12

Noise

The goal of this chapter is to determine whether the proposed project may increase noise exposure at existing sensitive receptors and whether new receptors would be introduced into an acceptable ambient noise environment.

12.1 Introduction

The proposed development on Projected Development Site 1 consists of mixed-income housing, affordable senior housing, program and office space for the Chinese American Planning Council (CPC), a Jewish Heritage and Cultural Center, and retail uses. As such, the proposed development would introduce new noise-sensitive receptors at Projected Development Site 1. Independent of the proposed development, in the future with the proposed actions, the owner of the existing 5-story mixed-use building located on Lot 95 of the project block would develop a small commercial space on Projected Development Site 2. The purpose of the noise assessment under CEQR is to determine if:

- The proposed development would significantly increase sound levels from mobile and stationary sources at existing noise receptors adjacent to the project block, including residential, commercial, and institutional land uses; and
- New noise receptors introduced at Projected Development Sites 1 and 2 would be in an acceptable ambient sound level environment.

Per the 2014 *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. Mobile sources include vehicular traffic; stationary sources include rooftop equipment such as emergency generators, cooling towers, and other mechanical equipment.

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 proposed development to significantly affect existing receptors due to the introduction of new mobile or stationary sources;
- Results from a sound level monitoring program at the project block; and
- An evaluation of the ambient sound levels at new receptor locations.

This noise analysis considers two receptor types when evaluating noise; existing and new receptor(s). Since the proposed project would introduce new mixed-use buildings, this is considered a "new receptor." The analysis also considers "existing receptors" which are the current noise-sensitive uses such as commercial and residential properties surrounding the project block. The following describes the results of the noise assessment for these two types of receptors.

12.2 Principal Conclusions

A noise assessment was conducted to determine whether the proposed development on Projected Development Sites 1 and 2 would significantly increase sound levels from mobile and stationary sources at existing noise receptors, and if new noise receptors that would be introduced in the With-Action condition would be in an acceptable ambient sound level environment.

A mobile source noise analysis was conducted of the potential for the proposed project to cause a significant increase in noise. The analysis showed that the proposed project would increase sound levels by up to 0.3 dBA over the No-Action condition. The proposed project would not result in a doubling of PCEs and noise levels would not increase by 3 dB or greater. Therefore, there would be no significant adverse vehicular noise impact due to the proposed project.

The With-Action condition is 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.

Noise monitoring was conducted to determine the existing sound levels near the project block. The monitoring showed that sound levels at Projected Development Sites 1 and 2 would be Marginally Unacceptable. Sufficient outdoor-to-indoor noise reduction would be required to reduce the interior sound levels by 35 dBA (OITC) at Projected Development Site 1 and by 28 dBA (OITC) at Projected Development Site 2 and maintain acceptable interior

noise conditions. An alternative means of ventilation must be included to provide ventilation during the closed window condition. To implement these attenuation requirements, an (E) Designation for noise would be applied to both the Projected Development Sites 1 and 2 specifying the appropriate amount of window/wall attenuation and an alternate means of ventilation. With these sound attenuation commitments, there would be no significant adverse impact.

12.3 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 12-1** presents a list of common outdoor and indoor sound levels.

Table 12-1 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 *2014 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 energy-average 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 *2014 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.

12.4 Noise Assessment for Existing Receptors

Noise impact at existing nearby sensitive receptors is assessed according to the relative increase between No-Action and With-Action sound levels. Noise impact is assessed according to the increase in the L_{eq} sound level in accordance with the *2014 CEQR Technical Manual*. If mobile or stationary sources associated with a 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 prior to mitigation. 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 10**, "**Transportation**," a detailed traffic analysis has been conducted to evaluate Existing, No-Action and With-Action traffic volumes at the following intersections:

- Delancey Street and Essex Street
- Delancey Street and Norfolk Street
- Delancey Street and Suffolk Street
- Delancey Street Eastbound and Clinton Street
- Delancey Street Westbound and Clinton Street
- Broome Street and Norfolk Street
- Grand Street and Clinton Street

This analysis also included vehicle classification counts as part of the turning movement counts conducted at these intersections. With-Action noise conditions are determined based on an ambient sound monitoring program and proportional modeling of noise passenger-car equivalents (PCE) to determine the potential increase in noise due to the proposed project. If the proposed project would result in a doubling or more of PCEs, it would result in a 3 dBA or greater increase in noise levels. If PCEs would not double due to the proposed project, there would not be a significant adverse vehicular noise impact, and no further mobile source noise analysis is warranted.

