Seaside Park and Community Arts Center
Chapter 12: Noise

A. INTRODUCTION

The proposed project involves the development of approximately 2.41-acres of publicly accessible open space, which would include an approximately 5,100-seat seasonal amphitheater for concerts and other events. The proposed project also includes the landmarked (Former) Childs Restaurant Building, which would be restored and altered to provide the stage area for the open-air concert venue and renovated for adaptive reuse as a restaurant and banquet facility (refer to Figure 12-1). The (Former) Childs Restaurant Building also would be used as an indoor entertainment venue during the off-season months.

The proposed amphitheater would be an interim use authorized for a period of ten years pursuant to a new City Planning Commission Special Permit. Upon completion, the amphitheater would be owned by the City of New York and operated by a joint venture that involves a not-for-profit entity under a long term lease with the city. It would serve as the venue for a variety of concerts, community events, and public gatherings, such as the Seaside Summer Concert Series. The proposed amphitheater and other project components are expected to be completed by summer 2015, and the first full year of operation would be 2016.

The proposed amphitheater would operate during the summer concert season and would feature a tensile fabric roof ~~canopy~~ that would be removed during the off-season, but remain in position throughout the summer concert season. The tensile fabric roof would be harnessed by truss structural supports and would provide transparency and create appropriate shade. During concerts, the proposed amphitheater would also have additional noise reduction features, including a deployable tensile canopy extension and acoustical curtains. The temporary canopy extension would extend ~~100~~ approximately 95 feet to the west of the seasonal tensile fabric roof ~~canopy~~, and its maximum width would be ~~167~~approximately 180 feet ~~6 inches~~. The temporary canopy extension would be attached to the westernmost arch by a closure flap at a height of 45 feet 6 inches above the boardwalk and fastened to the ~~five~~ six westernmost floodlight poles at a height of 17 feet 6 inches to 20 feet above the boardwalk. In addition, ~~five~~ a total of six acoustical curtains would be attached to, and drop down from, the edges of both the tensile fabric roof and the canopy ~~roof~~ extension at various locations. The bottoms of five of the acoustical curtains would be affixed to the ~~five floodlight poles~~ground. The acoustical curtain at the West 22nd Street entrance would not drop to the ground. Instead, an 80 inch clearance is proposed to create an entrance and a view corridor through to West 22nd Street. In addition, for concert events, backing sound baffles would be affixed to the inside of the tensile fabric roof, the deployable canopy extension, and sound curtains. These sound reduction features would be temporary and would only be deployed immediately before concerts and subsequently removed.

The project area is located in Brooklyn Community District 13 along the western portion of the Riegelmann Boardwalk at Coney Island Beach on Block 7071 and Lots 27, 28, 30, 32, 34, 76, 130, 142, 226, and 231. It is bounded by the boardwalk to the south, West 23rd Street to the west, West 21st Street to the east, and properties fronting Surf Avenue to the north. Figure 12-1 shows the project location.

FIGURE 12-1
Project Location

★ = Site Location.

B. PRINCIPAL CONCLUSIONS

Noise levels were evaluated for the traffic network, as well as for the concert itself, for sensitive receptor locations in the vicinity of the project site. No impacts due to increases in traffic are likely.

Based on design features to limit propagation of noise levels beyond the site boundaries, and a commitment to limit the L_{max} concert levels at the mixing board to 98 dBA before 10 PM and 92 dBA after 10 PM (equivalent levels at the front row of ~~to 90~~ 100 dBA before 10 PM and ~~87~~ 94 dBA ~~at and~~ after 10 PM) with a specific speaker array as described in Appendix D, no impacts due to concert noise are projected. No further measures are required to avoid noise impacts. As part of the commitment to limit the L_{max} concert music amplification levels, the amphitheater operator will set forth the restrictions on concert music amplification in the Artist Booking Sheet provided to the talent performing at the venue. The same restriction will be set forth in the contracts between the venue operator and the individuals and groups performing at the amphitheater. A dB meter will be installed at the mix position in the amphitheater and used for every event, which will enable the venue operator to confirm compliance with the limit on the amplification levels during concert events.

In addition, the analysis results also indicated that concert noise levels would not exceed the permissible noise increments in Section 24-244 of the NYC Noise Code. Further, based on the results of the CEQR analysis, the proposed project is not anticipated to exceed the commercial music standards in Section 24-231 of the Noise Code, although predicting noise levels within receiving properties is difficult. Should a violation occur, it would be handled as an enforcement action.However, if potential noise impacts are identified during refinement of analyses to further enhance noise attenuating measures of the project prior to the issuance of the FEIS, the Applicant commits to providing additional measures as necessary to ensure that no such significant adverse noise impacts occur due to the proposed project.

C. METHODOLOGY

The purpose of this analysis is to determine existing noise levels, project future noise levels without and with the proposed project as the amphitheater is described above, and to identify determine whether the project would generate potential significant impacts. The analysis was carried out in accordance with the 2012 NYC *City Environmental Quality Review (CEQR) Technical Manual*.

D. NOISE FUNDAMENTALS

Description

Noise is measured in sound pressure level (SPL), which is converted to a decibel scale. The decibel is a relative measure of the sound level pressure with respect to a standardized reference quantity. Decibels on the A-weighted scale are termed “dBA.” The A-weighted scale is used for evaluating the effects of noise in the environment because it most closely approximates the response of the human ear. On this scale, the threshold of discomfort is 120 dB, and the threshold of pain is about 140 dB. Table 12-1 shows the A-weighted range of noise levels for a variety of indoor and outdoor noise levels. The C-weighted scale (dBC) is used for evaluating environmental noise sources that have high values in the lower frequencies below 500 Hz. This would be applicable to music where the bass sounds are of concern.

Because the scale is logarithmic, a relative increase of 10 decibels represents a sound pressure level that is 10 times higher. However, humans don’t perceive a 10 dBA increase as 10 times louder; they perceive it as twice as loud. 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 increase is perceived as a doubling of noise level.

The sound pressure level (SPL) that humans experience typically varies from moment to moment. Therefore, a variety of descriptors are used to evaluate environmental noise levels over time. Some typical descriptors are defined below:

- L_{eq} is the continuous equivalent sound level. The sound energy from the fluctuating sound pressure levels is averaged over time to create a single number to describe the mean energy or intensity level. High noise levels during a monitoring period will have greater effect on the L_{eq} than low noise levels. The L_{eq} has an advantage over other descriptors because L_{eq} values from different noise sources can be added and subtracted to determine cumulative noise levels.

- L_{max} is the highest SPL measured during a given period of time. It is useful in evaluating L_{eq}s for time periods that have an especially wide range of noise levels.

TABLE 12-1
Sound Pressure Level and Loudness of Typical Noises in Indoor and Outdoor Environments

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

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

- L_{10} is the SPL exceeded 10% of the time. Similar descriptors are the L_{50}, L_{01}, and L_{90}.
- L_{dn} is the day-night equivalent sound level. It is similar to a 24-hour L_{eq}, but with 10 dBA added to SPL measurements between 10 pm and 7 am to reflect the greater intrusiveness of noise experienced during these hours. L_{dn} is also termed DNL.

- Continuous sound is sound that lasts more than two seconds.
- Impulsive sound is of short duration, where each peak of sound lasts two seconds or less. The sound is characterized by abrupt onset and rapid decay.

Addition

Because they are logarithmic, decibels cannot be added and subtracted arithmetically. The formula for adding together SPLs is:

$$L_{total}\ dB= \quad 10 \log \sum_{i=1}^{N} 10^{(Li/10)}$$

where: Li is an individual SPL and L_{total} is the sum of the SPLS.

Based on this formula, adding together two noise levels that are equally loud would result in a noise level that was 3 dBA higher. Thus, if the noise from a fan on an industrial site is 60 dBA at a residential property line, and a second fan was added at the industrial site, the total noise level at the property line would be 63 dBA, not 120 dBA.

~~In most cases, where the addition of decibels only needs to be accurate by +/- 1 dB, the following rule of thumb can be used to add decibels:~~

~~When two decibel values differ by:~~	~~Add the following amount to the higher value:~~
~~0 or 1 dB~~	~~3 dB~~
~~2 or 3 dB~~	~~2 dB~~
~~4 or 9 dB~~	~~1 dB~~
~~10 dB or more~~	~~0 dB~~

Passenger Car Equivalents

Vehicular traffic volumes can be converted into Passenger Car Equivalent (PCE) values, for which one medium-duty truck (having a gross weight between 9,900 and 26,400 pounds) is assumed to generate the noise equivalent of 13 cars, one bus (capable of carrying more than nine passengers) is assumed to generate the noise equivalent of 18 cars, and one heavy-duty truck (having a gross weight of more than 26,400 pounds) is assumed to generate the noise equivalent of 47 cars, as summarized below from the *CEQR Technical Manual*.

- autos and light trucks = 1 passenger car,
- medium trucks = 13 passenger cars,
- heavy trucks = 47 passenger cars, and
- public buses = 18 passenger cars.

Thus, Passenger Car Equivalents (PCEs) are the numbers of autos that would generate the same noise level as the observed vehicular mix of autos, medium trucks, and heavy trucks. PCEs are useful for comparing the effects of traffic noise on different roadways or for different future scenarios.

Where traffic volumes are projected to change, proportional modeling techniques, as described in the 2012 NYC *CEQR Technical Manual*, typically are used to project incremental changes in traffic noise levels. This technique uses the relative changes in traffic volumes to project changes between (e.g.) No-Action and With-Action noise levels. The change in future noise levels is calculated using the following proportionality equation:

$FNL = ENL + 10 \times \log_{10} (FPCE/EPCE)$,

where:

FNL= Future Noise Level

ENL= Existing Noise Level

FPCE= Future PCEs

EPCE= Existing PCEs

Because sound levels use a logarithmic scale, this model proportions logarithmically with traffic change ratios. For example, assume that traffic is the dominant noise source at a particular location. If the existing traffic volume on a street is 100 PCEs, and if the future traffic volume were increased by 50 PCEs to a total of 150 PCEs, the noise level would increase by 1.8 dBA. If the future traffic were increased by 100 PCEs, (i.e., doubled to a total of 200 PCEs), the noise level would increase by 3.0 dBA.

Attenuation

Noise from a given source attenuates (diminishes) with distance. A roadway or railway is considered a line source because a motor vehicle or diesel engine moves from one point to another along a fixed linear route, and the receiver experiences noise from all points along the line. Noise from a line source typically attenuates at the rate of 3 dBA per distance doubling, based on a reference distance of 50 feet. Thus, a traffic noise level of 65 dBA at a distance of 50 feet from the roadway would be 62 dBA 100 feet from the roadway and 59 dBA 200 feet from the roadway. The 3 dBA attenuation rate is used for noise traveling through the air or over a hard surface. Noise traveling over a soft surface, such as grass, may attenuate at a more rapid rate of about 4.5 dBA.

Noise from a source at a fixed location is termed a stationary source or point source. It attenuates at a rate of 6 dBA when noise is traveling through air or over a hard surface and up to 7 or 8 dBA when traveling over a soft surface. These attenuation rates are rules of thumb for total noise levels from a given source. Music from the proposed action would be a point source.

Octave Bands

Although the SPL heard in the environment typically is composed of many different frequencies, it can be broken down into the numerous individual frequencies. These frequencies are grouped into octave bands. An octave band is a group of frequencies in the interval between a given frequency (such as 350 Hz) and twice that frequency (e.g., 710 Hz). The standard octave bands are each named by their center frequencies. Thus, each octave band will be represented by a single SPL. The representative SPLs from the individual octave bands can be added together logarithmically to obtain an overall SPL. Typically, the octave bands are weighted before they are combined so that the resulting SPL will represent a noise level in dBA or dBC. The weighting for dBA and dBC for each octave band is shown below.

Octave Band	16	31.5	63	125	250	500	1000	2000	4000	8000	16000
A-weighting	-56.7	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1	-6.6
C-weighting	-8.5	-3.0	-0.8	-0.2	0.0	0.0	0.0	-0.2	-0.8	-3.0	-8.5

E. NOISE STANDARDS AND GUIDELINES

New York City CEQR Noise Exposure Guidelines

In 1983, the New York City Department of Environmental Protection (NYCDEP) adopted the City Environmental Protection Order-City Environmental Quality Review (CEQR) noise standards for exterior noise levels. They are the basis for classifying noise exposure into four categories based on the L_{10}: Acceptable, Marginally Acceptable, Marginally Unacceptable, and Clearly Unacceptable (see Table 12-2). The CEQR Noise Exposure Guidelines shown in Table 12-2 are guidelines, not a law. However, City review agencies use the guidelines in determining potential impacts when a project comes under their review.

TABLE 12-2
CEQR 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 Exposure	Airport[3] Exposure
1.Outdoor area requiring serenity and quiet[2]		$L_{10} \leq 55$ dBA	$L_{dn} \leq 60$ dBA		$L_{dn} \leq 60$ dBA		$L_{dn} \leq 60$ dBA		$L_{dn} \leq 75$ dBA
2. Hospital, Nursing Home		$L_{10} \leq 55$ dBA		$55 < L_{10} \leq 65$ dBA		$65 < L_{10} \leq 80$ dBA		$L_{10} > 80$ dBA	
3. Residence, residential hotel or motel	7 a to 10 p	$L_{10} \leq 65$dBA		$65 < L_{10} \leq 70$dBA		$70 < L_{10} \leq 80$ dBA		$L_{10} > 80$ dBA	
	10 p to 7 a	$L_{10} \leq 55$dBA		$55 < L_{10} \leq 70$dBA		$70 < L_{10} \leq 80$ dBA		$L_{10} > 80$ dBA	
4. School, museum, library, court, house of worship, transient hotel or motel, public meeting room, auditorium, out-patient public health facility		Same as Residential Day (7a-10p)		Same as Residential Day (7a-10p)		Same as Residential Day (7a- 10p)		Same as Residential Day (7a- 10p)	
5. Commercial or office		Same as Residential Day (7a-10p)		Same as Residential Day (7a-10p)		Same as Residential Day (7a- 10p)		Same as Residential Day (7a- 10p)	
6. Industrial, public areas only[4]	Note 4	Note 4		Note 4		Note 4		Note 4	

Notes:
(i) In addition, any new activity shall not increase the ambient noise level by 3 dBA or more;
1 Measurements and projections of noise exposures are to be made at appropriate heights above site boundaries as given by American National Standards Institute (ANSI) Standards; all values are for the worst hour in the time period.
2 Tracts of land where serenity and quiet are extraordinarily important and serve an important public need and where the preservation of these qualities is essential for the area to serve its intended purpose. Such areas could include amphitheaters, particular parks or portions of parks or open spaces dedicated or recognized by appropriate local officials for activities requiring special qualities of serenity and quiet. Examples are grounds for ambulatory hospital patients and patients and residents of sanitariums and nursing homes.
3 One may use the FAA-approved L_{dn} contours supplied by the Port Authority, or the noise contours may be computed from the federally approved INM Computer Model using flight data supplied by the Port Authority of New York and New Jersey.
4 External Noise Exposure standards for industrial areas of sounds produced by industrial operations other than operating motor vehicles or other transportation facilities are spelled out in the New York City Zoning Resolution, Sections 42-20 and 42-21. The referenced standards apply to M1, M2, and M3 manufacturing districts and to adjoining residence districts (performance standards are octave band standards).

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

Table 12-3 shows the required attenuation for sensitive uses within the last three categories. For example, an L_{10} may approach 80 dBA provided that buildings are constructed of materials that reduce exterior to interior noise levels by at least 35 dBA. The acceptable general exposure guidelines shown in Table 12-3 are based on the assumption that the average building would provide 20 dBA of combined window/wall noise attenuation. Thus, the desired interior daytime noise level is an L_{10} of 45 dBA or lower and the desired nighttime level is an L_{10} of 35 dBA or lower.

TABLE 12-3
Required Attenuation Values to Achieve Acceptable Interior Noise Levels

	Marginally Unacceptable				Clearly Unacceptable
Noise level with proposed action	$70 < L_{10} \leq 73$	$73 < L_{10} \leq 76$	$76 < L_{10} \leq 78$	$78 < L_{10} \leq 80$	$80 < L_{10}$
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 the above categories require a closed window situation and hence 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, 2012.

