15

Noise

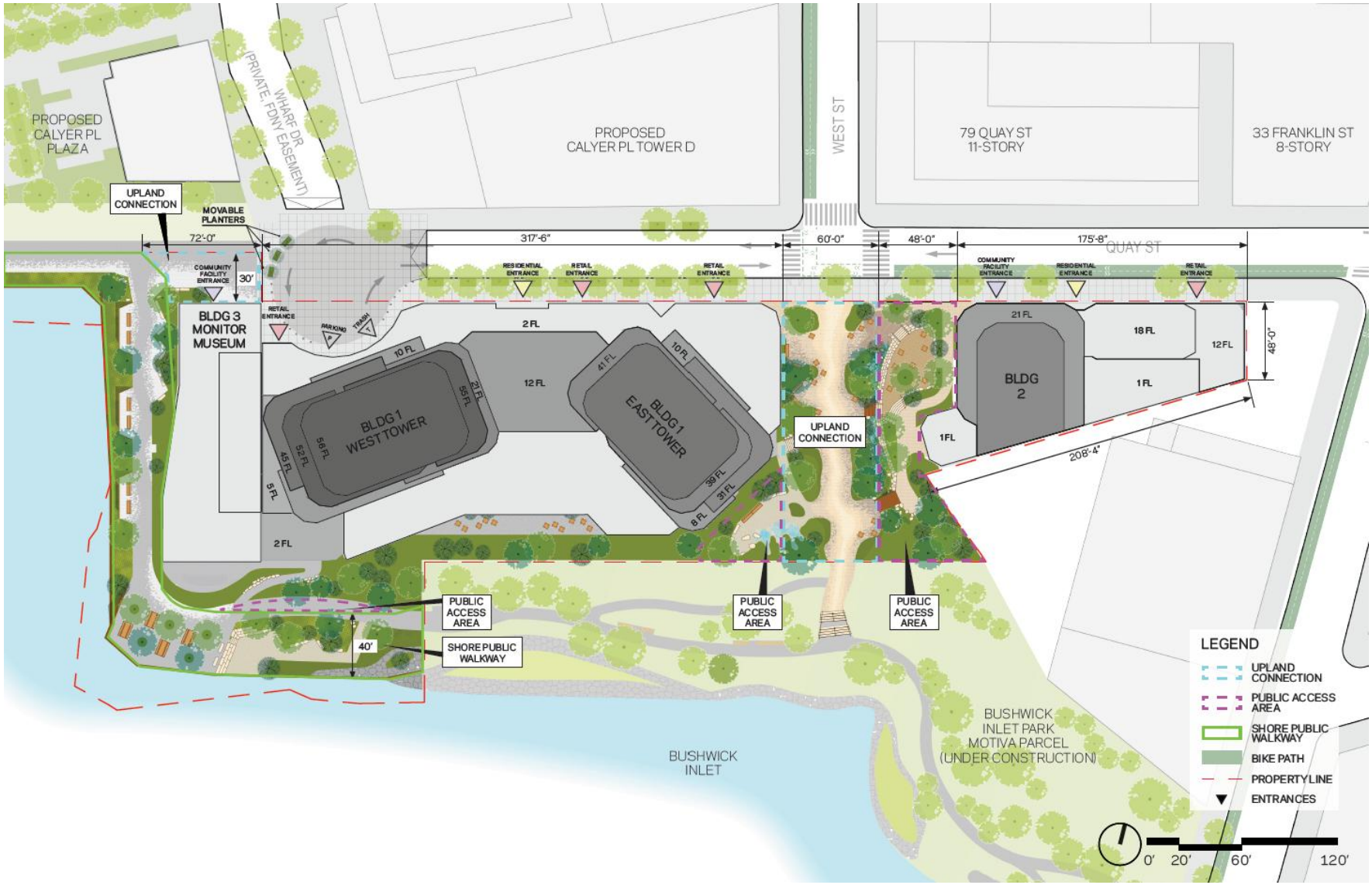
The goal of this chapter is to determine whether the Proposed Actions would have a significant adverse impact on the environment at existing noise-sensitive receptors and whether noise levels at any new receptors at the Development Site would exceed applicable New York City noise criteria.

Introduction

Go Quay LLC (the Project Developer) and the Metropolitan Transportation Authority (MTA) (an affiliate of the New York City Transit Authority [NYCTA]) (collectively, the Applicants), seek several discretionary actions (the Proposed Actions) to facilitate the development of approximately 1,042,500 gross square feet (gsf) of residential space with up to approximately 1,150 dwelling units (DUs), including up to 300 affordable DUs, approximately 35,000 gsf of community facility space, approximately 36,500 gsf of local retail commercial space,[1] approximately 140 below-grade parking spaces, and approximately 50,000 sf of new open space, 43,000 sf of which would be publicly accessible including 34,000 sf of required Waterfront Public Access Area (WPAA), and 9,000 sf of Public Access Area (PAA) (the Proposed Development). The Proposed Actions would facilitate development on Brooklyn Block 2590, Lots 1 and 25 (the Development Site) in the Greenpoint neighborhood of Brooklyn, Community District 1 (see **Figure 15-1**).

