HDDVs screen assumed that all autos (passenger cars and passenger trucks combined) are LDGT1 class vehicles, based on guidance from the New York City Department of City Planning (DCP). The worst-case HDDVs or its equivalent in vehicular emissions would result in a maximum of 17 equivalent trucks traveling on Brigham Street, which is a paved road (12 HDDVs threshold). **Table 17-2** shows the *2020 CEQR Technical Manual* Equivalent Truck Calculation worst-case results on each roadway.

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

Table 17-2: *CEQR Technical Manual* Equivalent Truck Calculations

Intersection	Roadway Classification (Threshold HDDVs screen)	Peak-Hour Period	Truck Per Hour	Auto Per Hour	Equivalent Truck	Pass / Fail
Brigham Street	Paved (12)	AM	0	39	19	Fail
Shore Parkway	Collector (20)	AM	0	46	9	Pass
Knapp Street	Arterial (23)	AM	0	39	2	Pass
Emmos Avenue	Arterial (23)	PM	0	38	2	Pass

As seen in Table 17-2, Brigham Street (at the intersection of Shore Parkway) failed the $PM_{2.5}$ HDDVs screening analysis. Therefore, a detailed $PM_{2.5}$ analysis for this intersection was conducted. The other intersections passed the $PM_{2.5}$ HDDVs screening analysis.

Parking Garage

Based on CEQR guidelines, the maximum capacity of a parking garage is evaluated against a threshold criterion to predict whether the potential impacts associated with mobile source emissions are significant. The threshold criteria level, per CEQR guidelines, is 85 new off-street parking spaces. If the threshold is met or exceeded, a detailed analysis is warranted. The Proposed Actions RWCDS would result in 83 off-street parking spaces, less than the 85 parking spaces threshold criterion. Therefore, no detailed air quality analysis is required, and no significant mobile source air quality impacts are expected from vehicular emission generated at the proposed project's off-street parking space.

Existing Mobile Source of Pollutants

According to *CEQR Technical Manual*, projects that would result in new sensitive uses within 200 feet of an atypical roadways may result in significant adverse mobile source air quality impacts. These impacts are evaluated at sensitive receptors located at air intakes, operable windows, and terraces of the receiving building.

The Development Site is located approximately 85 feet south to the Belt Parkway traveling lanes. At this location, the highway is below grade. Therefore, a detailed analysis, using MOVES2014 and AERMOD or CAL3QHC/R, was required.

Atypical Roadway - Detailed Analysis

Methodology and Databases

The Development Site is located approximately 85 feet from the vehicular travel lanes of the Belt Pkwy. Because of this proximity, vehicular emissions from the Belt Pkwy traffic have the potential to significantly impact the proposed development (e.g., operable windows, terraces). Three pollutants, with their corresponding averaging time periods,

were considered for this analysis: 1-hour and 8-hour CO, 24-hour and annual $PM_{2.5,}$ and 24-hour PM_{10}.

The Belt Pkwy is a 3-lane in each direction highway; commercial vehicles are not permitted on the Belt Pkwy; and, just north to the Development Site the roadway runs 12.4 feet below grade[2].

Hourly traffic count was obtained from the New York State Department of Transportation (NYSDOT) for station 020905, located at Knapp Street, at April 2011. The traffic count report included the eastbound and westbound volumes. Per the NYSDOT report, the maximum hourly traffic is 5,709 eastbound vehicles during the AM period and 5,596 westbound vehicles during the PM period, and approximately 75,000 vehicles in each direction daily. The *CEQR Technical Manual,* Table 16-4: *Annual Background Growth Rates*, of 0.250% was used to account for the general background traffic growth in Brooklyn. Vehicle mix on the Belt Pkwy (commercial traffic not permitted) was modeled as passenger cars and passenger trucks. The vehicle mix was obtained from the NYSDEC source type population database for Kings county (56% passenger car and 44% passenger trucks). Vehicle speed data was obtained from UBER Movement for weekday hour periods[3] or the maximum allowable speed, whichever is slower. The maximum peak hour period traffic per direction independently was assumed for the short-term analyses as a conservative measure.

Emission Rates

The EPA's MOVES2014b emission factor algorithm was used to estimate CO, PM_{10}, and $PM_{2.5}$ emission rates. MOVES can be used to calculate emission rates of criteria air pollutants, greenhouse gas emissions, and some hazardous air pollutants for both onroad motor vehicles and nonroad equipment. MOVES can calculate emissions at the national, county, and project level by use of databases and by specifying the characteristics (Run Specification) of the scenario that is modeled. For project level analyses, MOVES require the use of site-specific input data of traffic volume, vehicle type, fuel parameters, age distribution, and other input rather than the use of national default data. When conducting a project-scale analysis, MOVES also requires the analysis to be performed with no pre-aggregation (i.e., averaging) of input data. The software outputs either total emission per hour per link in inventory mode or as an activity rate (emission per vehicle per mile traveled) in emission rate mode. As such, the MOVES models were run for the Primary total CO, $PM_{2.5,}$ and PM_{10} and primary $PM_{2.5}$ species running and crankcase exhaust, with primary $PM_{2.5}$ and PM_{10} brake and tire wear emissions, and at inventory mode.

To account for seasonal and daily variations of meteorology conditions and NYS fuels, MOVES was run for each peak hour period and over-night period during January,

[2] https://data.cityofnewyork.us/Transportation/Elevation-points/szwg-xci6
[3] https://movement.uber.com/?lang=en-US

April, July, and September. The highest emission rate per link (eastbound or westbound), per pollutant, were used for the short-term analyses. The annual $PM_{2.5}$ emission rate was compiled from the daily and seasonal periods.

MOVES inputs of inspection/maintenance, fuel data, age distribution, meteorology, etc., were all obtained from the NYSDEC for the borough of Kings. Links (roadway segments) in MOVES representing the Belt Pkwy specified length of 2,000 feet and 0 grade.

In addition to exhaust running $PM_{2.5}/PM_{10}$ emissions, vehicle-related $PM_{2.5}/PM_{10}$ emissions of dust generated by vehicles traveling on paved roadways were added to estimate total particulate matter emission factors for the short-term analysis (per DEP, annual fugitive dust emission is negligible). Per *CEQR Technical Manual*, a slit loading factor of 0.015 g/m^2 (for expressways) was applied. This factor with the equation from Section 13.2.1.3 of EPA's AP-42 manual were used to calculate each link emission rates. In addition, based on DEP guidance, the conservative assumptions of "dry" road condition was used for the short-term calculation (precipitation reduced silt loading).

Gaussian Dispersion

The dispersion analysis of the traffic emissions impact on the planned development was conducted using the USEPA's AERMOD dispersion model version 19191. The elevated and flat terrain option was specified in the AERMOD models. All dispersion analyses used the calculated emission rates and elimination of calms. Models specified population of 2,000,000. All analyses were conducted using the five consecutive years of meteorological data (2013-2017). Surface data was obtained from JFK Airport, upper air data was obtained from Brookhaven station, New York. The meteorology data, processed by Lakes Environmental Software, was processed using AERMET version 18081, AERMINUTE version 15272, and AERSURFACE version 13016. No data filling was conducted as the raw data quality was more than sufficient for the modeling purposes (99.53 percent of raw data). These meteorological data provided hour-by-hour wind speeds and directions, stability states, and temperature inversion elevations over the 5-year period. Meteorological data were combined to develop a 5-year set of meteorological conditions, which was used for the AERMOD modeling runs and Anemometer height of 6.7 meters was specified per Lakes Environmental Software.

Vehicle activity on the Belt Pkwy was simulated as line area sources. Each line source is the actual width of the eastbound or westbound travelling lanes plus 6-meter. The emission rates in gram per hour produced with MOVES and fugitive dust for the short-term analysis (links 2,000 feet in length) were adjusted to the sources length specified in the AERMOD models (approximately 820 meter in length). Sources, receptors, and building base heights (elevations) and hill heights were specified per elevation data

points[4]. This database shows elevations of 7.6 feet and 20.2 feet on the Belt Pkwy and the development, respectively.

The EPA Transportation Conformity Guidance for Quantitative Hot-spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas[5] was used to calculate the source release height and its initial vertical dimension. These factors accounted for vehicle-induced turbulence.

Receptors were placed all around the building's envelope in 10-foot increment. Ground floor receptors were placed at 6 feet above grade. Each floor was assumed to be 10 feet high, and receptors on these floors were placed 6 feet above each floor level.

Atypical Roadway - Analysis Results

The predicted concentrations of the 24-hour $PM_{2.5}$ and CO 8-hour were evaluated with the NYC Guideline; the annual $PM_{2.5}$, PM_{10}, and CO 1-hour predicted concentrations were added to the background concentrations, and results evaluated with the NAAQS. Table 17-3 shows the dispersion analysis results.

Table 17-3: Tier 1 Dispersion Analysis Results

Pollutant and Averaging Time	Unit	Modeled Concentration	Background Concentration	Evaluated Concentration	Threshold Criteria	
					Standard	Conc.
$PM_{2.5}$ 24-hour	µg/m³	4.32	N.A.	**4.32**	*de minimis*	8.90
$PM_{2.5}$ Annual	µg/m³	0.25	7.7	**7.95**	NAAQS	12
CO 1-hour	ppm	1.06	1.95	**3.01**	NAAQS	35
CO 8-hour	ppm	0.75	N.A.	**0.75**	*de minimis*	3.85
PM_{10} 24-hour	µg/m³	16.8	40	**57**	NAAQS	150

As seen in Table 17-3, the $PM_{2.5}$ 24-hour averaging time and CO 8-hour averaging time concentrations do not exceed the *de minimis,* and the PM_{10} 24-hour, CO 1-hour, and $PM_{2.5}$ annual averaging times concentrations are within the NAAQS. Therefore, no significant adverse air quality impacts are expected to the proposed project from the emissions associated with the vehicular traffic on the Belt Pkwy.

Project-Generated Traffic – Detailed Analysis

$PM_{2.5}$ detailed analysis was conducted for the intersection of Brigham Street and Shore Parkway using MOVES2014b and CAL3QHC. The AM peak hour traffic was assumed for both the daily and annual time periods. The intersection is a 3-way intersection. There is no sidewalk on the northern side of Shore Parkway. Traffic conditions are shown in Table 17-4.

[4] https://data.cityofnewyork.us/Transportation/Elevation-points/szwg-xci6

[5] https://www.epa.gov/state-and-local-transportation/project-level-conformity-and-hot-spot-analyses#pmguidance

Table 17-4: Traffic Conditions at the Intersection of Brigham Street and Shore Parkway

Roadway	Peak Hour Volume (Veh/hr)	Speed (mile/hr)
Brigham Street	36	5
Shore Parkway West of Brigham Street	3	5
Shore Parkway East of Brigham Street	39	5

Two single unit short-hall trucks (inbound and outbound combined) were assumed to travel on Shore Parkway. the passenger car/truck distribution was obtained from the NYSDEC database for the county of Kings, part of the MOVES database. All traffic was assumed to travel at 5 mile per hour, as a conservative measure. Brigham Street has a single lane of traffic and a parking lane on either side. Shore Parkway has two west-east traveling lanes and a parking lane on its south side. Roadway widths were obtained from satellite imagery.

Vehicular emissions were compiled with MOVES2014, and fugitive dust emissions were added to the MOVES output to calculate the short-term $PM_{2.5}$ emission rates. The methodology is discussed in the Atypical Roadway - Detailed Analysis section.

Gaussian Dispersion

Air dispersion analysis was conducted with using the EPA's CAL3QHC version 2.0. The maximum (AM peak hour period) hourly project-generated traffic was assumed for both averaging times. Persistence factors, accounting for meteorology conditions, were used to predict the longer-term impact concentrations. Per the *CEQR Technical Manual*, 6-meters were added to the width of the traveling lanes (there are parking lanes on each side of Brigham Street and one parking lane on Shore Parkway). Surface roughness of 321 centimeters was assumed in the models. Other CAL3QHC parameters were obtained from the *CEQR Technical Manual*. Receptors for the short-term analysis were place at the middle of the sidewalks. Annual $PM_{2.5}$ receptors were placed 15-meter from the roadway.

For the short-term analysis, the CAL3QHC specified the actual number of vehicles. For the annual analysis, the CAL3QHC specified the AM peak hour period number of vehicles multiplied by 100. The result was scaled down from the link contribution output.

Project-Generated Traffic - Analysis Results

The predicted concentrations were evaluated with the NYC Guideline. Table 17-5 shows the dispersion analysis results.

Table 17-5: Tier 1 Dispersion Analysis Results

Pollutant and Averaging Time	Unit	Modeled Concentration	Background Concentration	Evaluated Concentration	Threshold Criteria	
					Standard	Conc.
$PM_{2.5}$ 24-hour	$\mu g/m^3$	0.8	17.2	**0.8**	*de minimis*	8.90
$PM_{2.5}$ Annual	$\mu g/m^3$	0.017	7.7	**0.02**	*de minimis*	0.1

As seen in Table 17-5, the $PM_{2.5}$ 24-hour and annual predicted concentrations do not exceed the NYC *de minimis*. Based on the results of the incremental traffic (which applied conservative approach with regards to vehicle speed and number of vehicles), the emissions of the With-Action traffic would not result in exceedance of the NAAQS. Therefore, no significant adverse air quality impacts are expected at intersections effected by the project-generated traffic.

HVAC SYSTEMS ANALYSIS

Introduction

Per the *CEQR Technical Manual*, the HVAC analysis considers the potential for emissions from the HVAC system of the proposed project to significantly impact existing land uses (project-on-existing), and the potential of the proposed project to significantly impact each other (project-on-project). Based on CEQR guidelines, a preliminary screening analysis is to be conducted as a first step to predict whether the heat and hot water systems boiler emissions would result in a significant impact. This CEQR screening procedure is applicable to buildings that are not less than 30 feet from the nearest building of similar or greater height. Otherwise, a detailed dispersion analysis is required.

Screening Analysis

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

According to 15 RCNY 2-15, no new boiler or burner installations may use No. 6 or No. 4 fuel oils. Only No. 2 fuel oil or natural gas could be used as the types of fuel used in the HVAC system(s). Therefore, the highest-emitting fuel that could be used is No. 2 fuel oil.

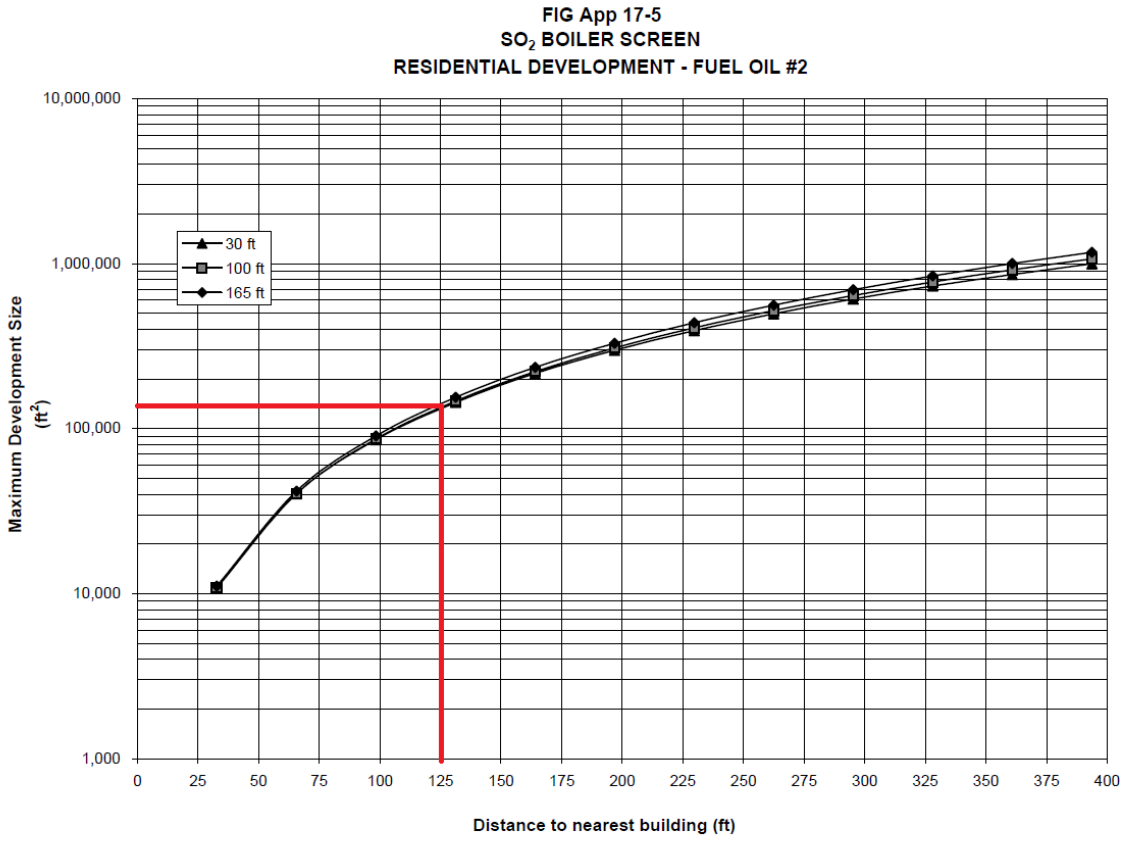
If the actual distance between a stack and the affected building is greater than the threshold distance for a building size, then that building passes the screening analysis

(and no adverse significant impact is predicted). However, if the actual distance is less then the threshold distance for a building, than there is a potential for an adverse significant impact and a detailed analysis would be required. In addition, and per *CEQR Technical Manual*, the distance to nearest building of similar or greater height is assumed to be 400 feet if the actual distance is greater.

The RWCDS is a single mixed-use residential and community facility building, 70 feet high, containing 141,691 gsf of floor area. A project-on-existing screening analysis was conducted for the RWCDS.

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

Figure 17-1: The RWCDS - HVAC Screen Oil #2 Nomograph



The screening analysis Figure 17-1 (using Figure 17-5 of the *CEQR Technical Manual Appendices*) shows that no impact would be be predicted to buildings of similar or greater height that are at least 125 feet from the Development Site. There is no building 70 feet of higher within 400 feet of the Development Site (according to geo metadata, obtained from the NYC Open Data Building Footprints shapefile[6]). The nearest building of similar or greater height is the 71 feet tall residential building, located at 2800 Coyle Street (Block 8804, Lot 42), and approximately 600 feet west of the Development Site. Therefore, no impact was predicted to existing land uses from the project's HVAC system(s).

(E) Designation (E-611)

Block 8808, Lot 45 (Development Site): ***Any new residential or community facility development on the above-referenced property must ensure that the HVAC stack is located at the highest tier or at least 70 feet above grade to avoid any potential significant adverse air quality impacts.***

EXISTING STATIONARY SOURCES

Industrial Source

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

As provided in the backup files for this project, no facility in the study area has a processing type permit. In addition, no manufacturing processing facility was identified in the fieldwork observation. Therefore, the proposed project would not be affected by industrial source emissions and no further analysis for air toxics is warranted.

Major/Large ***Industrial Source***

Major emission sources are identified as those sources located at Title V facilities that require Prevention of Significant Deterioration permits. Large emission sources are identified as sources located at facilities which require a State facility permit, such as solid waste or medical waste incinerators, asphalt and concrete plants, or large printing facilities. Odor producing facilities are considered major source for the purpose of the air quality analysis. Odor producing facilities are operations that have the potential to cause discomfort, such as: solid waste management facilities, water pollution control plants (i.e., sewage treatment plants), and incinerators.

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

A review of the NYSDEC database[7] identified one Title V facility, and no facility with an Air State Facility permit in the study area. The Title V facility is the Coney Island Wastewater Treatment Plant (permit ID 2-6107-00004/00017), located 980 feet north of the Development Site. Per permit 2-6107-00004/00017, the emission point is located at least 1,750 feet from the Development Site. As such, the Coney Island Wastewater Treatment Plant facility screens out. In addition, as the wastewater plant is located almost 1,000 feet away and there are many residential uses near the facility, odor would not be an issue at the Development Site. Therefore, the proposed project would not be affected by major/large sources and no analysis was warranted.

CONCLUSION

Conditions associated with the Proposed Actions would not result in any violations of the ambient air quality standards. Therefore, the Proposed Actions would not result in any potentially significant adverse stationary or mobile source air quality impacts, and further assessment is not warranted.

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

19. NOISE

Introduction

Two types of potential noise impacts are considered under *CEQR*. These are potential mobile source and stationary source noise impacts. Mobile source impacts are those that could result from a proposed project adding a substantial amount of traffic to an area. Potential stationary source noise impacts are considered when a Proposed Actions would cause a stationary noise source to be operating within 1,500 feet of a receptor, with a direct line of sight to that receptor, or if the Proposed Project would include unenclosed mechanical equipment for building ventilation purposes.

Noise monitoring was conducted on November 14, 2018 in support of a zoning map amendment that would rezone the Project Site (Block 8808, Lot 45) from an R5 zoning district to an R6(proposed action) to allow the redevelopment of the Project Site with an enlargement of the existing nursing facility from 80,875 sf (83,301 gsf) with a FAR of 2.74 to 85,971 sf (93,205 gsf) with a FAR of 2.91. The renovations would primarily consist of modifications to the ground floor and basement facility and moving the mechanical equipment from the ground floor to the roof in order to provide an onsite dialysis facility in its place. A new 20-space attended parking area would be provided in the basement. The Project Site, known as Block 8808, Lot 45 on the New York City Tax Map, faces Knapp Street and is situated between Shore Parkway and Brigham Street within Brooklyn Community District 15. Knapp Street a major north-south street in the Sheepshead Bay neighborhood with two moving lanes in each direction and curbside parking/loading. Its northbound and southbound lanes are separated by a raised median. Shore Parkway is a limited access highway generally restricted to non-commercial vehicles. There are service roads, which do permit commercial traffic, adjacent to the main road in the project vicinity. The project site is adjacent to the southern, eastbound service road of Shore Parkway. Brigham Street, which forms the western boundary of the project site, is a one-way single lane northbound road which terminates at the eastbound Shore Parkway service road, at an intersection controlled by stop signs.

The Proposed Action would allow for enlargement a sensitive community facility use. Accordingly, an assessment of the potential for adverse effects on project occupants from ambient noise is warranted. The proposed 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.

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 Noise-1: Noise Levels of Common Sources

Sound Source	SPL (dB(A))
Air Raid Siren at 50 feet	120
Maximum Levels at Rock Concerts (Rear Seats)	110
On Platform by Passing Subway Train	100
On Sidewalk by Passing Heavy Truck or Bus	90
On Sidewalk by Typical Highway	80
On Sidewalk by Passing Automobiles with Mufflers	70
Typical Urban Area	60-70
Typical Suburban Area	50-60
Quiet Suburban Area at Night	40-50
Typical Rural Area at Night	30-40
Isolated Broadcast Studio	20
Audiometric (Hearing Testing) Booth	10
Threshold of Hearing	0
Notes: A change in 3dB(A) is a just noticeable change in SPL. A change in 10 dB(A)Is perceived as a doubling or halving in SPL.	
Source: 2020 CEQR Technical Manual	

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

- 3-dBA change is the threshold of change detectable by the human ear;
- 5-dBA change is readily noticeable; and
- 10-dBA change is perceived as a doubling or halving of the noise level.
  The SPL that humans experience typically varies from moment to moment. Therefore, various descriptors are used to evaluate noise levels over time. Some typical descriptors are defined below.
- L_{eq} is the continuous equivalent sound level. The sound energy from the fluctuating SPLs is averaged over time to create a single number to describe the mean energy, or intensity, level. High noise levels during a measurement period will have a greater effect on the L_{eq} than low noise levels. L_{eq} has an advantage over other descriptors because L_{eq} values from various noise sources can be added and subtracted to determine cumulative noise levels.
- $L_{eq(24)}$ is the continuous equivalent sound level over a 24-hour time period.

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

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

In 1983, the New York City Department of Environmental Protection (NYCDEP) adopted the City Environmental Protection Order-City Environmental Quality Review (CEPO-CEQR) noise standards at the exterior façade to achieve interior noise levels of 45 dB(A) or below. CEPOCEQR Noise Standards classify noise exposure into four categories: Acceptable, Marginally Acceptable, Marginally Unacceptable and Clearly Unacceptable. As noted in the *CEQR Technical Manual*, these standards are the basis for classifying noise exposure into the following categories based on the L10 measured directly outside the projected development site:

Table 19-2 CEQR TM: Attenuation Values to Achieve Acceptable Interior Noise Levels

	Marginally Unacceptable				**Clearly Unacceptable**
Noise Level with Proposed Project	$70 < L_{10} \leq 73$	$73 < L_{10} \leq 76$	$76 < L_{10} \leq 78$	$78 < L_{10} \leq 80$	$80 < L_{10}$
Attenuation[1]	(I) 28 dB(A)	(II) 31 dB(A)	(III) 33 dB(A)	(IV) 35 dB(A)	$36 + (L_{10} - 80)^2$ dB(A)

Notes:

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

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

Measurement Location and Equipment

Because the predominant noise sources in the area of the proposed project consist of vehicular movements, noise monitoring was conducted during peak vehicular travel periods (AM, Midday, PM). Pursuant to CEQR Technical Manual Methodology, measurement periods of 20-minutes each AM, Midday, and PM peak hours were

conducted at the street frontage of the Project Site; Location One (1) was conducted for 20-minute periods on the sidewalk on Brigham Street; Location Two (2) was conducted for 20-minute periods on the sidewalk on Shore Parkway; Location Three (3) was conducted for 20-minute periods on the sidewalk on Knapp Street. The monitoring locations at 2840 Knapp Street are identified in Figure 1.