New York City Noise Code

Whereas the CEQR noise exposure guidelines are applicable to total noise levels for a proposed action requiring environmental review, the New York City Noise Code legislation defines sound-level standards for specific noise sources~~—both existing and proposed~~. The Code's enforcement is driven by complaints of violations. The most recent version of the Code (July 2007) generally seeks to reduce ambient noise and prohibits all unreasonable and unnecessary noise, addresses construction hours and activities, and sets the standards for a variety of sources, including music from commercial establishments.

~~The NYC Noise Code has not traditionally been used for purposes of CEQR Environmental Assessments. However, since~~Because the project involves an outdoor amphitheater in a residential neighborhood, and because the proposed action includes a zoning special permit that requires a finding specific to noise at nearby residences and community facilities, a discussion of the Code is also included in this chapter~~ because violations could lead to fines and/or sealing of the sound equipment~~. The most recent version of the Code (July 2007) prohibits all unreasonable and unnecessary noise and also restricts the decibel levels generated by music from commercial establishments. Under Section 24-244~~18~~, ~~General prohibitions,~~ no person shall ~~make~~operate or use~~, continue,~~ or cause to be operated or used any sound reproduction device in such a manner as to create ~~or permit to be made or continued any~~ unreasonable noise, which is considered, based on Section 24-218 General Prohibitions~~defined as~~:

- Sound, other than impulsive sound, attributable to the source, measured at a level of 7 dBA or more above the ambient sound level at or after 10:00 PM and before 7:00 AM, as measured at any point within a receiving property or as measured at a distance of 15 feet or more from the source on a public right-of-way;

- Sound, other than impulsive sound, attributable to the source, measured at a level of 10 dBA or more above the ambient sound level at or after 7:00 AM and before 10:00 PM, as measured at any point within a receiving property or as measured at a distance of 15 feet of more from the source on a public right-of-way; and

- Impulsive sound, attributable to the source, measured at a level of 15 dBA or more above the ambient sound level, as measured at any point within a receiving property or as measured at a distance of 15 feet or more from the source on a public right-of-way.

Section 24-218 does not apply to any sound from any source where the decibel level of such sound is within the limits prescribed by another section. With reference to the above, Section 24-203 (33), General Definitions, states that impulsive sound does not include music. Therefore that particular criterion does not apply to the proposed action. The reference to sound attributable to the source is based on the L_{max}. However, the descriptor to be used for the ambient sound level is not defined.

According to Section 24-231, Commercial Music, no person shall make or cause or permit to be made or caused any music originating from or in connection with the operation of any commercial establishment or enterprise when the level of sound attributable to such music, as measured inside any receiving property dwelling unit:

- Is in excess of 42 dBA as measured with a sound level meter; or
- Is in excess of 45 dB in any one-third octave band having a center frequency between 63 hertz and 500 hertz; or
- Causes a 6 dBC or more increase in the total sound level above the ambient sound level as measured in the "C" weighting network provided that ambient sound level exceeds 62 dBC.

Section 24-244, Sound reproduction devices, states that no person shall operate or use any sound reproduction device in such a manner as to create unreasonable noise. Section 24-218 defines unreasonable noise (see above); where unreasonable noise is used in any other section, the definition in 24-218 becomes the standard.

Criteria for Determining the Need for Mitigation

Future conditions requiring mitigation measures will be identified for the purposes of both CEQR and the NYC Noise Code. In determining potential impacts to a community from a proposed project, NYCDEP defines a significant impact under CEQR as:

- An increase of 3 dBA or more where the no action noise level is an L_{eq} of 62 dBA or more; or
- An increase of up to 5 dBA where the no action noise L_{eq} is below 62 dBA, providing the total resulting L_{eq} is equal to or less than 65 dBA; or
- An increase of 3 dBA in the L_{eq} during the nighttime hours between 10 pm and 7 am; or

For the purposes of assessing future compliance with Section 24-244~~18~~ of the NYC Noise Code, a condition requiring analysis of mitigation measures will be identified as sound reproduction devices causing unreasonable noise, which is considered to be:

- A projected difference of 10 dBA between the L_{max} associated with the concerts and the L_{eq} for ~~No~~With-Action Conditions before 10 PM and/or

- A projected difference of 7 dBA between the L_{max} associated with the concerts and the L_{eq} for ~~No~~With-Action Conditions at or after 10 PM.

If any sites are projected to exceed the criteria above, then mitigation measures to address Section 24-244~~18~~ of the Noise Code would be considered. ~~For the purposes of assessing future compliance with Section 24-218 of the NYC Noise Code, which refers to outdoor noise levels, a condition requiring analysis of mitigation measures will be identified as:~~

~~A projected difference of 10 dBA between the L_{max} associated with the concerts and the L_{eq} for No-Action Conditions before 10 PM and/or~~

~~A projected difference of 7 dBA between the L_{max} associated with the concerts and the L_{eq} for No-Action at or after 10 PM.~~

Predicting future noise levels under Section 24-231 of the Noise Code is difficult because the Noise Code requirements for commercial music pertain to indoor noise levels at receiving properties. If ~~projected~~ future noise levels exceed ~~would exceed either the CEQR criteria or Section 24-218 of the NYC Noise Code, then mitigation measures to address~~the conditions in Section 24-231 of the noise code, the general enforcement powers of the Noise Code would result in violations and/or additional mitigation measures.~~also would be consideredrequired~~.

F. EXISTING CONDITIONS

Development Site

The development site is generally bounded by the boardwalk to the south, West 23rd Street to the west, West 21st Street to the east, and properties fronting Surf Avenue to the north. The development site is an assemblage of ten tax lots on Block 7071 (Lots 27, 28, 30, 32, 34, 76, 130, 142, 226, and 231), as well as the beds of Highland View Avenue and a portion of West 22nd Street (approved for demapping in 2009 in the Coney Island Rezoning), and covers an aggregate lot area of approximately 130,404 sf (3.0 acres).

The area is currently underdeveloped, and the only built structure occupying the site is the Former Childs Restaurant Building (25,400 sf; Lot 130), a designated New York City landmark that is currently vacant and in deteriorated condition. The remainder of the development site is comprised of vehicle storage (18,004 sf; Lots 27, 28, 30, 32, 34, and 76), vacant unimproved land (14,157 sf; Lots 226 and 231), an unimproved City-owned lot (44,327 sf; Lot 142) that at one time was a community garden[1], and approximately 28,516 sf of paved streets, (Highland View Avenue and a portion of West 22nd Street, approved for demapping in 2009 in the Coney Island Rezoning). Figure 1-3 in Chapter 1, "Project Description", provides photos of existing conditions on the development site. The former community garden and streets (72,843 sf) are City-owned, and the remainder of the site is under ownership of the Applicant (57,561 sf).

The proposed zoning map amendment would also encompass Lots 79 and 81 on Block 7071, which are located immediately to the northwest of the development site (refer to Figure 1-1 in Chapter 1, "Project

[1] Although the community garden is decommissioned, field observations indicate that it is currently being used for gardening purposes.

Description"). Both outparcels are currently comprised of paved lots, with a combined lot area of approximately 6,000 sf, and are under private ownership by persons/entities independent of the Applicant. Lots 79 and 81 are not part of the proposed Seaside Park and Community Arts Center project. They are part of the planned Highland View Park that has been approved through ULURP, but has not been formally mapped yet. These two lots were originally part of a 1.41 acre neighborhood park, envisioned as part of the Coney Island Rezoning EIS (2009), which would include both active and passive recreational amenities. The proposed amphitheater would occupy most of the lots designated for Highland View Park, but the two outparcels are excluded from the defined development site described above. Since the two outparcels (Lots 79 and 81) are still in private ownership, they are not anticipated to be developed by the analysis year of 2016, although they may be incorporated into Highland View Park at some future time as contemplated in the 2009 FEIS.

Surrounding Neighborhood

To the north and west of the site, residential walk-ups and apartment complexes exist along Surf Avenue and West 20th to West 24th Streets. To the east of the project site is a vacant lot that has served in recent years as a temporary location for the Seaside Summer Concert Series. Two blocks to the east of the development site is MCU Park, the home of the Brooklyn Cyclones, a New York Mets minor league baseball team. The newly opened Steeplechase Plaza, which features the landmark Parachute Jump and iconic B & B Carousel, is also located to the east of the development site. Farther east along Stillwell and Surf Avenues is the Coney Island subway terminal.

The Brooklyn Cyclones play at MCU Park, which is at 1904 Surf Avenue adjacent to the boardwalk to the south and the Luna Park amusement area to the east. Seating capacity for the stadium currently stands at 7,501. The baseball team plays a shortened season annually, starting in late June and extending into the middle of September, with approximately 37 home games for the 2013 season. Most games start between 5 p.m. and 7 p.m., and last for approximately 2 to 3 hours. An at-grade parking lot is adjacent to the stadium to the east of the park along Surf Avenue. Fans arriving by car typically begin to enter the lot approximately an hour before game time, and continue to exit the lot for an hour after the game is over.

Apart from baseball games at MCU Park, Coney Island hosts numerous events and activities throughout the spring and summer months. ~~The events for 2013 span 13 dates in May, 21 dates in June, 26 dates in July, 30 dates in August, and 10 dates in September – a total of 100 days. Some dates have multiple events.~~ During the months of July and August, nearly every evening has a scheduled event. These include the six Seaside Summer Concert Series that have taken place at a vacant lot immediately to the east of the project site for the past three years, 19 nights with fireworks on the boardwalk, movies on the beach, and karaoke nights, among others.

Sensitive Receptors

Sensitive receptors that could potentially be affected by the proposed project are those to the west of the proposed concert venue on Blocks 7070 and 7071. Residential buildings on these blocks are shown in Table 12-4 and on Figure 12-2. Most are multifamily buildings constructed in the late 1920s and early 1930s. Thus, they may not have double-glazed windows. However, most appear to have air conditioning as an alternate means of ventilation.

TABLE 12-4
Nearby Sensitive Receptors

ID	Address	Block	Lot	# Floors	# DUs	Comments
A	3035 W. 24th St.	7070	148	5	NA	Sea Crest Health Care Center. Built in 1973.
B	2316 Surf Ave.	7070	120	4	100	Surf manor home for adults (assisted living)
C	3024 W. 24th St.	7070	1	NA	NA	Haber House Neighborhood Senior Center
D	3021 W. 25th St.	7070	1	14	380	NYCHA housing. 3 buildings. Built in 1964
E	3046 W. 22nd St.	7071	24	3	15	No balconies. Built in 1935. Worst case location
F	3040 W. 22nd St.	7071	19	7	40	Balconies on W. 22nd St. Built in 2005.
G	3018-3022 W. 22nd St.	7071	114	3	21	Built in 1930.
H	3024 W. 23rd St.	7070	133	3	10	Built in 1928.
I	3027 W. 24th St.	7070	175	3	6	Built in 1930.
J	3039 W. 24th St.	7070	174	3	6	Built in 1930.
K	3008 W, 22nd St.	7071	9	2	20	Built in 1930.
L	3016 W. 22nd St.	7071	13	1	4	Built in 1930.
M	3017 W. 23rd St.	7071	94	2	6	Built in 1932.
N	3023 W. 23rd St.	7071	93	2	3	Built in 1930.
O	3029 W. 23rd St.	7071	90	3	3	Built in 1935.
P	3031 W. 23rd St.	7071	89	3	3	Built in 1935.
Q	2226 Surf Ave.	7071	1	2	2	Built in 1940

Notes: NA = not available
Source: Sandstone Environmental Associates, Inc.

FIGURE 12-2
Sensitive Receptors Near Proposed Amphitheater

Legend: A – Q = buildings with residential uses
Source: Sandstone Environmental Associates, Inc.

Noise Levels

Existing noise levels were monitored at ten sites representing sensitive receptor locations within the study area. Sites 1-6 were monitored on August 23rd and 25th, 2012. Sites 7 through 10 were monitored on June 20th, June 29th, and July 17th, 2013. The monitoring sites were selected as representative sensitive receptors on roadways that would experience traffic increases due to the proposed project, as well as sensitive receptors in the vicinity of the proposed amphitheater. The locations of the sites are listed below and shown in Figure 12-3.

1. Midblock on West 17th Street between Mermaid and Neptune Avenues;
2. Northwestern corner of West 19th Street and Mermaid Avenue;
3. Midblock on West 20th Street, between Surf Avenue and Mermaid Avenue;
4. Southwestern corner of West 21st Street and Surf Avenue;
5. Midblock on West 22nd Street between Surf Avenue and Reigelmann Boardwalk;
6. Southeastern corner of West 20th Street and Surf Avenue;
7. Midblock at a storefront ~~in front of the church~~ on the north side of Surf Avenue between West 21st and West 22nd Streets[2];
8. South end of West 23rd Street near Reigelmann Boardwalk[3];
9. Midblock on Surf Avenue between West 23rd and West 24th Streets; and
10. Southern end of West 24th Street near Reigelmann Boardwalk[4].

Noise levels were monitored on Thursdays and Saturdays when Brooklyn Cyclones' baseball games were scheduled. Monitoring on game nights was carried out to coincide and be consistent with the periods of traffic data collection. Monitoring on game nights was also determined to be representative of typical conditions during the anticipated concert season. Since Coney Island features 100 nights of special events in any given summer, the 40 to 50 concert nights are likely to coincide with other scheduled events during the June-September period. Therefore, a Brooklyn Cyclones game night with no other concerts was considered an appropriate ~~and somewhat conservative~~ baseline, given the fact that some of the scheduled events (e.g., fireworks) are much noisier than the games.

Measurement times differed for the two days due to the start times of the baseball games, with observations set to coincide with the pre-event and post-event periods for each ball game. On Thursdays, monitoring was conducted during the PM (5:30 - 7:30 p.m.) and Evening (9-11 p.m.) time periods. On Saturdays, was carried out during the PM (4:30– 6:30 p.m.) and the Evening (8 -10 p.m.) periods. Traffic classification counts were carried out concurrently with noise monitoring.