[1] The Project Developer may include up to approximately 3,000 sf of community facility space (i.e., meeting space) for non-profit use in place of local retail space in the East Building. For the purpose of a conservative assessment, the EIS analyzes this space as local retail.

Figure 15-1 Development Site Conceptual Plan



The Proposed Development would consist of three buildings on the Development Site:

- A permanent home for the Greenpoint Monitor Museum on Lot 25, consisting of an approximately 35,000-gsf, up to 75-foot tall, approximately 3- to 4-story museum celebrating the maritime history of Greenpoint and the construction of the USS Monitor (Lot 25 would remain in ownership by the Greenpoint Monitor Museum).
- The West Building on Lot 1, an approximately 979,000-gsf mixed-use residential and commercial building with two high-rise towers: the west tower rising to approximately 56 stories/approximately 600 feet tall (640 feet including bulkhead) and the east tower rising approximately 41 stories/approximately 450 feet (490 feet including bulkhead). The Project Developer is proposing approximately 912,500 gsf of residential space comprising 950 DUs (approximately 248 of which would be affordable pursuant to MIH), approximately 29,500 gsf of retail space between the ground floor and second story, and approximately 37,000 gsf of parking (140 spaces).
- The East Building on Lot 1, an approximately 201,000-gsf mixed-use residential and commercial building rising to approximately 21 stories and 230 feet (260 feet including bulkhead) on the eastern portion of the site. The Project Developer is proposing approximately 194,000 gsf of residential space comprising 200 DUs (approximately 52 of which would be affordable pursuant to MIH) and approximately 7,000 gsf of ground floor retail space.[2]

In order to allow for the redevelopment of the Development Site, the Proposed Actions also involve the relocation and consolidation of two existing critical NYCTA facilities to a new 143,000-gsf turnkey facility at the NYCTA Relocation Site. The proposed NYCTA Relocation Site would accommodate the NYCTA Mobile Wash Unit and Materials Storage currently located on a portion of the Development Site (Block 2590, Lot 1) (the NYCTA Facility), and the NYCTA Emergency Response Unit (ERU) facility currently located on 65 Commercial Street (Block 2472, Lot 415) (the ERU Site).

Per the *2021 CEQR Technical Manual*, a noise analysis is appropriate if an action would generate mobile or stationary sources of noise or would be located in an area with high ambient noise levels. The purpose of the noise assessment under CEQR is to determine if:

- A project would have a significant adverse environmental impact by significantly increasing sound levels from mobile and stationary sources at receptors not introduced by the Proposed Actions adjacent to the site, including residential and commercial land uses; and
- New noise receptors introduced at the Development Site would be in an acceptable ambient sound level environment.

The noise assessment includes the following:

- Background on metrics used to describe noise;
- The methodology and criteria used to assess potential impacts;
- An assessment of the potential for the project to significantly affect receptors due to the introduction of new mobile or stationary sources;
- Results from ambient sound level monitoring in the project area; and
- An evaluation of the ambient sound levels at new receptor locations.

[2] The Project Developer may include up to approximately 3,000 sf of community facility space (i.e., meeting space) for non-profit use in place of local retail space in the East Building. For the purpose of a conservative assessment, the EIS analyzes this space as local retail.

This noise analysis considers two receptor types when evaluating noise: receptor(s) not introduced by the Proposed Actions and receptor(s) introduced by the Proposed Actions. Since the Proposed Development would introduce new buildings with residential and community facility spaces, these are considered "receptors introduced by the Proposed Action." The analysis also considers "receptors not introduced by the Proposed Actions," which are the existing and future noise-sensitive uses, such as commercial and residential properties, surrounding the Development Site. The following describes the results of the noise assessment for these two types of receptors.

The NYCTA Replacement Facility would be located in an industrial area with similar uses and no nearby noise-sensitive receptors. Therefore, a noise analysis is not warranted for this site.

Principal Conclusions

A noise assessment was conducted to determine whether the Proposed Development would significantly increase sound levels from mobile and stationary sources at noise receptors, and if the new noise receptors that would be introduced would be in an acceptable ambient sound level environment.

Receptors Not Introduced by the Proposed Actions

The study area includes residential and community facility receptors. Based on the results of the screening analysis, the Proposed Development would not generate sufficient vehicular traffic in the vicinity of noise receptors to exceed the threshold for a detailed transportation noise analysis at these receptors. In the vicinity of the receptors, the maximum increase in the With-Action noise level compared to the No-Action noise level is projected to be approximately 1.2 A-weighted decibels ("dBA"), which is below the 3-dBA threshold for significance per the *CEQR Technical Manual*. Therefore, the Proposed Development would not cause a significant adverse vehicular noise impact.

The Proposed Development is not anticipated to include any substantial stationary source noise generators. The design and specifications for the building's mechanical equipment would incorporate sufficient noise reduction devices that would comply with applicable noise regulations and standards, including the standards contained in the revised New York City Noise Control Code. Therefore, the Proposed Development would not result in a significant adverse noise impact due to mobile and new stationary sources.