The *2014 CEQR Technical Manual* describes the process to determine PCEs. Vehicle classes are defined to have the following PCEs based on typical vehicles speeds:

- Each automobile or light truck: 1 noise PCE
- Each medium truck: 13 noise PCEs
- Each bus: 18 noise PCEs
- Each heavy truck: 47 noise PCEs

Future With-Action noise increases are calculated using the following equation:

$$With\ Action\ L_{eq}\ Increase = 10 * \log\left(\frac{With\ Action\ PCE}{No\ Action\ PCE}\right)$$

Table 12-2 presents the No-Action and With-Action PCE values at the study area intersections. No-Action sound levels are expected to increase by up to 1.1 dBA (morning peak), 1.0 dBA (midday), and 0.9 dBA (afternoon peak) over the Existing Condition due to traffic from other developments anticipated in the area. This table shows that the highest increase in PCEs would occur at the intersection of the Broome Street and Norfolk Street.

The project-related vehicle trips are estimated to cause a sound level increase of 0.3 dBA (morning peak), 0.2 dBA (midday), and 0.1 dBA (afternoon peak) in the With-Action scenario compared to the No-Action scenario. At other study area intersections in the With-Action scenario, the increase in PCEs would lead to increases in noise of 0.2 dBA or less compared to the No-Action scenario. Note that since traffic volumes on Delancey Street are large in the Existing and No-Action Condition, the relatively small project-related vehicle trips would not cause an appreciable difference in sound levels. The proposed project would not result in a doubling of PCEs and noise levels would not increase by 3 dB or greater. Therefore, there would be no significant adverse vehicular noise impact due to the proposed project.

Table 12-2 Passenger Car Equivalents Analysis

Intersection	Period	Existing PCEs	No-Action PCEs	Sound Increase (No-Action – Existing) (dBA)	With-Action PCEs	With-Action Sound Increase (With-Action - No-Action (dBA)
Delancey Street and Essex Street	Weekday AM	10,264	10,742	0.2	10,773	0.0
	Weekday MD	9,600	10,006	0.2	10,042	0.0
	Weekday PM	7,890	8,242	0.2	8,272	0.0
	Saturday	6,209	6,424	0.1	6,445	0.0
Delancey Street and Norfolk Street	Weekday AM	8,755	9,166	0.2	9,212	0.0
	Weekday MD	8,597	8,982	0.2	9,035	0.0
	Weekday PM	7,074	7,429	0.2	7,470	0.0
	Saturday	5,634	5,824	0.1	5,855	0.0
Delancey Street and Suffolk Street	Weekday AM	9,719	10,018	0.1	10,026	0.0
	Weekday MD	4,880	4,991	0.1	5,000	0.0
	Weekday PM	2,279	2,325	0.1	2,335	0.0
	Saturday	1,905	1,939	0.1	1,945	0.0
Delancey Street Eastbound and Clinton Street	Weekday AM	3,800	3,948	0.2	3,969	0.0
	Weekday MD	4,873	5,025	0.1	5,034	0.0
	Weekday PM	5,413	5,641	0.2	5,647	0.0
	Saturday	4,050	4,143	0.1	4,149	0.0
Delancey Street Westbound and Clinton Street	Weekday AM	6,185	6,390	0.1	6,398	0.0
	Weekday MD	4,660	4,772	0.1	4,781	0.0
	Weekday PM	3,640	3,718	0.1	3,728	0.0
	Saturday	2,824	2,876	0.1	2,882	0.0
Broome Street and Norfolk Street	Weekday AM	402	523	1.1	554	0.3
	Weekday MD	536	680	1.0	712	0.2
	Weekday PM	923	1,144	0.9	1,166	0.1
	Saturday	548	630	0.6	649	0.1
Grand Street and Clinton Street	Weekday AM	1,979	2,144	0.3	2,210	0.1
	Weekday MD	1,795	2,011	0.5	2,067	0.1
	Weekday PM	1,732	2,022	0.7	2,065	0.1
	Saturday	1,437	1,588	0.4	1,624	0.1

Source: VHB, 2019.