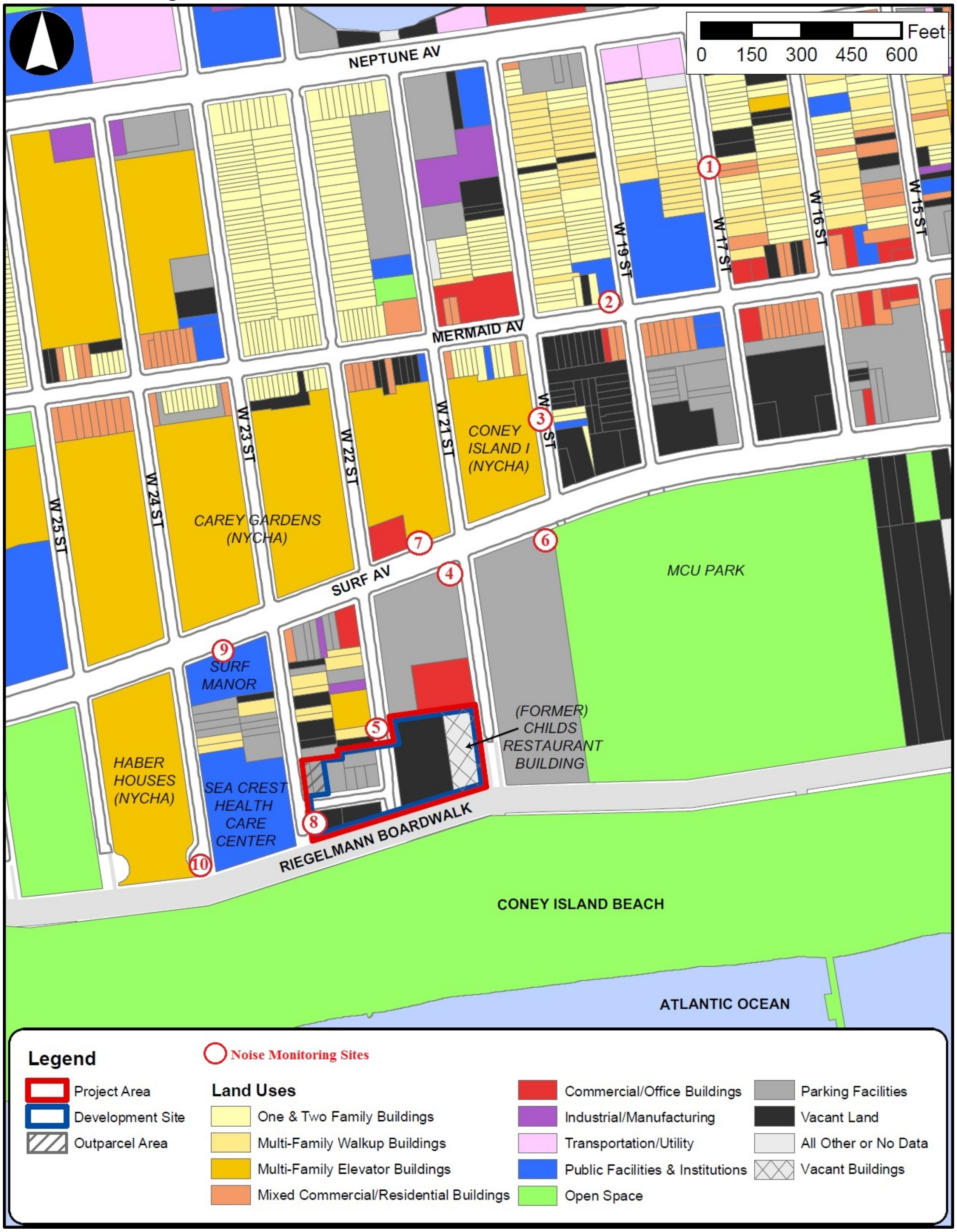
Weather conditions ranged from partly cloudy to sunny with temperatures in the 70s and 80s. Winds were minimal except for Sites 8 and 10 on June 20, 2013. Due to the breezy conditions on West 23rd and West 24th Streets, the midblock monitoring sites had to be moved to the end of the streets, near the boardwalk, to ensure that the winds at the noise monitor were below 12 mph. Therefore, the subsequent monitoring periods for these sites also were placed at these locations to maintain consistency. Given the low volume of traffic on those two streets, the change in locations had a negligible effect on the determination of ambient noise levels.

[2] This site was originally included due to the presence of a church at that location. However, the church has apparently vacated the storefront and this site is no longer a sensitive receptor location.

[3] Located at the end of the street instead of midblock due to wind during noise monitoring.

[4] Located at the end of the street instead of midblock due to wind during noise monitoring.

FIGURE 12-3
Noise Monitoring Locations



Noise levels were monitored according to the procedures outlined in the 2012 NYC *CEQR Technical Manual*. The instruments used were Larson Davis 831 and B&K 2250 Sound Level Meters, ANSI Type I-certified instruments. Each device was mounted on a tripod at a height of five feet above the ground. The noise monitors were calibrated before and after use. Wind screens were used during all sound measurements except for calibration. All measurement procedures conformed to the requirements of ANSI Standard S1.13-1971 (R1976).

Sources of noise varied with the site observed. Traffic noise was the predominant noise source except for Sites 8 and 10, which were influenced primarily by pedestrian voices, walk-bys, car radios, and the hum of HVAC units on nearby buildings. Pedestrian voices and walk-bys also were significant along Sites 2, 4, and 6. Crowd noise from the Brooklyn Cyclones game at nearby MCU Park could be heard near Sites 3, 4, 6, and 7. A post-game fireworks presentation took place at MCU Park on August 25, 2012 during the evening measurement at Site 3, and on June 29, 2013 during the evening measurement at Site 10. Train noise from subway activity on Stillwell Avenue was audible at Site 2.

Table 12-5 shows the existing noise levels based on the noise monitoring results. The values for Site 6 on August 25, 2012 were estimated using the results for the weekday period and the proportionality equation for the PCEs for August 23rd and August 25th. The maximum L_{10} noise level for the pre-event period was 70.9 dBA which occurred on Surf Avenue between 21st and 22nd Streets (Site 7). With the exception of the fireworks at Site 3, the highest L_{10} for the post-event period was 71.1 dBA, which occurred at Site 9 on Surf Avenue between 23rd and 24th Streets. The differences between the L_{eq} and L_{10} are generally two to three dBA. The L_{max} values, on the other hand, are highly variable and do not correlate with traffic volumes. They range from 6.1 to 25.0 dBA higher than the L_{eq} values.

Ambient noise levels are also affected by Coney Island's Seaside Summer Concert Series, which is held on a temporary stage at West 21st Street and Surf Avenue. The concerts are free, and attendees bring their own lawn chairs for seating. During 2013, the concerts ~~are~~ took place at 7:30, once a week on a Wednesday, Thursday, or Friday, from July 12th to August 21st.

To help characterize noise levels during a local music event, noise monitoring was carried out at four locations during the concert on Friday, July 12th when Cheap Trick and The Cringe were playing. Cheap Trick, the main act, is a rock band. The Cringe, the opening act, is an American indie rock band. No information was available regarding the type of speaker system or the noise levels at the front row.

Table 12-6 shows the sound level data. Two of the locations were Monitoring Sites 5 and 8, which were as shown in Table 12-5. The differences between the L_{eq} and L_{10} descriptors were two to three dBA, which is similar to the differences for the concert noise levels. However, the differences between the L_{max} and the L_{eq} are much smaller for the music event than for the ambient monitoring. They range from about 6 to 11 dBA for Monitoring Sites 5 and 8. For a point just east of the stage, which is close to the music source, the difference was approximately 5 dBA. This was considered an estimate of the relationship of the L_{max} to the L_{eq} for a music event since the greater L_{max} noise levels at Monitoring Sites 5 and 8 could be due to more local influences.

Based on Table 12-6, weekday L_{10} noise levels for Site 5 are four dBA higher during one of the summer concerts when compared with the pre-event time period. If the summer concerts extend beyond 10 pm, the relative difference increases to about twelve dBA. At Site ~~5~~8, the L_{10} noise levels during the summer concert were seven to twelve dBA higher compared to the noise levels without the concert in Table 12-5.

TABLE 12-5
Existing Noise Levels (dBA)

ID	Site	Date and Time		CEQR Noise Category	L_{eq}	L_{10}	L_{min}	L_{max}	L_{01}	L_{50}	L_{90}
1	W. 17th Street, midblock	8/23/2012	5:53 pm - 6:13 pm	M.U. (I)	66.2	70.1	50.5	81.9	N/A	60.3	53.6
			9:06 pm - 9:26 pm	M.A.	65.4	68.7	50.7	84.4	77.5	56.8	53.3
		8/25/2012	4:32 pm - 4:53 pm	M.A.	66.6	69.8	53.5	84.6	76.5	62.6	56.2
			9:44 pm - 10:04 pm	M.A.	68.2	69.9	52.9	93.2	76.1	57.8	54.7
2	W. 19th Street / Mermaid Avenue	8/23/2012	6:19 pm - 6:39 pm	M.U. (I)	68.9	70.4	54.3	89.8	N/A	64.0	58.5
			9:32 pm - 9:53 pm	M.A.	66.2	68.4	68.4	82.6	77.5	62.6	56.5
		8/25/2012	4:59 pm - 5:19 pm	M.A.	65.5	67.9	57.1	81.8	73.2	64.1	60.0
			9:18 pm - 9:38 pm	M.A.	66.5	68.4	54.1	84.3	77.8	62.0	58.0
3	W. 20th Street, midblock	8/23/2012	6:52 pm - 7:12 pm	M.A.	59.0	61.2	54.2	68.2	61.2	58.3	55.7
			10:00 pm - 10:20 pm	M.A.	59.7	61.5	53.5	76.4	61.5	57.3	55.2
		8/25/2012	5:27 pm - 5:47 pm	M.A.	64.8	65.4	59.8	87.2	69.8	63.1	61.4
			8:53 pm - 9:14 pm*	C. U.	80.7	85.5	57.4	97.6	94.6	62.5	59.4
4	W. 21st Street / Surf Avenue	8/23/2012	6:04 pm - 6:24 pm	M.A.	66.0	69.7	53.7	77.9	73.3	63.6	56.5
			10:30 pm - 10:50 pm	M.A.	62.7	65.3	50.2	81.3	71.9	57.7	52.7
		8/25/2012	5:54 pm - 6:14 pm	M.A.	68.3	68.8	58.4	88.1	82.0	63.7	60.8
			8:29 pm - 8:49 pm	M.A.	64.5	67.3	56.2	79.1	73.7	62.1	59.0
5	W. 22nd Street, midblock	8/23/2012	5:37 pm - 5:57 pm	M.A.	57.5	60.2	50.6	70.8	65.6	56.8	52.8
			10:32 pm - 10:52 pm	M.A.	49.5	52.2	45.3	65.7	N/A	47.1	46.1
		8/25/2012	6:19 pm - 6:39 pm	M.A.	65.5	64.6	54.2	81.6	79.4	58.3	56.1
			8:05 pm - 8:25 pm	M.A.	58.6	60.0	52.2	80.2	67.1	56	53.6
6**	W. 20th Street / Surf Avenue	8/23/2012	6:34 pm - 6:55 pm	M.U. (I)	72.3	70.3	56.1	98.4	77.1	64.9	58.8
			10:00 pm - 10:21 pm	M.A.	66.6	69.5	53.7	83.7	76.9	61.7	56.6
		8/25/2012	Pre-event Period	M.U. (I)	72.2	70.2					
			Post-Event Period	M.A.	67.9	70.8					
7	Surf Avenue Midblock, between 21st Street and 22nd Street	6/20/2013	5:51 pm - 6:11 pm	M.U. (I)	73.6	70.9	57	96.1	81.1	64.6	59.5
		7/17/2013	9:00pm - 9:20 pm	M.A.	66.9	68.1	52.6	88.6	77.3	61.3	55.6
		6/29/2013	5.03 pm - 5:23 pm	M.A.	66.1	67.8	57.8	85.1	75.1	63.7	60.3
			8:05pm - 8:25 pm	M.A.	64.6	66.0	54.7	83.8	76.5	61.1	58.0
8	23rd Street near Boardwalk	7/17/2013	6:05 p.m. - 6:25 p.m.	M.A.	56.9	59.1	54.5	67.3	62.4	55.8	55.1
			9:25 p.m. - 9:45 p.m.	M.A.	54.8	55.6	53.3	61.5	58.1	54.5	53.9
		6/29/2013	5:56 p.m. - 6:16 p.m.	M.A.	58.1	59.9	54.1	67.5	63.8	57.4	55.9
			8:57 p.m. - 9:17 p.m.	M.A.	61.3	57.5	51.9	84.5	66.5	53.7	52.9
9	Surf Avenue Midblock, between 23rd Street and 24th Street	7/17/2013	5:38 p.m. - 5:58 p.m.	M.A.	66.8	69.9	58.5	78.8	75.9	63.5	60.6
		6/20/2013	9:24 p.m. – 9:44 p.m.	M.A.	68.9	71.1	52.5	86.3	80.9	62.6	55.1
		6/29/2013	5:30 p.m. - 5:50 p.m.	M.A.	65.0	67.7	59.0	74.1	70.5	63.8	61.2
			8:30 p.m. - 8:50 p.m.	M.A.	65.9	68.4	58.3	80.4	72.3	64.7	61.1
10	24th near Boardwalk	7/17/2013	6:29 p.m. - 6:49 p.m.	M.A.	55.8	56.1	54.2	72.3	58.5	55.1	54.6
		6/20/2013	9:00 p.m. - 9:20 p.m.	M.A.	50.5	51.3	48.7	56.6	54.7	50.3	49.6
		6/29/2013	4:37 p.m. - 4:57 p.m.	M.A.	57.2	58.8	54.6	65.2	62.6	56.5	55.5
			9:28 p.m. - 9:48 p.m.	M.A.	55.6	57.5	51.8	67.5	62.8	54.5	53.0

**Fireworks presentation at MCU Park occurred during monitoring at Site 3.*
***No data recorded during the second measurement date; noise levels estimated using proportionality equation.*
M.A.: Marginally Acceptable; M.U.: Marginally Unacceptable; C.U.: Clearly Unacceptable
Source: Sandstone Environmental Associates, Inc.

TABLE 12-6
Seaside Concert Noise Levels (dBA), July 12, 2013

Location	Time	Activity	L_{eq}	L_{10}	L_{min}	L_{max}	L_{01}	L_{50}	L_{90}
Monitoring Site 5	9:24 pm – 9:44 pm	Main Act	62.4	64.3	48.6	73.4	67.6	62.3	55.0
Monitoring Site 8	8:22 pm – 8:42 pm	Final 15 minutes of opening act	63.3	66.0	56.8	69.8	67.9	63.1	57.9
	9:02 pm – 9:22 pm	Main act	65.5	67.6	55.3	71.6	69.8	65.1	61.7
W. 20th St., just east of stage	9:48 pm – 9:58 pm	Main act	91.2	93.4	64.0	95.8	94.6	91.6	74.4
Boardwalk directly south of (behind) stage	10:00 pm – 10:01 pm	Main act	73.9	75.4	58.0	76.7	76.4	74.3	63.9

Source: Cerami Associates, Inc.

G. THE FUTURE WITHOUT THE PROPOSED PROJECT (NO-ACTION CONDITION)

In the absence of the proposed project, the development site is expected to be developed with residential, commercial, and open space uses as analyzed in the Coney Island Rezoning FEIS (2009). Based on the programming for the entire projected development site and the illustrative development site plans provided in the 2009 FEIS, the eastern portion of the development site was intended for new residential and commercial development (Lot 142) as well as the restoration and adaptive reuse of the LPC-designated (Former) Childs Restaurant Building (Lot 130).

Lot 142 would accommodate approximately 33,978 square feet of commercial space and 223,118 square feet (223 DUs) of residential space in the future without the proposed action. As illustrated in the 2009 EIS, commercial development would extend the full length of the boardwalk frontage (approximately 162 feet) and would be built to a depth of 70 feet, as only commercial uses are allowed within 70 feet of the boardwalk pursuant to the special district regulations. As the maximum allowable base height is 40 feet (estimated at 3 floors), approximately 33,978 square feet of commercial uses could reasonably be built. Additionally, the Former Childs Restaurant Building on Lot 130 would be restored and adaptively reused at its current floor area of approximately 60,000 square feet, and the western portion of the site would be converted to an approximately 1.27 acre public park.

The 1.27-acre western portion of the development site was intended to be part of the planned 1.41 acre Highland View Park that was approved to be mapped as part of the Coney Island Rezoning project. The two outparcels (Lots 79 and 81) comprise the remainder of the planned Highland View Park. Since they are still in private ownership, they are not anticipated to be developed by the analysis year of 2016, although they may be incorporated into Highland View Park at some future time as contemplated in the 2009 FEIS.

While the Coney Island Rezoning FEIS (2009) had a build year of 2019, ~~it assumed that~~the development was assumed to~~would~~ take place over the course of 10 years. Most of the development sites identified in the 2009 *Coney Island Rezoning FEIS*, including Site 1 and the northern portion of Site 2, are not anticipated to be developed by the analysis year of 2016, given that the necessary infrastructure for such development, including the construction of Ocean Way (approved for mapping as part of the 2009 project), would not occur in the near future. This is due to the fact that an office building is currently located within the right-of-way of Ocean Way immediately to the north of the (Former) Childs Restaurant Building and that has not yet been acquired by the City. In contrast, the current development site, which was identified as the southern portion of Site 2 in the *Coney Island Rezoning FEIS,* could be developed as-of-right with residential and commercial uses, as it is equipped with the physical infrastructure needed for such new development. Therefore, the No-Action scenario outlined ~~in the PDEIS~~ above could occur on the development site by the proposed action's analysis year of 2016.