Receptors Introduced by the Proposed Actions

The noise analysis for new receptors evaluates whether receptors would be introduced into an environment with acceptable ambient noise conditions. With-Action noise levels have been evaluated at new receptors based on ambient noise measurements, mobile source proportional noise modeling, and detailed modeling of noise from the Proposed Development.

The Proposed Actions are not anticipated to include any substantial stationary source noise generators. The design and specifications for the building's mechanical equipment would incorporate sufficient noise reduction devices that would comply with applicable noise regulations and standards, including the standards contained in the revised New York City Noise Control Code.

Based on the highest predicted L_{10} sound levels, a minimum outdoor-to-indoor window/wall sound attenuation of 28 dBA is required for all façades of all three proposed buildings to maintain

acceptable interior noise conditions per the *CEQR Technical Manual* noise exposure guidelines for residential and community facility uses. To implement this attenuation requirement, a Restrictive Declaration would be recorded against the Development Site specifying the appropriate amount of window/wall attenuation and the need for alternate means of ventilation.

The Proposed Actions would also introduce approximately 50,000 sf of new open space at the Development Site, 43,000 sf of which would be publicly accessible including 34,000 sf of required WPAA, and 9,000 sf of PAA. It is concluded that the noise levels in the proposed public open space would exceed the 55 dBA (L_{10}) CEQR guideline, but would be comparable to noise levels at other parks throughout New York City. Therefore, the future projected noise levels would not constitute a significant adverse noise impact to the proposed public open space areas.

Noise Background

Noise is defined as unwanted or excessive sound. Sound becomes unwanted when it interferes with normal activities such as sleep, work, or recreation. How people perceive sound depends on several measurable physical characteristics. These factors include:

- Level: Sound level is based on the amplitude of sound pressure fluctuations and is often equated to perceived loudness.
- Frequency: Sounds are comprised of acoustic energy distributed over a variety of frequencies. Acoustic frequencies, commonly referred to as tone or pitch, are typically measured in Hertz (Hz). Pure tones have energy concentrated in a narrow frequency range and can be more audible to humans than broadband sounds.
- Sound levels are most often measured on a logarithmic scale of decibels (dB). The decibel scale compresses the audible acoustic pressure levels which can vary from the threshold of hearing (0 dB) to the threshold of pain (120 dB). Because sound levels are measured in dB, the addition of two sound levels is not linear. Adding two equal sound levels results in a 3 dB increase in the overall level. Research indicates the following general relationships between sound level and human perception:
  - A 3-dB increase is a doubling of acoustic energy and is the threshold of perceptibility to the average person.
  - A 10-dB increase is a tenfold increase in acoustic energy and is perceived as a doubling in loudness to the average person.

Audible sound is comprised of acoustic energy over a range of frequencies typically from 20 to 20,000 Hz. The human ear does not perceive sound levels at each frequency as equally loud. To compensate for this phenomenon in perception, a frequency filter known as A-weighting (dBA) is used to evaluate environmental noise levels. **Table 15-1** presents a list of common outdoor and indoor sound levels.

Table 15-1 Common Indoor and Outdoor Sound Levels

Outdoor Sound Levels	Sound Pressure μPa		Sound Level dBA	Indoor Sound Levels
	6,324,555	-	110	Rock Band at 5 m
Jet Over-Flight at 300 m		-	105	
	2,000,000	-	100	Inside New York Subway Train
Gas Lawn Mower at 1 m		-	95	
	632,456	-	90	Food Blender at 1 m
Diesel Truck at 15 m		-	85	
Noisy Urban Area—Daytime	200,000	-	80	Garbage Disposal at 1 m
		-	75	Shouting at 1 m
Gas Lawn Mower at 30 m	63,246	-	70	Vacuum Cleaner at 3 m
Suburban Commercial Area		-	65	Normal Speech at 1 m
	20,000	-	60	
Quiet Urban Area—Daytime		-	55	Quiet Conversation at 1 m
	6,325	-	50	Dishwasher Next Room
Quiet Urban Area—Nighttime		-	45	
	2,000	-	40	Empty Theater or Library
Quiet Suburb—Nighttime		-	35	
	632	-	30	Quiet Bedroom at Night
Quiet Rural Area—Nighttime		-	25	Empty Concert Hall
Rustling Leaves	200	-	20	
		-	15	Broadcast and Recording Studios
	63	-	10	
		-	5	
Reference Pressure Level	20	-	0	Threshold of Hearing

μPA MicroPascals describe pressure. The pressure level is what sound level monitors measure
dBA A-weighted decibels describe pressure logarithmically with respect to 20 μPa (the reference pressure level)
Source: Highway Noise Fundamentals, Federal Highway Administration, September 1980

Because sound levels change over time, a variety of sound level metrics can be used to describe environmental noise. The following is a list of sound level descriptors that are used in the noise analysis:

- L_{10} is the sound level which is exceeded for 10 percent of the time during a given time period. Therefore, it represents the higher end of the range of sound levels. The unit is commonly used in the *CEQR Technical Manual* to evaluate acceptable thresholds for noise exposure for new receptors that would be introduced by a proposed development.
- L_{eq} is the continuous equivalent A-weighted sound level. The L_{eq} is a single value that is equivalent in sound energy to the fluctuating levels over a period of time. Therefore, the L_{eq} considers how loud noise events are during the period, how long they last, and how many times they occur. L_{eq} is commonly used to describe environmental noise and relates well to human annoyance. In accordance with the *CEQR Technical Manual*, the L_{eq} sound level is used to assess

the potential for significant increases in noise due to a proposed development at existing receptors in the study area.