Stationary Sources

The proposed development on Projected Development Sites 1 and 2 is not anticipated to include any substantial stationary source noise generators, such as unenclosed cooling or ventilation equipment, loudspeaker systems, stationary diesel engines, car washes, or other similar types of uses. The design and specifications for the mechanical equipment, such as heating, ventilation, and air conditioning, are not known at this time. As the project design advances, mechanical equipment will be selected that incorporates sufficient noise reduction to comply with applicable noise regulations and standards, including the standards contained in the revised New York City Noise Control Code. This will ensure that mechanical equipment does not result in any significant increases in noise levels by itself or cumulatively with other project noise sources.

12.5 Noise Assessment for New Receptors

With-Action noise conditions at new sensitive receptors that would be introduced by the proposed development on Projected Development Sites 1 and 2 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 buildings, the goal is to maintain interior noise levels of 45 dBA or lower. With-Action exterior sound levels are evaluated to determine if receptors would be in an acceptable ambient sound level environment. 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. Therefore, exterior ambient sound levels exceeding 70 dBA at residential receptors (which would equate to an interior noise level of 45 dBA) are considered to be Marginally Unacceptable and the need to provide window/wall sound attenuation that is sufficient to reduce interior sound levels to acceptable levels must be considered.

Since the proposed development would introduce a mixed-use development with residential, commercial, retail, and house of worship components to Projected Development Site 1 and the projected development on Projected Development Site 2 would introduce a new commercial property, the highest L_{10} sound level is used to evaluate whether the proposed development would introduce new receptors into an acceptable noise environment. The analysis presents the results of the ambient noise monitoring and the assessment of whether new receptors would be in a high ambient noise environment.

Noise Exposure Guidelines

The *2014 CEQR Technical Manual* provides noise exposure guidelines for assessing ambient noise conditions at new residential and commercial receptors, as shown in **Table 12-3**.

Table 12-3 Noise Exposure Guidelines for Use in City Environmental Impact Review

Receptor Type	Time Period	Acceptable External Exposure	Marginally Acceptable External Exposure	Marginally Unacceptable External Exposure	Clearly Unacceptable External Exposure
Commercial, Office, and House of Worship	All Times	$L_{10} \leq 65$ dBA	$65 < L_{10} \leq 70$ dBA	$70 < L_{10} \leq 80$ dBA	$L_{10} > 80$ dBA
Residence	7 AM to 10 PM				
Residence	10 PM to 7 AM	$L_{10} \leq 55$ dBA	$55 < L_{10} \leq 70$ dBA	$70 < L_{10} \leq 80$ dBA	$L_{10} > 80$ dBA

Source: Table 19-2, 2014 *CEQR Technical Manual*.

Existing Sound Levels

Noise monitoring was conducted on Tuesday, January 15, 2019 to determine the existing sound levels near Projected Development Site 1 and Projected Development Site 2. A noise monitor was set up at ground level on the sidewalks at the corner of Norfolk Street and Broome Street, the corner of Suffolk Street and Broome Street, and the corner of Grand Street and Suffolk Street as shown in **Figure 12-1**. The microphone was located to have a direct line of sight to vehicles traveling on the respective roadways. This measurement location is representative of ground-level receptors at Projected Development Site 1 and 2.