Projected development Sites 1 and 2 of the *Coney Island Rezoning FEIS* are both composed of a north parcel (north of Ocean Way) and a south parcel (south of Ocean Way), with the southern parcel of Site 2 comprising the eastern portion of the development site. According to the FEIS, any development on the north parcels would require 35 dBA of attenuation, while the south parcels would require 25 dBA. These levels of attenuation did not include the proposed amphitheater.

The traffic study for the proposed project included 28 affected intersections and traffic analysis for pre-event and post-event periods for a typical weekday and Saturday when games were scheduled for the Brooklyn Cyclones. ~~In the future,~~During September of 2013, traffic on West 19th Street ~~would be~~was reversed from its ~~current~~ original pattern of one-way northbound to a ~~future~~ new pattern of one-way southbound. As a result a large number of vehicles that ~~currently leave~~formerly left Coney Island via northbound West 19th Street ~~would~~ now leave via northbound West 20th Street. This change results in a net decrease in volume for the intersection of Mermaid Avenue and West 19th Street under No-Action conditions (refer to Chapter 9, "Transportation"). None of the 28 intersections included in the traffic study would experience a traffic noise increment of 3 dBA or more. Appendix D shows the relative changes in noise levels at the 28 intersections.

As shown in Table 12-7 below, the~~se~~ recent changes in traffic patterns result in No-Action dBA increments that range from -3.4 dBA to 6.4 dBA at the ten noise monitoring sites. The larger changes are due to the revised traffic patterns. Site 3, for example, shows an increase in noise levels of 5.3 to 6.4 dBA. Most of the differences would be less than 3.0 dBA and would not be perceptible.

~~Table 12-7 shows the projected changes in noise level at the ten noise monitoring sites due to growth in traffic.~~ No-Action noise levels were calculated based on relative changes in traffic volume from Existing Conditions to No-Action Conditions. The proportionality equation was used. Traffic for the sites was calculated from the traffic volumes and turning movements for the 28 intersections using either the total intersection volume or the volumes on specific roadway segments. ~~The increments for No-Action Conditions were calculated for the relevant intersections and midblock sites based on the traffic volume diagrams.~~ The vehicular mix used to calculate the PCEs was based on field observations during noise monitoring. Based on the table, the highest L_{10} during the pre-event period would be 71.6 dBA at Site 6, while the highest L_{10} during the post-event period would be 74.0 dBA at Site 3.

Although Coney Island's Seaside Summer Concerts have been a summer staple for the past 35 years, ~~and~~they were previously held in Asser Levy Park, approximately 4,400 feet (0.85 mile) east of the project site, and in recent years a vacant lot to the east of the project site has served as a temporary location for the concert series. ~~t~~The~~y~~se concerts must obtain a permit every year and are not projected to continue into the future. Therefore, they were not included in the projection of No-Action noise levels for 2016.

Noise levels projected for the ten noise monitoring sites were assigned to the 17 buildings shown in Figure 12-2 under Existing Conditions. The~~y~~ resultant noise levels at these buildings are shown in Table 12-8. The assignment of monitoring sites to buildings included the following considerations:

TABLE 12-7
No-Action Noise Levels (dBA), Monitored Noise Sites

ID	Site	Period	Existing		No-Action		
			L_{eq}	L_{10}	Increase	L_{eq}	L_{10}
1	W. 17th Street, Midblock between Mermaid Avenue and Neptune Avenue	Pre-event	66.2	70.1	0.2	66.4	70.3
		Post-event	65.4	68.7	0.1	65.5	68.8
		Sat Pre-event	66.6	69.8	0.1	66.7	69.9
		Sat Post-event	68.2	69.9	0.1	68.3	70.0
2	Northwestern corner of W. 19th Street and Mermaid Avenue	Pre-event	68.9	70.4	-1.7	67.2	68.7
		Post-event	66.2	68.4	-3.4	62.8	65.0
		Sat Pre-event	65.5	67.9	-1.5	64.0	66.4
		Sat Post-event	66.5	68.4	-2.6	63.9	65.8
3	W. 20th Street, Midblock between Surf Avenue and Mermaid Avenue	Pre-event	59.0	61.2	6.3	65.3	67.5
		Post-event	59.7	61.5	6.4	66.1	67.9
		Sat Pre-event	64.8	65.4	5.3	70.1	70.7
		Sat Post-event*	66.0	67.8	6.2	72.2	74.0
4	Southwestern corner of W. 21st Street and Surf Avenue	Pre-event	66.0	69.7	0.6	66.6	70.3
		Post-event	62.7	65.3	0.2	62.9	65.5
		Sat Pre-event	68.3	68.8	0.6	68.9	69.4
		Sat Post-event	64.5	67.3	0.2	64.7	67.5
5	W. 22nd Street, Midblock between Surf Avenue and the Boardwalk	Pre-event	57.5	60.2	2.3	59.8	62.5
		Post-event	49.5	52.2	~~3.0~~3.2	~~52.5~~52.7	~~55.2~~55.4
		Sat Pre-event	65.5	64.6	3.4	68.9	68.0
		Sat Post-event	58.6	60.0	-0.1	58.5	59.9
6	Southeastern corner of W. 20th Street and Surf Avenue	Pre-event	72.3	70.3	1.3	73.6	71.6
		Post-event	66.6	69.5	1.6	68.2	71.1
		Sat Pre-event	72.2	70.2	1.2	73.4	71.4
		Sat Post-event	67.8	70.7	1.4	69.2	72.1
7	Surf Avenue, Midblock between W. 21st Street and W.22nd Street	Pre-event	73.6	70.9	0.5	74.1	71.4
		Post-event	66.9	68.1	0.2	67.1	68.3
		Sat Pre-event	66.1	67.8	0.5	66.6	68.3
		Sat Post-event	64.6	66.0	0.2	64.8	66.2
8	Southern end of 23rd Street near the boardwalk	Pre-event	56.9	59.1	0.1	57.0	59.2
		Post-event	54.8	55.6	0.4	55.2	56.0
		Sat Pre-event	58.1	59.9	0.1	58.2	60.0
		Sat Post-event	61.3	57.5	0.1	61.4	57.6
9	Surf Avenue, Midblock between W.23rd Street and w.24th Street	Pre-event	66.8	69.9	0.4	67.2	70.3
		Post-event	68.6	71.1	0.3	68.9	71.4
		Sat Pre-event	65.0	67.7	0.4	65.4	68.1
		Sat Post-event	65.9	68.4	0.2	66.1	68.6
10	Southern end of 24th Street near the boardwalk	Pre-event	55.8	56.1	~~0.0~~1.0	~~55.8~~56.8	~~56.1~~57.1
		Post-event	50.5	51.3	~~0.0~~1.0	~~50.5~~51.5	~~51.3~~52.3
		Sat Pre-event	57.2	58.8	0.0	57.2	58.8
		Sat Post-event	55.6	57.5	0.0	55.6	57.5

**Fireworks presentation at MCU Park occurred during monitoring at Site 3. Existing conditions without fireworks estimated using proportionality equation.*
Source: Sandstone Environmental Associates, Inc.

- Site 9 was assigned to Buildings B, C and Q. Buildings D1, I, and J are about 250 feet south of Surf Avenue, and their noise levels are also based on Site 9. However, a distance attenuation factor of 3 dBA per distance doubling was used to calculate their noise levels.
- Site 4 was assigned to Buildings G, K, and L because they are closer to Site 4 than Site 9. In addition, Site 4 is on the edge of a parking lot with no buildings to help block traffic noise. Buildings G, K, and L face this parking lot, so their frontages have no intervening buildings to block noise from Surf Avenue. ~~9~~

TABLE 12-8
Ambient Noise Levels at Sensitive Receptors, No-Action Conditions

ID	Address	Block	Lot	# Floors	# DUs	Monitoring Site ID	Period	No Action L_{eq}	No Action L_{10}
A	3035 W. 24th St.	7070	148	5	NA	**8**	Wkday < 10 pm	57.0	59.2
							Wkday >10 pm	55.2	56.0
							Sat < 10 pm	58.2	60.0
							Sat > 10 pm	61.4	57.6
B	2316 Surf Ave.	7070	120	4	100	**9**	Wkday < 10 pm	67.2	70.3
							Wkday >10 pm	68.9	71.4
							Sat < 10 pm	65.4	68.1
							Sat > 10 pm	66.1	68.6
C	3024 W. 24th St.	7070	1	NA	NA	**9**	Wkday < 10 pm	67.2	70.3
							Wkday >10 pm	68.9	71.4
							Sat < 10 pm	65.4	68.1
							Sat > 10 pm	66.1	68.6
D1	3021 W. 25th St.	7070	1	14	380	**9***	Wkday < 10 pm	60.2	63.3
							Wkday >10 pm	61.9	64.4
							Sat < 10 pm	58.4	61.1
							Sat > 10 pm	59.1	61.6
D2	3021 W. 25th St.	7070	1	14	380	**10**	Wkday < 10 pm	56.8~~60.2~~	57.1~~63.3~~
							Wkday >10 pm	51.5~~61.9~~	52.3~~64.4~~
							Sat < 10 pm	57.2~~58.4~~	58.8~~61.1~~
							Sat > 10 pm	55.6~~59.1~~	57.5~~61.6~~
E	3046 W. 22nd St.	7071	24	3	15	**5**	Wkday < 10 pm	59.8	62.5
							Wkday >10 pm	52.7~~52.5~~	55.4~~55.2~~
							Sat < 10 pm	68.9	68.0
							Sat > 10 pm	58.5	59.9
F	3040 W. 22nd St.	7071	19	7	40	**5**	Wkday < 10 pm	59.8	62.5
							Wkday >10 pm	52.7~~52.5~~	55.4~~55.2~~
							Sat < 10 pm	68.9	68.0
							Sat > 10 pm	58.5	59.9
G	3018-3022 W. 22nd St.	7071	114	3	21	**4**	Wkday < 10 pm	66.6	70.3
							Wkday >10 pm	62.9	65.5
							Sat < 10 pm	68.9	69.4
							Sat > 10 pm	64.7	67.5
H	3024 W. 23rd St.	7070	133	3	10	**5**	Wkday < 10 pm	59.8	62.5
							Wkday >10 pm	~~52.5~~52.7	55.4~~55.2~~
							Sat < 10 pm	68.9	68.0
							Sat > 10 pm	58.5	59.9
I	3027 W. 24th St.	7070	175	3	6	**9***	Wkday < 10 pm	60.2	63.3
							Wkday >10 pm	61.9	64.4
							Sat < 10 pm	58.4	61.1
							Sat > 10 pm	59.1	61.6
J	3039 W. 24th St.	7070	174	3	6	**9***	Wkday < 10 pm	60.2	63.3
							Wkday >10 pm	61.9	64.4
							Sat < 10 pm	58.4	61.1
							Sat > 10 pm	59.1	61.6
K	3008 W, 22nd St.	7071	9	2	20	**4**	Wkday < 10 pm	66.6	70.3
							Wkday >10 pm	62.9	65.5
							Sat < 10 pm	68.9	69.4
							Sat > 10 pm	64.7	67.5
L	3016 W. 22nd St.	7071	13	1	4	**4**	Wkday < 10 pm	66.6	70.3
							Wkday >10 pm	62.9	65.5
							Sat < 10 pm	68.9	69.4
							Sat > 10 pm	64.7	67.5
M	3017 W. 23rd St.	7071	94	2	6	**~~8~~5**	Wkday < 10 pm	59.8~~57.0~~	62.5~~59.2~~
							Wkday >10 pm	52.7~~55.2~~	55.4~~56.0~~
							Sat < 10 pm	68.9~~58.2~~	68.0~~60.0~~
							Sat > 10 pm	58.5~~61.4~~	59.9~~57.6~~
N	3023 W. 23rd St.	7071	93	2	3	**~~8~~5**	Wkday < 10 pm	59.8~~57.0~~	62.5~~59.2~~
							Wkday >10 pm	52.7~~55.2~~	55.4~~56.0~~
							Sat < 10 pm	68.9~~58.2~~	68.0~~60.0~~
							Sat > 10 pm	58.5~~61.4~~	59.9~~57.6~~
O	3029 W. 23rd St.	7071	90	3	3	**~~8~~5**	Wkday < 10 pm	59.8~~57.0~~	62.5~~59.2~~
							Wkday >10 pm	52.7~~55.2~~	55.2~~56.0~~

TABLE 12-8 (cont'd)

ID	Address	Block	Lot	# Floors	# DUs	Monitoring Site ID	Period	No Action Leq	No Action L10
							Sat < 10 pm	68.9~~58.2~~	68.0~~60.0~~
							Sat > 10 pm	58.5~~61.4~~	59.9~~57.6~~
P	3031 W. 23rd St.	7071	89	3	3	~~8~~5	Wkday < 10 pm	59.8~~57.0~~	62.5~~59.2~~
							Wkday >10 pm	52.7~~55.2~~	55.4~~56.0~~
							Sat < 10 pm	68.9~~58.2~~	68.0~~60.0~~
							Sat > 10 pm	58.5~~61.4~~	59.9~~57.6~~
Q	2226 Surf Ave.	7071	1	2	2	~~4~~9	Wkday < 10 pm	67.2~~66.6~~	70.3~~70.3~~
							Wkday >10 pm	68.9~~62.9~~	71.4~~65.5~~
							Sat < 10 pm	65.4~~68.9~~	68.1~~69.4~~
							Sat > 10 pm	66.1~~64.7~~	68.6~~67.5~~

*Adjusted for distance attenuation
Source: Sandstone Environmental Associates, Inc.

- Site 5, a midblock site, was assigned to Buildings E and F on West 22nd Street and to Buildings H, M, N, O, and P on West 23rd Street. The two streets have similar traffic volumes.

As shown in Table 12-8, ~~B~~buildings on or near Surf Avenue have the highest noise levels, with L_{eq}s in the 60s and L_{10}s in the 70s. Buildings further down on side streets generally had L_{eq}s in the 50s and L_{10}s in the 60s.

H. THE FUTURE WITH THE PROPOSED PROJECT (WITH-ACTION CONDITION)

Description of Proposed ~~Action~~Project

In the future with the proposed project, the site would be developed with a publicly accessible open space with opening hours the same as the Boardwalk and containing an approximately 5,100-seat amphitheater and a 60,000 square feet indoor entertainment, banquet, and restaurant facility in the (Former) Childs Restaurant Building. This EIS conservatively assumes an additional 900 standing concert attendees (6,000 total) for all quantitative analyses, as discussed below. Upon completion, the amphitheater would be owned by the City of New York under the jurisdiction of the New York City Economic Development Corporation and operated by a joint venture that involves a non-profit entity under a ten-year lease with the city. The amphitheater would serve as a concert venue for the next ten years, and provide the community with additional recreational and entertainment opportunities during the off-season. In the future with the proposed project, the two outparcels (Lots 79 and 81) are assumed to remain vacant. Table 12-9 shows a comparison of the No-Action and With-Action scenarios for the project site.

Traffic Noise

Traffic volumes for With-Action Conditions were obtained from the traffic analysis and compared with traffic for No-Action Conditions (refer to Chapter 9, "Transportation"). Based on this information, none of the intersections analyzed in the traffic study would experience noise level increments of 3 dBA or more. ~~The range of increases would be from 0.01 dBA to 1.53 dBA.~~ These increases in traffic-related noise level would not be perceptible. Therefore, all 28 intersections pass the noise screening criterion of a 3 dBA increment, and no significant adverse impacts are projected for traffic noise. Appendix D shows the information for the 28 intersections.