Noise monitoring was conducted using a Class 2 Larson Davis sound level meter with wind screen. The monitors were placed on a tripod at a height of approximately three feet above the ground, away from any other noise-reflective surfaces. The monitors were calibrated prior to and following each monitoring session. Periods of peak vehicular traffic around the subject site constitute a worst-case condition for noise at the project site. Noise meter calibration certification and back up data are provided in **Appendix E**.

Figure 1: Noise Monitoring Locations



Photo 1: ***Noise Monitoring Location One (1) at the Street Frontage on Brigham Street***



Photo 2: ***Noise Monitoring Location Two (2) at the Street Frontage of Shore Parkway***



Photo 3: ***Noise Monitoring Location Three (3) at the Street Frontage of Knapp Street***



Measurement Conditions

Monitoring was conducted during typical midweek conditions, on Wednesday, November 14th, 2018. The weather was dry and wind speeds were moderate during all monitoring periods. The sound meters were calibrated before and after each monitoring session.

Existing Conditions

Based on the noise measurements taken at the Project Site, the predominant source of noise is vehicular traffic. The level of traffic and its corresponding level of noise is low at Location One (1). The level of traffic and its corresponding level of noise is moderate at Location Two (2). The level of traffic and its corresponding level of noise is moderate at Location Three (3).

Table 1.1 – 1.3 *below contains the results for the measurements taken at the Project Site:*
Note: **Bold** denotes L_{10} noise level exceedances, according to Table 19-2 of the CEQR Technical Manual

Table 1.1: Noise Levels (dB)

Location 1: *Noise Levels at the Street Frontage of Brigham Street*

Wednesday, November 14th, 2018			
Time	7:41 – 8:01 am	12:03 – 12:23 pm	4:32 – 4:54 pm
L_{max}	85.9	96.4	122.1
L_{10}	**63.3**	**59**	**63.9**
L_{eq}	62	65.2	86.1
L_{50}	59.3	55.7	59.6
L_{90}	57.2	53.7	54.4
L_{min}	53.6	51.4	26.6

* Wind Screen and tip of microphone fell off during the evening monitoring session, meter was recalibrated during the monitoring session. The L_{eq} and L_{max} are anomalies due to this incident. The L_{10} for the evening session is consistent with the other monitoring periods.

Table 1.2: Noise Levels (dB)

Location 2: *Noise Levels at the Street Frontage of Shore Parkway Service Road*

Wednesday, November 14th, 2018			
Time	8:04 – 8:24 am	12:29 – 12:49 pm	5:04 – 5:25 pm
L_{max}	69.4	86.1	84.1
L_{10}	**68.8**	**68.8**	**69.2**
L_{eq}	68	68.1	66.3
L_{50}	68	65.8	63.8
L_{90}	67.5	63.4	61.1
L_{min}	67.4	58.6	57.1

Table 1.3: Noise Levels (dB)

Location 3: *Noise Levels at the Street Frontage of Knapp Street*

Wednesday, November 14th, 2018			
Time	8:26 – 8:46 am	12:51 – 1:11 pm	5:26 – 5:46 pm
L_{max}	64.7	103.6	86.5
L_{10}	**64.5**	**69.2**	**68.6**
L_{eq}	63.8	**71**	65.7
L_{50}	64.2	63.6	61
L_{90}	64	59.9	55.7
L_{min}	63.9	56.8	50.1

* The noise meter was not setup for daylight savings. The times within the backup data are off by one hour. The times used within this report are correct.

Table 2.1-2.3 *below contains the traffic counts taken at the Project Site:*

Table 2.1: Traffic Counts and Vehicle Classifications

Location 1: *Traffic Counts at the Street Frontage of Brigham Street*

	7:41 – 8:01 am	12:03 – 12:23 pm	4:32 – 4:54 pm
Car/ Taxi	4	5	4
Van/Light Truck/SUV	5	3	5
Motorcycle	0	0	0
Heavy Truck	0	0	1
Bus	0	0	0
Train	0	0	0

Table 2.2: Traffic Counts and Vehicle

Classifications

Location 2: *Traffic Counts at the Street Frontage of Shore Parkway Service Road*

	8:04 – 8:24 am	12:29 – 12:49 pm	5:04 – 5:25 pm
Car/ Taxi	52	86	81
Van/Light Truck/SUV	63	81	76
Motorcycle	0	0	0
Heavy Truck	7	6	4
Bus	13	7	10
Train	0	0	0

Table 2.3: Traffic Counts and Vehicle

Classifications

Location 3: *Traffic Counts at the Street Frontage of Knapp Street*

	8:26 – 8:46 am	12:51 – 1:11 pm	5:26 – 5:46 pm
Car/ Taxi	108	71	78
Van/Light Truck/SUV	105	62	66
Motorcycle	0	0	0
Heavy Truck	13	5	5
Bus	10	8	7
Train	0	0	0

Due to technical error, the noise meter at Location 2 during the AM peak hour was only running for 1.7 seconds and paused for the rest of the 20-minute monitoring period. According to the traffic counts collected during the AM, Midday, and PM peak periods, the Midday and PM peak periods had higher traffic counts. **Table 1** (provided as **Appendix E**) shows the conversion of traffic counts to noise PCE's to confirm. Therefore, the worst-case noise level (69.2 dB(A)) at Location 2 stands.

Due to technical error, the noise meter at Location 3 during the AM peak hour was only running for 0.3 seconds and paused for the rest of the 20-minute monitoring period. PCE proportional calculations were conducted using AM peak hour traffic counts and traffic counts from the Midday peal hour to estimate the noise levels during AM peak hours in **Table 2** (provided as **Appendix E**). The estimated worst case L_{eq} for location 3 is 73.6 dB(A).

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.

Conclusions
The 2020 *CEQR Technical Manual* Table 19-2 contains noise exposure guidelines. For a residential use such as would occur under the proposed action, an L_{10} of bet71ween 65 and 70 dB(A) is identified as marginally acceptable general external exposure. An L_{10} of between 70 and 80 dB(A) is identified as marginally unacceptable general external exposure. The highest recorded L_{10} at Location One (1) of the subject property was 63.9 dB during the evening monitoring period. The highest recorded L_{10} at Location Two (2) of the subject property was 69.2 dB during the evening monitoring period. The highest estimated L_{eq} at Location Three (3) of the subject property was 73.6 dB during the morning monitoring period.

Based on these results, a window-wall attenuation of 31 dB(A) would be required at all facades for residential and community facility uses. With these levels of attenuation, there would be no adverse impacts related to noise.

Mobile source screening is included in **Appendix E**.

The following E-Designation (E-611) will be placed on the Project Site:

Block 8808 / Lot 45: In order to ensure an acceptable interior noise environment, future residential/community facility uses must provide a closed-window condition with a minimum of 31 dB(A) window/wall attenuation on all facades in order to maintain an interior noise level not

greater than 45 dB(A) for residential and community facility uses. In order to maintain a closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, air conditioning.

APPENDIX A

NYC Waterfront Revitalization Program Consistency Assessment

FOR INTERNAL USE ONLY	WRP No. 18-065
Date Received: _____	DOS No. _____

NEW YORK CITY WATERFRONT REVITALIZATION PROGRAM
Consistency Assessment Form

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

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

A. APPLICANT INFORMATION

Name of Applicant: Jerome Kahan

Name of Applicant Representative: Hiram Rothkrug, Environmental Studies Corp

Address: 55 Water Mill Lane, Great Neck, NY 11021

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

Project site owner (if different than above): _____

B. PROPOSED ACTIVITY

If more space is needed, include as an attachment.

1. Brief description of activity

The Applicant seeks a zoning map amendment which would rezone the Proposed Project Site (Block 8808, Lot 45), a 29,519 sf lot, from an R5 zoning district to an R6 (Proposed Action) to allow the redevelopment of the Proposed Project Site with an enlargement of the existing nursing home.
The Applicant also seeks a zoning text amendment which would designate the Proposed Project Site a Mandatory Inclusionary Housing (MIH) area requireing all future residential development to include some permanent affordable housing.

2. Purpose of activity

The renovations would primarily consist of modifications to the ground floor and basement facility and moving the mechanical equiptment from the ground floor to the roof in order to provide an on-site dialysis faciity in its place. The bulk of the building would not change.

C. PROJECT LOCATION

Borough: Brooklyn Tax Block/Lot(s): Block 8808, Lot 45

Street Address: 2840 Knapp Street

Name of water body (if located on the waterfront): _____

D. REQUIRED ACTIONS OR APPROVALS

Check all that apply.

City Actions/Approvals/Funding

City Planning Commission ☑ Yes ☐ No

☐ City Map Amendment	☐ Zoning Certification	☐ Concession
☑ Zoning Map Amendment	☐ Zoning Authorizations	☐ UDAAP
☑ Zoning Text Amendment	☐ Acquisition – Real Property	☐ Revocable Consent
☐ Site Selection – Public Facility	☐ Disposition – Real Property	☐ Franchise
☐ Housing Plan & Project	☐ Other, explain: _____	
☐ Special Permit		

(if appropriate, specify type: ☐ Modification ☐ Renewal ☐ other) Expiration Date: _____

Board of Standards and Appeals ☐ Yes ☑ No

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

Other City Approvals

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

State Actions/Approvals/Funding

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

Federal Actions/Approvals/Funding

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

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

E. LOCATION QUESTIONS

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

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

F. WRP POLICY ASSESSMENT

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

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

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

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

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

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

G. CERTIFICATION

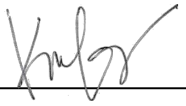
The applicant or agent must certify that the proposed activity is consistent with New York City's approved Local Waterfront Revitalization Program, pursuant to New York State's Coastal Management Program. If this certification cannot be made, the proposed activity shall not be undertaken. If this certification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

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

Applicant/Agent's Name: Hiram Rothkrug, Environmental Studies Corp

Address: 55 Water Mill Lane

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

Applicant/Agent's Signature: 

Date: 1/6/21

Submission Requirements

For all actions requiring City Planning Commission approval, materials should be submitted to the Department of City Planning.

For local actions not requiring City Planning Commission review, the applicant or agent shall submit materials to the Lead Agency responsible for environmental review. A copy should also be sent to the Department of City Planning.

For State actions or funding, the Lead Agency responsible for environmental review should transmit its WRP consistency assessment to the Department of City Planning.

For Federal direct actions, funding, or permits applications, including Joint Applicants for Permits, the applicant or agent shall also submit a copy of this completed form along with his/her application to the NYS Department of State Office of Planning and Development and other relevant state and federal agencies. A copy of the application should be provided to the NYC Department of City Planning.

The Department of City Planning is also available for consultation and advisement regarding WRP consistency procedural matters.

New York City Department of City Planning
Waterfront and Open Space Division
120 Broadway, 31st Floor
New York, New York 10271
212-720-3696
wrp@planning.nyc.gov
www.nyc.gov/wrp

New York State Department of State
Office of Planning and Development
Suite 1010
One Commerce Place, 99 Washington Avenue
Albany, New York 12231-0001
518-474-6000
www.dos.ny.gov/opd/programs/consistency

Applicant Checklist

- ☑ Copy of original signed NYC Consistency Assessment Form
- ☑ Attachment with consistency assessment statements for all relevant policies
- ☑ For Joint Applications for Permits, one (1) copy of the complete application package
- ☑ Environmental Review documents
- ☑ Drawings (plans, sections, elevations), surveys, photographs, maps, or other information or materials which would support the certification of consistency and are not included in other documents submitted. All drawings should be clearly labeled and at a scale that is legible.
- ☑ Policy 6.2 Flood Elevation worksheet, if applicable. For guidance on applicability, refer to the WRP Policy 6.2 Guidance document available at www.nyc.gov/wrp

Attachment to Consistency Assessment Form for 2840 Knapp Street, Brooklyn

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

The proposed rezoning on the project site would allow for the renovation and modest expansion of an existing nursing facility. It is located within a well-developed area with substantial residential, commercial and community facility development nearby. The proposed action would therefore be consistent with Policy 1.

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

The proposed rezoning on the project site would allow for the renovation of an existing nursing facility.

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

It is located within a well-developed area with substantial infrastructure that supports the area, including the existing public streets and sewer systems, Police Precinct 61, Fire Co. L169 and Sanitation District 15 (4E).

Policy 6: Minimize loss of life, structures, infrastructure and natural resources caused by flooding and erosion, increase resilience to future conditions created by climate change.

Consistent with FEMA requirements, the New York City Building Code establishes minimum structural and programmatic requirements for all new and substantially improved buildings in Special Flood Hazard Area (SFHA), with requirements based on specific zones within the SFHA. The Base Flood Elevation (BFE) designated on FEMA flood maps serves as the standard to which flood-resistant construction requirements apply. Where the BFE exceeds the elevation of the building site, it is necessary to elevate or floodproof (where permitted) the first occupiable floor to ensure that buildings remain structurally sound and to protect building contents during the flood event.

In this instance, although the site is withing the Coastal Zone Boundary, it is not currently within a flood zone. The proposed development would have all mechanical spaces to the roof.

Policy 6.2: Integrate consideration of the latest New York City projections of climate change and sea level rise (as published in *New York City Panel on Climate Change 2015 Report, Chapter 2: Sea Level Rise and the Coastal Storms*) into the planning and design of project in the city's Coastal Zone.

The proposed Development Site is not currently within a flood zone. New York City Building Code establishes minimum structural and programmatic requirements for all new and substantially improved buildings in Special Flood Hazard Area (SFHA), with requirements based on specific zones within the SFHA.

The Site is expected to be within the 500-year floodplain by the end of the 2020's (Zone X, outside the SFHA). It is expected to be within the 100-year flood plain by 2080. The proposed development is being renovated and would include moving all mechanical spaces to the roof. See attached building elevation drawings.

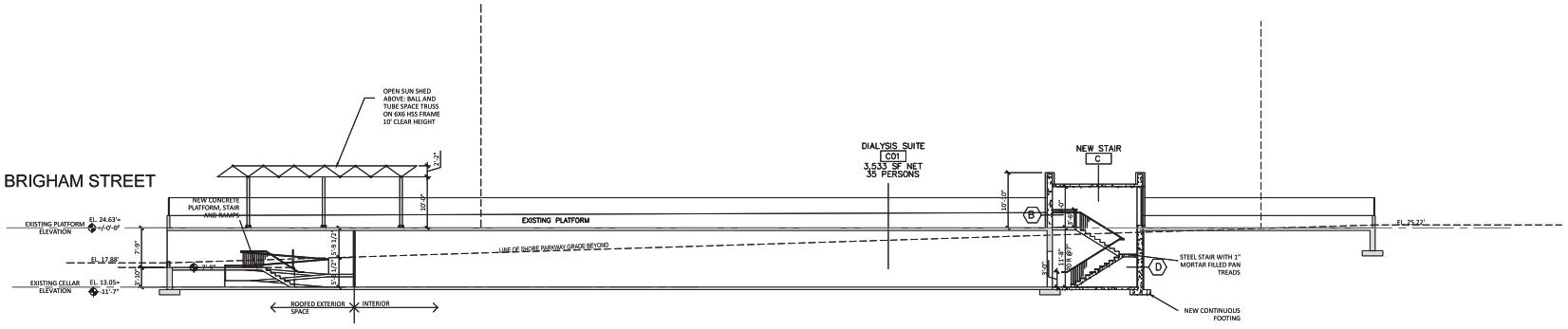
SHEEPSHEAD NURSING AND REHABILITATION CENTER

Project Address:
2840 Knapp St.
Brooklyn, NY 11235

Owner
SHEEPSHEAD NURSING AND REHABILITATION CENTER
c/o Jerome Kahan
2840 Knapp St.
Brooklyn, NY 11235
TEL: 718-646-5700 EXT. 125



1 ELEVATION ALONG SHORE PARKWAY
3/32"=1'-0"



2 SECTION ALONG SHORE PARKWAY
3/32"=1'-0"

IV ELEVATIONS

SHEEPSHEAD NURSING AND REHABILITATION CENTER

Project Address:
2840 Knapp St.
Brooklyn, NY 11235

Owner
SHEEPSHEAD NURSING AND REHABILITATION CENTER
c/o Jerome Kahan
2840 Knapp St.
Brooklyn, NY 11235
TEL: 718-646-5700 EXT. 125



1 ELEVATION ALONG BRIGHAM STREET
3/32"=1'-0"



2 ELEVATION ALONG KNAPP STREET
3/32"=1'-0"

NYC Waterfront Revitalization Program - Policy 6.2 Flood Elevation Workhsheet

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

Enter information about the project and site in highlighted cells in Tabs 1-3. HighTab 4 contains primary results. Tab 5, "Future Flood Level Projections" contains background computations. The remaining tabs contain additional results, to be used as relevant.Non-highlighted cells have been locked.

Background Information	
Project Name	Sheepshead Nursing and Rehabilitation Center, LLC
Location	2840 Knapp Street, Brooklyn CD 15 Block 8808 Lot 45
Type(s)	☑ Residential, Commercial, Community Facility Development ☐ Parkland, Open Space, and Natural Areas ☐ Tidal Wetland Restoration ☐ Critical Infrastructure or Facility ☐ Industrial Uses ☐ Over-water Structures ☐ Shoreline Structures ☑ Transportation ☐ Wastewater Treatment/Drainage ☐ Coastal Protection
Description	The applicant seeks a zoning map amendment (Sectional Map 29a) and text amendment (Appendix F) to 2840 Knapp Street (Block 8808, Lot 45) in the Sheepshead Bay section of Brooklyn Community Board 15 ("The Premises"). The proposed zoning map amendment would rezone the Premises from R5 to R6 which would facilitate a modest enlargement of floor area (without changing the building bulk) and resolve the noncomplying status of the existing community facility building. This would include moving mechanical equipment from the cellar to the roof thereby freeing up floor area. The zoning text amendment would require future residential development to provide permanent affordable housing (MIH).
Planned Completion date	2020

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

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

Last update: June 7, 2017

Establish current tidal and flood heights.

	FT (NAVD88)	Feet	Datum	Source
MHHW	2.41	**2.41**	**NAVD88**	*NOAA Datums for 8531680. Sandy Hook, NJ*
1% flood height	10.00	**10.00**	**NAVD88**	*NYC Flood Hazard Mapper*
As relevant:				
0.2% flood height	-->		**NAVD88**	
MHW	4.90	4.90	**NAVD88**	*NOAA Datums for 8531680. Sandy Hook, NJ*
MSL	-0.24	-0.24	**NAVD88**	*NOAA Datums for 8531680. Sandy Hook, NJ*
MLLW	-2.82	-2.82	**NAVD88**	*NOAA Datums for 8531680. Sandy Hook, NJ*

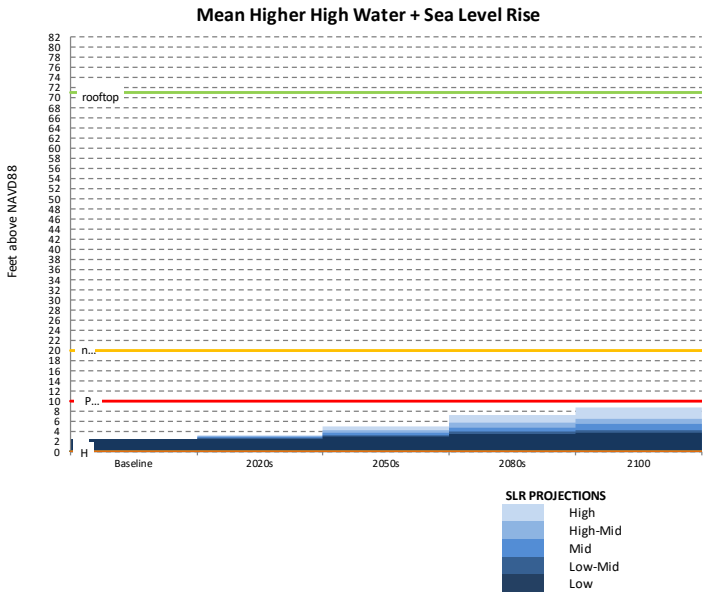
Data will be converted based on the following datums:

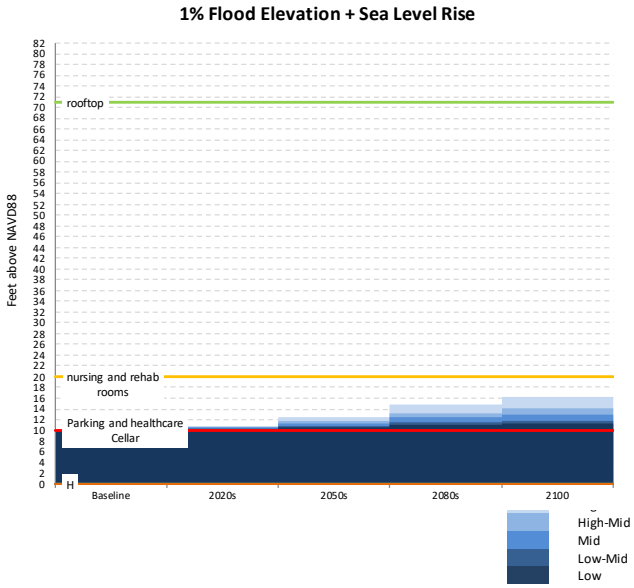
Datum	FT (NAVD88)
NAVD88	*0.00*
NGVD29	*-1.10*
Manhattan Datum	*1.65*
Bronx Datum	*1.51*
Brooklyn Datum (Sewer)	*0.61*
Brooklyn Datum (Highway)	*1.45*
Queens Datum	*1.63*
Richmond Datum	*2.09*
Station	
MLLW	

Describe key physical features of the project.

Feature *(enter name)*	Feature Category	Lifespan	Elevation	Units	Datum	Ft	Ft Above NAVD88	Ft Above MHHW	Ft Above 1% flood height	Ft Above 0.2% flood height
Parking and healthcare Cellar	☑ Vulnerable ☐ Critical ☐ Potentially Hazardous ☐ Other	2100	10.0	Feet	NAVD88	*10.0*	*10.0*	*7.6*	*0.0*	*#VALUE!*
garage parking and dialysis facilities										
nursing and rehab rooms	☑ Vulnerable ☐ Critical ☐ Potentially Hazardous ☐ Other	2100	20.0	Feet	NAVD88	*20.0*	*20.0*	*17.6*	*10.0*	*#VALUE!*
Ground floor through six floor										
rooftop	☐ Vulnerable ☑ Critical ☐ Potentially Hazardous ☐ Other	2100	71.0	Feet	NAVD88	*71.0*	*71.0*	*68.6*	*61.0*	*#VALUE!*
mechanical equiptment, utilities moved to rooftop										
D	☐ Vulnerable ☐ Critical ☐ Potentially Hazardous ☐ Other			Feet	NAVD88					
Description of Planned Uses and Materials										
E	☐ Vulnerable ☐ Critical ☐ Potentially Hazardous ☐ Other			Feet	NAVD88					
Description of Planned Uses and Materials										
F	☐ Vulnerable ☐ Critical ☐ Potentially Hazardous ☐ Other			Feet	NAVD88					
Description of Planned Uses and Materials										
G	☐ Vulnerable ☐ Critical ☐ Potentially Hazardous ☐ Other			Feet	NAVD88					
Description of Planned Uses and Materials										
H	☐ Vulnerable ☐ Critical ☑ Potentially Hazardous ☐ Other			Feet	NAVD88					
Description of Planned Uses and Materials										

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





SLR (ft)

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

MHHW+SLR (ft above NAVD88)

	Low	Low-Mid	Mid	High-Mid	High
Baseline	2.41	2.41	2.41	2.41	2.41
2020s	2.58	2.74	2.91	3.08	3.24
2050s	3.08	3.33	3.74	4.16	4.91
2080s	3.49	3.91	4.83	5.66	7.24
2100	3.66	4.24	5.41	6.58	8.66

1%+SLR (ft above NAVD88)

	Low	Low-Mid	Mid	High-Mid	High
Baseline	10.00	10.00	10.00	10.00	10.00
2020s	10.17	10.33	10.50	10.67	10.83
2050s	10.67	10.92	11.33	11.75	12.50
2080s	11.08	11.50	12.42	13.25	14.83
2100	11.25	11.83	13.00	14.17	16.25

0.2%+SLR (ft above NAVD88)

	Low	Low-Mid	Mid	High-Mid	High
Baseline	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
2020s	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
2050s	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
2080s	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
2100	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!