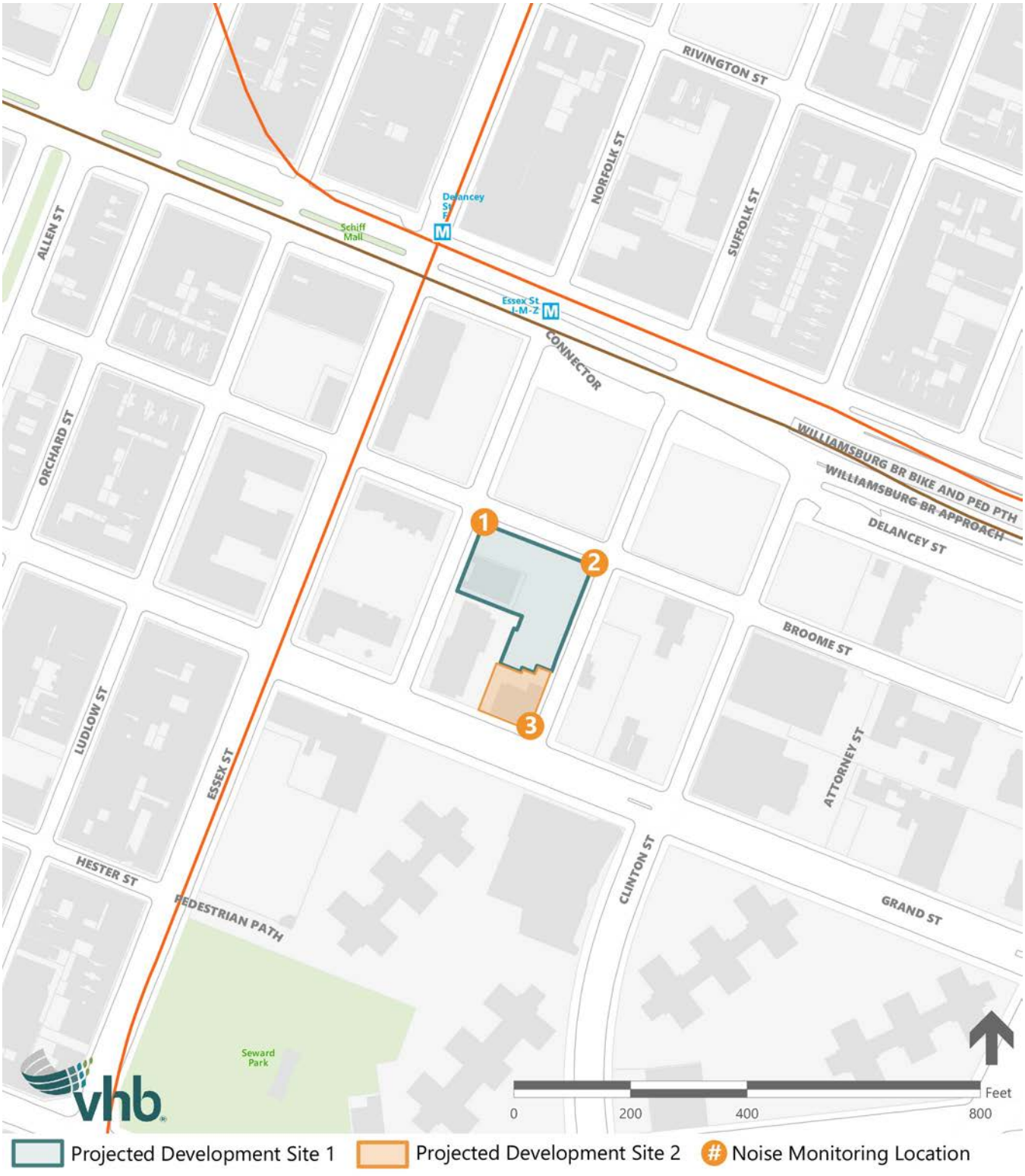
The noise monitor was placed with a minimum of four feet between the microphone and nearby reflecting surfaces. With roadway and construction activity dominating the overall noise environment, 20-minute noise measurements were conducted during the weekday morning peak period (8:00 – 9:30 AM), midday period (12:00 – 1:30 PM) and evening peak period (5:00 – 6:30 PM). Measurements were conducted using a Type I sound level meter at ground level and followed the procedures outlined in the *2014 CEQR Technical Manual*, which include documenting significant sources of sound and conducting spot counts of traffic by vehicle classification. **Table 12-4** summarizes the measurement results. The measured L_{eq} levels ranged from 63.6 dBA to 74.7 dBA and the L_{10} levels ranged between 67.3 and 77.8 dBA.