TABLE 12-9
Comparison of the No-Action and Action Scenarios

Use	**No-Action Scenario**	**With-Action Scenario**	**Increment**
Residential	223,118 sf (223 DUs)	0 sf (0 DUs)	**-223,118 sf (-223 DUs)**
Local Retail	33,978 sf	0 sf	**-33,978 sf**
Restaurant	60,000 sf	60,000 sf	**0 sf**
Open Space	1.27 acres	2.41 acres (including amphitheater)	**1.14 acres**
Amphitheater	0 seats	5,100 seats	**5,100 seats***
Population/Employment**	**No-Action Scenario**	**With-Action Scenario**	**Increment**
Residents	524 residents	0 residents	**-524 residents**
Workers	291 workers	~~250~~275 workers	**-16~~41~~ workers**

* It is important to note that the EIS conservatively assumes an additional 900 standing (6,000 total) concert attendees for all quantitative analyses.
**Calculations for residents are based on the Brooklyn Community District 13 average of 2.35 persons per household (Source: Demographic Profile, NYC DCP; 2010 Census). Widely used employee generation rates for retail are 3 workers per 1,000 sf and 1 worker per 25 DUs. The With-Action scenario employee estimates are provided by the Applicant, with an estimated 75 workers at the (Former) Childs Restaurant Building and ~~175~~200 at the amphitheater during events.

Table 12-10 evaluates noise levels at the ten sites that are representative sensitive receptors. The proportionality equation was used to determine the noise level increments due to changes in traffic. These increments were then added to the noise levels under No-Action Conditions. Based on the table, none of the ten sites would experience an increase of 3 dBA or more due to project-generated traffic, and no significant impacts due to traffic are projected.

Site 5 would experience a decrease in noise due to the reduction in traffic. The reductions occur due to changes in traffic between No-Action and With-Action conditions. No-Action traffic includes vehicles traveling on West 22nd Street to and from the 223 residential units and 33,978 sf of retail uses that would be located on the project site in the No-Action scenario, but would not exist in the With-Action scenario. Additionally, in the With-Action scenario, traffic management measures would be in place on West 22nd Street south of Surf Avenue, restricting vehicular traffic during concert events primarily to residents. Where the No-Action and With-Action traffic volumes were ~~below~~ around 30 vehicles or less (e.g., 31 vehicles for No-Action and 3 vehicles for With-Action), the noise level reductions were limited to -3 dBA because the relative changes in volume would be overshadowed by the background noise from other sources.

Table 12-11 shows the resulting noise levels due to changes in traffic volumes at the 17 nearby buildings identified as sensitive receptors. As shown in the table, t~~T~~he project-generated increments are low and would not reach the 3 dBA impact criterion. Buildings E, F, ~~and~~ H, M. N, O, and P, which are represented by Monitoring Site 5, would experience a decrease in noise levels.

Concert Noise

Affected Properties~~.~~

Noise levels were calculated for the noise monitoring sites and sensitive receptors discussed under Existing and No-Action Conditions. Lots 79 and 81 were not included in the analysis because they would not be developed under With-Action Conditions. The properties identified in the 2009 Coney Island Rezoning FEIS as projected development Sites 1 and 2, located to the north and east of the site, would be shielded from the concert noise by the (Former) Childs Restaurant Building. They are evaluated in a qualitative manner for potential impacts.

TABLE 12-10
Traffic Noise Levels (dBA), With-Action

ID	Site	Period	No-Action		With-Action		
			L_{eq}	L_{10}	Increase	L_{eq}	L_{10}
1	W. 17th Street, Midblock between Mermaid Avenue and Neptune Avenue	Pre-event	66.4	70.3	0.8	67.2	71.1
		Post-event	65.5	68.8	0.1	65.6	68.9
		Sat Pre-event	66.7	69.9	~~0.8~~0.9	67.6	70.8
		Sat Post-event	68.3	70.0	0.0	68.3	70.0
2	Northwestern corner of W. 19th Street and Mermaid Avenue	Pre-event	67.2	68.7	0.1	67.3	68.8
		Post-event	62.8	65.0	0.1	62.9	65.1
		Sat Pre-event	64.0	66.4	0.1	64.1	66.5
		Sat Post-event	63.9	65.8	0.0	63.9	65.8
3*	W. 20th Street, Midblock between Surf Avenue and Mermaid Avenue	Pre-event	65.3	67.5	0.2	65.5	67.7
		Post-event	66.1	67.9	1.3	67.4	69.2
		Sat Pre-event	70.1	70.7	0.1	70.2	70.8
		Sat Post-event	72.2	74.0	0.8	73.0	74.8
4	Southwestern corner of W. 21st Street and Surf Avenue	Pre-event	66.6	70.3	~~0.4~~0.5	67.1	70.8
		Post-event	62.9	65.5	1.0	63.9	66.5
		Sat Pre-event	68.9	69.4	0.4	69.3	69.8
		Sat Post-event	64.7	67.5	0.6	65.3	68.1
5	W. 22nd Street, Midblock between Surf Avenue and the Boardwalk	Pre-event	59.8	62.5	~~-1.3~~-1.2	58.6	61.3
		Post-event	52.7~~52.5~~	55.4~~55.2~~	-3.0	49.7~~49.5~~	52.4~~52.2~~
		Sat Pre-event	68.9	68.0	-2.6	66.3	65.4
		Sat Post-event	58.5	59.9	-3.0	55.5	56.9
6	Southeastern corner of W. 20th Street and Surf Avenue	Pre-event	73.6	71.6	0.4	74.0	72.0
		Post-event	68.2	71.1	0.5	68.7	71.6
		Sat Pre-event	73.4	71.4	0.3	73.7	71.7
		Sat Post-event	69.2	72.1	0.3	69.5	72.4
7	Surf Avenue , Midblock between W. 21st Street and W.22nd Street	Pre-event	74.1	71.4	0.3	74.4	71.7
		Post-event	67.1	68.3	0.3	67.4	68.6
		Sat Pre-event	66.6	68.3	0.3	66.9	68.6
		Sat Post-event	64.8	66.2	0.2	65.0	66.4
8	Southern end of 23rd Street near the boardwalk	Pre-event	57.0	59.2	0.0	57.0	59.2
		Post-event	55.2	56.0	0.0	55.2	56.0
		Sat Pre-event	58.2	60.0	0.0	58.2	60.0
		Sat Post-event	61.4	57.6	0.0	61.4	57.6
9	Surf Avenue, Midblock between W.23rd Street and w.24th Street	Pre-event	67.2	70.3	0.2	67.4	70.5
		Post-event	68.9	71.4	0.3	69.2	71.7
		Sat Pre-event	65.4	68.1	0.2	65.6	68.3
		Sat Post-event	66.1	68.6	0.2	66.3	68.8
10	Southern end of 24th Street near the boardwalk	Pre-event	56.8~~55.8~~	57.1~~56.1~~	2.4~~0.0~~	59.2~~55.8~~	59.5~~56.1~~
		Post-event	51.5~~50.5~~	52.3~~51.3~~	2.0~~0.0~~	53.5~~50.5~~	54.3~~51.3~~
		Sat Pre-event	57.2	58.8	0.0	57.2	58.8
		Sat Post-event	55.6	57.5	0.0	55.6	57.5

*Relative changes in noise level limited to 3dBA where traffic volumes were below 30 vehicles.
Source: Sandstone Environmental Associates, Inc.

TABLE 12-11
Traffic Noise Levels at Sensitive Receptors, With Action Conditions

ID	Address	Block	Lot	# Floors	# DUs	Monitoring Site ID	Period	With-Action Leq	With-Action L10	Increment Compared to No-Action
A	3035 W. 24th St.	7070	148	5	NA	**8**	Wkday < 10 pm	57.0	59.2	0.0
							Wkday >10 pm	55.2	56.0	0.0
							Sat < 10 pm	58.2	60.0	0.0
							Sat > 10 pm	61.4	57.6	0.0
B	2316 Surf Ave.	7070	120	4	100	**9**	Wkday < 10 pm	67.4	70.5	0.2
							Wkday >10 pm	69.2	71.7	0.3
							Sat < 10 pm	65.6	68.3	0.2
							Sat > 10 pm	66.3	68.8	0.2
C	3024 W. 24th St.	7070	1	NA	NA	**9**	Wkday < 10 pm	67.4	70.5	0.2
							Wkday >10 pm	69.2	71.7	0.3
							Sat < 10 pm	65.6	68.3	0.2
							Sat > 10 pm	66.3	68.8	0.2
D1	3021 W. 25th St.	7070	1	14	380	**9***	Wkday < 10 pm	60.4	63.5	0.2
							Wkday >10 pm	62.2	64.7	0.3
							Sat < 10 pm	58.6	61.3	0.2
							Sat > 10 pm	59.3	61.8	0.2
D2	3021 W. 25th St.	7070	1	14	380	**10**	Wkday < 10 pm	59.260.4	59.563.5	2.40.2
							Wkday >10 pm	53.562.2	54.364.7	2.00.3
							Sat < 10 pm	57.258.6	58.861.3	0.00.2
							Sat > 10 pm	55.659.3	57.561.8	0.00.2
E	3046 W. 22nd St.	7071	24	3	15	**5**	Wkday < 10 pm	58.6	61.3	-1.32
							Wkday >10 pm	49.549.7	52.252.4	-3.0
							Sat < 10 pm	66.3	65.4	-2.6
							Sat > 10 pm	55.5	56.9	-3.0
F	3040 W. 22nd St.	7071	19	7	40	**5**	Wkday < 10 pm	58.6	61.3	-1.32
							Wkday >10 pm	49.549.7	52.252.4	-3.0
							Sat < 10 pm	66.3	65.4	-2.6
							Sat > 10 pm	55.5	56.9	-3.0
G	3018-3022 W. 22nd St.	7071	114	3	21	**4**	Wkday < 10 pm	67.1	70.8	0.45
							Wkday >10 pm	63.9	66.5	1.0
							Sat < 10 pm	69.3	69.8	0.4
							Sat > 10 pm	65.3	68.1	0.6
H	3024 W. 23rd St.	7070	133	3	10	**5**	Wkday < 10 pm	58.6	61.3	-1.3
							Wkday >10 pm	49.549.7	52.252.4	-3.0
							Sat < 10 pm	66.3	65.4	-2.6
							Sat > 10 pm	55.5	56.9	-3.0
I	3027 W. 24th St.	7070	175	3	6	**9***	Wkday < 10 pm	60.4	63.5	0.2
							Wkday >10 pm	62.2	64.7	0.3
							Sat < 10 pm	58.6	61.3	0.2
							Sat > 10 pm	59.3	61.8	0.2
J	3039 W. 24th St.	7070	174	3	6	**9***	Wkday < 10 pm	60.4	63.5	0.2
							Wkday >10 pm	62.2	64.7	0.3
							Sat < 10 pm	58.6	61.3	0.2
							Sat > 10 pm	59.3	61.8	0.2
K	3008 W, 22nd St.	7071	9	2	20	**4**	Wkday < 10 pm	67.1	70.8	0.45
							Wkday >10 pm	63.9	66.5	1.0
							Sat < 10 pm	69.3	69.8	0.4
							Sat > 10 pm	65.3	68.1	0.6
L	3016 W. 22nd St.	7071	13	1	4	**4**	Wkday < 10 pm	67.1	70.8	0.45
							Wkday >10 pm	63.9	66.5	1.0
							Sat < 10 pm	69.3	69.8	0.4
							Sat > 10 pm	65.3	68.1	0.6
M	3017 W. 23rd St.	7071	94	2	6	**85**	Wkday < 10 pm	58.657.0	61.359.2	-1.20.0
							Wkday >10 pm	49.755.2	52.456.0	-3.00.0
							Sat < 10 pm	66.358.2	65.460.0	-2.60.0
							Sat > 10 pm	55.561.4	56.957.6	-3.00.0
N	3023 W. 23rd St.	7071	93	2	3	**85**	Wkday < 10 pm	58.657.0	61.359.2	-1.20.0
							Wkday >10 pm	49.755.2	52.456.0	-3.00.0

TABLE 12-11 (cont'd)

ID	Address	Block	Lot	# Floors	# DUs	Monitoring Site ID	Period	With-Action L_{eq}	With-Action L_{10}	Increment Compared to No-Action
							Sat < 10 pm	66.3~~58.2~~	65.4~~60.0~~	-2.6~~0.0~~
							Sat > 10 pm	55.5~~61.4~~	56.9~~57.6~~	-3.0~~0.0~~
O	3029 W. 23rd St.	7071	90	3	3	~~8~~5	Wkday < 10 pm	58.6~~57.0~~	61.3~~59.2~~	-1.2~~0.0~~
							Wkday >10 pm	49.7~~55.2~~	52.4~~56.0~~	-3.0~~0.0~~
							Sat < 10 pm	66.3~~58.2~~	65.4~~60.0~~	-2.6~~0.0~~
							Sat > 10 pm	55.5~~61.4~~	56.9~~57.6~~	-3.0~~0.0~~
P	3031 W. 23rd St.	7071	89	3	3	~~8~~5	Wkday < 10 pm	58.6~~57.0~~	61.3~~59.2~~	-1.2~~0.0~~
							Wkday >10 pm	49.7~~55.2~~	52.4~~56.0~~	-3.0~~0.0~~
							Sat < 10 pm	66.3~~58.2~~	65.4~~60.0~~	-2.6~~0.0~~
							Sat > 10 pm	55.5~~61.4~~	56.9~~57.6~~	-3.0~~0.0~~
Q	2226 Surf Ave.	7071	1	2	2	49	Wkday < 10 pm	67.4~~67.1~~	70.5~~70.8~~	0.2~~0.4~~
							Wkday >10 pm	69.2~~63.9~~	71.7~~66.5~~	0.3~~1.0~~
							Sat < 10 pm	65.6~~69.3~~	68.3~~69.8~~	0.2~~0.4~~
							Sat > 10 pm	66.3~~65.3~~	68.8~~68.1~~	0.2~~0.6~~

*Adjusted for distance attenuation
Source: Sandstone Environmental Associates, Inc.

Sound Reduction Features Included as Part of Proposed Project

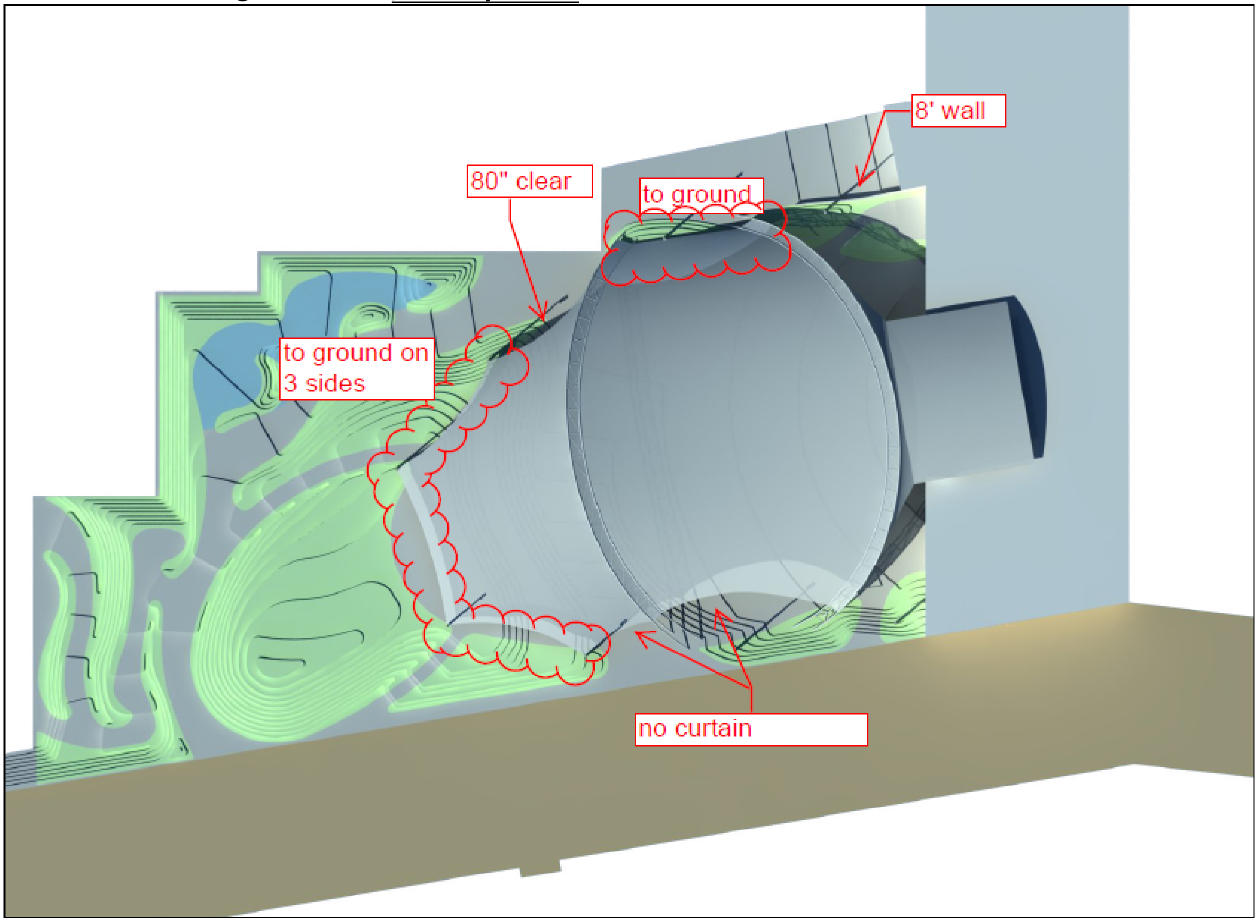
As part of the proposed project, the applicant is committed to, for every music event, using a specific speaker array (described in Appendix D), and limiting the L_{max} concert levels at the mixing board to 98 dBA before 10 PM and 92 dBA after 10 PM. This would be the equivalent to 100 dBA at the front row before 10 PM and 94 dBA at the front row after 10 PM. The venue operator will set forth these restrictions in the Artist Booking Sheet/ Booking Sheet provided to the talent who will perform at the venue. The same restrictions will be clearly set forth in any contracts between the venue operator and the talent, and will also be clearly stated in a venue operations pamphlet that will be distributed to the performers. In addition, a dB meter will be installed at the mix position in the amphitheater and used for every event, which will be monitored throughout the entire entertainment program.