	0	1
Parking and healthcare Cellar	10	10
nursing and rehab rooms	20	20
rooftop	71	71
D	0	0
E	0	0
F	0	0
G	0	0
H	0	0

SLR (in)

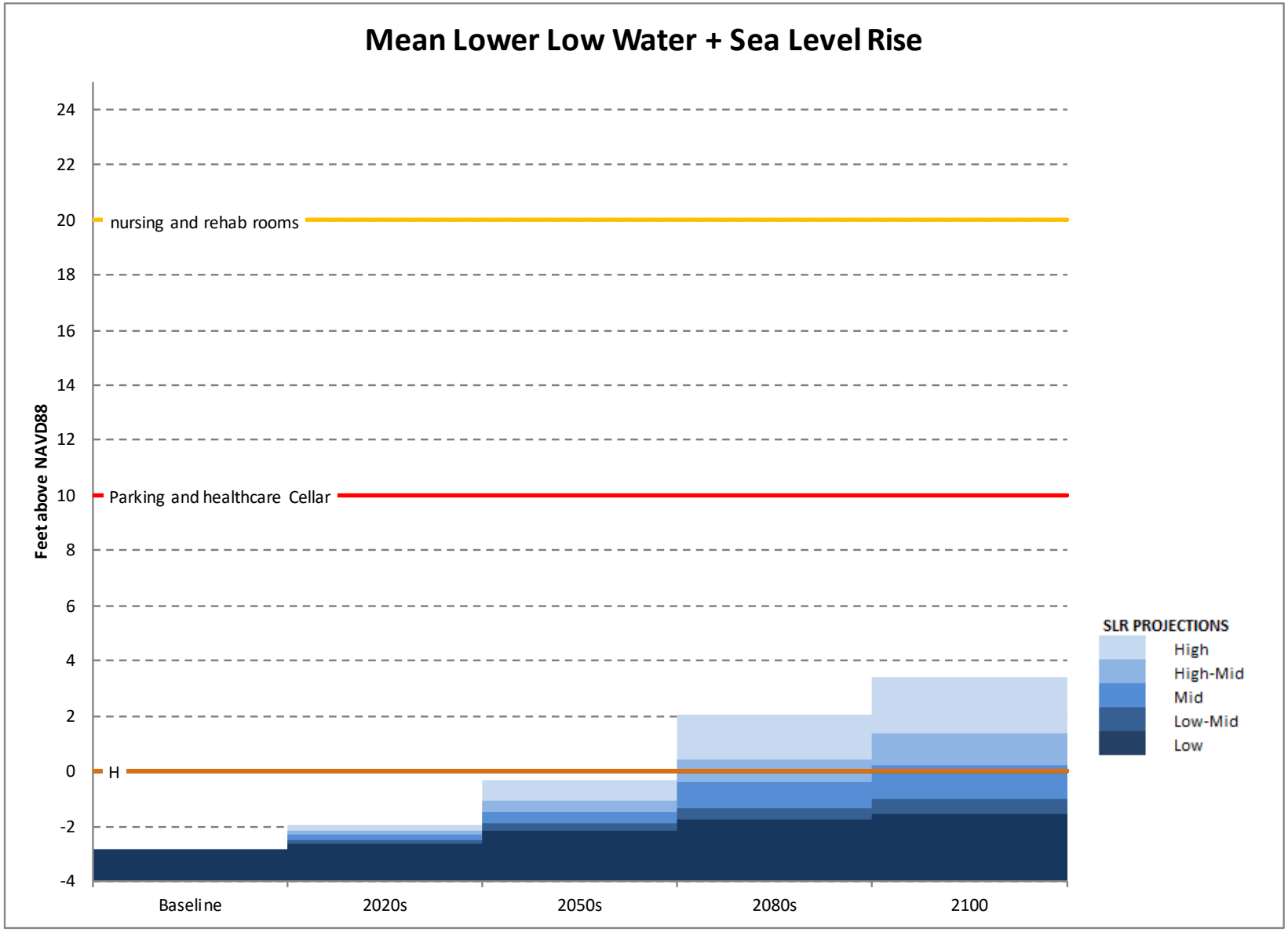
	Low	Low-Mid	Mid	High-Mid	High
2014	0	0	0	0	0
2020s	2	4	6	8	10
2050s	8	11	16	21	30
2080s	13	18	29	39	58
2100	15	22	36	50	75

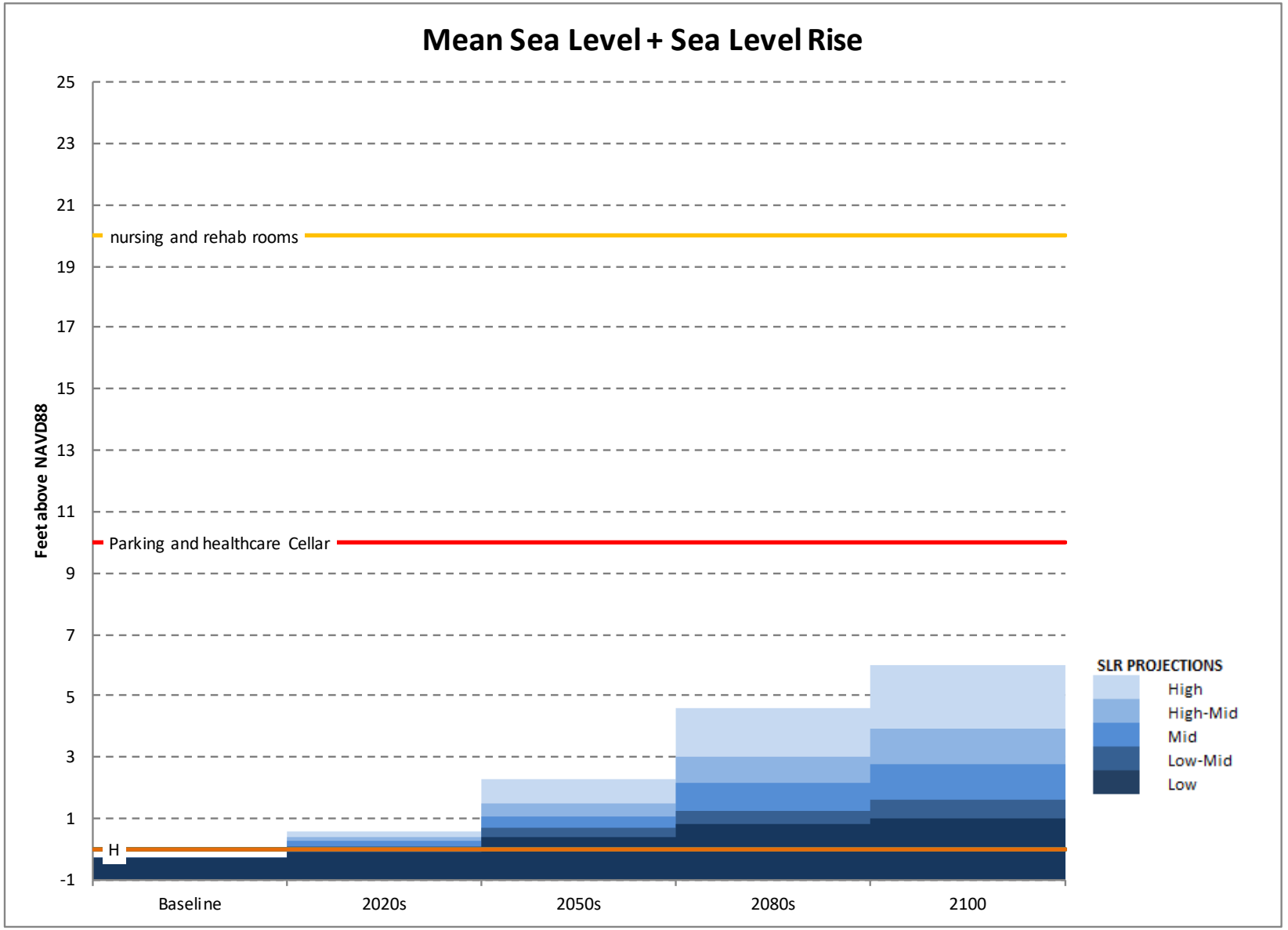
MLLW+SLR (ft above NAVD88)

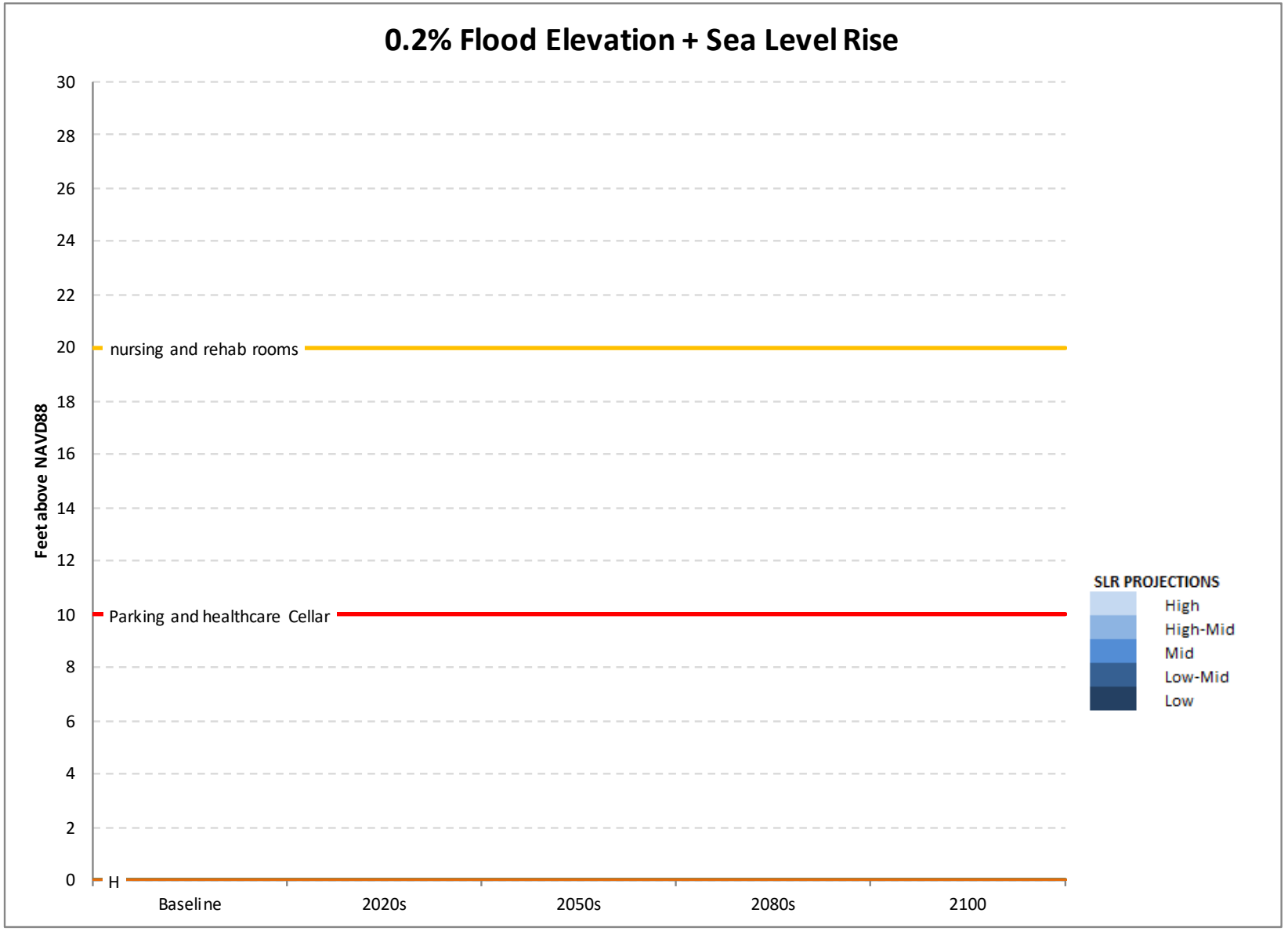
	Low	Low-Mid	Mid	High-Mid	High
Baseline	-2.82	-2.82	-2.82	-2.82	-2.82
2020s	-2.65	-2.49	-2.32	-2.15	-1.99
2050s	-2.15	-1.90	-1.49	-1.07	-0.32
2080s	-1.74	-1.32	-0.40	0.43	2.01
2100	-1.57	-0.99	0.18	1.35	3.43

MSL+SLR (ft above NAVD88)

	Low	Low-Mid	Mid	High-Mid	High
Baseline	-0.24	-0.24	-0.24	-0.24	-0.24
2020s	-0.07	0.09	0.26	0.43	0.59
2050s	0.43	0.68	1.09	1.51	2.26
2080s	0.84	1.26	2.18	3.01	4.59
2100	1.01	1.59	2.76	3.93	6.01


Mean Lower Low Water + Sea Level Rise
Feet above NAVD88
24
22
20
18
16
14
12
10
8
6
4
2
0
-2
-4
nursing and rehab rooms
Parking and healthcare Cellar
H
Baseline
2020s
2050s
2080s
2100
SLR PROJECTIONS
High
High-Mid
Mid
Low-Mid
Low


Mean Sea Level + Sea Level Rise
Feet above NAVD88
25
23
21
19
17
15
13
11
9
7
5
3
1
-1
nursing and rehab rooms
Parking and healthcare Cellar
H
Baseline
2020s
2050s
2080s
2100
SLR PROJECTIONS
High
High-Mid
Mid
Low-Mid
Low


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

APPENDIX B

NYC Landmarks Preservation Commission

Landmarks Preservation Commission

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

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

ENVIRONMENTAL REVIEW

Project number: ECONOMIC DEVELOPMENT CORP. / ER.Q,K
Project: EDC RISE-NYC:CALM
Date received: 8/14/2017

Properties with no Architectural or Archaeological significance:

1) ADDRESS: 96-03 BEACH 96 STREET, BBL: 4161520046, PROPERTY NAME: MADELAINE CHOCOLATE COMPANY
2) ADDRESS: 2132 FLATBUSH AVENUE, BBL: 3078660001, PROPERTY NAME: OASIS DINER
3) ADDRESS: 2148 FLATBUSH AVENUE, BBL: 3078890049, PROPERTY NAME: LIGHTING PALACE
4) ADDRESS: 2134 FLATBUSH AVENUE, BBL: 3078890042, PROPERTY NAME: SALVI ITALIAN RESTAURANT
5) ADDRESS: 2927 AVENUE R, BBL: 3068130034, PROPERTY NAME: MICHAEL'S OF BROOKLYN
6) ADDRESS: 3180 EMMONS AVENUE, BBL: 3088150112, PROPERTY NAME: WATERFORD ON THE BAY
7) ADDRESS: 3900 SHORE PARKWAY, BBL: 3088430164, PROPERTY NAME: HARBORVIEW
8) ADDRESS: 2840 KNAPP STREET, BBL: 3088080045, PROPERTY NAME: SHEEPSHEAD NURSING
9) ADDRESS: 162-31 CROSS BAY BOULEVARD, BBL: 4141950013, PROPERTY NAME: RUSSO'S ON THE BAY
10) ADDRESS: 164-49 CROSS BAY BOULEVARD, BBL: 4142070105, PROPERTY NAME: VETRO GROUP

Gina Santucci

8/29/2017

SIGNATURE DATE
Gina Santucci, Environmental Review Coordinator

File Name: 32699_FSO_DNP_08182017.doc

APPENDIX C

Jamaica Bay Watershed Protection Plan

Print Form

Jamaica Bay Watershed Protection Plan
Project Tracking Form

The Jamaica Bay Watershed Protection Plan, developed pursuant to Local Law 71 of 2005, mandates that the New York City Department of Environmental Protection (DEP) work with the Mayor's Office of Environmental Coordination (MOEC) to review and track proposed development projects in the Jamaica Bay Watershed (http://www.nyc.gov/html/oec/downloads/pdf/ceqr/Jamaica_Bay_Watershed_Map.jpg) that are subject to CEQR in order to monitor growth and trends. If a project is located in the Jamaica Bay Watershed, (the applicant should complete this form and submit it to DEP and MOEC. This form must be updated with any project modifications and resubmitted to DEP and MOEC.

The information below will be used for tracking purposes only. It is not intended to indicate whether further CEQR analysis is needed to substitute for the guidance offered in the relevant chapters of the CEQR Technical Manual.

A. GENERAL PROJECT INFORMATION

1. CEQR Number: ~~Pending~~ 20DCP077K 1a. Modification ☐
2. Project Name: 2840 Knapp Street Zoning Map and Text Amendments
3. Project Description:

   The proposed development would consist of the renovation and expansion of an existing six-story, 92,305 gross square foot (gsf) building containing a nursing home and rehabilitation facility.

4. Project Sponsor: Jerome Kahan
5. Required approvals: zoning map and text amendments
6. Project schedule (build year and construction schedule): 2020; 6-8 months of construction

B. PROJECT LOCATION:

1. Street address: 2840 Knapp Street, Brooklyn
2. Tax block(s) 8808 Tax Lot(s): 45
3. Identify existing land use and zoning on the project site: Nursing home and rehab facility; R5
4. Identify proposed land use and zoning on the project site: Residential and Comm Facility; R6 MIH
5. Identify land use of adjacent sites (include any open space): Residential, community facility
6. Describe existing density on the project site and the proposed density:

Existing Condition	Proposed Condition
2.74 FAR	4.8 FAR

7. Is project within 100 or 500 year floodplain (specify)? ☐ **100 Year** ☐ **500 Year** ☒ **No**

C. GROUND AND GROUNDWATER

1. Total area of in-ground disturbance, if any (in square feet): 0
2. Will soil be removed (if so, what is the volume in cubic yards)? 0
3. Subsurface soil classification:
   (per the New York City Soil and Water Conservation Board): 92. Pavement & buildings, wet substr
4. If project would change site grade, provide land contours (**attach** map showing existing in 1' contours and proposed in 1' contours).
5. Will groundwater be used (list volumes/rates)? ☐ **Yes** ☒ **No**

   Volumes: Rates:
6. Will project involve dewatering (list volumes/rates)? ☐ **Yes** ☒ **No**

   Volumes: Rates:
7. Describe site elevation above seasonal high groundwater:

   18 to 20 feet

D. HABITAT

1. Will vegetation be removed, particularly native vegetation? **Yes** ☒ **No**

   If YES,

   - **Attach** a detailed list (species, size and location on site) of vegetation to be removed (including trees >2" caliper, shrubs, understory planting and groundcover).
   - **List** species to remain on site.
   - **Provide** a detailed list (species and sizes) of proposed landscape restoration plan (including any wetland restoration plans).
2. Is the site used or inhabited by any rare, threatened or endangered species? ☐ **Yes** ☒ **No**
3. Will the project affect habitat characteristics? ☐ **Yes** ☒ **No**

   If YES, describe existing wildlife use and habitat classification using "Ecological Communities of New York State." at http://www.dec.ny.gov/animals/29392.html.
4. Will pesticides, rodenticides or herbicides be used during construction? ☐ **Yes** ☒ **No**

   If YES, estimate quantity, area and duration of application.
5. Will additional lighting be installed? ☒ **Yes** ☒ **No**

If YES and near existing open space or natural areas, what measures would be taken to reduce light penetration into these areas?

N/A

E. SURFACE COVERAGE AND CHARACTERISTICS

(describe the following for both the existing and proposed condition):

	Existing Condition	Proposed Condition
1. Surface area:		
Roof:	~16,000 sf	~20,850 sf
Pavement/walkway:	~13,500 sf	~ 8,650 sf
Grass/softscape:	none	none
Other (describe):	none	none
2. ***Wetland*** (regulated or non-regulated) area and classification:	none	none
3. Water surface area:	none	none

4. ***Stormwater management*** (describe):

Existing – how is the site drained?

Runoff into sewers and evaporation

Proposed – describe, including any infrastructure improvements necessary off-site:

runoff into sewers and evaporation

APPENDIX D

Transportation Tables, Exhibits, Figures

Table 2 : Transportation Planning Factors-Revised

2840 Knapp Street, Brooklyn NY

Weekday

Land Use:	*Nursing Home*			*Residential*	*Medical Office*
	Employee	*Patient*	*Visitor*		
		Bed		**Unit**	**gsf**
Size/Units:		**-200**		**130**	**10,320**
Trip Generation:	**(1)**	**(1)**	**(1)**	**(3)**	**(6)**
Weekday	3.05	0.37	1.38	8.075	76
	per bed	per bed	per bed	per unit	per 1,000 gsf
%Linked-Trips	0%	0%	0%	0%	0%
Temporal Distribution:	**(1)**	**(1)**	**(1)**	**(3)**	(6)
AM Peak Hour	7.0%	7.0%	7.0%	10%	11%
MD Peak Hour	5.8%	5.8%	5.8%	5%	13%
PM Peak Hour	7.1%	7.1%	7.1%	11%	9%
	(2)	**(1)**	**(1)**	**(4)**	(6)
Modal Split :	All time	All time	All time	All time	All time
Auto	49%	0%	79%	49%	58%
Auto Pick-up/Drop-off/Taxi	0%	28%	7%	0%	15%
Subway	15%	0%	7%	13%	7%
Bus	16%	0%	7%	26%	8%
Ambulette	0%	72%	0%	0%	0%
Walk & Other	20%	0%	0%	12%	12%
Total	100%	100%	100%	100%	100%
	(1)	(1)	(1)	**(6)**	(6)
In/Out Splits:	In/Out	In/Out	In/Out	In/Out	In/Out
AM Peak Hour	63/37	63/37	63/37	24/76	62/38
MD Peak Hour	50/50	50/50	50/50	50/50	47/53
PM Peak Hour	25/75	25/75	25/75	61/39	35/65
Vehicle Occupancy:	(2, 1 & 1)	(1)	(1)	**(4&5)**	(6)
Auto	1.07	n/a	1.3	1.11	1.5
Auto Pick-up/Drop-off/Taxi	1.27	2.35	1.18	1.3	1.5
Ambulette	1.00	2.53	n/a	n/a	n/a
Truck Trip Generation:		**(1)**		**(3)**	**(3)**
		0.06		0.06	0.32
		per bed		per unit	per 1,000 gsf
AM Peak Hour		9.6%		12%	10%
MD Peak Hour		23.1%		9%	11%
PM Peak Hour		5.8%		2%	2%
AM/MD/PM		50/50		50/50	50/50

Sources:

(1)-Hebrew Home For The Aged EAS, Table 2.8-1- CEQR # 18DCP134X.

(2)-2012-2016 (ACS)-Reverse-Journey-to-Work (RJTW)Census tract #'s 598, 608, 622, 628, and 666 in Brooklyn NY.

(3)-2014 CEQR Technical Manual, Table 16-2.

(4)-2013-2017 (ACS)-Journey-to-Work (JTW)Census tract #'s 598, 608, 622, and 628 in Brooklyn NY.

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

(6)-Provided by NYCDOT.

Table 3 : Estimated Person Trips_Revised

2840 Knapp Street, Brooklyn NY

Weekday

Land Use:	*Nursing Home*			*Residential*	*Medical Office*		
	Employee	*Patient*	*Visitor*			Net	*Transit*
		Bed		Unit	gsf	Total	Walk/Other
Size/Units:		-200		130	10,320		*Pedestrian*
Peak hour Trips							*Volumes*
AM Peak Hour	-43	-5	-19	105	86	124	
Midday Peak Hour	-35	-4	-16	52	102	99	
PM Peak Hour	-43	-5	-20	115	71	117	
Person Trips:							
AM Peak Hour							
Auto	-21	0	-15	51	50	65	
Auto Pick-up/Drop-off/Taxi	0	-1	-1	0	13	10	
Subway	-6	0	-1	14	6	12	12
Bus	-7	0	-1	27	7	26	26
Ambulette	0	-4	0	0	0	-4	-4
Walk & Other	-9	0	0	13	10	14	14
Total	**-43**	**-5**	**-19**	**105**	**86**	123	**48**
MD Peak Hour							
Auto	-17	0	-13	25	59	55	
Auto Pick-up/Drop-off/Taxi	0	-1	-1	0	15	13	
Subway	-5	0	-1	7	7	8	8
Bus	-6	0	-1	14	8	15	15
Ambulette	0	-3	0	0	0	-3	-3
Walk & Other	-7	0	0	6	12	11	11
Total	**-35**	**-4**	**-16**	**52**	**102**	99	**31**
PM Peak Hour							
Auto	-21	0	-16	56	41	60	
Auto Pick-up/Drop-off/Taxi	0	-1	-1	0	11	8	
Subway	-6	0	-1	15	5	12	12
Bus	-7	0	-1	30	6	27	27
Ambulette	0	-4	0	0	0	-4	-4
Walk & Other	-9	0	0	14	8	14	8
Total	**-43**	**-5**	**-20**	**115**	**71**	117	**44**

Table 4 : Estimated Vehicular Trips_Revised

2840 Knapp Street, Brooklyn NY

Weekday

Land Use:	*Nursing Home*			*Residential*	*Medical Office*	
	Employee	*Patient*	*Visitor*			Net
		Bed		Unit	gsf	Total
Size/Units:		-200		130	10,320	
Vehicular Trips						
AM Peak Hour						
Auto	-20	0	-12	46	33	47
Auto Pick-up/Drop-off/Taxi	0	-1	-1	0	9	7
(Balanced)	0	-2	-2	0	16	12
Ambulette	0	-2	0	0	0	-2
Truck	0	-1	0	1	0	0
(Balanced)	0	-2	0	2	0	0
Total	-20	-6	-14	48	49	57
In & Out	*-13/-7*	*-3/-3*	*-9/-5*	*12/36*	*28/21*	15/42
Midday Peak Hour						
Auto	-16	0	-10	23	39	36
Auto Pick-up/Drop-off/Taxi	0	-1	-1	0	10	9
(Balanced)	0	-2	-2	0	18	14
Ambulette	0	-2	0	0	0	-2
Truck	0	-3	0	1	0	-2
(Balanced)	0	-4	0	2	0	-2
Total	-16	-8	-12	25	57	46
In & Out	*-8/-8*	*-4/-4*	*-6/-6*	*12/13*	*27/30*	21/25
PM Peak Hour						
Auto	-20	0	-12	51	27	46
Auto Pick-up/Drop-off/Taxi	0	-1	-1	0	7	5
(Balanced)	0	-2	-2	0	12	8
Ambulette	0	-2	0	0	0	-2
Truck	0	-1	0	0	0	-1
(Balanced)	0	-2	0	0	0	-2
Total	-20	-6	-14	51	39	50
In & Out	*-5/-15*	*-2/-4*	*-4/-10*	*31/20*	*15/24*	35/15

Table 5 : Transportation Planning Factors-Revised

2840 Knapp Street, Brooklyn NY

Saturday

Land Use:	*Nursing Home*			*Residential*	*Medical Office*
	Employee	*Patient*	*Visitor*		
		Bed		**Unit**	**gsf**
Size/Units:		**-200**		**130**	**10,320**
Trip Generation:	**(1)**	**(1)**	**(1)**	**(3)**	**(6)**
Saturday	3.05	0.37	1.38	9.6	39
	per bed	per bed	per bed	per unit	per 1,000 gsf
%Linked-Trips	0%	0%	0%	0%	0%
Temporal Distribution:	**(1a)**	**(1a)**	**(1a)**	**(3)**	**(6)**
MD Peak Hour	7.1%	7.1%	7.1%	8%	17%
	(2)	**(1a)**	**(1a)**	**(4)**	**(6)**
Modal Split :	All time	All time	All time	All time	All time
Auto	49%	0%	79%	49%	58%
Auto Pick-up/Drop-off/Taxi	0%	28%	7%	0%	15%
Subway	15%	0%	7%	13%	7%
Bus	16%	0%	7%	26%	8%
Ambulette	0%	72%	0%	0%	0%
Walk & Other	20%	0%	0%	12%	12%
Total	100%	100%	100%	100%	100%
	(1)	(1)	(1)	**(6)**	**(6)**
In/Out Splits:	In/Out	In/Out	In/Out	In/Out	In/Out
MD Peak Hour	50/50	50/50	50/50	45/55	49/51
Vehicle Occupancy:	(2, 1 &1)	(1)	(1)	**(4&5)**	**(6)**
Auto	1.07	n/a	1.3	1.11	1.5
Auto Pick-up/Drop-off/Taxi	1.27	2.35	1.18	1.3	1.5
Ambulette	1.00	2.53	n/a	n/a	n/a
Truck Trip Generation:		**(1)**		**(3)**	**(3)**
Saturday		0.06		0.02	0.01
		per bed		per unit	per 1,000 gsf
MD Peak Hour		23.1%		9%	11%
Sat.MD		50/50		50/50	50/50

Sources:

(1)-Hebrew Home For The Aged EAS, Table 2.8-1- CEQR # 18DCP134X.