Table 12-4 Ambient Sound Levels Measured at Ground Level

Monitoring Location	Time Period	Duration	L_{eq}	L_{min}	L_{max}	L_1	L_{10}	L_{50}	L_{90}
Norfolk Street and Broome Street (Projected Development Site 1)	Morning	20 Mins	73.2	60.2	89.7	83.7	77.8	65.9	62.4
	Midday	20 Mins	66.9	61.2	80.0	75.6	69.4	64.6	62.8
	Evening	20 Mins	66.7	58.0	82.1	75.3	68.5	64.9	62.9
Suffolk Street and Broome Street (Projected Development Site 1)	Morning	20 Mins	69.0	64.3	80.4	76.1	70.9	68.0	66.2
	Midday	20 Mins	74.7	69.8	88.2	84.7	75.7	72.9	71.1
	Evening	20 Mins	66.9	54.3	74.0	73.4	71.0	59.7	56.1
Grand Street and Suffolk Street (Projected Development Site 2)	Morning	20 Mins	74.3	58.2	99.9	80.8	70.3	64.5	61.3
	Midday	20 Mins	74.7	59.2	99.5	84.6	69.5	64.1	61.0
	Evening	20 Mins	63.6	54.3	76.7	71.9	67.3	60.3	56.3

Source: Measurements conducted by VHB on January 15, 2019.

Figure 12-1 Noise Monitoring Locations



Acceptability Assessment

The *2014 CEQR Technical Manual* provides noise exposure guidelines for assessing ambient sound levels, as shown in **Table 12-3**. Based on these noise exposure guidelines, noise impact has been assessed to determine the level of acceptability for new sensitive receptors at Projected Development Site 1.

Table 12-5 summarizes the maximum measured Existing L_{10} or L_{eq} level and the associated, No-Action, and With-Action sound levels at each location based on results of the noise monitoring and mobile source noise analysis. The increases in the No-Action and With-Action scenarios are all conservatively based on noise PCE increases from the intersection of Broome Street and Norfolk Street during the respective time periods (presented in **Table 12-2**). **Table 12-5** also indicates whether the With-Action sound levels are considered to be acceptable according to the *2014 CEQR Technical Manual*.

Table 12-5 Sound Level Acceptability, dBA

Façade	Time Period	Existing Sound Level (L_{10} or L_{eq}, dBA)	No-Action Sound Level (L_{10} or L_{eq}, dBA)	With-Action Sound Level (L_{10} or L_{eq}, dBA)	Acceptability
Norfolk Street and Broome Street (Projected Development Site 1)	Morning	77.8 (L_{10})	78.9 (L_{10})	79.2 (L_{10})	Marginally Unacceptable
	Midday	69.4 (L_{10})	70.4 (L_{10})	70.6 (L_{10})	Marginally Unacceptable
	Evening	68.5 (L_{10})	69.4 (L_{10})	69.5 (L_{10})	Marginally Acceptable
Suffolk Street and Broome Street (Projected Development Site 1)	Morning	70.9 (L_{10})	72.0 (L_{10})	72.3 (L_{10})	Marginally Unacceptable
	Midday	75.7 (L_{10})	76.7 (L_{10})	76.9 (L_{10})	Marginally Unacceptable
	Evening	71.0 (L_{10})	71.9 (L_{10})	72.0 (L_{10})	Marginally Unacceptable
Grand Street and Suffolk Street (Projected Development Site 2)	Morning	74.3 (L_{eq})	75.4 (L_{eq})	75.7 (L_{eq})	Marginally Unacceptable
	Midday	74.7 (L_{eq})	75.7 (L_{eq})	75.9 (L_{eq})	Marginally Unacceptable
	Evening	67.3 (L_{10})	68.2 (L_{10})	68.3 (L_{10})	Marginally Acceptable

According to the noise exposure guidelines in the *CEQR Technical Manual*, With-Action sound levels would be Marginally Unacceptable at each measurement location for one or more of the peak periods because they would be between70 and 80 dBA. With-Action sound levels at the Projected Development Site 1 would be up to 79.2 dBA (L_{10}) and With-Action sound levels at Projected Development Site 2 would be up to 75.9 dBA (L_{eq}) dBA during the midday period. Based on the finding of Marginally Unacceptable sound levels at Projected Development Sites 1 and 2, sufficient outdoor-to-indoor sound attenuation of the window/wall must be specified to provide acceptable sound attenuation from the window/wall materials.