Sensitive receptors are located to the west and northwest of the amphitheater. Therefore, the northwestern and western boundaries of the site will include design elements that substantially reduce the off-site noise levels in these directions. ~~Therefore~~In addition to limiting sound levels at the mixing board, the proposed amphitheater would include ~~sound reduction features~~a canopy extension and sound curtains to limit the propagation of noise beyond the site boundaries as shown in Figures 12-4 through 12-6 and further discussed below.

Section 1 in Figure 12-5 is the loading dock and south wall. It would not have a sound curtain. To reduce sound emissions from the venue north of the site from between the west wall of the (Former) Childs Restaurant Building and the front edge of the tensile fabric roof, the permanent masonry wall at the south edge of the loading dock would be extended to a minimum height of eight feet above ground to intersect the leading edge of the tensile fabric roof, and would extend sufficiently westward to overlap the venue's sound barrier curtain. This eight-foot high screen wall would be covered with vines planted at its base. The masonry wall was included in the modeling. It reduces the size of the noise level contours immediately north of and adjacent to the concert stage.

During concerts, a canopy extension would be temporarily deployed from the amphitheater roof, and acoustical curtains would be attached to the tensile fabric roof and canopy extension along the north and west edges of the venue. The acoustical curtains for Section 2 would be attached to the tensile fabric roof. The acoustical curtains on Sections 3 to 7 would be attached to the canopy extension. The curtains would reach from the tensile fabric roof or canopy extension to the ground for Sections 2, 4, 5, 6, and 7. A sound curtain at Section #3, the main entrance at the West 22nd Street, would maintain a clearance of 80" above the ground for ingress and egress. Section 8 would be open to the boardwalk and would not have a sound curtain.

FIGURE 12-4
Sound Control Design Measures, Birdseye View

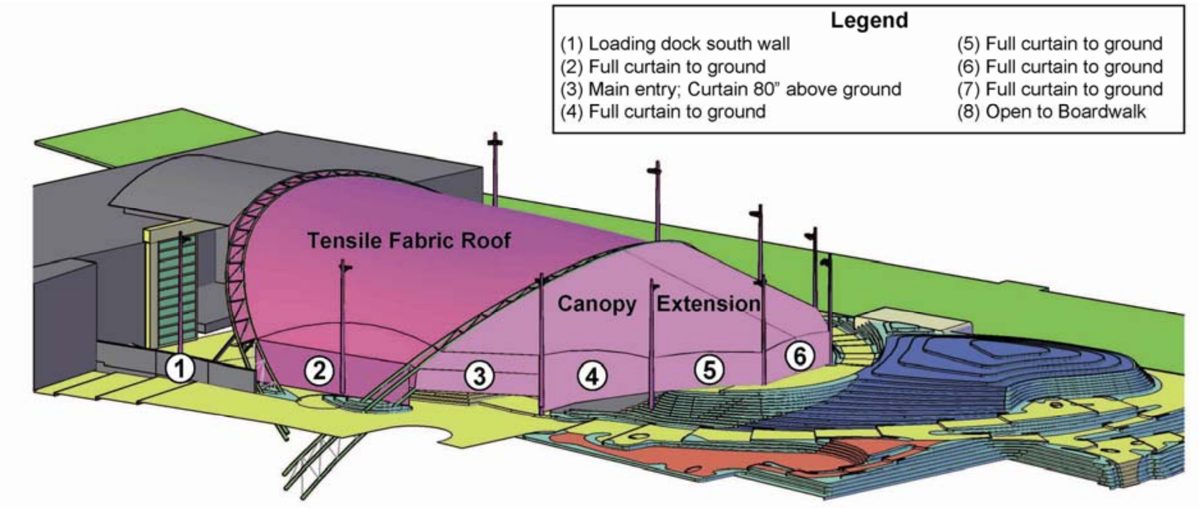


Source: Cerami and Associates, Inc.

~~. The northwestern and western boundaries of the site will include design elements that substantially reduce the off-site noise levels in these directions. To reduce sound emissions from the venue north of the site from between the (Former) Childs Restaurant Building and the front edge of the canopy, the permanent masonry wall at the south edge of the loading dock would be extended to a minimum height of eight feet above ground to intersect the leading edge of the canopy, and would extend sufficiently westward to overlap the venue's sound barrier curtain. This eight-foot high screen wall would be covered with vines planted at its base. The masonry wall was included in the modeling. It reduces the size of the noise level contours immediately north of and adjacent to the concert stage, thereby decreasing noise levels by 5 to 10 dBA for locations within about 100 feet of the stage.~~

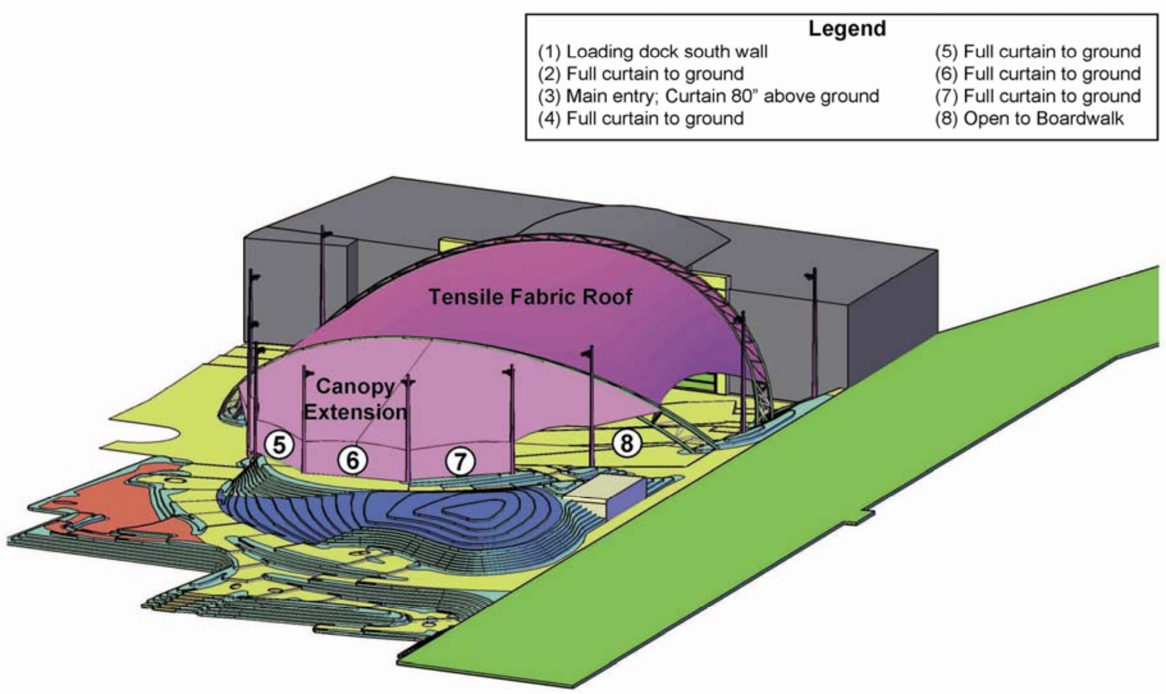
~~During concerts, a canopy extension would be temporarily deployed from the amphitheater roof. Sound barrier curtains would also be deployed in five sections along the north and west edges of the venue and extend fully to the ground, with the exception of the section at the West 22nd Street entrance which would maintain a clearance of 80" above the ground for ingress and egress. These sound curtains would be temporary and only be employed during concerts. On non-concert days, the roof would cover an area equivalent to approximately 3,500 seats. During concert events, the roof and deployable canopy extension on the western side together would cover all seating areas.~~

Figure 12-5
Tensile Fabric Roof and Canopy Extension – View from North



Source: Cerami and Associates, Inc.

Figure 12-6
Tensile Fabric Roof and Canopy Extension – View from West



Source: Cerami and Associates, Inc.

To ensure that these design measures achieve the noise reduction effects modeled, the tensile fabric roof and canopy extension material will be lined with sound absorptive panels with a minimum weight of 1 pound per square foot, and sound barrier curtains shall have a minimum weight of ½ pound per square foot. These materials shall have a minimum Sound Transmission Class of STC-20 in order to meet or exceed the acoustical barrier effects in the acoustical model.

The sound curtains and canopy extension would be temporary measures that are employed during all concerts, when the tensile fabric roof and deployable canopy extension on the western side together would cover all seating areas. On non-concert days, the venue may be used for other events, and the tensile fabric roof would cover the plaza area.
~~Figure 12-4 shows the configuration of the loading dock wall and the sound curtains that would be deployed, in addition to limiting the concert noise levels.~~

~~CADNA Model.~~ Concert Noise Modeling

Two models were used to model the noise from the amphitheater: EASE and CADNA. CADNA was used to calculate noise levels at surrounding receptor locations. EASE allows for the proper modeling of the speaker arrays planned for the venue. These arrays use of many smaller speakers, carefully individually oriented, allows more uniform coverage of the audience area with less sheer sound power emission. These effects, which account for the detailed coverage control that is attainable with modern live sound reinforcement speaker arrays, cannot be replicated within CADNA, which is not intended for such applications. The EASE noise levels at the mixing board and at points at the boundaries of the tensile fabric roof and canopy extension were input to CADNA for use in modeling noise levels at nearby receptor locations. Both models are discussed below.

EASE. An interior acoustics model was used to generate a precise prediction of sound coverage within the facility. EASE (Enhanced Acoustic Simulator for Engineers) is a powerful room acoustics and audio modeling software. It is one of a few software packages used for professional high end acoustical analysis of sensitive spaces such as performance spaces, and undisputedly the industry standard for loudspeaker design and implementation in concert halls. It functions by creating a detailed geometric and acoustic model of the space – including detailed acoustic characteristics of all the room surfaces. The acoustic analysis is done with a detailed ray-tracing algorithm which would be, generally speaking, computationally prohibitive and of less impact to the substantive results of a CADNA model that is typically on a much a larger geographic scale. The ray-tracing method breaks the sound emitted by every sound source into thousands of individual rays. These rays are beamed from the emitters. They interact with finishes (reflected and/or absorbed depending on the material type) in order to calculate the resulting sound levels and various metrics of sound quality within the room. As mentioned previously, the model was set up with an Lmax of 98 dBA at the mixing board.

CADNA. The Computer Aided Noise Abatement (CADNA Version ~~3.~~4) Model uses the international Environmental Noise Directive and ISO guidelines to accurately describe ambient noise in community environments. It is a software program typically used for the calculation and assessment of noise from:

- Commercial and industrial sites,
- Sports and leisure facilities,
- Roads and railways,
- Airports and landing strips, and
- Any other noisy facilities

CADNA accepts inputs in the form of 1/3 octave bands or as a single overall noise level (typically characterized as a frequency of 500 hz) for each source. The model integrates aircraft, rail, and motor vehicle traffic, as well as industrial noise sources, into a seamless platform to predict A-weighted Ldn, Leq, and SPL values. Results can also be obtained by octave band. Reflections, diffractions, and transmission loss created by buildings, barriers, and other obstacles are incorporated into the resulting noise levels and contours.

Noise results can be analyzed one-dimensionally at receptors, two-dimensionally through contour grids, and three-dimensionally using profile and digital terrain perspectives. Noise remediation measures can be assessed using several program capabilities: barriers, natural embankments, and on-site attenuation measures like sound reducing materials.

For this particular amphitheater project the following parameters were emphasized for the model:

- Terrain – All other surrounding objects (e.g., buildings) were configured to it.
- Ground – The landscaping design of the amphitheater site, including earthen berms and surrounding structures, were defined for the project site.
- Sound Sources – Amplification on the outdoor amphitheater stage was defined within the EASE model, providing resulting sound levels throughout the venue and around the perimeter. These results were carried into CADNA as a series of outward facing sound emitters around the perimeter of the tensile fabric roof and canopy extension. Where included in the design, these sound sources include transmission loss factors for sound barrier curtains.
- Amplification on the outdoor amphitheater stage was defined with minimal or no shielding. The canopy's thin membrane was neglected in the acoustic model due to the low transmission loss which it will provide.

Additional factors addressed for the structures and machinery emitting noise were their elevations, points of noise escape (windows, openings, doorways), and attenuation measures.

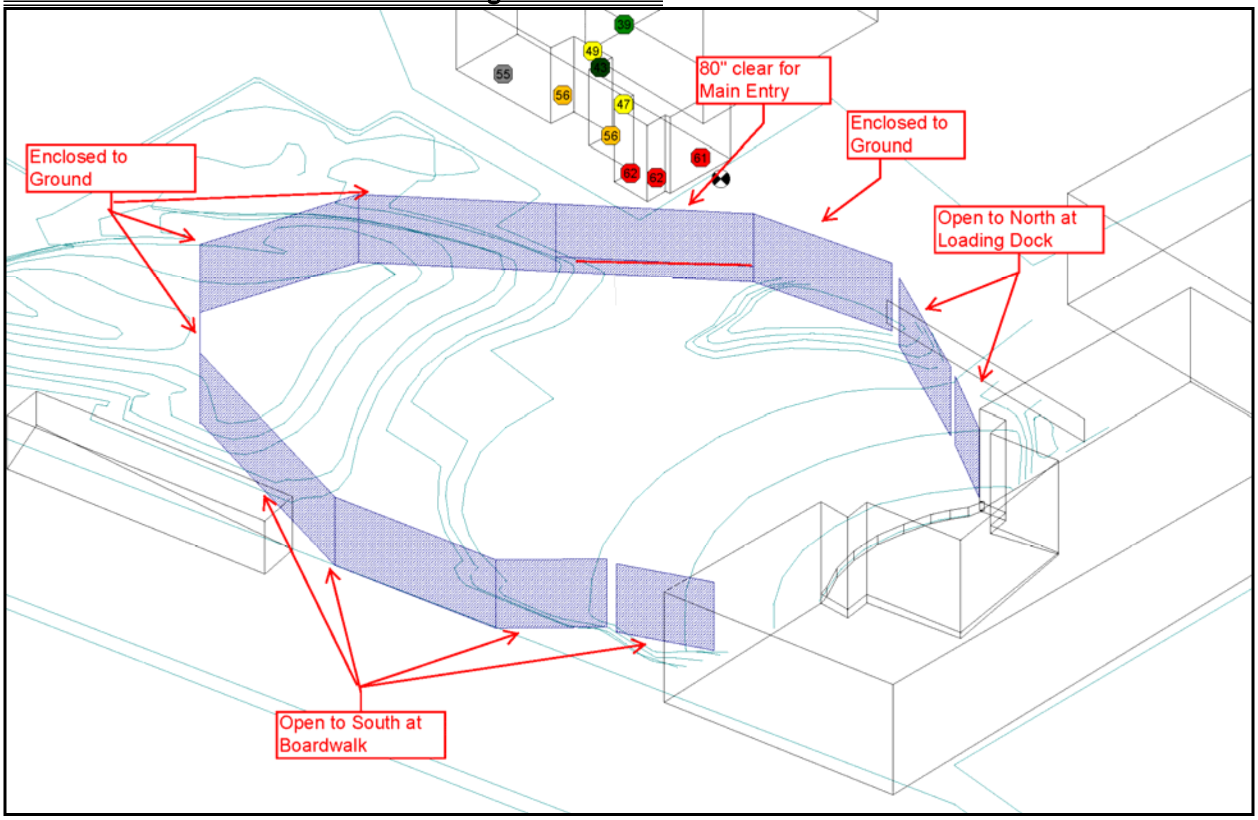
CADNA inputs included L_{max} noise levels, by octave band, at the soundboard on stageobtained from EASE at locations around the perimeter of the venue. Thus the venue was simulated as a solid building with the perimeter divided into discrete vertical planes, each radiating a known sound level based on the output of the EASE model. Where a perimeter section of the venue is covered with a sound curtain, the transmission loss from the material is applied directly to the sound source properties. Where the section is open, the transmission loss is modeled as zero. Figure 12-7 shows how the perimeter noise sources were modeled in CADNA.