Noise Standards and Impact Criteria

Noise Exposure Guidelines

The *CEQR Technical Manual* provides noise exposure guidelines for assessing ambient noise conditions at residential, community facility and commercial office receptors, as shown in **Table 15-2**.

Impact Criteria

The determination of significant adverse noise impacts in this analysis is based on both absolute noise level limits and relative impact criteria. According to the *CEQR Technical Manual*, for the purposes of determining a significant impact during daytime hours, it is reasonable to consider a L_{eq} noise level of 65 dBA as an absolute noise level that should not be significantly exceeded.

If mobile or stationary sources associated with the Proposed Development would increase L_{eq} sound levels by 3 dB or more, and absolute levels would exceed 65 dBA L_{eq}, the Proposed Development would cause a significant adverse impact. Additionally, if With-Action condition noise levels are 60 dBA L_{eq} or less, a 5-dB increase would be considered a significant adverse noise impact.

Table 15-2 Noise Exposure Guidelines for Use in City Environmental Impact Review[1]

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

Source: Table 19-2, *2021 CEQR Technical Manual*.

In addition, any new activity shall comply with Impact Thresholds detailed in Section 410.

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

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

[3] One may use the FAA-approved DNL contours supplied by the Port Authority of New York and New Jersey (PANYNJ), or the noise contours may be computed from the federally approved Aviation Environmental Design Tool (AEDT) Computer Model using flight data supplied by the PANYNJ.

[4] External Noise Exposure standards for industrial areas of sounds produced by industrial operations other than operating motor vehicles or other transportation facilities are spelled out in the New York City Zoning Resolution, Sections 42-20 and 42-21. The referenced standards apply to M1, M2, and M3 manufacturing districts and to adjoining residence districts (performance standards are listed by octave bands). Sources: New York City Department of Environmental Protection (adopted policy 1983).

Assessment Methodology

General Methodology

This noise analysis considers two receptor types when evaluating noise for a proposed development: receptor(s) not introduced by the Proposed Actions and receptor(s) introduced by the Proposed Actions. The Proposed Development would introduce new public open space areas and new buildings with residential and community facility spaces, which are considered "receptors introduced by the Proposed Actions." The analysis also considers "existing receptors not introduced by the Proposed Actions," which are the existing and future noise-sensitive uses, such as commercial and residential properties,).

For the Proposed Development's new receptors, the With-Action condition noise levels of the new receptor in dB(A) are compared to the values contained in the Noise Exposure Guidelines. The descriptor used to assess the mobile noise sources is dependent upon the source of noise. For example, if a new receptor is exposed to aircraft noise, DNL is used, while L_{eq} or L_{10} is used to evaluate noise from traffic sources. Since the Proposed Development would not introduce new receptors within an existing 65 dB(A) DNL contour of an airport (i.e., LaGuardia Airport), noise impact analysis from aircraft noise is not warranted.

New noise receptors that would be introduced by the Proposed Development are evaluated under With-Action noise conditions to determine if receptors would be in an acceptable ambient sound level environment. The noise exposure guidelines for acceptable ambient conditions depend on the type of land use; if dominant noise source is traffic, for residential use and community facility uses (see **Table 15-2**), the goal is to maintain interior noise levels of 45 dBA(L_{10}) or lower. It is generally assumed that without specific information on a building's window and wall construction, the outdoor-to-indoor noise reduction of the building is 25 decibels. As shown in **Table 15-9**, exterior ambient sound levels exceeding 70 dBA (L_{10}) or 65 dBA (L_{dn}) are considered Marginally Unacceptable. Exterior sound levels exceeding 80 dBA (L_{10}) or 75 dBA (L_{dn}) are considered Clearly Unacceptable. If there would be Marginally Unacceptable or Clearly Unacceptable ambient noise conditions, there is a need to provide window/wall sound attenuation that is sufficient to reduce interior sound levels to acceptable levels.

Since the Proposed Development would introduce noise sensitive uses , the highest L_{10} sound level among all of the peak transportation periods (i.e., weekday morning, midday, afternoon, and Saturday midday) is used to evaluate whether the Proposed Development would introduce new receptors into an acceptable noise environment.

The analysis also considers "receptors not introduced by the Proposed Action" which are the current and future noise-sensitive land uses, such as residential, community facility, and institutional properties surrounding the Development Site. Noise impact at these existing sensitive receptors is assessed according to the relative increase between No-Action condition and With-Action condition sound levels. Noise impact is assessed according to the increase in the L_{eq} sound level in accordance with the *CEQR Technical Manual*. If mobile or stationary sources associated with the Proposed Development would increase L_{eq} sound levels by 3 dB, or more, and absolute levels would exceed 65 dBA L_{eq}, the Proposed Development would cause a significant adverse impact. Additionally, if No-Action condition noise levels are 60 dBA L_{eq} or less, a 5-dB increase would be considered a significant adverse noise impact.