(2)-2012-2016 (ACS)-Reverse-Journey-to-Work (RJTW)Census tract #'s 598, 608, 622, 628, and 666 in Brooklyn NY.

(3)-2014 CEQR Technical Manual, Table 16-2.

(4)-2013-2017 (ACS)-Journey-to-Work (JTW)Census tract #'s 598, 608, 622, and 628 in Brooklyn NY.

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

(6)-Provided by NYCDOT.

Table 6 : Estimated Person Trips-Revised

2840 Knapp Street, Brooklyn NY

Saturday

Land Use:	*Nursing Home*			*Residential*	*Medical Office*		
	Employee	*Patient*	*Visitor*			Net	*Transit*
		Bed		Unit	gsf	Total	*Pedestrian*
Size/Units:		**-200**		**130**	**10,320**		*Volumes*
Peak hour Trips							
Saturday Midday Peak Hour	-43	-5	-20	100	68	100	
Person Trips:							
MD Peak Hour							
Auto	-21	0	-16	49	40	52	
Auto Pick-up/Drop-off/Taxi	0	-1	-1	0	10	7	
Subway	-6	0	-1	13	5	10	10
Bus	-7	0	-1	26	5	23	23
Ambulette	0	-4	0	0	0	-4	-4
Walk & Other	-9	0	0	12	8	12	12
Total	**-43**	**-5**	**-20**	**100**	**68**	100	**41**

Table 7 : Estimated Vehicular Trips-Revised

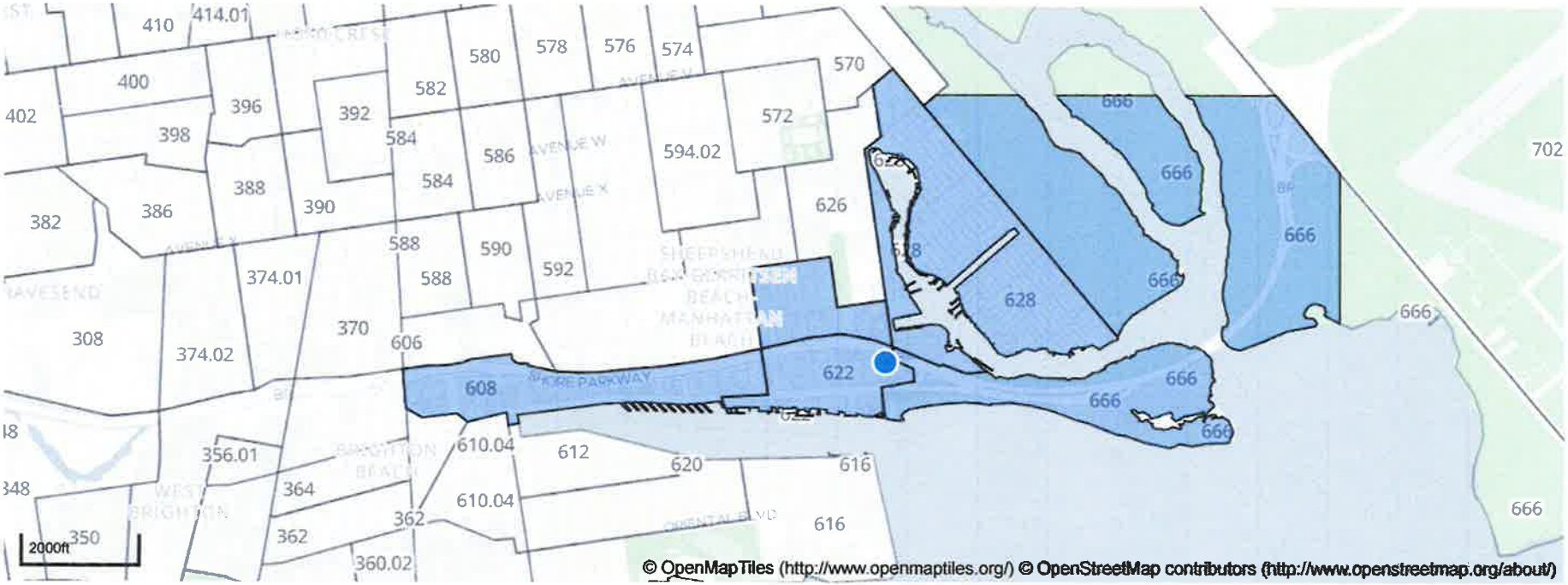
2840 Knapp Street, Brooklyn NY

Saturday

Land Use:	*Nursing Home*			*Residential*	*Medical Office*	
	Employee	*Patient*	*Visitor*			Net
		Bed		Unit	gsf	Total
Size/Units:		-200		130	10,320	
Vehicular Trips						
Midday Peak Hour						
Auto	-20	0	-12	44	26	38
Auto Pick-up/Drop-off/Taxi	0	-1	-1	0	7	5
(Balanced)	0	-2	-2	0	12	8
Ambulette	0	-2	0	0	0	-2
Truck	0	-3	0	0	0	-3
(Balanced)	0	-4	0	0	0	-4
Total	-20	-8	-14	44	38	40
In & Out	*-10/-10*	*-4/-4*	*-7/-7*	*20/24*	*19/19*	18/22

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

Census Block Census Tract Neighborhood (NTA) PUMA



Draw

Select individual census tracts to add them to the profile.

Polygon Radius

View Profile

5 Tracts

Advanced Options

Clear Selection

AMERICAN FactFinder

B08301

MEANS OF TRANSPORTATION TO WORK

Universe: Workers 16 years and over

2013-2017 American Community Survey 5-Year Estimates

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

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

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

	Census Tract 598, Kings County, New York		Census Tract 608, Kings County, New York		Census Tract 622, Kings County, New York	
	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error
Total:	1,563	+/-239	1,748	+/-217	1,352	+/-176
Car, truck, or van:	681	+/-166	607	+/-178	644	+/-167
Drove alone	511	+/-144	473	+/-137	564	+/-160
Carpooled:	170	+/-114	134	+/-74	80	+/-57
In 2-person carpool	138	+/-107	121	+/-71	80	+/-57
In 3-person carpool	16	+/-25	13	+/-15	0	+/-11
In 4-person carpool	0	+/-11	0	+/-11	0	+/-11
In 5- or 6-person carpool	8	+/-12	0	+/-11	0	+/-11
In 7-or-more-person carpool	8	+/-13	0	+/-11	0	+/-11
Public transportation (excluding taxicab):	752	+/-179	870	+/-161	452	+/-126
Bus or trolley bus	236	+/-87	171	+/-87	259	+/-100
Streetcar or trolley car (carro publico in Puerto Rico)	0	+/-11	0	+/-11	0	+/-11
Subway or elevated	516	+/-162	699	+/-154	158	+/-88
Railroad	0	+/-11	0	+/-11	35	+/-45
Ferryboat	0	+/-11	0	+/-11	0	+/-11
Taxicab	0	+/-11	0	+/-11	0	+/-11
Motorcycle	0	+/-11	0	+/-11	0	+/-11
Bicycle	0	+/-11	9	+/-15	9	+/-14
Walked	98	+/-61	185	+/-88	38	+/-36

	Census Tract 598, Kings County, New York		Census Tract 608, Kings County, New York		Census Tract 622, Kings County, New York	
	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error
Other means	6	+/-10	14	+/-16	35	+/-32
Worked at home	26	+/-23	63	+/-67	174	+/-87

	Census Tract 628, Kings County, New York		Census Tract 666, Kings County, New York	
	Estimate	Margin of Error	Estimate	Margin of Error
Total:	2,142	+/-306	0	+/-11
Car, truck, or van:	1,422	+/-237	0	+/-11
Drove alone	1,198	+/-209	0	+/-11
Carpooled:	224	+/-87	0	+/-11
In 2-person carpool	160	+/-71	0	+/-11
In 3-person carpool	54	+/-45	0	+/-11
In 4-person carpool	10	+/-15	0	+/-11
In 5- or 6-person carpool	0	+/-16	0	+/-11
In 7-or-more-person carpool	0	+/-16	0	+/-11
Public transportation (excluding taxicab):	595	+/-178	0	+/-11
Bus or trolley bus	226	+/-121	0	+/-11
Streetcar or trolley car (carro publico in Puerto Rico)	0	+/-16	0	+/-11
Subway or elevated	350	+/-112	0	+/-11
Railroad	19	+/-31	0	+/-11
Ferryboat	0	+/-16	0	+/-11
Taxicab	0	+/-16	0	+/-11
Motorcycle	0	+/-16	0	+/-11
Bicycle	0	+/-16	0	+/-11
Walked	85	+/-56	0	+/-11
Other means	8	+/-13	0	+/-11
Worked at home	32	+/-41	0	+/-11

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

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

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

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

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

Explanation of Symbols:

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

Exhibit A

Modal Split Information

2012-2016 ACS 5-YEAR Reverse-Journey-to-Work (R JTW) for Census Tract #'s 598, 608, 622, 628 and 666 in Brooklyn, NY

2840 Knapp street, Brooklyn New York

2012-2016 ACS 5-Year, Reverse-Journey-to-Work:

Census Tract	Total Workers	Car or Van Drive-Alone	Carpool	Bus	Street Car	Subway	R.R.	Ferry	Bicycle	Walk	Taxi	Motocycle	Other Means	Worked @ Home	Total
598	**175**	**20**	**20**	**10**	**0**	**50**	**0**	**0**	**10**	**25**	**0**	**0**	**10**	**30**	175
608	**1348**	**650**	**65**	**140**	**0**	**205**	**4**	**0**	**0**	**195**	**0**	**0**	**4**	**85**	1348
622	**810**	**225**	**25**	**155**	**0**	**160**	**25**	**0**	**25**	**35**	**0**	**0**	**0**	**160**	810
628	**443**	**265**	**4**	**55**	**0**	**25**	**0**	**0**	**10**	**40**	**10**	**0**	**4**	**30**	443
666	**634**	**310**	**75**	**175**	**0**	**45**	**4**	**0**	**0**	**25**	**0**	**0**	**0**	**0**	634
Total	3,410	1,470	189	535	0	485	33	0	45	320	10	0	18	305	3,410
		0.431	***0.055***	***0.157***	***0.00***	***0.142***	***0.010***	***0.00***	***0.01***	***0.09***	***0.00***	***0.000***	***0.01***	***0.089***	***1.00***

Exhibit B

Vehicle Occupancy Information

Census Tract #'s 598, 608, 622, 628, and 666 in Brooklyn, New York

2012-2016 ACS-5 Year (RJTW), Vehicle Occupancy Rate:

Census Tract	Total	Drove alone	Total carpool	2person	3 Person	4 Person	5 or 6 Person	7 or more Person	Total
598	40	20	20	20	0	0	0	0	20
608	715	650	65	40	10	15	0	0	65
622	250	225	25	25	0	0	0	0	25
628	269	265	4	0	0	0	0	4	4
666	385	310	75	30	45	0	0	0	75
persons	1,659	1,470	189	115	55	15	0	4	189
Autos		1470		58	18	4	0	1	1,550
Auto Occupancy Rate			1.07						

Modal Split summary

Auto	**0.49**
Taxi	**0.00**
Bus	**0.16**
Subway	**0.15**
Walk	**0.09**
Other	**0.11**
Total	**1.00**

Exhibit C

Modal Split Data

2013-2017 ACS 5-YEAR Journey-to-Work (JTW) for Census Tract numbers 598, 608, 622, 628 and 666 in Brooklyn NY

2840 Knapp Street, Brooklyn NY

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

Census Tract	Total Workers	Car or Van Drive-Alone	Carpool	Bus	Street Car	Subway	R.R.	Ferry	Taxi	Motor cycle	Bicycle	Walked	Other Means	Worked @ Home	Total
															0
598	**1563**	**511**	**170**	**236**	**0**	**516**	**0**	**0**	**0**	**0**	**0**	**98**	**6**	**26**	1,563
608	**1748**	**473**	**134**	**171**	**0**	**699**	**0**	**0**	**0**	**0**	**9**	**185**	**14**	**63**	1,748
622	**1352**	**564**	**80**	**259**	**0**	**158**	**35**	**0**	**0**	**0**	**9**	**38**	**35**	**174**	1,352
628	**2142**	**1198**	**224**	**226**	**0**	**350**	**19**	**0**	**0**	**0**	**0**	**85**	**8**	**32**	2,142
666	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
															0
															0
Total	6,805	2,746	608	892	0	1,723	54	0	0	0	18	406	63	295	6,805
		0.404	***0.089***	***0.131***	***0.00***	***0.253***	***0.008***	***0.00***	***0.00***	***0.00***	***0.00***	***0.060***	***0.01***	***0.043***	***1.00***

Exhibit D

Vehicle Occupancy Rate Information

2013-2017 ACS 5-YEAR Journey-to-Work (JTW) for Census Tract numbers 598, 608, 622, 628 and 666 in Brooklyn NY

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

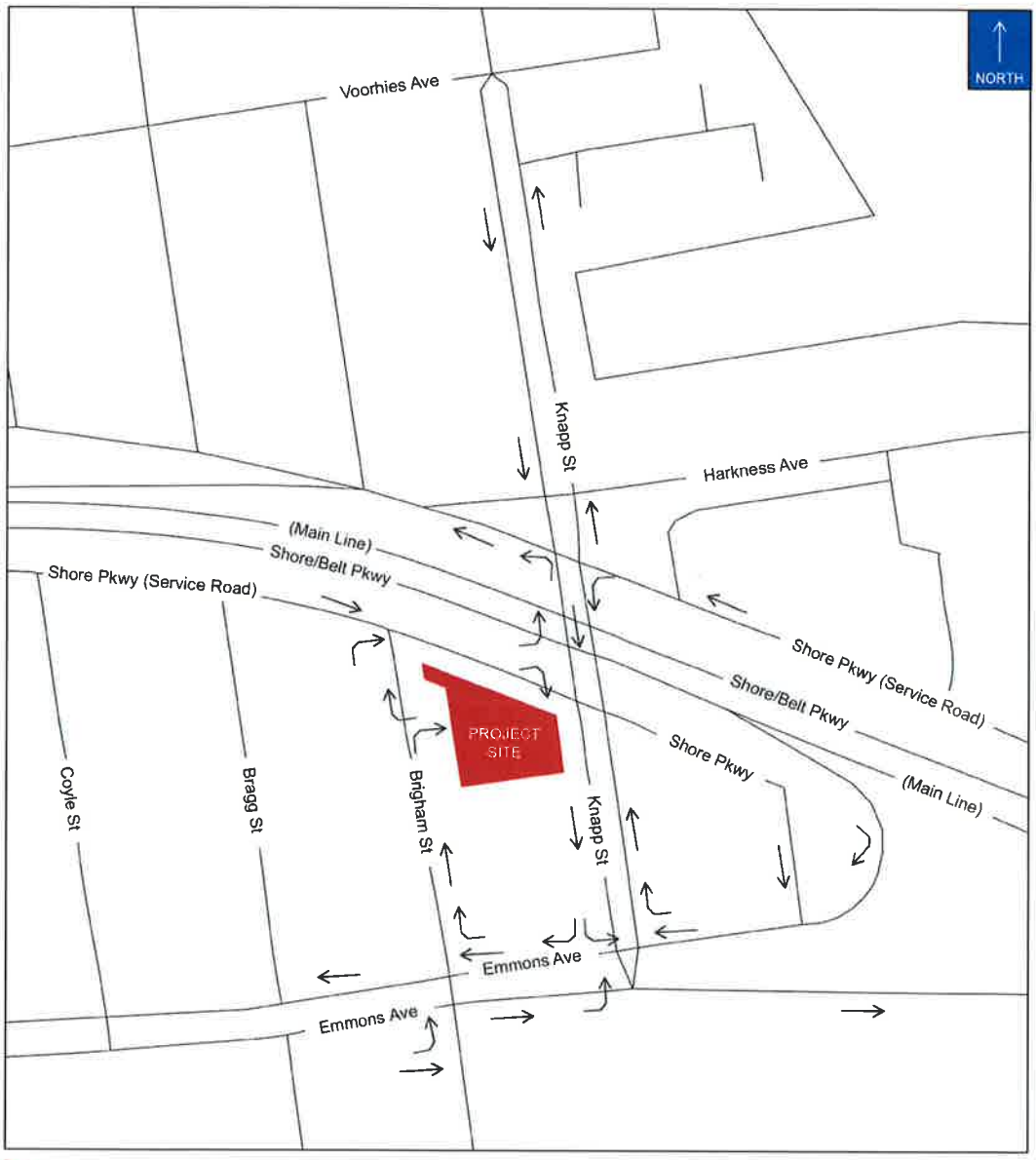
Census Tract	Total	Drove alone	Total carpool	2person carpool	3 Person	4 Person	5 or 6 Persor	7 or more Person	Total
598	681	511	170	138	16	0	8	8	170
608	607	473	134	121	13	0	0	0	134
622	644	564	80	80	0	0	0	0	80
628	1422	1198	224	160	54	10	0	0	224
666	0	0	0	0	0	0	0	0	0
	3,354	2,746		250	28	3	1	1	3,028

Modal Split Data summary

Auto	**0.49**
Taxi	**0.00**
Bus	**0.13**
Subway	**0.26**
Walk	**0.06**
Other	**0.06**
Total	**1.00**

Vehicle Occupa **1.11**

2840 Knapp Street, Brooklyn, NY 11235



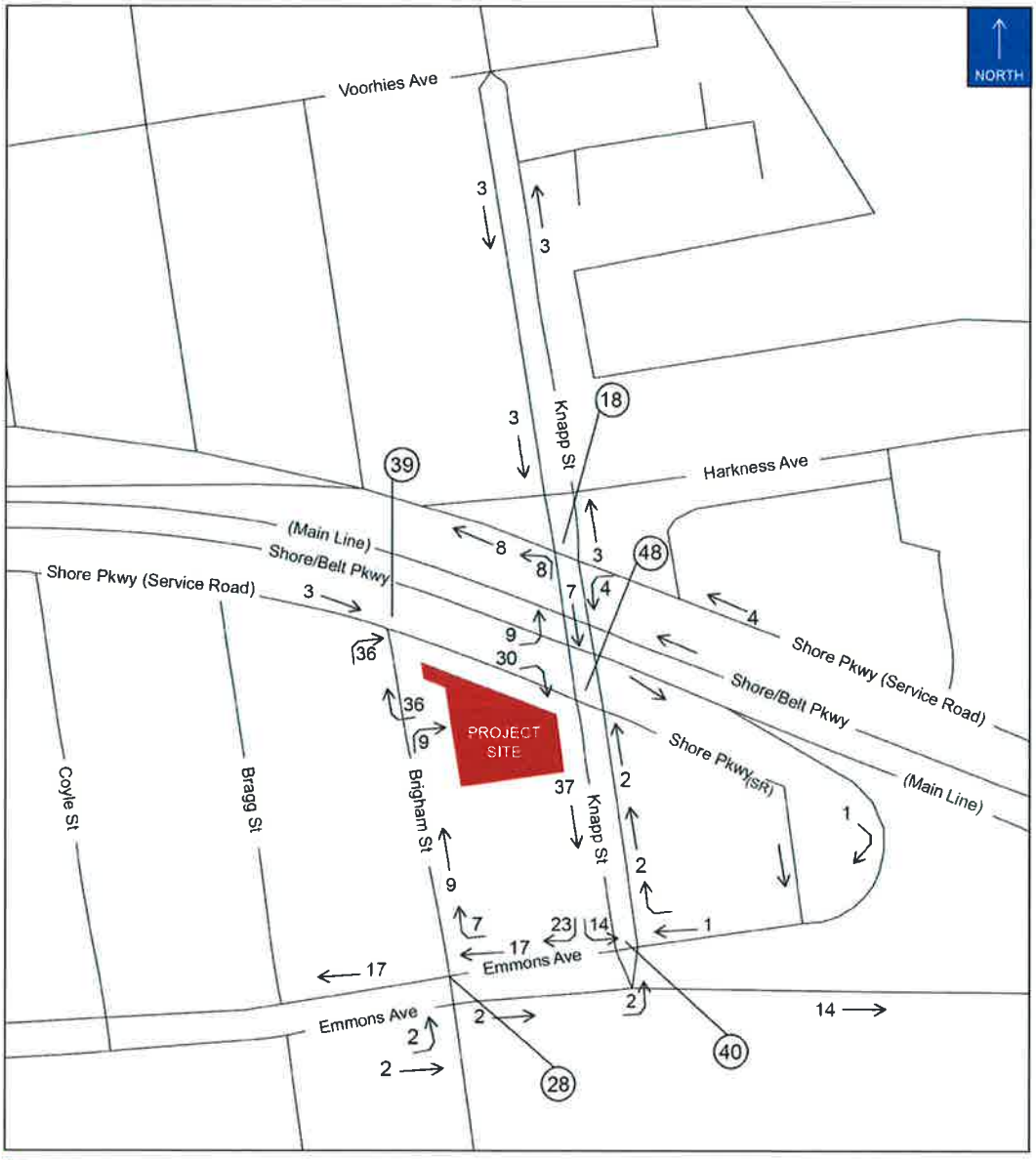
Project Site - Block 8808, Lot 45

Projection Location and Traffic Flow

November 4th, 2020

Figure 1

2840 Knapp Street, Brooklyn, NY 11235



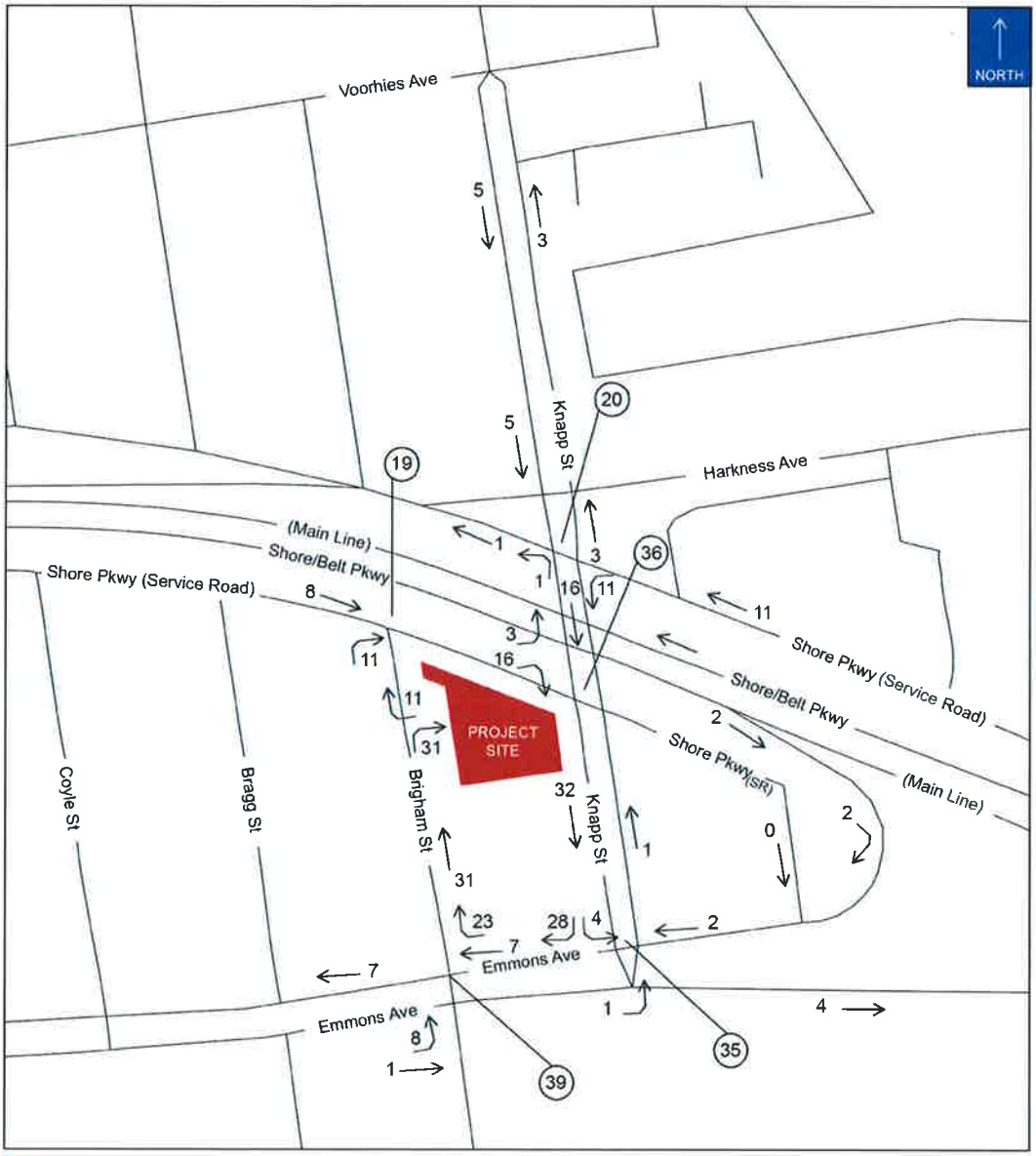
Project Site
15 In/42 Out

Project Gererated Vehicular Trips
AM Peak Hour

November 4th, 2020

Figure 2

2840 Knapp Street, Brooklyn, NY 11235



Project Site
35 In/15 Out

Project Generated Vehicular Trips
PM Peak Hour

November 4th, 2020

Figure 3

APPENDIX E

Noise

Mobile Noise Screen
And
Noise Backup Data and Calibration Certificates

2840 KNAPP STREET EAS

NOISE SCREENING ASSESSMENT

Introduction

Two types of potential noise impacts are considered under CEQR. These are potential mobile source and stationary source noise impacts. Mobile source impacts are those, which could result from a proposed project adding a substantial amount of traffic to an area. Potential stationary source noise impacts are considered when a proposed action would cause a stationary noise source to be operating within 1,500 feet of a receptor, with a direct line of sight to that receptor, or if the project would include unenclosed mechanical equipment for building ventilation purposes.