As part of the proposed project, the applicant is committed to limiting the L_{max} at the front row to 90 dBA in With-Action conditions. As such, the model was calibrated to show an L_{max} of 90 dBA for the first row of seating. Given the proposed design of the venue and the topography of the seating area, the L_{max} at the row of seats farthest from the stage would be 75.7 dBA. To further avoid the potential for impacts, the L_{max} will be limited to 87 dBA at the first row for the nighttime period that begins at 10 PM.

Inputs to the modelCADNA also included specific structures that would affect or be affected by the propagation of noise from the stage. This included the structures of the (Former) Childs Restaurant Building, the Sea Crest Health Care Center at 3035 West 24th Street, the New York City Human Resources Administration's Coney Island Medicaid Office building immediately to the north of the (Former) Childs Restaurant Building, the residential building at 3058-3060 West 24th Street, and the residential building at 3046 West 22nd Street. These buildings would reflect noise from the concert or help shield other buildings from the concert noise. Specific receptor points were modeled to match the locations of the ten sites monitored for noise levels, as well as the seventeen sensitive receptor buildings listed in Table

12-4, in order to project concert noise levels at these sites. Noise levels were projected for elevations at street level and at 50 feet above ground level for both octave band and A-weighted descriptors.

Figure 12-7
Perimeter Noise Sources in CADNA Using EASE Results



Source: Cerami and Associates, Inc.

Concert Noise Levels. CADNA modeling ~~limited the L_{max} at the front row of seating to 90 dBA. Given the planned speaker system, the resulting L_{max} noise levels at the last row of seating would be 75.7 dBA.~~was based on the L_{max}. The L_{max} was selected in order to avoid significant adverse noise impacts and for ~~project~~ future compliance with ~~Section 24-218 of~~ the NYC Noise Code~~, which limits noise level increments to 10 dBA above ambient noise levels before 10 pm and 7 dBA at or after 10 pm. Ambient noise levels were defined as the projected L_{eq} under No Action Conditions~~.
The L_{eq} noise levels were calculated from the L_{max} because L_{eq}s can be manipulated mathematically and logarithmically added to the With Action L_{eq}s calculated for traffic noise. The resulting total L_{eq} noise levels under With Action Conditions were compared with the L_{eq}s under No Action Conditions in order to determine the potential for impacts for CEQR purposes.

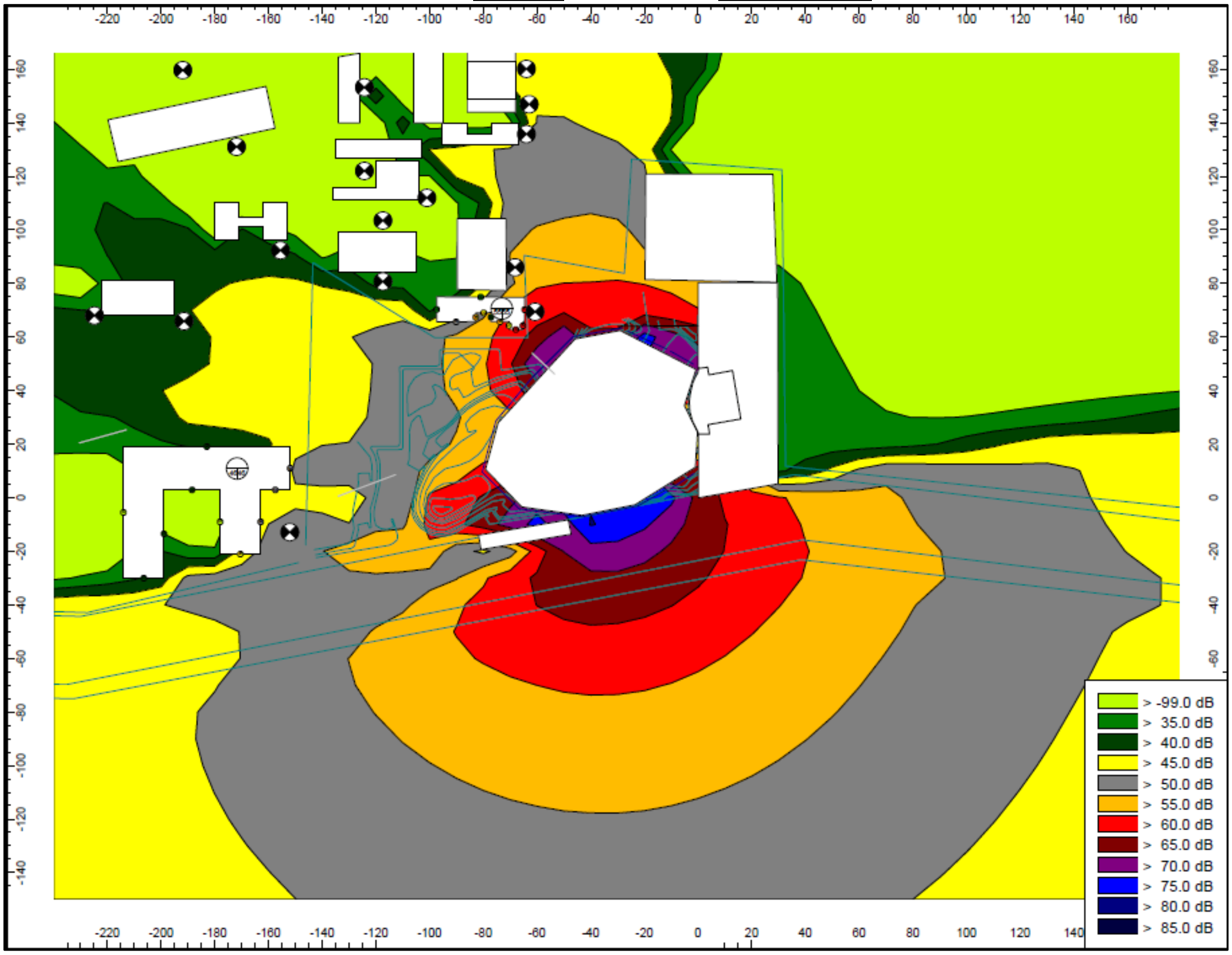
The difference between the L_{max} and the L_{eq} for concert noise was set at 5 dBA. The L_{eq} and L_{max} for a concert would be close because the high concert noise levels would skew the calculation of the L_{eq}. Frequency distributions of the modeled CADNA noise levels support a difference of 5 dBA, and the noise levels that were monitored close to the stage at the concert on July 17, 2013, showed a difference of 4.6 dBA between the L_{eq} and the L_{max}.

Figure 12-~~5~~ 8 shows the modeled noise contours for an L_{max} of ~~90~~ 100 dBA at the front row (98 dBA at mix location) with all of the proposed design measures in place. The contours shown in the figure are for

an elevation of approximately two meters, as noise levels at this height would be greater than noise levels at ground level. As is evident from the figure, the structure of the (Former) Childs Restaurant Building ~~substantially~~ helps to block~~s~~ and reduce~~s~~ noise levels on the east and northeast. Concert noise levels behind the wall and Human Resources building are below ambient noise levels and would not make a noticeable contribution to total noise levels because they are 40 dBA or lower.~~, causing noise levels to drop to 60 dBA within about 25 feet of the site and to 55 dBA or less within about 150 feet of the project site.~~ Therefore, ~~T~~the proposed window attenuation recommended in the 2009 Coney Island ~~rezoning~~ Rezoning FEIS for projected development Sites 1 and 2 would be sufficient to maintain an indoor noise level of 45 dBA in the future with the proposed amphitheater.

FIGURE 12-~~5~~8

Concert Noise Contours With L_{max} of ~~90~~ 98 dBA at ~~Front Row~~Mix Location

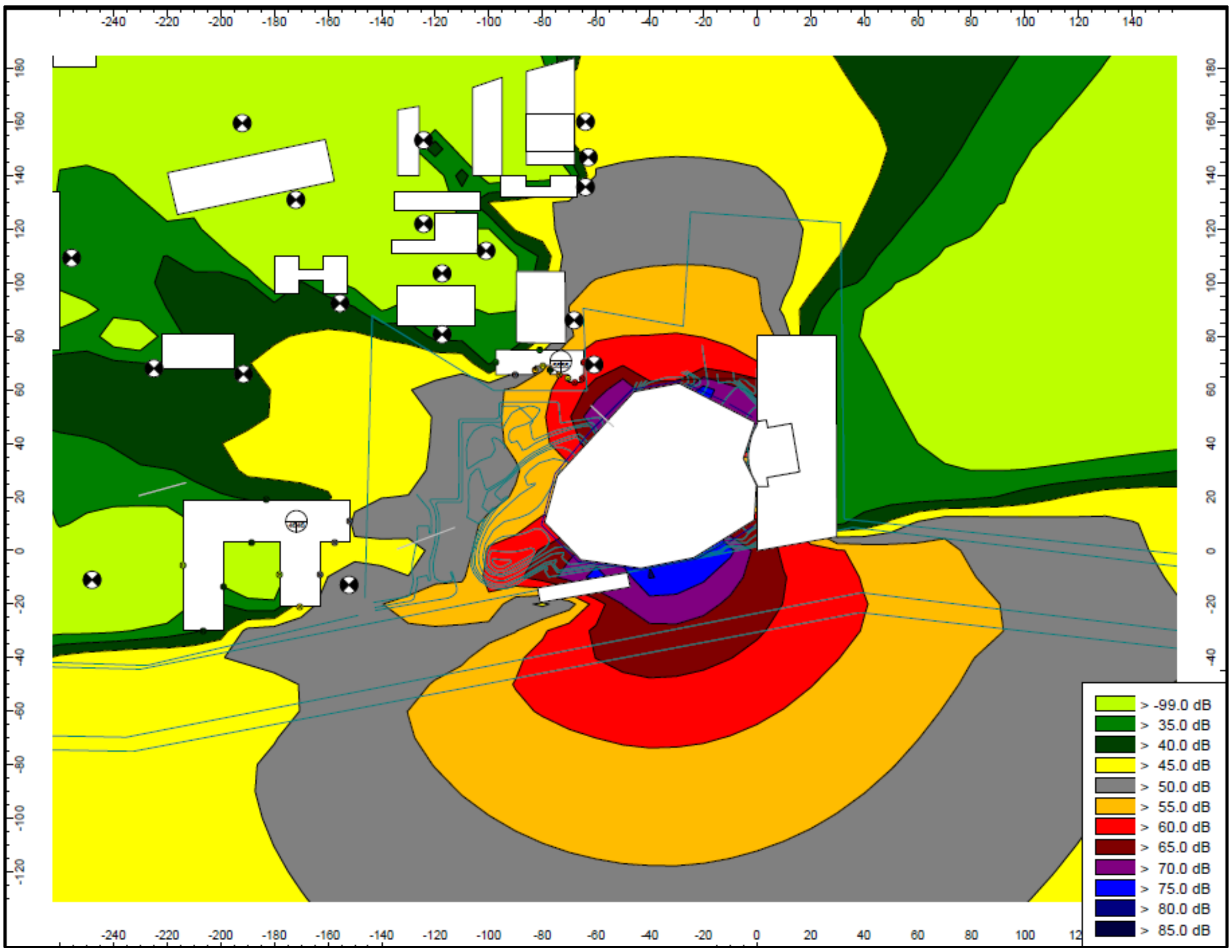


Numbers in circles are noise monitoring sites and sensitive receptor locations.
Source: Cerami and Associates, Inc.

With the noise reduction measures in place, the noise levels drop rapidly on the west side of the venue, and the contours fall to approximately 55 dBA or less before reaching any residences. They drop less rapidly on the Boardwalk to the east, where the nearest edge of the boardwalk would experience concert noise levels of 75 dBA. However, the boardwalk is not a sensitive receptor and these noise levels would not constitute an impact. ~~To the west and northwest, the concert noise contours extend much further, depending on the extent to which existing buildings serve as barriers. This leads to long, narrow spikes of relatively high noise levels that run between buildings.~~ The projected concert noise on the north would place one residence within the 60-65 dBA contour and one within the 55-60 dBA contour. All others would experience concert noise levels of 50 dBA or less. These contours only show concert noise. They do not include traffic noise or other ambient sources of noise. Therefore, they do not reflect total noise levels or relative increases in noise levels.

Additional modeling was carried out to evaluate noise levels without the presence of the Brooklyn Human Resources Building north of the site. The masonry wall at the loading dock functions as a sound reduction measure against northward sound transmission. However, noise levels at Receptors 1, 2, 3, 4, and 6 to the north and east of the venue would increase in the absence of the Human Resources Building. The higher noise levels experienced at Receptors 1 to 4 would range from 0.4 to 4.6 dBA, while the noise difference for Receptor 6 is 13.6 dBA. Because the concert noise levels for all five of these receptors would continue to fall below the ambient noise levels, no impacts would occur and no additional compensating mitigation requirements are anticipated should the Brooklyn Human Resources Department Building be demolished. The proposed window attenuation recommended in the 2009 Coney Island Rezoning FEIS for projected development Sites 1 and 2 still would be sufficient to maintain an indoor noise level of 45 dBA in the future with the proposed amphitheater. Figure 12-9 shows the contours without the Human Resources Building.

Figure 12-9
Concert Noise Contours Without Human Resources Building



Numbers in circles are noise monitoring sites and sensitive receptor locations.
Source: Cerami and Associates, Inc.

For the purposes of assessing potential compliance with Section 24-244 of the NYC Noise code, the L_{max} due solely to concert noise was compared with future ambient noise levels for With Action Conditions. The ambient noise was defined as the traffic noise levels under With Action Conditions. Due to the proposed noise reduction measures, noise levels from the concert would not be high enough to cause a 10 dBA increase over ambient noise prior to 10 pm. Concert noise after 10 pm was projected as being 6 dBA less than the modeled noise levels to represent the commitment to lower noise levels during the nighttime period. This would be equivalent to an L_{max} of 92 dBA at the mix and 94 dBA at the first row. Resulting noise levels would not be high enough to cause a 7 dBA increase over ambient noise levels after 10 pm. ~~Table 12-12 shows the L_{max} concert noise levels at sensitive receptors and compares them with the L_{eq} for No-Action Conditions. The values in the table include the use of an 87 dBA L_{max} after 10 PM. In many cases, the concert noise would fall below ambient noise levels due to the attenuation with distance.~~

Based on the results of the analysis, ~~N~~no buildings with sensitive receptors would experience noise levels that would be higher than the increments permitted under Section 24-244 of the NYC Noise Code. Because there would be no adverse CEQR impacts, the project is not anticipated to exceed commercial music standards in Section 24-231 of the Noise Code. However, the prediction of noise levels within a receiving property is difficult, and any violation would be handled as an enforcement action.