Mobile Sources

As described in **Chapter 12, Transportation**, a detailed traffic analysis has been conducted at multiple nearby intersections to evaluate Existing, No-Action, and With-Action condition traffic volumes near the Development Site. As instructed in the *CEQR Technical Manual*, the latest version of the approved Federal Highway Administration (FHWA) Traffic Noise Model (TNM) should be used when:

- Conditions result in new or significant changes in roadway or street geometry;
- Roadways that currently carry no or very low traffic volumes are involved;
- Ambient noise is the result of multiple sources including traffic; or
- A detailed analysis of changes due to the traffic component of the total ambient noise levels is necessary.

The TNM model considers various factors that influence vehicular noise, including traffic volumes, vehicle classifications, source/receptor geometry, shielding from buildings, ground attenuation, traffic flow control devices, etc. Traffic flow control devices for the Existing and No Action conditions matched the current intersections in the Study Area. A stop flow control device is added for the With Action condition at the intersection of Quay Street and West Street. Traffic data included both volume projections for total traffic volume for all modeling conditions and turning movement count (TMC) data for vehicle classification assumptions at the surrounding intersections.

According to the FHWA, the TNM model requires validation at measurement sites to verify the accuracy of the model for a given scenario. The model is considered validated when differences between the measured and modeled noise levels are within +/- 3 dB(A).

One particularly useful application of the TNM model is for situations where traffic is one of the components of the total ambient noise. In such situations, the TNM model may be used to compute the traffic component of the noise and may then be subtracted from the measured ambient noise levels to determine the non-traffic components of the total ambient noise levels. Following the procedures of Chapter 19, Section 332.1 in the *CEQR Technical Manual*, the FHWA TNM noise prediction software was used to estimate the noise levels within the area surrounding the Development Site.

Stationary Sources

The Proposed Development is not anticipated to include any substantial stationary source noise generators, such as unenclosed cooling or ventilation equipment, loudspeaker systems, stationary diesel engines, or other similar types of uses. The design and specifications for mechanical equipment – such as heating, ventilation, and air conditioning – would incorporate sufficient noise reduction to comply with applicable noise regulations and standards, including the standards contained in the revised New York City Noise Control Code, Subchapter 5, §24-227, the New York City Department of Building Code. This would ensure that mechanical equipment does not result in any significant increase in noise levels, either by itself or cumulatively with other project-related noise sources.

Existing Condition

The study area for this analysis is bounded by Quay Street to the north, East River to the west, Bushwick Inlet to the south, and three private properties, along with Franklin Street, to the east. This area includes the Development Site and nearby receptors that would experience increases in traffic on adjacent roadways as a result of the Proposed Development.

Several site visits have been conducted to characterize the existing condition of the Development Site and surrounding area. It was found that two adjacent sites (79 Quay Street and 3 West Street) have ongoing construction activities. As such, the ambient noise level in the area was documented in the low-80s (dBA). It is concluded that taking existing noise measurements would not be representative of a normal condition for the area.

Therefore, the analysis uses the traffic volume and noise measurement data from the noise study prepared for the 79 Quay Street Rezoning Project (21DCP010K), which were taken at the following location in the absence of any nearby construction:

› Quay Street adjacent to 79 Quay Street ("Location 2").

Table 15-3 presents the total ambient noise levels for AM, midday, and PM peak periods, which is subtracted from the traffic component of the measured ambient noise levels. The data shows that the dominant source was not traffic related noise, but rather other noise sources in the vicinity.

Table 15-3 Ambient Sound Levels

Site	Monitoring Location	Period	Measured L_{eq} *	Measured L_{10} *	Modeled L_{eq}	Ambient L_{eq}
2	Quay Street	AM	65.8	66.5	54.3	65.5
		Midday	66.9	69.0	55.6	66.6
		PM	69.9	71.0	57.0	69.7

Source: * 21DCP010K 79 Quay Street Rezoning EAS.

Existing noise levels have been computed based on the ambient noise levels and Existing Condition vehicle counts collected and summarized in **Chapter 12, Transportation**.

Table 15-5 presents the receptors that were modeled and their associated uses.

Table 15-4 Noise Receptor Locations and Land Use Descriptions

Receptor	Location	Land Use Description
R01	26 North 12th Street	Open Space
R02	22 North 12th Street	Open Space
R03	12 Franklin Street	Residential/Commercial
R04	11 Franklin Street	Commercial/Office
R05	93 Quay Street	Residential/Commercial
R06	85 Quay Street	Commercial
R07	79 Quay Street	Residential
R08	3 West Street	Residential
R09	27 West Street	Residential
R10	Bushwick Inlet Park	Open Space

Source: VHB, 2025

Table 15-5 presents the existing noise levels for AM, midday, PM, and Saturday peak periods at noise receptors (See **Figure 15-2**) in the surrounding area. As shown in the table below, the predicted Existing Leq noise levels including ambient noise and mobile sources would range from 65.5 to 72.0 dBA.