Mobile Source

Relative to mobile source impacts, a noise analysis would be required if a proposed project would at least double existing passenger car equivalent (PCE) traffic volumes along a street on which a sensitive noise receptor (such as a residence, a park, a school, etc.) is located. Vehicles travel to and from the site primarily along Knapp Street (n/b and s/b) and Shore Parkway Service Road (e/b) and Brigham Street (n/b) and Shore Parkway Service Road (e/b). As numerous residences are located along these roads, the effect of project generated traffic on residences located along Knapp Street (n/b and s/b), Brigham Street (n/b) and Shore Parkway Service Road (e/b) would therefore be relevant for this assessment.

Knapp Street and Shore Parkway Service Road (e/b)

n/b

Vehicle and Passenger Car Equivalents (PCE's) traffic along Knapp Street (n/b), resulting from the proposed mixed-used residential and community facility (medical office) represents a small portion of total traffic volumes on this street. As discussed in the Transportation section and shown in **(Figures 10, 11 and 12-attached),** and summarized in **Table 2**, a maximum of 2, 3, 2 PCE's arrive at or depart from the project site during AM, MD, and PM peak Hours, respectively. Significant traffic travels along Knapp Street (n/b) at Shore Parkway SR (e/b) as this is a through street serving a large area of the Sheepshead Bay neighborhoods. Pursuant to CEQR methodology, no mobile source noise impacts from the proposed mixed-use development would be anticipated since traffic (PCE's) volumes for AM, MD, and PM (533, 387 and 547 PCE's, as summarized in **Table 1** and shown in the attached support data), respectively are not doubled along Knapp Street (n/b) due to the proposed mixed-use development.

s/b

Similarly, vehicular and Passenger Car Equivalents (PCE's) traffic along Knapp Street (s/b), resulting from the proposed mixed-use development represents a small portion of total traffic volumes on this street. As discussed in the Transportation section and shown in **(Figures 10 through 12-attached),** and summarized in **Table 2,** a maximum of 35, 24 and 24 PCE's arrive at or depart from the project site during AM, MD, and PM peak Hours, respectively. Significant traffic travels along Knapp Street (s/b) at Shore Parkway SR (e/b), as this is a through street serving a large area of the Sheepshead Bay neighborhoods. Pursuant to CEQR methodology, no mobile source noise impacts from the proposed mixed-use development would be anticipated since traffic (PCE's) volumes for AM, MD, and PM (1,101, 734 and 737 PCE's, as summarized in **Table 1** and

shown in the attached support data), respectively are not doubled along Knapp Street (s/b) due to the proposed mixed-use development.

Combined n/b & s/b

Vehicle and Passenger Car Equivalents (PCE's) traffic along Knapp Street, resulting from the proposed mixed-use development represents a small portion of total traffic volumes and PCE's on this street. As discussed in the Transportation section and shown in **(Figures 10 through 12-attached),** and summarized In **Table 2,** a maximum of 37, 27, and 26 PCE's arrive at or depart from the proposed mixed-use development during AM, MD, and PM peak Hours, respectively. Significant traffic travels along Knapp Street as this is a through street serving a large area of the Sheepshead Bay neighborhoods. Pursuant to CEQR methodology, no mobile source noise impacts from the proposed mixed-use development would be anticipated since traffic PCE's for AM, MD, and PM (1,634, 1,121, and 1,284 PCE's, as summarized in **Table 1** and shown in the attached support data), respectively are not doubled along Knapp Street due to the proposed mixed-use development.

e/b

Vehicle and Passenger Car Equivalents (PCE's) traffic along Shore Parkway SR (e/b) resulting from the proposed mixed-use development represents a small portion of total traffic volumes and PCE's on this street. As discussed in the Transportation section and shown in **(Figures 10 through 12-attached),** and summarized in **Table 2,** a maximum of 91, 75, and 56 PCE's arrive at or depart from the proposed mixed-use development during AM, MD, and PM peak Hours, respectively. Significant traffic travels along Shore Parkway SR (e/b) as this is a street serving a large area of the Sheepshead Bay neighborhoods. Pursuant to CEQR methodology, no mobile source noise impacts from the proposed mixed-use development would be anticipated since PCE's volumes for AM, MD, and PM (1,124, 1,266 and 1,318 PCE's, as summarized in Table 1 and shown in the attached support data), respectively are not doubled along Shore Parkway SR (e/b) due to the proposed mixed-use development.

<u>Brigham Street and Shore Parkway Service Road (e/b)</u>

n/b

Vehicle and Passenger Car Equivalents (PCE's) traffic along Brigham Street (n/b) resulting from the proposed mixed-use development represents a portion of total traffic volumes and PCE's on this street. As discussed in the Transportation section and shown in **(Figures 10 through 12-attached),** and summarized in **Table 2,** a maximum of 72, 52, and 33 PCE's arrive at or depart from the proposed mixed-use development during AM, MD, and PM peak Hours, respectively. Traffic travels along Brigham Street (n/b) as this is a street serving a small area of the Sheepshead Bay neighborhoods, including the project site. Pursuant to CEQR methodology, no mobile source noise impacts from the proposed mixed-use development would be anticipated since PCE's volumes for AM, MD, and PM (186, 127 and 85 PCE's, as summarized in **Table 1** and shown in the attached support data), respectively are not doubled along Brigham Street (n/b) due to the proposed mixed-use development.

Table 1: Existing Traffic Volumes and PCE's-Knapp Street (n/b & s/b) and Shore Parkway S.R. (e/b)

Roadway/approach	Peak Hour	Auto/ Light Truck: 1 PCE	Medium Truck: 13 PCE's	Bus: 18 PCE's	Heavy Truck: 47 PCE's	Total Vehicles & PCE's
Knapp St. (n/b) & Shore Parkway SR (e/b)	AM	190*1=190	2*13=26	15*18=270	1*47=47	208 vehicles & 533 PCE's
Knapp St. (s/b) & Shore Parkway SR (e/b)	AM	647*1=647	5*13=65	19*18=342	1*47=47	672 & 1,101
Knapp St. & Shore Parkway SR (e/b) Combined	AM	837*1=837	7*13=91	34*18=612	2*47=94	880 & 1,634
Knapp St. (n/b) & Shore Parkway SR (e/b)	Midday	294*1=294	3*13=39	3*18=54	0	300 & 387
Knapp St. (s/b) & Shore Parkway SR (e/b)	Midday	325*1=325	1*13=13	22*18=396	0	348 & 734
Knapp St. & Shore Parkway SR (e/b) Combined	Midday	619 *1=619	4*13=52	25*18=450	0	648 & 1,121
Knapp St. (n/b) & Shore Parkway SR (e/b)	PM	258*1=258	2*13=26	12*18=216	1*47=47	273 & 547
Knapp St. (s/b) & Shore Parkway SR (e/b)	PM	399*1=399	3*13=39	14*18=252	1*47=47	417 & 737
Knapp St. & Shore Parkway SR (e/b) Combined	PM	657*1=657	5*13=65	26*18=468	2*47=94	690 & 1,284

Table 1 (Continued): Existing Traffic Volumes and PCE's-Knapp Street (n/b & s/b) and Shore Parkway S.R. (e/b)

Roadway/approach	Peak Hour	Auto/ Light Truck: 1 PCE	Medium Truck: 13 PCE's	Bus: 18 PCE's	Heavy Truck: 47 PCE's	Total Vehicles & PCE's
Shore Parkway SR (e/b) & Knapp St.	AM	501*1=501	5*13=65	31*18=558	0	537 & 1,124
Shore Parkway SR (e/b) & Knapp St.	Midday	685*1=685	2*13=26	23*18=414	3*47=141	713 & 1,266
Shore Parkway SR (e/b) & Knapp St.	PM	603*1=603	1*13=13	39*18=702	0	643 & 1,318

Table 1 (Continued): Existing Traffic Volumes and PCE's- Brigham Street (n/b) and Shore Parkway S.R. (e/b)

Roadway/approach	Peak Hour	Auto/ Light Truck: 1 PCE	Medium Truck: 13 PCE's	Bus: 18 PCE's	Heavy Truck: 47 PCE's	Total Vehicles & PCE's
Brigham St. (n/b) & Shore Parkway SR (e/b)	AM	27*1=27	0	1*18=18	3*47=141	31 & 186
Brigham St. (n/b) & Shore Parkway SR (e/b)	Midday	15*1=15	0	1*18=18	2*47=94	18 & 127
Brigham St. (n/b) & Shore Parkway SR (e/b)	PM	20*1=20	0	1*18=18	1*47=47	22 & 85

Table 2: Project Generated Traffic Volumes and PCE's-Knapp Street (n/b & s/b) and Shore Parkway S.R. (e/b)

Roadway/approach	Peak Hour	Auto/ Light Truck: 1 PCE	Medium Truck: 13 PCE's	Bus: 18 PCE's	Heavy Truck: 47 PCE's	Total Vehicles & PCE's
Knapp St. (n/b) & Shore Parkway SR (e/b)	AM	2*1=2	0	0	0	2 vehicles & 2 PCE's
Knapp St. (s/b) & Shore Parkway SR (e/b)	AM	22*1=22	1*13=13	0	0	23 & 35
Knapp St. & Shore Parkway SR (e/b) Combined	AM	24*1=24	1*13=13	0	0	25 & 37
Knapp St. (n/b) & Shore Parkway SR (e/b)	Midday	3*1=3	0	0	0	3 & 3
Knapp St. (s/b) & Shore Parkway SR (e/b)	Midday	24*1=24	0	0	0	24 & 24
Knapp St. & Shore Parkway SR (e/b) Combined	Midday	27*1=27	0	0	0	27 & 27
Knapp St. (n/b) & Shore Parkway SR (e/b)	PM	2*1=2	0	0	0	2 & 2
Knapp St. (s/b) & Shore Parkway SR (e/b)	PM	24*1=24	0	0	0	24 & 24
Knapp St. & Shore Parkway SR (e/b) Combined	PM	26*1=26	0	0	0	26 & 26

Table 2 (Continued): Project Generated Traffic Volumes and PCE's-Knapp Street (n/b & s/b) and Shore Parkway S.R. (e/b)

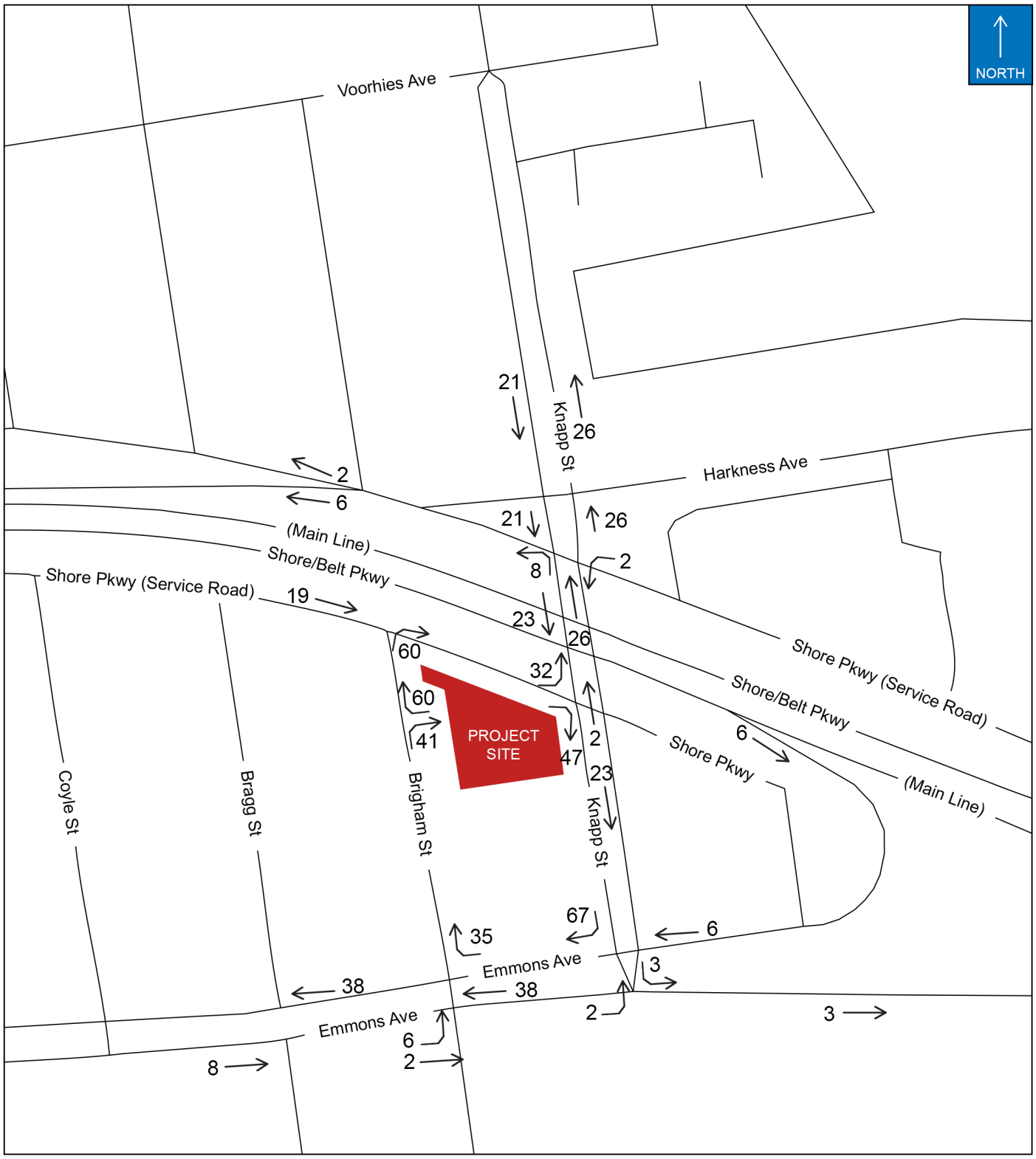
Roadway/approach	Peak Hour	Auto/ Light Truck: 1 PCE	Medium Truck: 13 PCE's	Bus: 18 PCE's	Heavy Truck: 47 PCE's	Total Vehicles & PCE's
Shore Parkway SR (e/b) & Knapp St.	AM	78*1=78	1*13=13	0	0	79 & 91
Shore Parkway SR (e/b) & Knapp St.	Midday	75*1=75	0	0	0	75 & 75
Shore Parkway SR (e/b) & Knapp St.	PM	56*1=56	0	0	0	56 & 56

Table 2 (Continued): Project Generated Traffic Volumes and PCE's- Brigham Street (n/b) and Shore Parkway S.R. (e/b)

Roadway/approach	Peak Hour	Auto/ Light Truck: 1 PCE	Medium Truck: 13 PCE's	Bus: 18 PCE's	Heavy Truck: 47 PCE's	Total Vehicles & PCE's
Brigham St. (n/b) & Shore Parkway SR (e/b)	AM	59*1=59	1*13=13	0	0	60 & 72
Brigham St. (n/b) & Shore Parkway SR (e/b)	Midday	52*1=52	0	0	0	52 & 52
Brigham St. (n/b) & Shore Parkway SR (e/b)	PM	33*1=33	0	0	0	33 & 33

Therefore, the proposed mixed-use development would not result in a mobile source noise impact from any traffic volumes that it generates along Knapp Street, Shore Parkway SR (e/b) and Brigham Street.

2840 Knapp Street, Brooklyn, NY 11235



Project Site

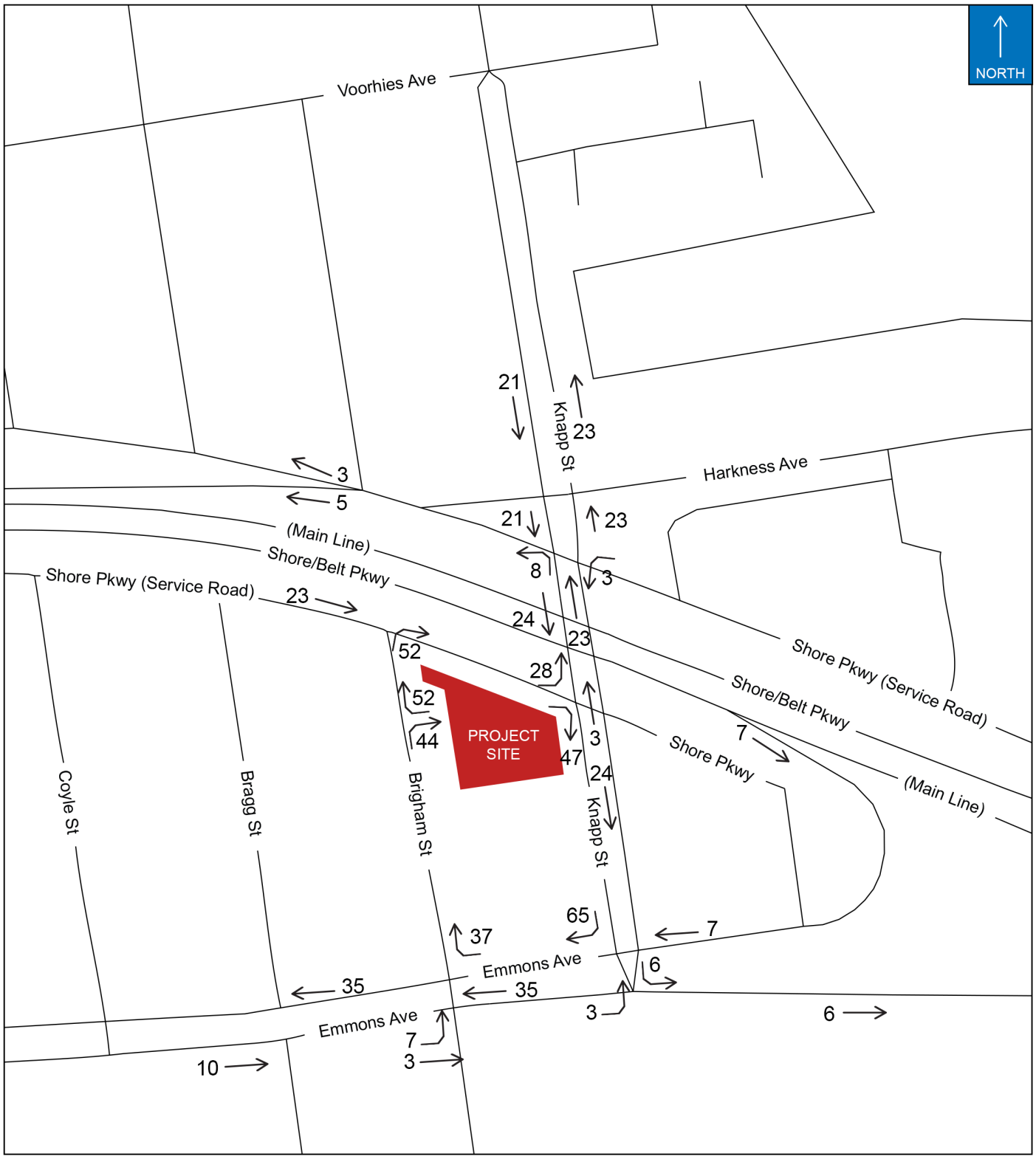
56 Inbound / 75 Outbound Vehicle Trips

Project Increment Vehicular Trips

AM Peak Hour

Figure 10

2840 Knapp Street, Brooklyn, NY 11235



Project Site

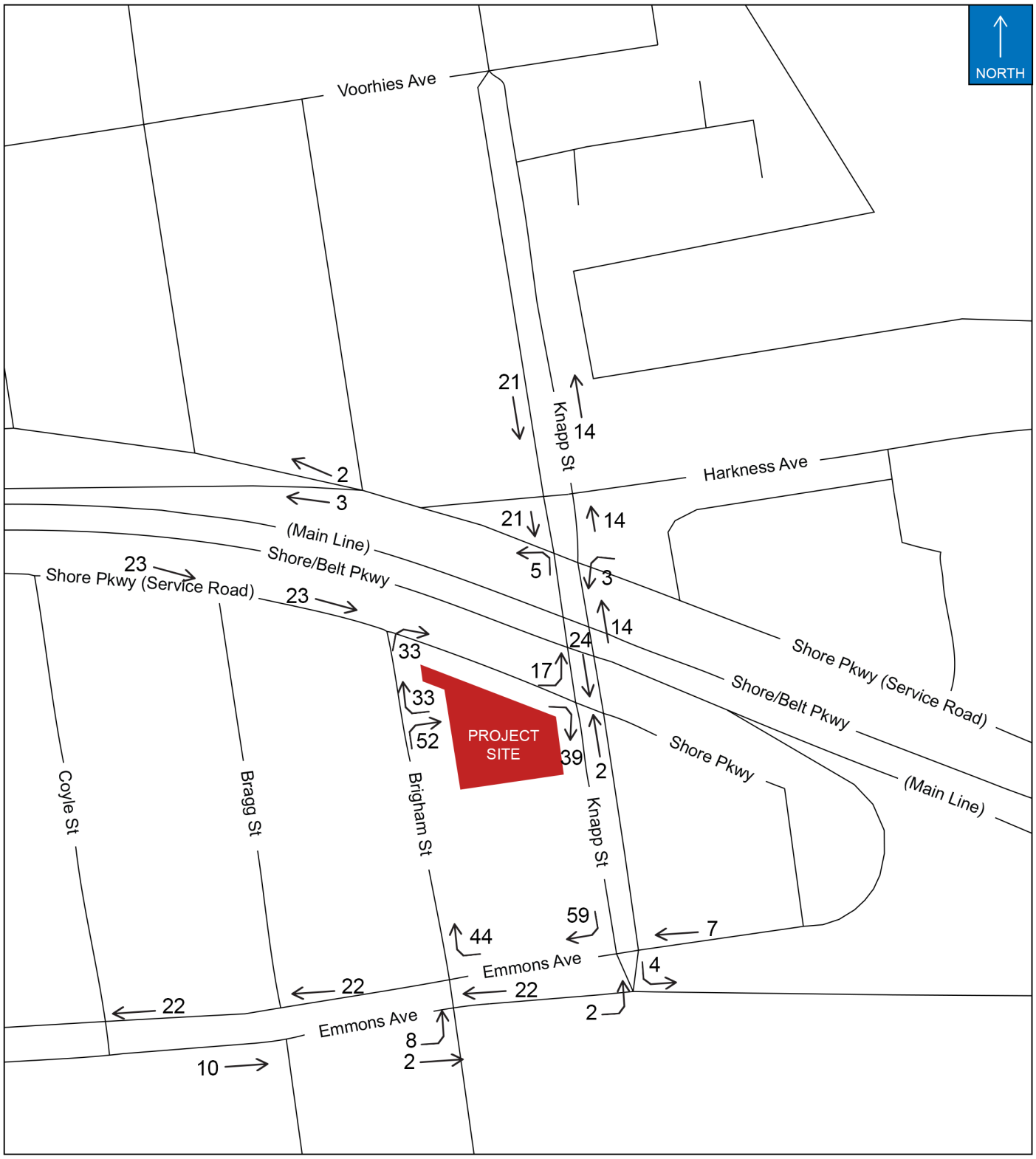
64 Inbound / 72 Outbound Vehicle Trips

Project Increment Vehicular Trips

Midday Peak Hour

Figure 11

2840 Knapp Street, Brooklyn, NY 11235



Project Site

64 Inbound / 45 Outbound Vehicle Trips

Project Increment Vehicular Trips

PM Peak Hour

Figure 12

Calibration Certificate

Certificate Number 2018007854
Customer:
Equity Environmental Eng
500 International Drive
Mount Olive, NJ 07828, United States

Model Number	PRMLxT2	*Procedure Number*	D0001.8383		
Serial Number	013562	*Technician*	Ron Harris		
Test Results	**Pass**	*Calibration Date*	3 Aug 2018		
Initial Condition	AS RECEIVED same as shipped	*Calibration Due*	3 Aug 2019		
		Temperature	23.29 °C	± 0.01 °C	
Description	Larson Davis 1/2" Preamplifier for LxT Class 2 -15 dB	*Humidity*	49.6 %RH	± 0.5 %RH	
		Static Pressure	86.47 kPa	± 0.03 kPa	

Evaluation Method Tested electrically using an 18.0 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 17025:2005. 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 9001:2008.