12.6 Noise Attenuation Measures

The most common measure for reducing interior noise from ambient sources is to specify sufficient outdoor-to-indoor sound attenuation for the proposed building. As shown in

Table 12-6, the required level of attenuation varies based on the exterior sound levels and type of receptor.

Table 12-6 Required Attenuation Values

	Marginally Unacceptable				Clearly Unacceptable
With-Action Sound Level	$70<L_{10}\leq73$	$73<L_{10}\leq76$	$76<L_{10}\leq78$	$78<L_{10}\leq80$	$80<L_{10}$
Attenuation [A]	(I) 28 dBA	(II) 31 dBA	(III) 33 dBA	(IV) 35 dBA	$36+(L_{10}-80)$[B] dBA

Note: [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] Required attenuation values increase by 1 dBA increments for L_{10} values greater than 80 dBA.
Source: New York City Department of Environmental Protection (*2014 CEQR Technical Manual*, Table 19-3)

The existing sound levels presented in **Table 12-3** were compared to the required attenuation values in **Table 12-4** to determine the sound attenuation needed on Projected Development Sites 1 and 2. The results show that:

- New residential uses at Projected Development Site 1 would experience sound levels up to 79.2 dBA (L_{10}) and require 35 dBA of sound attenuation;
- The new commercial space on Projected Development Site 2 would experience sound levels up to 75.9 dBA (L_{eq}) and require 26 dBA of sound attenuation since commercial uses require attenuation requirements 5 dBA less than would be applicable for residential or community facility uses.

The composite outdoor-to-indoor transmission classification (OITC) value of the window-wall structure is used to determine the necessary sound attenuation. Sound attenuation measures would be achieved through construction materials and techniques with sufficient OITC-rated windows and walls.

The proposed development on Projected Development Site 1 is planned to have new double-pane operable windows and internal heating and cooling systems to provide fresh air during a closed-window condition. Based on the preliminary design of the proposed Norfolk and Suffolk Buildings, it is anticipated that the building construction materials will provide sufficient window/wall attenuation (OITC 35 dBA or greater) on these facades to maintain interior L_{10} sound levels of 45 dBA or less. As a note, typical building construction material can be expected to reduce external sound levels by 30 to 40 dBA[1]. Therefore, as designed, the proposed development on Projected Development Site 1 is expected to effectively preclude the potential for noise impacts indoors at new sensitive uses at the proposed development, and there would be no significant adverse impact.

At Projected Development Site 2, a minimum window/wall attenuation of 26 dBA (OITC) is required for commercial spaces to maintain acceptable interior noise conditions according to the CEQR Noise Exposure Guidelines since commercial uses require attenuation requirements 5 dBA less than would be applicable for residential or community facility uses.

[1] Insulation of Buildings Against Highway Noise - Table 1 Exterior Wall Noise Rating, Federal Highway Administration, August 1, 1977.

To implement these attenuation requirements, it is anticipated that an (E) Designation for noise would be applied to both the Projected Development Sites 1 and 2 specifying the appropriate amount of window/wall attenuation and an alternate means of ventilation. The text for the (E) Designation (E-548) would be as follows:

Block 346, Lots 37 and 75 (Projected Development Site 1)

In order to ensure an acceptable interior noise environment, future residential/commercial office/community facility uses must provide a closed-window condition with a minimum of 35 dBA window/wall attenuation on all facades in order to maintain an interior noise level not greater than 45 dBA for residential and community facility uses or not greater than 50 dBA for commercial office uses. To maintain a closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, air conditioning.

Block 346, Lot 95 (Projected Development Site 2)

In order to ensure an acceptable interior noise environment, future commercial office uses must provide a closed-window condition with a minimum of 26 dBA window/wall attenuation on all facades in order to maintain an interior noise level not greater than 50 dBA for commercial office uses. To maintain a closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, air conditioning.