Table 15-5 Existing Noise Levels

Site	Location	Period	Modeled L_{eq}	Ambient L_{eq}	Existing L_{eq}
R01	26 North 12th Street	AM	58.8	65.5	66.3
		Midday	59.0	66.6	67.3
		PM	57.7	69.7	69.9
		Saturday	56.7	69.7	69.9
R02	22 North 12th Street	AM	58.9	65.5	66.3
		Midday	59.2	66.6	67.3
		PM	57.7	69.7	69.9
		Saturday	56.7	69.7	69.9
R03	12 Franklin Street	AM	65.3	65.5	68.4
		Midday	65.4	66.6	69.0
		PM	64.5	69.7	70.8
		Saturday	63.7	69.7	70.7
R04	11 Franklin Street	AM	68.7	65.5	70.4
		Midday	68.8	66.6	70.8
		PM	68.2	69.7	72.0
		Saturday	67.5	69.7	71.7
R05	93 Quay Street	AM	62.1	65.5	67.1
		Midday	62.5	66.6	68.0
		PM	63.9	69.7	70.7
		Saturday	60.8	69.7	70.2
R06	85 Quay Street	AM	58.9	65.5	66.3
		Midday	59.5	66.6	67.3
		PM	61.3	69.7	70.3
		Saturday	57.4	69.7	69.9
R07	79 Quay Street	AM	56.6	65.5	66.0
		Midday	57.8	66.6	67.1
		PM	58.7	69.7	70.0
		Saturday	55.3	69.7	69.8
R08	3 West Street	AM	57.0	65.5	66.1
		Midday	58.7	66.6	67.2
		PM	59.4	69.7	70.1
		Saturday	57.2	69.7	69.9

Table 15-5 Existing Noise Levels

Site	Location	Period	Modeled L_{eq}	Ambient L_{eq}	Existing L_{eq}
R09	27 West Street	AM	46.1	65.5	65.5
		Midday	47.1	66.6	66.6
		PM	47.6	69.7	69.7
		Saturday	45.4	69.7	69.7
R10	Bushwick Inlet Park	AM	59.2	65.5	66.4
		Midday	59.5	66.6	67.3
		PM	58.2	69.7	70.0
		Saturday	57.2	69.7	69.9

Source: VHB, 2025.

Figure 15-2 Noise Receptor Locations



No-Action Condition

No-Action noise levels have been computed based on No-Action condition vehicle counts projected and summarized in **Chapter 12, Transportation**.

Table 15-6 presents the No-Action condition noise levels for AM, midday, PM, and Saturday peak periods at noise receptors. As shown in the table below, the predicted No-Action L_{eq} noise levels including the ambient noise and mobile sources would range from 65.5 to 72.5 dBA, with an increase of up to 0.5 dBA.

Table 15-6 No-Action Condition Noise Levels at Receptors

Site	Location	Period	Existing L_{eq}	No-Action L_{eq}	Increment between Existing and No-Action
R01	26 North 12th Street	AM	66.3	66.5	0.1
		Midday	67.3	67.4	0.1
		PM	69.9	70.0	0.1
		Saturday	69.9	69.9	0.0
R02	22 North 12th Street	AM	66.3	66.5	0.1
		Midday	67.3	67.4	0.1
		PM	69.9	70.0	0.1
		Saturday	69.9	69.9	0.0
R03	12 Franklin Street	AM	68.4	68.8	0.4
		Midday	69.0	69.3	0.3
		PM	70.8	71.1	0.2
		Saturday	70.7	70.8	0.2
R04	11 Franklin Street	AM	70.4	70.9	0.5
		Midday	70.8	71.2	0.4
		PM	72.0	72.5	0.4
		Saturday	71.7	72.0	0.3
R05	93 Quay Street	AM	67.1	67.4	0.3
		Midday	68.0	68.2	0.2
		PM	70.7	71.0	0.3
		Saturday	70.2	70.3	0.1
R06	85 Quay Street	AM	66.3	66.5	0.2
		Midday	67.3	67.5	0.2
		PM	70.3	70.5	0.2
		Saturday	69.9	70.0	0.1
R07	79 Quay Street	AM	66.0	66.2	0.2
		Midday	67.1	67.2	0.1

Table 15-6 No-Action Condition Noise Levels at Receptors

Site	Location	Period	Existing L_{eq}	No-Action L_{eq}	Increment between Existing and No-Action
		PM	70.0	70.1	0.1
		Saturday	69.8	69.9	0.1
R08	3 West Street	AM	66.1	66.2	0.1
		Midday	67.2	67.3	0.1
		PM	70.1	70.1	0.1
		Saturday	69.9	70.0	0.1
R09	27 West Street	AM	65.5	65.5	0.0
		Midday	66.6	66.6	0.0
		PM	69.7	69.7	0.0
		Saturday	69.7	69.7	0.0
R10	Bushwick Inlet Park	AM	66.4	66.5	0.1
		Midday	67.3	67.4	0.1
		PM	70.0	70.0	0.1
		Saturday	69.9	70.0	0.0

Source: VHB, 2025.