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.

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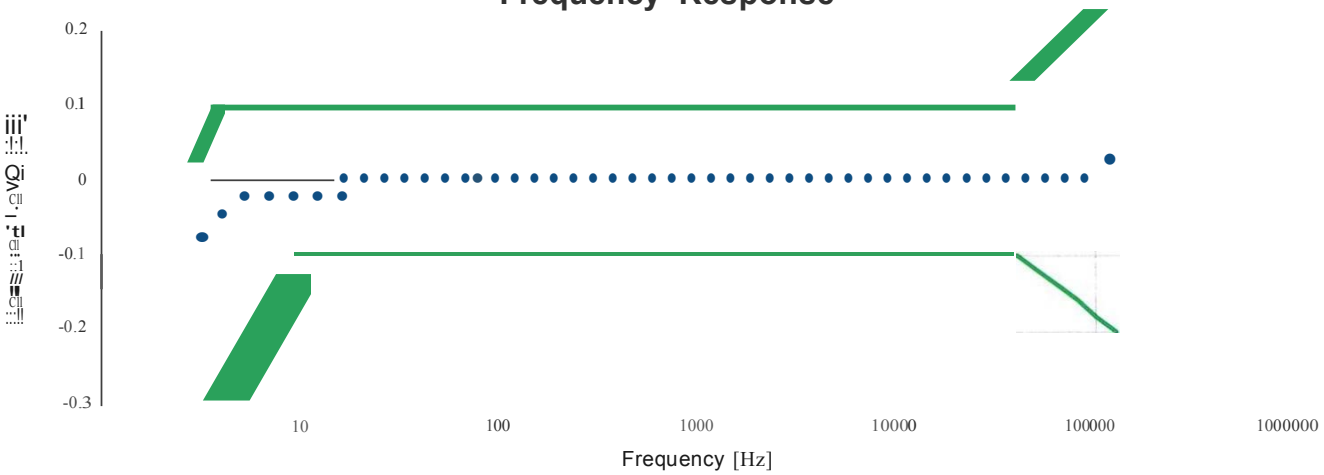
Standards Used

Description	Cal Date	Cal Due	Cal Standard
Larson Davis Model 2900 Real Time Analyzer	03/07/2018	03/07/2019	003003
Hart Scientific 2626-H Temperatu re Probe	02/02/2018	02/02/2019	006767
Agilent 34401A DMM	06/29/2018	06/29/2019	007165
SRS DS360 Ultra Low Distortion Generator	10/05/2017	10/05/2018	007167

Frequency Response



Frequency response electrically tested at 120.0 dB re 1 iJV

Frequency [Hz]	Test Result [dB re 1kHz]	Lower limit [dB[	Upper limit [dB[	Expanded Uncertainty [dB]	Result
2.50	-0.13	-0.29	0.03	0.09	Pass
3.20	-0.08	-0.22	0.08	0.09	Pass
4.00	-0.05	-0.18	0.10	0.09	Pass
5.00	-0.03	-0.15	0.10	0.09	Pass
6.30	-0.02	-0.13	0.10	0.09	Pass
7.90	-0.02	-0.11	0.10	0.09	Pass
10.00	-0.02	-0.10	0.10	0.09	Pass
12.60	-0.01	-0.10	0.10	0.09	Pass
15.80	-0.01	-0.10	0.10	0.09	Pass
20.00	0.00	-0.10	0.10	0.09	Pass
25.10	-0.01	-0.10	0.10	0.09	Pass
31.60	-0.01	-0.10	0.10	0.09	Pass
39.80	-0.01	-0.10	0.10	0.09	Pass
50.10	-0.01	-0.10	0.10	0.09	Pass
63.10	0.00	-0.10	0.10	0.09	Pass
79.40	-0.01	-0.10	0.10	0.09	Pass
100.00	-0.01	-0.10	0.10	0.09	Pass
125.90	0.00	-0.10	0.10	0.09	Pass
158.50	0.00	-0.10	0.10	0.09	Pass
199.50	0.00	-0.10	0.10	0.09	Pass
251.20	0.00	-0.10	0.10	0.09	Pass
316.20	0.00	-0.10	0.10	0.09	Pass
398.10	0.00	-0.10	0.10	0.09	Pass
501.20	0.01	-0.10	0.10	0.09	Pass
631.00	0.01	-0.10	0.10	0.09	Pass
794.30	0.01	-0.10	0.10	0.09	Pass
1,000.00	0.01	-0.10	0.10	0.09	Pass
1,258.90	0.00	-0.10	0.10	0.09	Pass
1,584.90	0.00	-0.10	0.10	0.09	Pass
1,995.30	0.00	-0.10	0.10	0.09	Pass
2,511.90	0.00	-0.10	0.10	0.09	Pass
3,162.30	0.00	-0.10	0.10	0.09	Pass

Frequency [Hz]	Test Result [dB re 1kHz)	Lower limit [dB)	Upper limit [dB[	Expanded Uncertainty (dB]	Result
3,981.10	0.00	-0.10	0.10	0.09	Pass
5,011.90	0.00	-0.10	0.10	0.09	Pass
6,309.60	0.00	-0.10	0.10	0.09	Pass
7,943.30	0.00	-0.10	0.10	0.09	Pass
10,000.00	0.00	-0.10	0.10	0.09	Pass
12,589.30	0.00	-0.10	0.10	0.09	Pass
15,848.90	0.00	-0.10	0.10	0.09	Pass
19,952.60	0.00	-0.10	0.10	0.09	Pass
25,118.90	0.00	-0.10	0.10	0.09	Pass
31,622.80	0.00	-0.10	0.10	0.09	Pass
39,810.70	0.00	-0.10	0.10	0.09	Pass
50,118.70	0.00	-0.12	0.12	0.09	Pass
63,095.70	0.00	-0.14	0.14	0.09	Pass
79,432.80	0.00	-0.16	0.16	0.09	Pass
100,000.00	0.01	-0.18	0.18	0.09	Pass
125,892.50	0.03	-0.20	0.20	0.11	Pass

Gain Measurement

Measurement	Test Result (dB]	Lower limit [dB[	Upper limit (dB)	Expanded Uncertainty (dB]	Result
Output Gain @ 1 kHz	-14.21	-15.40	-13.80	0.15	Pass

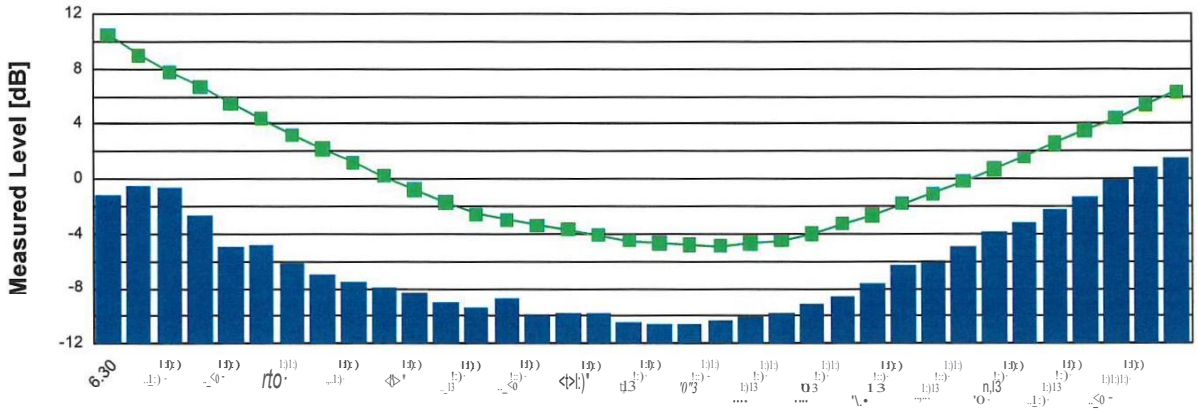
--End of measurement results--

DC Bias Measurement

Measurement	Test Result [V]	Lower limit [V)	Upper limit [V)	Expanded Uncertainty (V)	Result
DC Voltage	3.54	2.90	3.80	0.02	Pass

--End of measurement results--

1/3-0ctave Self-Generated Noise



Frequency [Hz)	Test Result [dB re 1 J1VJ	Upper limit [dB re 1 J1V1	Result
6.30	-1.18	10.50	Pass
8.00	-0.48	9.00	Pass
10.00	-0.68	7.80	Pass
12.50	-2.68	6.70	Pass
16.00	-4.98	5.50	Pass
20.00	-4.88	4.40	Pass
25.00	-6.18	3.20	Pass
31.50	-6.98	2.20	Pass
40.00	-7.58	1.20	Pass
50.00	-7.98	0.20	Pass
63.00	-8.28	-0.80	Pass
80.00	-8.98	-1.70	Pass
100.00	-9.38	-2.60	Pass
125.00	-8.78	-3.00	Pass
160.00	-9.98	-3.40	Pass
200.00	-9.78	-3.70	Pass
250.00	-9.78	-4.10	Pass
315.00	-10.48	-4.50	Pass
400.00	-10.58	-4.70	Pass
500.00	-10.68	-4.80	Pass
630.00	-10.38	-4.90	Pass
800.00	-10.08	-4.70	Pass
1,000.00	-9.78	-4.50	Pass
1,250.00	-9.18	-4.00	Pass
1,600.00	-8.58	-3.30	Pass
2,000.00	-7.68	-2.70	Pass
2,500.00	-6.28	-1.80	Pass
3,150.00	-5.98	-1.10	Pass
4,000.00	-4.98	-0.20	Pass
5,000.00	-3.88	0.70	Pass
6,300.00	-3.18	1.60	Pass
8,000.00	-2.28	2.60	Pass
10,000.00	-1.28	3.50	Pass
12,500.00	-0.18	4.40	Pass
16,000.00	0.82	5.40	Pass
20,000.00	1.52	6.30	Pass

-- **End** of measurement results--

Self-generated Noise

Bandwidth	Test Result [JlV)	Test Result [dB reI JlVJ	Upper limit)dB re 1 J1V]	Result
A-weighted (1 Hz - 20 kHz)	2.12	6.52	9.50	Pass
Broadband (1 Hz - 20 kHz)	3.03	9.62	13.50	Pass

-- End of measurement results--

Signatory: *R""""-' Harrw*

Calibration Certificate

Certificate Number 2018007874
Customer:
Equity Environmental Eng
500 International Drive
Mount Olive, NJ 07828, United States

Model Number	LxT2		*Procedure Number*	D0001.8384	
Serial Number	0002230		*Technician*	Ron Harris	
Test Results	Pass		*Calibration Date*	3 Aug 2018	
Initial Condition	AS RECEIVED same as shipped		*Calibration Due*	3 Aug 2019	
			Temperature	23.55 °C	± 0.25 °C
Description	SoundTrack LxT Class 2		*Humidity*	48.1 %RH	± 2.0 %RH
	Class 2 Sound Level Meter		*Static Pressure*	86.44 kPa	± 0.13 kPa
	Firmware Revision: 2.302				

Evaluation Method — *Tested with:*

Larson Davis PRMLxT2. S/N 013562
PCB 375A02. S/N 010193
Larson Davis CAL200. S/N 9079
Larson Davis CAL291. S/N 0108

Data reported in dB re 20 f.JPa.

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

IEC 60651:2001 Type 2	ANSI S1.4-2014 Class 2
IEC 60804:2000 Type 2	ANSI S1.4 (R2006) Type 2
IEC 61252:2002	ANSI S1.11 (R2009) Class 2
IEC 61260:2001 Class 2	ANSI S1.25 (R2007)
IEC 61672:2013 Class 2	ANSI S1.43 (R2007) Type 2

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 17025:2005.
Test points marked with a :l: in the uncertainties column do not fall within this laboratory's scope of accreditation.

The qualty system is registered to ISO 9001:2008.

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.

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Correction data from Larson Davis LxT Manual for SoundTrack LxT & SoundExpert Lxt, 1770.01 Rev J Supporting Firmware Version 2.301' 2015-04-30

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1681 West 820 North
Provo, UT 84601, United States
716-684-0001

ACCREDITED Cert. #3622.01

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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: 1000Hz; Reference Sound Pressure Level: 114 dB re 20 Pa

Periodic tests were performed in accordance with precedures 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/ AN81/A8A 81.4-2014/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/A8A 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 2 specifications in IEC 61672-1:2013 / AN81/A8A 81.4-2014/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/A8A 81.4-2014/Part 3 cover only a limited subset of the specifications in IEC 61672-1:2013/ AN81/A8A 81.4-2014/Part 1.

Standards Used

Description	Cal Date	Cal Due	Cal Standard
Larson Davis CAL291 Residual Intensity Calibrator	2017-09-19	2018-09-19	001250
SRS DS360 Ultra Low Distortion Generator	2018-06-21	2019-06-21	006311
Hart Scientific 2626-H Temperature Probe	2018-02-02	2019-02-02	006767
Larson Davis CAL200 Acoustic Calibrator	2018-07-24	2019-07-24	007027
Larson Davis Model 831	2018-02-28	2019-02-28	007182
PCB 377A13 1/2 inch Prepolarized Pressure Microphone	2018-03-07	2019-03-07	007185

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 [dBJ	Result
1000 Hz	114.00	113.80	114.20	0.14	Pass

As Received Level: 116.03
Adjusted Level: 114.00

--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 [Bzj	Test Result [dB]	Expected [dBJ	Lower Limit [dB)	Upper Limit [dB)	Expanded Uncertainty [dB]	Result
125	-0.67	-0.20	-1.70	1.30	0.23	Pass
1000	0.21	0.00	-1.00	1.00	0.23	Pass
8000	-5.74	-3.00	-8.00	2.00	0.32	Pass

--End of measurement results--

Self-generated Noise

Measured according to IEC 61672-3:2013 11.1 and ANSI 81.4-2014 Part 3: 11.1

Measurement	Test Result [dB]
A-weighted	39.99

--End of measurement results--

-- End of Report--

Signatory: *R0'11t; Harri¥*

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1681 West 820 North
Provo, UT 8460 I, United States
716-684-000 I

ilac-MRA (ACCiEDIT]ii} Cert. IJ622.01

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Calibration Certificate

Certificate Number 2018007860

Customer:
Equity Environmental Eng
500 International Drive
Mount Olive, NJ 07828, United States

Model Number	CAL200	*Procedure Number*	D0001.8386		
Serial Number	6755	*Technician*	Scott Montgomery		
Test Results	Pass	*Calibration Date*	3 Aug 2018		
Initial Condition	Adjusted	*Calibration Due*	3 Aug 2019		
Description	Larson Davis CAL200 Acoustic Calibrator	*Temperature*	24	0C	± 0.3 °C
		Humidity	40	%RH	±3 %RH
		Static Pressure	101.3	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 Pa.

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 17025:2005. Test points marked with a :1: In the uncertainties column do not fall within this laboratory's scope of accreditation.

The quality system is registered to ISO 9001:2008.

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.

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Standards Used

Description	Cal Date	Cal Due	Cal Standard
Agilcnt 34401A DMM	09/06/2017	09/06/2018	001021
Larson Davis Model 2900 Real Time Analyzer	04/10/2018	04/10/2019	001051
Microphone Calibration System	03/07/2018	03/07/2019	005446
1/2" Preamplifier	10/05/2017	10/05/2018	006506
Larson Davis Preamplifier 7-pin LEMO	08/08/2017	08/08/2018	006507
112 inch Microphone - RI- 200V	10/23/2017	10/23/2018	006511
Pressu1·c Transducer	10/20/2017	10/20/2018	007204

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1681 West 820 North
Provo, UT 84601, United States
716-684-0001

ACCREDITED Cert. #3622.01

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Output Level

Nominal Level [dB]	Pressure [kPa]	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
114	101.3	114.02	113.80	114.20	0.14	Pass
94	101.3	94.01	93.80	94.20	0.14	Pass

--End of mensurcment results--

Frequency

Nominal Level [dB]	Pressure [kPa]	Test Result [Hz]	Lower limit [Hz]	Upper limit [Hz]	Expanded Uncertainty [Hz]	Result
114	101.3	1,000.14	990.00	1,010.00	0.20	Pass
94	101.3	1,000.16	990.00	1,010.00	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	101.3	0.39	0.00	2.00	0.25	Pass
94	101.3	0.42	0.00	2.00	0.25	Pass

--End of measurement results--

Level Change Over Pressure

Tested at: 114 dB, 23 oc, 41 %RH

			it 3]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
108.0	108.1	-0.02	-0.30	0.30	0.04 +	Pass
101.3	101.5	0.00	-0.30	0.30	0.04 +	Pass
92.0	92.0	0.02	-0,30	0.30	0.04 +	Pass
83.0	83.1	0.01	-0.30	0.30	0.04j:	Pass
74.0	74.2	-0.02	-0.30	0.30	0.04j:	Pass
65.0	65.0	-0.09	-0.30	0.30	0.04 +	Pass

--End of measurement results--

Frequency Change Over Pressure

Tested at: 114 dB, 23 oc, 41 %RH

Nominal Pressure [kPa]	Pressure [kPa]	Test Result [Hz]	Lower limit [Hz]	Upper limit [Hz]	Expanded Uncertainty [Hz]	Result
108.0	108.1	0.00	-10.00	10.00	0.20 ‡	Pass
101.3	101.5	0.00	-10.00	10.00	0.20 ‡	Pass
92.0	92.0	0.00	-10.00	10.00		Pass
83.0	83.1	0.00	-10.00	10.00		Pass
74.0	74.2	0.00	-10.00	10.00	0.20 +	Pass
65.0	65.0	-0.01	-10.00	10.00	0.20j:	Pass

--End of measurement results--

Certificate Number 2018007860

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

Tested at: 114 dB, 23 •c, 41 %RH

			Lower limit [%]	Upper limit [%]	Expanded Uncertainty [%]	Result
108.0	108.1	0.39	0.00	2.00	0.25=1:	Pass
101.3	101.5	0.39	0.00	2.00	0.25=1:	Pass
92.0	92.0	0.40	0.00	2.00	0.25=1:	Pass
83.0	83.1	0.42	0.00	2.00	0.25 ┼	Pass
74.0	74.2	0.45	0.00	2.00	0.25 ┼	Pass
65.0	65.0	0.48	0.00	2.00	0.25 ┼	Pass

--End of measurement results--

Signatory: _Sc&:ft:.LM:vl£, 'tll'[# 'WM","/j'f)'_ -

Larson Davis, a division of PCB lliezotronics, Inc
1681 West 820 North
Provo, UT 8460 I, United States
716-684-0001

ilac-MRA ACCREDITED Cert. #3522.01

•LARSONDAVIS
A PCB PIEZOTROIIIICS DIV.

Initial Assessment

Certificate Number 2018007859

Customer:
Equity Environmental Eng
500 International Drive
Mount Olive, N.J 07828, United States

Model Number	CAL200	*Procedure Number*	D0001.8386		
Serial*Number*	6755	*Technician*	Scott Montgomery		
Test Results	Pass	*Calibration Date*	3 Aug 2018		
Initial Condition	As Received	*Ca/lbration Due*	3 Aug 2019		
Description	Larson Davis CAL200 Acoustic Calibrator	*Temperature*	23	0C	± 0.3 0C
		Humidity	36	%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 Pa.

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 otheiWise noted). It has been calibrated using measurement standards traceable to the 81 through the National Institute of Standards and Technology (NIST), or other national measurement institutes, and meets the requirements of ISO/IEC 17025:2005. 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 9001:2008.

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 180 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.

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Standards Used

Description	Cal Date	Cal Due	Cal Standard
Agilent 34401A DMM			001021
Larson Davis Model 2900 Real Time Analyzer	04/10/2018	04/10/2019	001051
Microphone Calibration System	03/07/2018	03/07/2019	005446
1/2" Preamplifier	10/05/2017	10/05/2018	006506
Larson Davis 1/2" Preamplifier ?wpin LEMO	08/08/2017	08/08/2018	006507
1/2 inch Microphone ' *RI* ' 200V	10123/2017	10/23/2018	006511
Pressure Transducer	10/20/2017	10/20/2018	007204

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Provo, UT 84601, United States
716-684-0001

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Output Level

Nominal Level [dB]	Pressure [kPa]	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
114	101.1	113.95	113.80	114.20	0.14	Pass
94	101.2	93.95	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	101.1	1,000.15	990.00	1,010.00	0.20	Pass
94	101.2	1,000.17	990.00	1.010.00	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	101.1	0.39	0.00	2.00	0.25	Pass
94	101.2	0.43	0.00	2.00	0.25	Pass

-- End of measurement results--

Level Change Over Pressure

Tested at: 114 dB, 23 "C, 41 %RH

Nominal Pressur [kPa]			Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
108.0	108.1	-0.02	-0.30	0.30	0.04j:	Pass
101.3	101.5	0.00	-0.30	0.30	0.04j:	Pass
92.0	92.0	0.02	-0.30	0.30	0.04j:	Pass
83.0	83.1	0.01	-0.30	0.30	0.04 †	Pass
74.0	74.2	-0.02	-0.30	0.30	0.04:1:	Pass
65.0	65.0	-0.09	-0.30	0.30	0.04 †	Pass

-- End of measurement results--

Frequency Change Over Pressure

Tested at: 114 dB, 23 "C, 41 %RH

Nominal Pressure [kPa]	Pressure [kPa]	Test Result [Hz]	Lower limit [Hz]	Upper limit [Hz]	Expanded Uncertainty [Hz]	Result
108.0	108.1	0.00	-10.00	10.00	0.20 ‡	Pass
101.3	101.5	0.00	-10.00	10.00		Pass
92.0	92.0	0.00	-10.00	10.00		Pass
83.0	83.1	0.00	-10.00	10.00		Pass
74.0	74.2	0.00	-10.00	10.00	0.20j:	Pass
65.0	65.0	-0.01	-10.00	10.00	0.20 †	Pass

--End of measurement results--

Cerlificate Number 2018007859

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

Tested at: 114 dB, 23 'C, 41 %RH

Nominal Pressure [kPa]	Pressure [kPa]	Test Result [%]	Lower limit [%]	Upper limit [%]	Expanded Uncertainty [%]	Result
108.0	108.1	0.39	0.00	2.00	0.25 ‡	Pass
101.3	101.5		0.00	2.00		Pass
92.0	92.0	0.40	0.00	2.00		Pass
83.0	83.1	0.42	0.00	2.00		Pass
74.0	74.2	0.45	0.00	2.00		Pass
65.0	65.0	0.48	0.00	2.00		Pass

-- End of measurement results--

Signatory: *Scott Montgomery*

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716-684-0001

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Appendix A: Noise Backup Data and Calibration Certificate

Calibration Certificate

Certificate Number 2018007856
Customer:
Equity Environmental Eng
500 International Drive
Mount Olive, NJ 07828, United States

Model Number	LxT2	*Procedure Number*	D0001.8378
Serial Number	0002230	*Technician*	Ron Harris
Test Results	**Pass**	*Calibration Date*	3 Aug 2018
Initial Condition	AS RECEIVED same as shipped	*Calibration Due*	3 Aug 2019
Description	SoundTrack LxT Class 2 Class 2 Sound Level Meter Firmware Revision: 2.302	*Temperature*	23.75 °C ± o.2s °C
		Humidity	51 %RH ± 2.0 %RH
		Static Pressure	86.45 kPa ± 0.13 kPa

Evaluation Method Tested electrically using Larson Davis PRMLxT2 S/N 013562 and an 18.0 pF capacitor to simulate microphone capacitance. Data reported in dB re 20 JJPa assuming a microphone sensitivity of 23.6 mV/P.

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

IEC 60651:2001 Type 2	ANSI S1.4-2014 Class 2
IEC 60804:2000 Type 2	ANSI S1.4 (R2006) Type 2
IEC 61252:2002	ANSI S1.11 (R2009) Class 2
IEC 61260:2001 Class 2	ANSI 81.25 (R2007)
IEC 61672:2013 Class 2	ANSI 81.43 (R2007) Type 2

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 17025:2005. Test points marked with a :j: in the uncertainties column do not fall within this laboratory's scope of accreditation.

The quality system is registered to ISO 9001:2008.

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.

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Correction data from Larson Davis LxT Manual for SoundTrack LxT & SoundExpert Lxt, 1770.01 Rev J Supporting Firmware Version 2.301' 2015-04-30

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

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

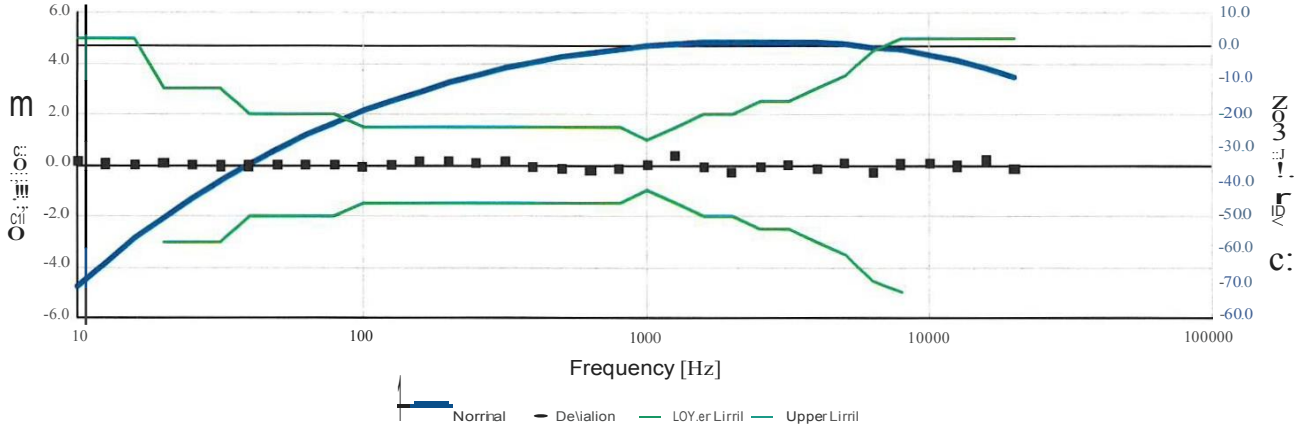
No Pattern approval for IEC 61672-1:2013/ ANSI/ASA S1.4-2014/Part 1 available.

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 levelmeter fully conformed to the class 2 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	2018-02-02	2019-02-02	006767
SRS DS360 Ultra Low Distortion Generator	2018-06-28	2019-06-28	0071 18

A-weight Filter Response

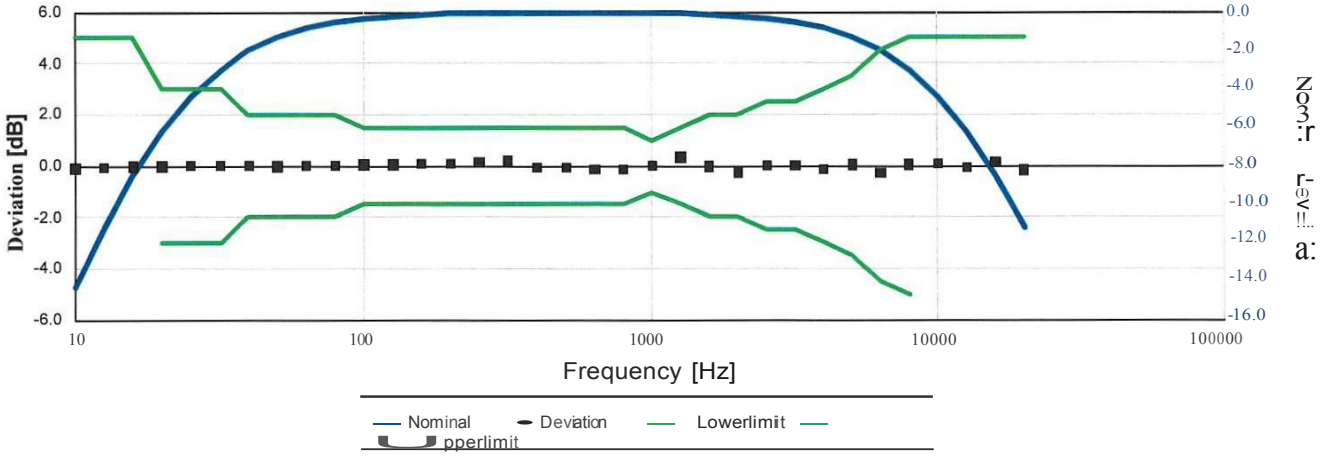


Electrical signal test of frequency weighting performed according to IEC 61672-3:2013 13 and ANSI S1.4-2014 Part 3: 13 for compliance to IEC 61672-1:2013 5.5; IEC 60651:2001 6.1 and 9.2.2; IEC 60804:2000 5; ANSI S1.4:1983 (R2006) 5.1 and 8.2.1; ANSI S1.4-2014 Part 1: 5.5

Frequency [Hz]	Test Result [dB]	Deviation [dB]	Lower limit (dB(	Upper limit (dB(	Expanded Uncertainty (dB]	Result
10.00	-70.27	0.13	-inf	5.00	0.22	Pass
12.59	-63.35	0.05	-inf	5.00	0.22	Pass
15.85	-56.68	0.02	-inf	5.00	0.22	Pass
19.95	-50.43	0.07	-3.00	3.00	0.22	Pass
25.12	-44.70	0.00	-3.00	3.00	0.22	Pass
31.62	-39.43	-0.03	-3.00	3.00	0.22	Pass
39.81	-34.63	-0.03	-2.00	2.00	0.22	Pass
50.12	-30.20	0.00	-2.00	2.00	0.22	Pass
63.10	-26.17	0.03	-2.00	2.00	0.22	Pass
79.43	-22.46	0.04	-2.00	2.00	0.22	Pass
100.00	-19.14	-0.04	-1.50	1.50	0.22	Pass
125.89	-16.08	0.02	-1.50	1.50	0.22	Pass
158.49	-13.27	0.13	-1.50	1.50	0.22	Pass
199.53	-10.76	0.14	-1.50	1.50	0.22	Pass
251.19	-8.49	0.11	-1.50	1.50	0.22	Pass
316.23	-6.43	0.17	-1.50	1.50	0.22	Pass
398.11	-4.88	-0.08	-1.50	1.50	0.22	Pass
501.19	-3.31	-0.11	-1.50	1.50	0.22	Pass
630.96	-2.08	-0.18	-1.50	1.50	0.22	Pass
794.33	-0.96	-0.16	-1.50	1.50	0.22	Pass
1,000.00	0.00	0.00	-1.00	1.00	0.22	Pass
1,258.93	0.95	0.35	-1.50	1.50	0.22	Pass
1,584.89	0.94	-0.06	-2.00	2.00	0.22	Pass
1,995.26	0.92	-0.28	-2.00	2.00	0.22	Pass
2,511.89	1.25	-0.05	-2.50	2.50	0.22	Pass
3,162.28	1.23	0.03	-2.50	2.50	0.22	Pass
3,981.07	0.83	-0.17	-3.00	3.00	0.22	Pass
5,011.87	0.59	0.09	-3.50	3.50	0.22	Pass
6,309.57	-0.41	-0.31	-4.50	4.50	0.22	Pass
7,943.28	-1.06	0.04	-5.00	5.00	0.22	Pass
10,000.00	-2.42	0.08	-inf	5.00	0.22	Pass
12,589.25	-4.33	-0.03	-inf	5.00	0.22	Pass
15,848.93	-6.41	0.19	-inf	5.00	0.22	Pass
19,952.62	-9.44	-0.14	-inf	5.00	0.22	Pass

-- End of measurement results--

C-weight Filter Response

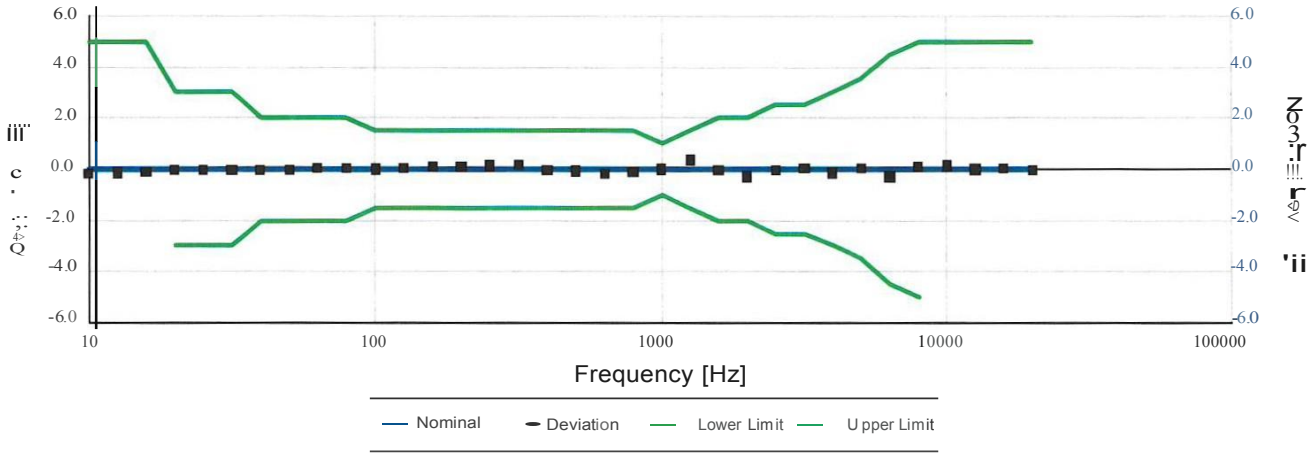


Electrical signal test of frequency weighting performed according to IEC 61672-3:2013 13 and ANSI S1.4-2014 Part 3: 13 for compliance to IEC 61672-1:2013 5.5; IEC 60651:2001 6.1 and 9.2.2; IEC 60804:2000 5; ANSI S1.4:1983 (R2006) 5.1 and 8.2.1; ANSI S1.4-2014 Part 1: 5.5

Frequency [Hz]	Test Result [dB]	Deviation [dB]	Lower limit [dB[	Upper limit [dB[	Expanded Uncertainty [dB]	Result
10.00	-14.39	-0.09	-inf	5.00	0.22	Pass
12.59	-11.27	-0.07	-inf	5.00	0.22	Pass
15.85	-8.53	-0.03	-inf	5.00	0.22	Pass
19.95	-6.22	-0.02	-3.00	3.00	0.22	Pass
25.12	-4.40	0.00	-3.00	3.00	0.22	Pass
31.62	-3.01	-0.01	-3.00	3.00	0.22	Pass
39.81	-1.99	0.01	-2.00	2.00	0.22	Pass
50.12	-1.33	-0.03	-2.00	2.00	0.22	Pass
63.10	-0.80	0.00	-2.00	2.00	0.22	Pass
79.43	-0.46	0.04	-2.00	2.00	0.22	Pass
100.00	-0.25	0.05	-1.50	1.50	0.22	Pass
125.89	-0.15	0.05	-1.50	1.50	0.22	Pass
158.49	0.00	0.10	-1.50	1.50	0.22	Pass
199.53	0.09	0.09	-1.50	1.50	0.22	Pass
251.19	0.13	0.13	-1.50	1.50	0.22	Pass
316.23	0.20	0.20	-1.50	1.50	0.22	Pass
398.11	-0.04	-0.05	-1.50	1.50	0.22	Pass
501.19	-0.04	-0.04	-1.50	1.50	0.22	Pass
630.96	-0.15	-0.15	-1.50	1.50	0.22	Pass
794.33	-0.11	-0.11	-1.50	1.50	0.22	Pass
1,000.00	0.00	0.00	-1.00	1.00	0.22	Pass
1,258.93	0.33	0.33	-1.50	1.50	0.22	Pass
1,584.89	-0.12	-0.02	-2.00	2.00	0.22	Pass
1,995.26	-0.45	-0.25	-2.00	2.00	0.22	Pass
2,511.89	-0.31	-0.01	-2.50	2.50	0.22	Pass
3,162.28	-0.47	0.03	-2.50	2.50	0.22	Pass
3,981.07	-0.95	-0.15	-3.00	3.00	0.22	Pass
5,011.87	-1.24	0.06	-3.50	3.50	0.22	Pass
6,309.57	-2.28	-0.28	-4.50	4.50	0.22	Pass
7,943.28	-2.95	0.05	-5.00	5.00	0.22	Pass
10,000.00	-4.33	0.07	-inf	5.00	0.22	Pass
12,589.25	-6.24	-0.04	-inf	5.00	0.22	Pass
15,848.93	-8.34	0.16	-inf	5.00	0.22	Pass
19,952.62	-11.37	-0.17	-inf	5.00	0.22	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; ANSIS1.4:1983 (R2006) 5.1 and 8.2.1; ANSI S1.4-2014 Part 1: 5.5

Frequency [Hz]	Test Result [dBJ	Deviation [dBI	Lower limit [dBJ	Upper limit [dB)	Expanded Uncertainty [dB[	Result
10.00	-0.18	-0.18	-inf	5.00	0.22	Pass
12.59	-0.16	-0.16	-inf	5.00	0.22	Pass
15.85	-0.09	-0.09	-inf	5.00	0.22	Pass
19.95	-0.06	-0.06	-3.00	3.00	0.22	Pass
25.12	-0.06	-0.06	-3.00	3.00	0.22	Pass
31.62	-0.05	-0.05	-3.00	3.00	0.22	Pass
39.81	-0.03	-0.03	-2.00	2.00	0.22	Pass
50.12	-0.04	-0.04	-2.00	2.00	0.22	Pass
63.10	0.01	0.01	-2.00	2.00	0.22	Pass
79.43	0.03	0.03	-2.00	2.00	0.22	Pass
100.00	0.00	0.00	-1.50	1.50	0.22	Pass
125.89	0.01	0.01	-1.50	1.50	0.22	Pass
158.49	0.08	0.08	-1.50	1.50	0.22	Pass
199.53	0.11	0.11	-1.50	1.50	0.22	Pass
251.19	0.14	0.14	-1.50	1.50	0.22	Pass
316.23	0.18	0.18	-1.50	1.50	0.22	Pass
398.11	-0.07	-0.07	-1.50	1.50	0.22	Pass
501.19	-0.08	-0.08	-1.50	1.50	0.22	Pass
630.96	-0.18	-0.18	-1.50	1.50	0.22	Pass
794.33	-0.13	-0.13	-1.50	1.50	0.22	Pass
1,000.00	0.00	0.00	-1.00	1.00	0.22	Pass
1,258.93	0.36	0.36	-1.50	1.50	0.22	Pass
1,584.89	-0.04	-0.04	-2.00	2.00	0.22	Pass
1,995.26	-0.29	-0.29	-2.00	2.00	0.22	Pass
2,511.89	-0.03	-0.03	-2.50	2.50	0.22	Pass
3,162.28	0.02	0.02	-2.50	2.50	0.22	Pass
3,981.07	-0.15	-0.15	-3.00	3.00	0.22	Pass
5,011.87	0.03	0.03	-3.50	3.50	0.22	Pass
6,309.57	-0.29	-0.29	-4.50	4.50	0.22	Pass
7,943.28	0.08	0.08	-5.00	5.00	0.22	Pass
10,000.00	0.13	0.13	-inf	5.00	0.22	Pass
12,589.25	0.00	0.00	-inf	5.00	0.22	Pass
15,848.93	0.05	0.05	-inf	5.00	0.22	Pass
19,952.62	-0.04	-0.04	-inf	5.00	0.22	Pass

--End of measurement results--

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Provo, UT 84601, United States
716-684-0001

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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	0.00	-0.30	0.30	0.01	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 [minj	Test Result (dB(	Lower limit (dB(	Upper limit (dB(	Expanded Uncertainty (dBJ	Result
36	0.00	-0.30	0.30	0.07	Pass

-- End of measurement results--

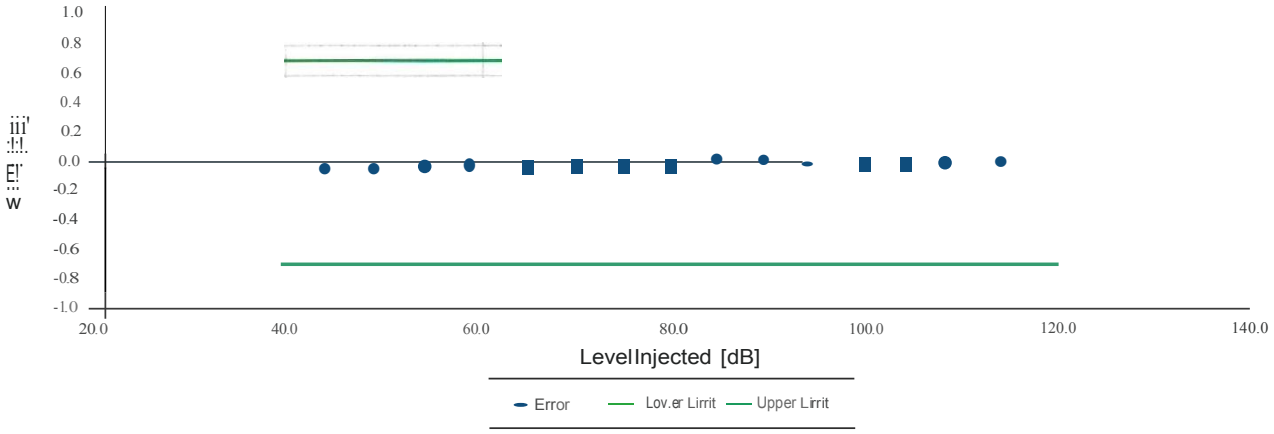
1 kHz Reference Levels

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 (dBJ	Expanded Uncertainty [dBJ	Result
C weight	105.80	105.60	106.00	0.09	Pass
Z weight	105.80	105.60	106.00	0.09	Pass
Slow	105.80	105.70	105.90	0.09	Pass
Impulse	105.80	105.70	105.90	0.09	Pass

-- End of measurement results--

A-weighted Broadband Log Linearity: 8,000.00 Hz

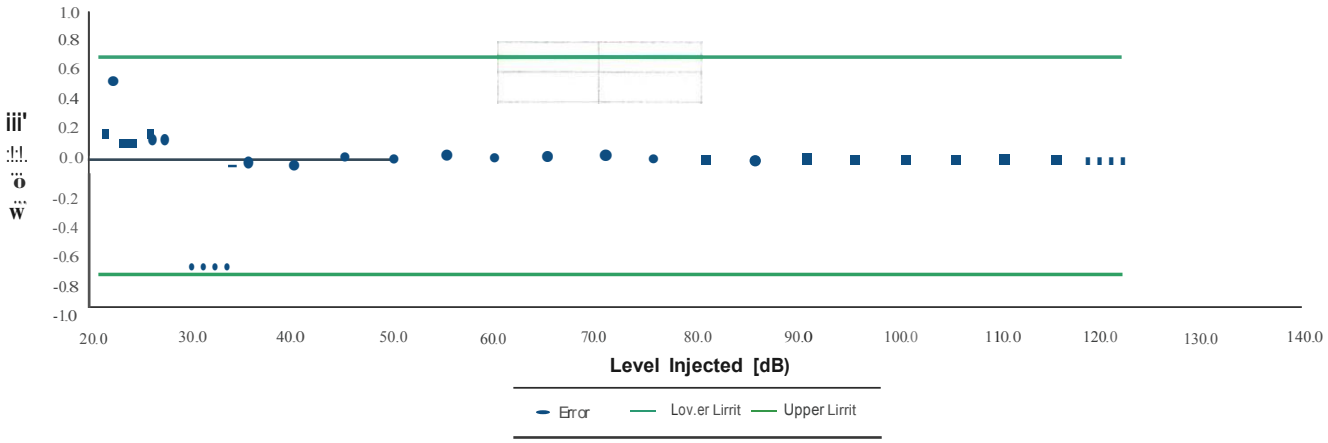


Broadband level linearity performed according to IEC 61672-3:2013 16 and ANSI S1.4-2014 Part 3: 16 for compliance to IEC 61672-1:2013 5.6, IEC 60804:2000 6.2, IEC 61252:2002 8, ANSI S1.4 (R2006) 6.9, ANSI S1.4-2014 Part 1: 5.6, ANSI S1.43 (R2007) 6.2

Level [dBI	Error [dBJ	Lower limit [dBI	Upper limit JdB]	Expanded Uncertainty [dB)	Result
33.00	0.00	-0.70	0.70	0.09	Pass
34.00	-0.04	-0.70	0.70	0.09	Pass
39.00	-0.05	-0.70	0.70	0.09	Pass
44.00	-0.04	-0.70	0.70	0.09	Pass
49.00	-0.04	-0.70	0.70	0.09	Pass
54.00	-0.04	-0.70	0.70	0.09	Pass
59.00	-0.05	-0.70	0.70	0.09	Pass
64.00	-0.05	-0.70	0.70	0.09	Pass
69.00	-0.05	-0.70	0.70	0.09	Pass
74.00	-0.04	-0.70	0.70	0.09	Pass
79.00	-0.05	-0.70	0.70	0.09	Pass
84.00	0.01	-0.70	0.70	0.09	Pass
89.00	0.02	-0.70	0.70	0.09	Pass
94.00	0.00	-0.70	0.70	0.09	Pass
99.00	-0.01	-0.70	0.70	0.09	Pass
104.00	-0.01	-0.70	0.70	0.09	Pass
109.00	-0.01	-0.70	0.70	0.09	Pass
114.00	0.00	-0.70	0.70	0.09	Pass
117.00	-0.01	-0.70	0.70	0.09	Pass
118.00	-0.01	-0.70	0.70	0.09	Pass
119.00	-0.01	-0.70	0.70	0.09	Pass
120.00	-0.01	-0.70	0.70	0.09	Pass
121.00	-0.01	-0.70	0.70	0.09	Pass
122.00	-0.01	-0.70	0.70	0.09	Pass

-- End of measurement results--

1/1 Octave Log Linearity: 1,000.00 Hz



1/1 octave level linearity at normal range performed according to IEC 61260:2001 4.6, ANSI S.11 (R2009) 4.6

Level(dB)	Error (dB)	Lower limit (dB(	Upper limit (dB(	Expanded Uncertainty [dB)	Result
21.00	0.20	-0.70	0.70	0.09	Pass
22.00	0.53	-0.70	0.70	0.09	Pass
23.00	0.21	-0.70	0.70	0.09	Pass
24.00	0.22	-0.70	0.70	0.09	Pass
25.00	0.26	-0.70	0.70	0.09	Pass
26.00	0.12	-0.70	0.70	0.09	Pass
27.00	0.12	-0.70	0.70	0.09	Pass
28.00	0.00	-0.70	0.70	0.09	Pass
29.00	0.00	-0.70	0.70	0.10	Pass
30.00	0.10	-0.70	0.70	0.10	Pass
31.00	0.07	-0.70	0.70	0.09	Pass
32.00	0.07	-0.70	0.70	0.10	Pass
33.00	0.01	-0.70	0.70	0.09	Pass
34.00	0.02	-0.70	0.70	0.09	Pass
35.00	-0.04	-0.70	0.70	0.09	Pass
40.00	-0.01	-0.70	0.70	0.09	Pass
45.00	0.02	-0.70	0.70	0.09	Pass
50.00	0.05	-0.70	0.70	0.09	Pass
55.00	0.01	-0.70	0.70	0.09	Pass
60.00	0.02	-0.70	0.70	0.09	Pass
65.00	0.01	-0.70	0.70	0.09	Pass
70.00	0.00	-0.70	0.70	0.09	Pass
75.00	0.01	-0.70	0.70	0.09	Pass
80.00	0.01	-0.70	0.70	0.09	Pass
85.00	0.01	-0.70	0.70	0.09	Pass
90.00	0.01	-0.70	0.70	0.09	Pass
95.00	-0.01	-0.70	0.70	0.09	Pass
100.00	-0.01	-0.70	0.70	0.09	Pass
105.00	-0.01	-0.70	0.70	0.09	Pass
110.00	-0.02	-0.70	0.70	0.09	Pass
115.00	-0.01	-0.70	0.70	0.09	Pass
117.00	-0.01	-0.70	0.70	0.09	Pass
118.00	-0.02	-0.70	0.70	0.09	Pass
119.00	-0.01	-0.70	0.70	0.09	Pass
120.00	-0.01	-0.70	0.70	0.09	Pass
121.00	-0.01	-0.70	0.70	0.09	Pass