With-Action Condition

With-Action noise levels have been evaluated for both existing and new receptors along corresponding roadway segments to determine the With-Action and No-Action noise levels, as well as noise increases, at the monitored locations.

Table 15-7 presents the predicted With-Action and No-Action noise levels at the noise receptors in the study area. As shown in the table below, the predicted With-Action L_{eq} noise levels including the ambient noise and mobile sources would range from 65.6 to 72.7 dBA, with an increase of up to 1.2 dBA. Since noise increases at all receptors are less than 3 dBA, significant adverse mobile source noise impacts from mobile sources from the Proposed Development are not predicted to occur.

Table 15-7 With-Action Condition Noise Levels at Receptors

Site	Location	Period	No-Action L_{eq}	With-Action L_{eq}	Increment between No-Action and With-Action
R01	26 North 12th Street	AM	66.5	66.5	0.0
		Midday	67.4	67.4	0.0
		PM	70.0	70.0	0.0
		Saturday	69.9	69.9	0.0
R02	22 North 12th Street	AM	66.5	66.5	0.0
		Midday	67.4	67.4	0.0
		PM	70.0	70.0	0.0
		Saturday	69.9	70.0	0.1
R03	12 Franklin Street	AM	68.8	68.9	0.1
		Midday	69.3	69.5	0.1
		PM	71.1	71.2	0.1
		Saturday	70.8	70.9	0.1
R04	11 Franklin Street	AM	70.9	71.1	0.2
		Midday	71.2	71.5	0.3
		PM	72.5	72.7	0.2
		Saturday	72.0	72.3	0.3
R05	93 Quay Street	AM	67.4	68.6	1.1
		Midday	68.2	69.4	1.2
		PM	71.0	71.4	0.4
		Saturday	70.3	71.1	0.8
R06	85 Quay Street	AM	66.5	67.5	1.0
		Midday	67.5	68.6	1.0
		PM	70.5	70.8	0.3
		Saturday	70.0	70.6	0.6
R07	79 Quay Street	AM	66.2	66.9	0.7

Table 15-7 With-Action Condition Noise Levels at Receptors

Site	Location	Period	No-Action L_{eq}	With-Action L_{eq}	Increment between No-Action and With-Action
		Midday	67.2	67.9	0.7
		PM	70.1	70.3	0.2
		Saturday	69.9	70.2	0.3
R08	3 West Street	AM	66.2	67.2	1.0
		Midday	67.3	68.1	0.7
		PM	70.1	70.5	0.3
		Saturday	70.0	70.4	0.4
R09	27 West Street	AM	65.5	65.6	0.1
		Midday	66.6	66.7	0.1
		PM	69.7	69.7	0.0
		Saturday	69.7	69.7	0.0
R10	Bushwick Inlet Park	AM	66.5	66.6	0.1
		Midday	67.4	67.5	0.0
		PM	70.0	70.1	0.0
		Saturday	70.0	70.0	0.0

Source: VHB, 2025.

Table 15-7 With-Action Condition Noise Levels at Receptors

Site	Location	Period	No-Action L_{eq}	With-Action L_{eq}	Increment between No-Action and With-Action

Table 15-8 With-Action Condition Noise Levels at New Receptors

Site	Location	Period	With-Action L_{eq}	With-Action L_{10}
R11-N	East Building North Facade	AM	67.9	68.6
		Midday	68.9	71.0
		PM	71.0	72.1
		Saturday	70.8	71.9
R11-E	East Building East Facade	AM	68.9	69.6
		Midday	69.7	71.8
		PM	71.5	72.6
		Saturday	71.3	72.4
R11-S	East Building South Facade	AM	66.5	67.2
		Midday	67.4	69.5
		PM	70.1	71.2
		Saturday	70.0	71.1
R11-W	East Building West Facade	AM	66.3	67.0
		Midday	67.3	69.4
		PM	70.0	71.1
		Saturday	70.0	71.1
R12-N	West Building North Facade	AM	66.0	66.7
		Midday	67.0	69.1
		PM	69.8	70.9
		Saturday	69.8	70.9
R12-E	West Building East Facade	AM	67.6	68.3
		Midday	68.4	70.5
		PM	70.7	71.8
		Saturday	70.6	71.7
R12-S	West Building South Facade	AM	66.7	67.4
		Midday	67.5	69.6
		PM	70.2	71.3
		Saturday	70.1	71.2
R12-W	West Building West Facade	AM	65.5	66.2
		Midday	66.6	68.7
		PM	69.7	70.8
		Saturday	69.7	70.8

Source: VHB, 2025.

Table 15-8 presents the predicted With-Action noise levels at the new noise receptors that would be introduced by the Proposed Actions. As shown in the table below, the predicted With-Action L_{eq} noise levels including the ambient noise and mobile sources would range from 65.5 to 71.5 dBA. Since the dominant noise source is shown to be ambient noise, the With-Action L_{10} noise levels were calculated based on the measured difference of L_{eq} and L_{10}, the predicted With-Action L_{10} noise levels including the ambient noise and mobile sources would range from 66.2 to 72.6 dBA.

Acceptability Assessment

The analysis presents the results of ambient noise monitoring that was conducted at the Development Site and the assessment of whether new receptors would be in a high ambient noise environment.

The *CEQR Technical Manual* provides noise exposure guidelines for assessing ambient sound levels, as shown in **Table 15-9**.

Table 15-9 Required Attenuation Values to Achieve Acceptable Interior Noise Levels

	Marginally Unacceptable				Clearly Unacceptable
Vehicular Traffic	$70<L_{10}\leq73$	$73<L_{10}\leq76$	$76<L_{10}\leq78$	$78<L_{10}\leq80$	$80<L_{10}$
Attenuation	(I) 28 dBA	(II) 31 dBA	(III) 33 dBA	(IV) 35 dBA	See note [B]

Notes:

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

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

Where: L_{build} is the projected noise level under the build condition rounded up to the whole number

$L_{interior}$ is the designed interior noise level (45 dB(A) for vehicular noise.

Source: New York City Department of Environmental Protection (*2021 CEQR Technical Manual, Table 19-3*)

Based on the noise exposure guidelines, noise impact has been assessed to determine the level of acceptability for new sensitive receptors at the Development Site, as shown in **Table 15-10**.

Table 15-10 Sound Level Acceptability

Building	Facade	Period	L_{10}	Acceptability
East Building	North	PM	72.1	Marginally Unacceptable
	East	PM	72.6	Marginally Unacceptable
	South	PM	71.2	Marginally Unacceptable
	West	PM	71.1	Marginally Unacceptable
West Building	North	PM	70.9	Marginally Unacceptable
	East	PM	71.8	Marginally Unacceptable
	South	PM	71.3	Marginally Unacceptable
	West	PM	70.8	Marginally Unacceptable

Source: VHB, 2025

With-Action noise conditions at new sensitive receptors are evaluated according to absolute exterior sound level. The noise exposure guidelines for acceptable ambient conditions depend on the type of

land use; for residential or community facility use, the goal is to maintain interior noise levels of 45 dBA or lower; for commercial office use, the goal is to maintain interior noise levels of 50 dBA or lower. With-Action exterior sound levels are evaluated to determine if receptors would be in an acceptable ambient sound level environment.

The With-Action noise levels (L_{10}) at the East Building, including mobile and stationary sources, would range from 71.1 dBA to 72.6 dBA. Therefore, the East Building would require a minimum composite window/wall of 28 OITC on all facades.

The With-Action noise levels (L_{10}) at all facades of the West Building would range from 70.8 dBA to 71.8 dBA. Therefore, the West Building would require a minimum composite window/wall of 28 OITC at all facades.

To implement this attenuation requirement, a Restrictive Declaration (RD) would be recorded against the Development Site specifying the appropriate amount of window/wall attenuation and the need for alternate means of ventilation (see **Figure 15-3**). The attenuation and ventilation requirements detailed in the RD would supersede the noise requirements of the existing (E)-Designation (E-138) on Lot 1. The RD text would be as follows:

Block 2590, Lots 1 and 25

East Building

In order to ensure an acceptable interior noise environment, future residential use must provide a closed-window condition with a minimum of 28 dBA window/wall attenuation on all facades to maintain an interior noise level (L_{10}) not greater than 45 dBA for residential use. 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, trickle vents.

West Building

In order to ensure an acceptable interior noise environment, future residential use must provide a closed-window condition with a minimum of 28 dBA window/wall attenuation on all facades to maintain an interior noise level (L_{10}) not greater than 45 dBA for residential use. 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, trickle vents.

Museum

In order to ensure an acceptable interior noise environment, future community facility use must provide a closed-window condition with a minimum of 28 dBA window/wall attenuation on all facades to maintain an interior noise level (L_{10}) not greater than 45 dBA for community facility use. 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, well-sealed air conditioners, package-terminal air conditioners, or central air conditioning.

Figure 15-3 Composite Window/Wall Sound Attenuation Requirements



Required Attenuation

28 dBA

Conclusion

A noise assessment was conducted to determine whether the Proposed Development would significantly increase sound levels from mobile and stationary sources at noise receptors on the Development Site, and if new noise receptors that would be introduced by the Proposed Development would be in an acceptable ambient sound level environment.

Based on the results of the analysis, the noise increase due to the Proposed Actions would be up to 1.2 dBA, which would not exceed the CEQR impact threshold of 3 dBA. Therefore, the Proposed Actions would not result in a significant adverse noise impact.

The Proposed Actions are not anticipated to include any substantial stationary source noise generators. The design and specifications for the buildings' mechanical equipment would incorporate sufficient noise reduction devices that would comply with applicable noise regulations and standards, including the standards contained in the revised New York City Noise Control Code.

Based on the highest predicted L_{10} sound levels, a minimum outdoor-to-indoor window/wall sound attenuation of 28 dBA is required for all façades of the East Building, West Building, and the Museum to maintain acceptable interior noise conditions for residential and community facility uses. To implement this attenuation requirement, a Restrictive Declaration would be recorded against the Development Site specifying the appropriate amount of window/wall attenuation and the need for alternate means of ventilation.