Level[dBI	Error [dB]	Lower limit [dB[	Upper limit [dBJ	Expanded Uncertainty [dB]	Result
122.00	-0.01	-0.70	0.70	0.09	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 I	Upper limit [dB[	Expanded Uncertainty [dB]	Result
136.00	200	-7.53	-8.42	-6.42	0.09	Pass
	2	-27.14	-31.99	-25.99	0.09	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 [msJ	Test Result [dB]	Lower limit [dBJ	Upper limit [dB]	Expanded Uncertainty [dB]	Result
136.00	200.00	-1.06	-1.98	0.02	0.23	Pass
	2.00	-18.44	-20.49	-16.99	0.09	Pass
	0.25	-27.22	-31.99	-25.49	0.09	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 [dBJ	Lower limit [dB]	Upper limit [dBJ	Expanded Uncertainty [dBJ	Result
136.00	200.00	-7.01	-7.99	-5.99	0.09	Pass
	2.00	-27.03	-29.49	-25.99	0.09	Pass
	0.25	-36.14	-41.02	-34.52	0.09	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 [dBJ	Frequency [Hz[	Test Result [dB)	Lower limit [dB[	Upper limit [dB)	Expanded Uncertainty [dBJ	Result
134.00	31.50	137.18	133.50	139.50	0.09	Pass
134.00	500.00	137.56	135.50	139.50	0.09	Pass
134.00	8,000.00	136.73	134.40	140.40	0.10	Pass
134.00, Negative	500.00	136.18	134.40	138.40	0.09	Pass
134.00, Positive	500.00	136.18	134.40	138.40	0.09	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(JlS]		Test Result (dB]	Lower limit (dB]	Upper limit (dB]	Expanded Uncertainty (dB(	Result
135.20	100	Negative Pulse	127.34	125.00	129.00	0.09	Pass
	100	Positive Pulse	127.34	125.00	129.00	0.09	Pass
125.20	100	Negative Pulse	117.34	115.00	119.00	0.09	Pass
	100	Positive Pulse	117.33	115.01	119.01	0.09	Pass
115.20	100	Negative Pulse	107.33	104.99	108.99	0.09	Pass
	100	Positive Pulse	107.34	104.99	108.99	0.09	Pass
105.20	100	Negative Pulse	97.37	95.03	99.03	0.09	Pass
	100	Positive Pulse	97.36	95.04	99.04	0.09	Pass

-- End of measurement results--

Overload Detector

Overload indication performed according to IEC 61672-3:2013 20 and ANSIS1.4-2014 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, ANSIS1.43 (R2007) 7

Measurement	Test Result (dB]	Lower limit [dB)	Upper limit [dB]	Expanded Uncertainty (dB]	Result
Positive	131.30	130.80	132.80	0.09	Pass
Negative	131.20	130.80	132.80	0.09	Pass
Difference	0.10	-1.50	1.50	0.09	Pass

-- End of measurement results--

Peak Rise Time

Peak rise time performed according to IEC 60651:2001 9.4.4 and ANSIS1.4:1983 (R2006) 8.4.4

Amplitude (dB]	Duration [JlS]		Test Result (dB]	Lower limit (dB]	Upper limit (dB]	Expanded Uncertainty (dB]	Result
139.00	40	Negative Pulse	130.28	128.80	130.80	0.09	Pass
		Positive Pulse	130.28	128.80	130.80	0.09	Pass
	30	Negative Pulse	129.31	128.80	130.80	0.09	Pass
		Positive Pulse	129.34	128.80	130.80	0.09	Pass

--End of measurement results--

Positive Pulse Crest Factor

200 IJS 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
137.20	3	OVLD	± 1.00	0.09	Pass
	5	OVLD	± 1.00	0.09	Pass
127.20	3	-0.12	± 1.00	0.09	Pass
	5	-0.11	± 1.00	0.11	Pass
117.20	3	-0.14	± 1.00	0.09	Pass
	5	-0.11	± 1.00	0.09	Pass
107.20	3	-0.13	± 1.00	0.09	Pass
	5	-0.12	± 1.00	0.09	Pass

-- End of measurement results--

Negative Pulse Crest Factor

200s 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
137.20	3	OVLD	± 1.00	0.09	Pass
	5	OVLD	± 1.00	0.09	Pass
127.20	3	-0.11	± 1.00	0.09	Pass
	5	-0.12	± 1.00	0.09	Pass
117.20	3	-0.13	± 1.00	0.09	Pass
	5	-0.11	± 1.00	0.09	Pass
107.20	3	-0.14	± 1.00	0.09	Pass
	5	-0.13	± 1.00	0.09	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
137.20	3	OVLD	± 1.00	0.09	Pass
	5	OVLD	± 1.00	0.09	Pass
127.20	3	-0.05	± 1.00	0.09	Pass
	5	-0.04	± 1.00	0.09	Pass
117.20	3	-0.07	± 1.00	0.09	Pass
	5	-0.03	± 1.00	0.09	Pass
107.20	3	-0.07	± 1.00	0.09	Pass
	5	-0.02	± 1.00	0.09	Pass

-- End of measurement results--

Impulse Detector- Repeat

Impulse Detector measured according to IEC 60651:2001 9.4.3 and ANSI 51.4:1983 (R2006) 8.4.3

Amplitude [dB]	Repitition Rate [Hz)	Test Result [dB]	Lower limit [dB[	Upper limit [dB]	Expanded Uncertainty [dB]	Result
139	100.00	-2.81	-4.71	-0.71	0.09	Pass
	20.00	-7.61	-9.57	-5.57	0.16	Pass
	2.00	-8.82	-11.76	-5.76	0.09	Pass
Step	2.00	4.97	4.00	6.00	0.09	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 [dBJ	Upper limit [dB)	Expanded Uncertainty [dB]	Result
139	20.00	-3.72	-5.61	-1.61	0.09	Pass
	5.00	-8.92	-11.76	-5.76	(.10	Pass
Step	5.00	5.05	4.00	6.00	0.10	Pass

-- End of measurement results--

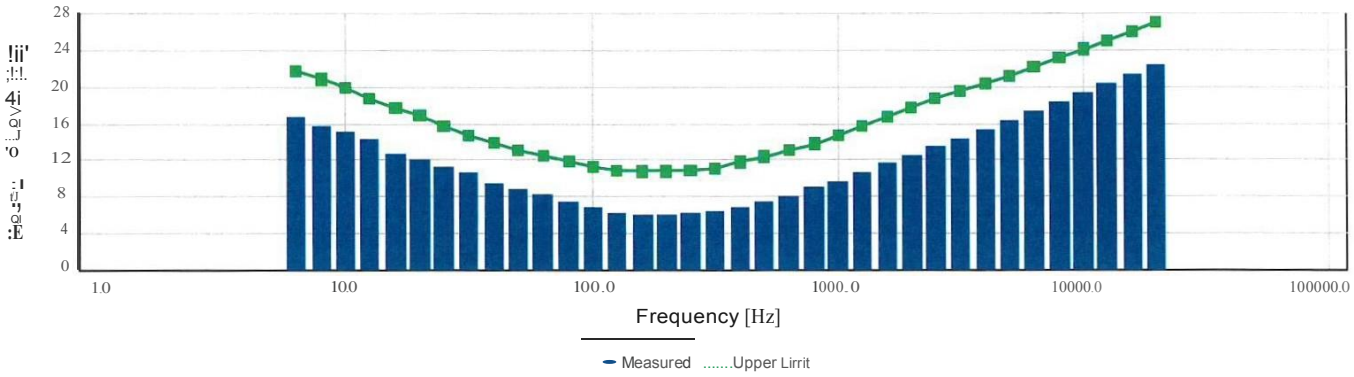
Gain

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 (dBJ	Result
0 dB Gain	104.02	103.90	104.10	0.09	Pass
0 dB Gain, Linearity	41.07	40.30	41.70	0.09	Pass
OBA Low Range	104.00	103.90	104.10	0.09	Pass
OBA Normal Range	104.00	103.20	104.80	0.09	Pass

-- End of measurement results--

1/3-0ctave Self-Generated Noise



Th ɜ SLM is set to low range.

Frequency (Hz)	Test Result (dB]	Upper limit (dB)	Result
6.30	16.72	21.80	Pass
8.00	15.67	20.90	Pass
10.00	15.07	20.00	Pass
12.50	14.29	18.80	Pass
16.00	12.68	17.80	Pass
20.00	12.09	16.90	Pass
25.00	11.24	15.70	Pass
31.50	10.63	14.80	Pass
40.00	9.54	13.90	Pass
50.00	8.84	13.10	Pass
63.00	8.16	12.50	Pass
80.00	7.55	11.90	Pass
100.00	6.88	11.30	Pass
125.00	6.31	10.90	Pass
160.00	6.00	10.80	Pass
200.00	6.03	10.80	Pass
250.00	6.26	10.90	Pass
315.00	6.40	11.10	Pass
400.00	6.92	11.80	Pass
500.00	7.44	12.40	Pass
630.00	8.09	13.10	Pass
800.00	8.98	13.80	Pass
1,000.00	9.77	14.80	Pass
1,250.00	10.70	15.70	Pass
1,600.00	11.65	16.70	Pass
2,000.00	12.56	17.70	Pass
2,500.00	13.52	18.70	Pass
3,150.00	14.40	19.50	Pass
4,000.00	15.38	20.30	Pass
5,000.00	16.34	21.20	Pass
6,300.00	17.43	22.20	Pass
8,000.00	18.27	23.20	Pass
10,000.00	19.34	24.10	Pass
12,500.00	20.30	25.10	Pass
16,000.00	21.35	26.10	Pass
20,000.00	22.31	27.10	Pass

-- End of measurement results--

Broadband Noise Floor

Self- enerated noise measured accordinto 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	26.83	36.00	Pass
C-weight Noise Floor	26.05	35.00	Pass
Z-weight Noise Floor	33.30	39.00	Pass

-- End of measurement results--

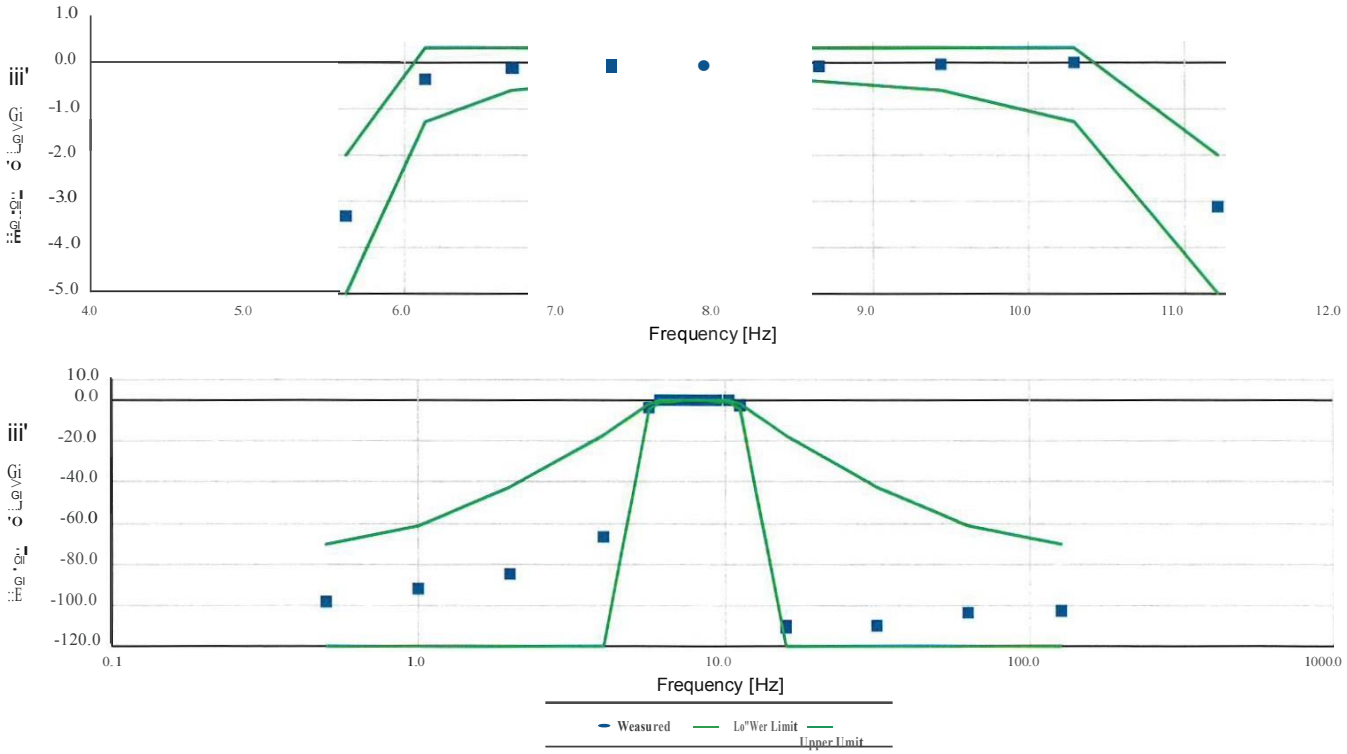
Total Harmonic Distortion

Measured using 1/3-0ctave filters

Measurement	Test Result [dB]	Lower Limit (dB]	Upper Limit (dB]	Expanded Uncertainty (dB]	Result
10 Hz Signal	137.42	136.40	138.00	0.09	Pass
THO	-68.42		-58.00	0.01	Pass
THD+N	-63.87		-58.00	0.01	Pass

-- End of measurement results--

1/1 Octave Filter: 8.0 Hz

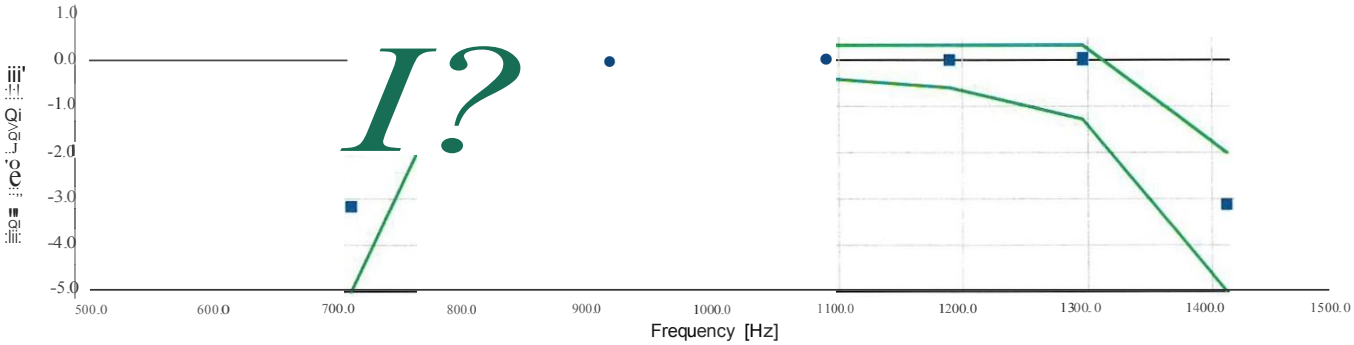


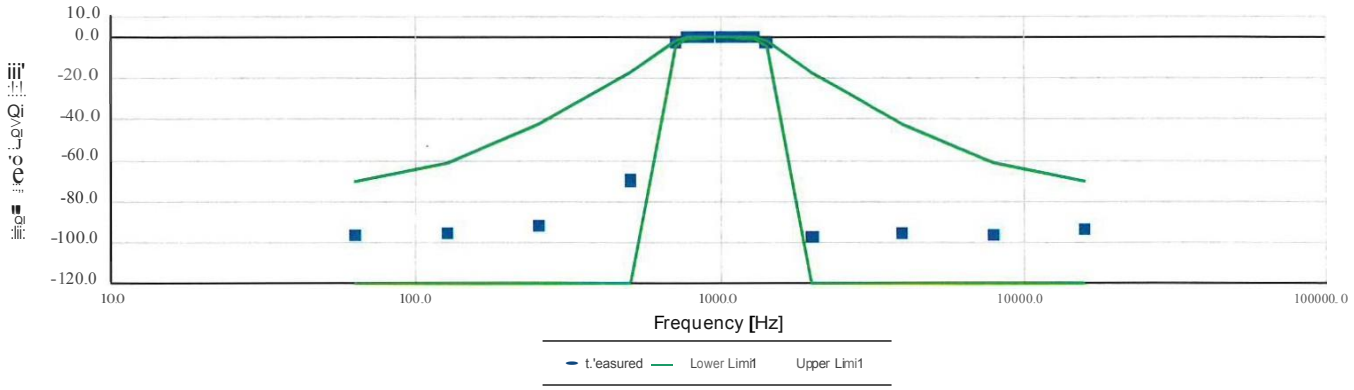
The SLM is set to normal range. Filter shape measured according to IEC 61260:2001 and ANSI S1.11:2004

Freq uency IHzl	Test Result [dB]	Lower limit ldBI	Upper limit [dB)	Expanded Uncertainty [dB]	Result
0.50	-98.36	-inf	-70.00	2.70	Pass
1.00	-91.70	-inf	-61.00	2.00	Pass
2.00	-84.24	-inf	-42.00	0.26	Pass
3.98	-66.99	-inf	-17.50	0.31	Pass
5.62	-3.32	-5.00	-2.00	0.09	Pass
6.13	-0.37	-1.30	0.30	0.09	Pass
6.68	-0.13	-0.60	0.30	0.09	Pass
7.29	-0.11	-0.40	0.30	0.09	Pass
7.94	-0.10	-0.30	0.30	0.09	Pass
8.66	-0.08	-0.40	0.30	0.09	Pass
9.44	-0.05	-0.60	0.30	0.09	Pass
10.29	-0.01	-1.30	0.30	0.09	Pass
11.22	-3.10	-5.00	-2.00	0.09	Pass
15.85	-110.26	-inf	-17.50	1.30	Pass
31.62	-109.99	-inf	-42.00	1.70	Pass
63.10	-103.64	-inf	-61.00	1.50	Pass
125.89	-102.78	-inf	-70.00	1.60	Pass

--End of measurement results-

1/1 Octave Filter: 1 kHz



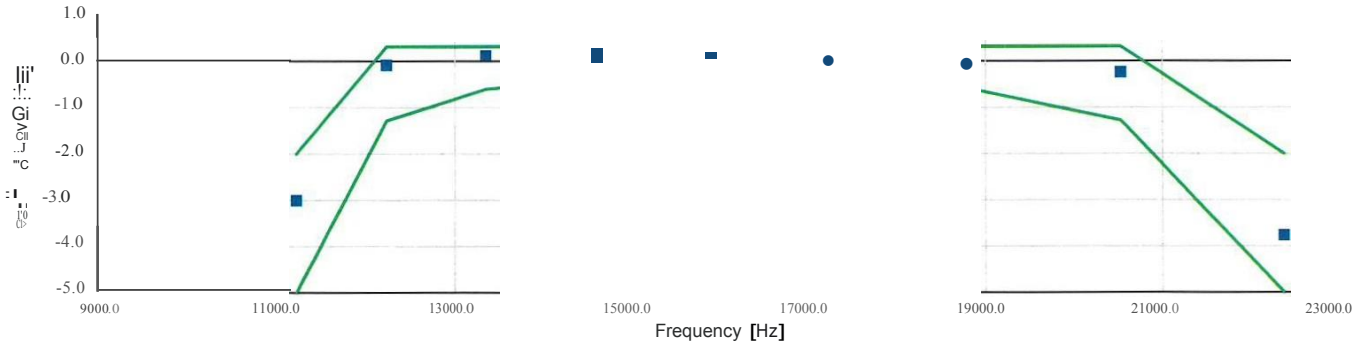


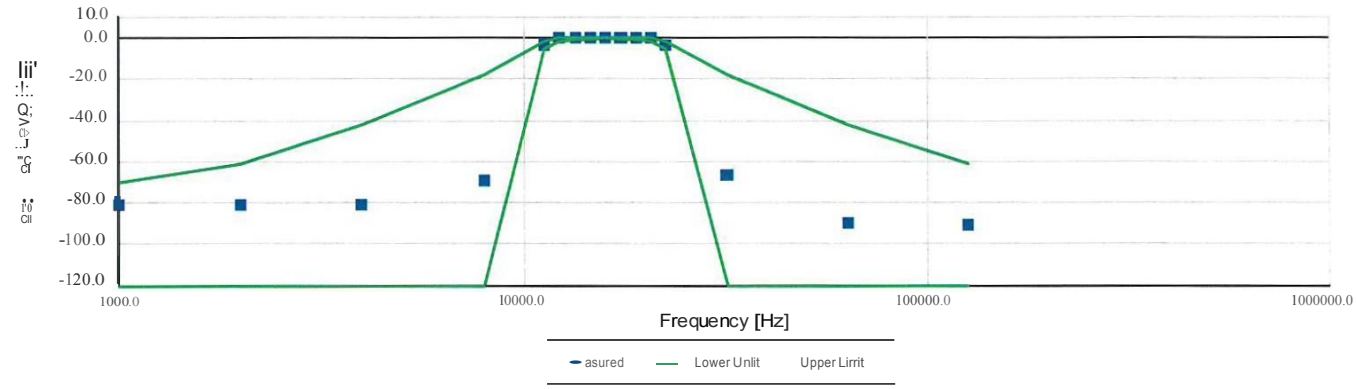
The SLM is set to normal range. Filter shape measured according to IEC 61260:2001 and ANSI S1.11:2004

Frequency [Hz]	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty (dB)	Result
63.10	-96.28	-inf	-70.00	0.24	Pass
125.89	-95.48	-inf	-61.00	0.25	Pass
251.19	-92.08	-inf	-42.00	0.13	Pass
501.19	-69.79	-inf	-17.50	0.09	Pass
707.95	-3.15	-5.00	-2.00	0.09	Pass
771.79	-0.22	-1.30	0.30	0.09	Pass
841.40	-0.02	-0.60	0.30	0.09	Pass
917.28	-0.01	-0.40	0.30	0.09	Pass
1,000.00	0.00	-0.30	0.30	0.09	Pass
1,090.18	-0.02	-0.40	0.30	0.09	Pass
1,188.50	-0.02	-0.60	0.30	0.09	Pass
1,295.69	0.00	-1.30	0.30	0.09	Pass
1,412.54	-3.14	-5.00	-2.00	0.09	Pass
1,995.26	-96.82	-inf	-17.50	0.25	Pass
3,981.07	-95.79	-inf	-42.00	0.29	Pass
7,943.28	-96.01	-inf	-61.00	0.23	Pass
15,848.93	-93.42	-inf	-70.00	0.23	Pass

--End of measurement results--

1/1 Octave Filter: 16kHz





The SLM is set to normal range. Filter shape measured according to IEC 61260:2001 and ANSI S1.11:2004

Frequency fHzJ	Test Result [dB]	Lower limit JdBJ	Upper limit JdBJ	Expanded Uncertainty [dB]	Result
1,000.00	-80.95	-inf	-70.00	0.10	Pass
1,995.26	-80.73	-inf	-61.00	0.11	Pass
3,981.07	-80.59	-inf	-42.00	0.09	Pass
7,943.28	-69.20	-inf	-17.50	0.12	Pass
11,220.18	-3.00	-5.00	-2.00	0.09	Pass
12,232.07	-0.09	-1.30	0.30	0.09	Pass
13,335.21	0.12	-0.60	0.30	0.09	Pass
14,537.84	0.08	-0.40	0.30	0.09	Pass
15,848.93	0.04	-0.30	0.30	0.09	Pass
17,278.26	-0.02	-0.40	0.30	0.09	Pass
18,836.49	-0.13	-0.60	0.30	0.09	Pass
20,535.25	-0.26	-1.30	0.30	0.09	Pass
22,387.21	-3.76	-5.00	-2.00	0.09	Pass
31,622.78	-66.77	-inf	-17.50	0.09	Pass
63,095.73	-89.72	-inf	-42.00	0.10	Pass
125,892.54	-90.58	-inf	-61.00	0.10	Pass

– End of measurement results-

-- End ofReport--

Signatory: *Ha.rri¥*

Larson Davis, a division of PCB Piezotronics, Inc
1681 West 820 North
Provo, UT 84601, United States
716-684-0001

BRIGHAM St.

7:40 - 8:00

Cars	SUV
4	5

Shore Blvd

8:04 - 8:24

Cars	SUV	Bus	Truck
52	63	13	7

KNAPP ST.

8:26 - 8:46

Cars	SUV	BUS	TRUCK
108	105	10	13

Brigham St.

12:03 - 12:23

Cars	SUVs	Trucks	Bus
5	3		

12:29 - 12:49 Shore Blvd

Cars	SUVs	Trucks	BUS
86	81	6	7

12:51 - 13:11 · Knapp St

Cars	SUVs	Trucks	BUS
71	62	5	8

16:33 - 16:55 BRIGHAM St.

Cars	SUVs	Trucks	BUS
4	5	1	

@ 12-13 mins, puff ball popped off in the wind. Re-calibrated @ 13:00 +/- placed on pause during recalibration and resumed.

17:04 - 17:24 Shore Blvd.

Cars	SUVs	Trucks	Bus
84	76	4	10

17:26 - 17:46 KNAPP St.

Cars	SUVs	Trucks	Bus
~~84~~	~~76~~	~~4~~	~~10~~
78	66	~~4~~ 5	7