~~**TABLE 12-12**~~

~~**Concert Noise Levels at Sensitive Receptors, With Action Conditions**~~

ID	Address	Block	Lot	# Floors	# DUs	Monitoring Site ID	Period	No- Action Traffic/Background Leq	Concert Lmax Increment	
									Concert	Concert – /Background
A	3035 W. 24th St.	7070	148	5	NA	8	Wkday < 10 pm	57.0	51.1	(5.9)
-	-	-	-	-	-	-	Wkday >10 pm	55.2	48.1	(7.1)
-	-	-	-	-	-	-	Sat < 10 pm	58.2	51.1	(7.1)
-	-	-	-	-	-	-	Sat > 10 pm	61.4	48.1	(13.3)
B	2316 Surf Ave.	7070	120	4	100	9	Wkday < 10 pm	67.2	48.9	(18.3)
-	-	-	-	-	-	-	Wkday >10 pm	68.9	45.9	(23.0)
-	-	-	-	-	-	-	Sat < 10 pm	65.4	48.9	(16.5)
-	-	-	-	-	-	-	Sat > 10 pm	66.1	45.9	(20.2)
C	3024 W. 24th St.	7070	1	NA	NA	9	Wkday < 10 pm	67.2	60.3	(6.9)
-	-	-	-	-	-	-	Wkday >10 pm	68.9	57.3	(11.6)
-	-	-	-	-	-	-	Sat < 10 pm	65.4	60.3	(5.1)
-	-	-	-	-	-	-	Sat > 10 pm	66.1	57.3	(8.8)
D1	3021 W. 25th St.	7070	1	14	380	9*	Wkday < 10 pm	60.2	58.4	(1.8)
-	-	-	-	-	-	-	Wkday >10 pm	61.9	55.4	(6.5)
-	-	-	-	-	-	-	Sat < 10 pm	58.4	58.4	(0.0)
-	-	-	-	-	-	-	Sat > 10 pm	59.1	55.4	(3.7)
D2	3021 W. 25th St.	7070	1	14	380	10	Wkday < 10 pm	60.2	45.9	(14.3)
-	-	-	-	-	-	-	Wkday >10 pm	61.9	42.9	(19.0)
-	-	-	-	-	-	-	Sat < 10 pm	58.4	45.9	(12.5)
-	-	-	-	-	-	-	Sat > 10 pm	59.1	42.9	(16.2)
E	3046 W. 22nd St.	7071	24	3	15	5	Wkday < 10 pm	59.8	59.2	(0.6)
-	-	-	-	-	-	-	Wkday >10 pm	52.5	56.2	3.7
-	-	-	-	-	-	-	Sat < 10 pm	68.9	59.2	(9.7)
-	-	-	-	-	-	-	Sat > 10 pm	58.5	56.2	(2.3)
F	3040 W. 22nd St.	7071	19	7	40	5	Wkday < 10 pm	59.8	58.0	(1.8)
-	-	-	-	-	-	-	Wkday >10 pm	52.5	55.0	2.5
-	-	-	-	-	-	-	Sat < 10 pm	68.9	58.0	(10.9)
-	-	-	-	-	-	-	Sat > 10 pm	58.5	55.0	(3.5)
G	3018-3022 W. 22nd St.	7071	114	3	21	4	Wkday < 10 pm	66.6	69.3	2.7
-		-	-	-	-	-	Wkday >10 pm	62.9	66.3	3.4

-	-	-	-	-	-	-	Sat < 10 pm	68.9	69.3	0.4
-	- -	-	-	-	-	-	Sat > 10 pm	64.7	66.3	1.6
H	3024 W. 23rd St.	7070	133	3	10	5	Wkday < 10 pm	59.8	54.7	(5.1)
-	-	-	-	-	-	-	Wkday >10 pm	52.5	51.7	(0.8)
-	-	-	-	-	-	-	Sat < 10 pm	68.9	54.7	(14.2)
-	-	-	-	-	-	-	Sat > 10 pm	58.5	51.7	(6.8)
I	3027 W. 24th St.	7070	175	3	6	9*	Wkday < 10 pm	60.2	62.6	2.4
-	-	-	-	-	-	-	Wkday >10 pm	61.9	59.6	(2.3)
-	-	-	-	-	-	-	Sat < 10 pm	58.4	62.6	4.2
-	-	-	-	-	-	-	Sat > 10 pm	59.1	59.6	0.5
J	3039 W. 24th St.	7070	174	3	6	9*	Wkday < 10 pm	60.2	64.8	4.6
-	-	-	-	-	-	-	Wkday >10 pm	61.9	61.8	(0.1)
-	-	-	-	-	-	-	Sat < 10 pm	58.4	64.8	6.4
-	-	-	-	-	-	-	Sat > 10 pm	59.1	61.8	2.7
K	3008 W, 22nd St.	7071	9	2	20	4	Wkday < 10 pm	66.6	68.0	1.4
-	-	-	-	-	-	-	Wkday >10 pm	62.9	65.0	2.1
-	-	-	-	-	-	-	Sat < 10 pm	68.9	68.0	(0.9)
-	-	-	-	-	-	-	Sat > 10 pm	64.7	65.0	0.3
L	3016 W. 22nd St.	7071	13	1	4	4	Wkday < 10 pm	66.6	68.8	2.2
-	-	-	-	-	-	-	Wkday >10 pm	62.9	65.8	2.9
-	-	-	-	-	-	-	Sat < 10 pm	68.9	68.8	(0.1)
-	-	-	-	-	-	-	Sat > 10 pm	64.7	65.8	1.1
M	3017 W. 23rd St.	7071	94	2	6	8	Wkday < 10 pm	57.0	48.9	8.1
-	-	-	-	-	-	-	Wkday >10 pm	57.0	45.9	(8.1)
-	-	-	-	-	-	-	Sat < 10 pm	55.2	48.9	(9.3)
-	-	-	-	-	-	-	Sat > 10 pm	58.2	45.9	(9.3)
N	3023 W. 23rd St.	7071	93	2	3	8	Wkday < 10 pm	61.4	51.1	(15.5)
-	-	-	-	-	-	-	Wkday >10 pm	57.0	48.1	(5.9)
-	-	-	-	-	-	-	Sat < 10 pm	55.2	51.1	(7.1)
-	-	-	-	-	-	-	Sat > 10 pm	58.2	48.1	(7.1)
O	3029 W. 23rd St.	7071	90	3	3	8	Wkday < 10 pm	61.4	49.5	(13.3)
-	-	-	-	-	-	-	Wkday >10 pm	57.0	46.5	(7.5)
-	-	-	-	-	-	-	Sat < 10 pm	55.2	49.5	(8.7)
-	-	-	-	-	-	-	Sat > 10 pm	58.2	46.5	(8.7)
P	3031 W. 23rd St.	7071	89	3	3	8	Wkday < 10 pm	61.4	54.2	(14.9)
-	-	-	-	-	-	-	Wkday >10 pm	57.0	51.2	(2.8)
-	-	-	-	-	-	-	Sat < 10 pm	55.2	54.2	(4.0)
-	-	-	-	-	-	-	Sat > 10 pm	58.2	51.2	(4.0)
Q	2226 Surf Ave.	7071	1	2	2	4	Wkday < 10 pm	61.4	58.5	(10.2)
							Wkday >10 pm	66.6	55.5	(8.1)
							Sat < 10 pm	62.9	58.5	(7.4)
							Sat > 10 pm	68.9	55.5	(10.4)

*Adjusted for distance attenuation
Note: Numbers in bold type would exceed the increments permitted in Section 24-218 of the NYC Noise Code
Source: Sandstone Environmental Associates, Inc.

Total Noise

The L_{eq} concert noise levels modeled for the receptor sites were logarithmically added to the L_{eq} traffic noise levels projected for With-Action Conditions in order to obtain total L_{eq} noise levels and noise level increments for affected properties. The total L_{eq} noise levels under With-Action Conditions are shown in Table 12-13 12 below, and include are based on the L_{max} limitations of 90 98 and 87 92 dBA at the mixing board discussed previously. Total noise levels for With-Action conditions wouldThey range from 51.349.7 dBA to 70.569.3 dBA. With the proposed noise reduction measures in place, the concert noise increments compared to No-Action conditions would be below 3 dBA at all receptor points. The increments are negative at some sites, reflecting the projected reduction in traffic volumes at those sites. In these cases, the noise contributed by the concert venue is not sufficient to counteract the effects of the reduced traffic volume. ~~All but one of the buildings would experience an increase of less than 3 dBA. Building J would experience a noise level increment of 3.8 dBA on a typical Saturday evening before 10 PM. However, due to the low traffic noise level of 58.4 dBA for this period, the allowable increment is 5 dBA. Therefore, the increment does not constitute an impact.~~Based on the foregoing analysis, no noise level impacts are projected.

TABLE 12-~~13~~12
Total Noise Levels at Sensitive Receptors, With-Action Conditions

ID	Address	Block	Lot	# Floors	# DUs	Period	No-Action L_{eq}	Total With-Action L_{eq}	Incre-ment	Allow-able	Impact?
A	3035 W. 24th St.	7070	148	5	NA	Wkday < 10 pm	57.0	57.3~~57.3~~	0.3~~0.3~~	5	No
						Wkday >10 pm	55.2	55.4~~55.5~~	0.2~~0.3~~	3	No
						Sat < 10 pm	58.2	58.5~~58.4~~	0.3~~0.3~~	5	No
						Sat > 10 pm	61.4	61.4~~61.5~~	0.0~~0.1~~	3	No
B	2316 Surf Ave.	7070	120	4	100	Wkday < 10 pm	67.2	67.4~~67.4~~	0.2~~0.2~~	3	No
						Wkday >10 pm	68.9	69.2~~69.2~~	0.3~~0.3~~	3	No
						Sat < 10 pm	65.4	65.6~~65.6~~	0.2~~0.2~~	3	No
						Sat > 10 pm	66.1	66.3~~66.3~~	0.2~~0.2~~	3	No
C	3024 W. 24th St.	7070	1	NA	NA	Wkday < 10 pm	67.2	67.4~~67.7~~	0.2~~0.4~~	3	No
						Wkday >10 pm	68.9	69.2~~69.2~~	0.3~~0.4~~	3	No
						Sat < 10 pm	65.4	65.6~~65.9~~	0.2~~0.5~~	3	No
						Sat > 10 pm	66.1	66.3~~66.4~~	0.2~~0.3~~	3	No
D1	3021 W. 25th St.	7070	1	14	380	Wkday < 10 pm	60.2	60.4~~61.2~~	0.2~~1.0~~	4.8	No
						Wkday >10 pm	61.9	62.2~~62.4~~	0.3~~0.6~~	3	No
						Sat < 10 pm	58.4	58.6~~59.7~~	0.2~~1.3~~	5	No
						Sat > 10 pm	59.1	59.3~~59.8~~	0.2~~0.7~~	3	No
D2	3021 W. 25th St.	7070	1	14	380	Wkday < 10 pm	56.8~~60~~	59.2~~60.5~~	2.4~~0.2~~	~~4.8~~5	No
						Wkday >10 pm	51.5~~61~~	53.5~~62.2~~	2.0~~0.3~~	3	No
						Sat < 10 pm	57.2~~58~~	57.2~~58.6~~	0.0~~0.2~~	5	No
						Sat > 10 pm	55.6~~59~~	55.6~~59.3~~	0.0~~0.2~~	3	No
E	3046 W. 22nd St.	7071	24	3	15	Wkday < 10 pm	59.8	61.0~~59.9~~	1.2~~0.1~~	5	No
						Wkday >10 pm	~~52.5~~52	53.6~~53.4~~	0.9~~0.9~~	3	No
						Sat < 10 pm	68.9	66.8~~66.6~~	-	3	No
						Sat > 10 pm	58.5	56.9~~56.8~~	-	3	No
F	3040 W. 22nd St.	7071	19	7	40	Wkday < 10 pm	59.8	59.3~~59.6~~	-	5	No
						Wkday >10 pm	52~~52.5~~	51.0~~52.8~~	-	3	No
						Sat < 10 pm	68.9	66.4~~66.5~~	-	3	No
						Sat > 10 pm	58.5	55.9~~56.5~~	-	3	No
G	3018-3022 W. 22nd St.	7071	114	3	21	Wkday < 10 pm	66.6	67.1~~68.9~~	0.5~~2.3~~	3	No
						Wkday >10 pm	62.9	63.9~~65.8~~	1.0~~2.9~~	3	No
						Sat < 10 pm	68.9	69.3~~70.5~~	0.4~~1.6~~	3	No
						Sat > 10 pm	64.7	65.3~~66.7~~	0.6~~2.0~~	3	No
H	3024 W. 23rd St.	7070	133	3	10	Wkday < 10 pm	59.8	58.6~~59.1~~	-	5	No
						Wkday >10 pm	52.7~~52~~	49.7~~51.3~~	-	3	No
						Sat < 10 pm	68.9	66.3~~66.4~~	-	3	No
						Sat > 10 pm	58.5	55.5~~56.0~~	-	3	No
I	3027 W. 24th St.	7070	175	3	6	Wkday < 10 pm	60.2	60.4~~62.2~~	0.2~~2.0~~	4.8~~5~~	No
						Wkday >10 pm	61.9	62.2~~62.9~~	0.3~~1.0~~	3	No
						Sat < 10 pm	58.4	58.6~~61.1~~	0.2~~2.7~~	5	No
						Sat > 10 pm	59.1	59.3~~60.6~~	0.2~~1.4~~	3	No
J	3039 W. 24th St.	7070	174	3	6	Wkday < 10 pm	60.2	60.5~~63.1~~	0.3~~2.9~~	4.8	No
						Wkday >10 pm	61.9	62.2~~63.3~~	0.3~~1.4~~	3	No
						Sat < 10 pm	58.4	58.6~~62.2~~	0.2~~3.8~~	5	No
						Sat > 10 pm	59.1	59.3~~61.2~~	0.2~~2.1~~	3	No

TABLE 12-12 (cont'd)

ID	Address	Block	Lot	# Floors	# DUs	Period	No-Action L_{eq}	Total With-Action L_{eq}	Incre-ment	Allow-able	Impact?
K	3008 W, 22nd St.	7071	9	2	20	Wkday < 10 pm	66.6	67.1~~68.5~~	0.5~~1.9~~	3	No
						Wkday >10 pm	62.9	63.9~~65.4~~	1.0~~2.5~~	3	No
						Sat < 10 pm	68.9	69.3~~70.2~~	0.4~~1.3~~	3	No
						Sat > 10 pm	64.7	65.3~~66.4~~	0.6~~1.7~~	3	No
L	3016 W. 22nd St.	7071	13	1	4	Wkday < 10 pm	66.6	67.1~~68.8~~	0.5~~2.1~~	3	No
						Wkday >10 pm	62.9	63.9~~65.6~~	1.0~~2.7~~	3	No
						Sat < 10 pm	68.9	69.3~~70.4~~	0.4~~1.5~~	3	No
						Sat > 10 pm	64.7	65.3~~66.6~~	0.6~~1.9~~	3	No
M	3017 W. 23rd St.	7071	94	2	6	Wkday < 10 pm	59.8~~57~~	58.6~~57.2~~	-1.2~~0.2~~	5	No
						Wkday >10 pm	52.7~~55~~	49.7~~55.4~~	-3.0~~0.2~~	3	No
						Sat < 10 pm	68.9~~58~~	66.3~~58.3~~	-2.6~~0.2~~	~~5~~3	No
						Sat > 10 pm	58.5~~61~~	55.5~~61.4~~	-3.0~~0.0~~	3	No
N	3023 W. 23rd St.	7071	93	2	3	Wkday < 10 pm	59.8~~57~~	58.6~~57.3~~	-1.2~~0.3~~	5	No
						Wkday >10 pm	52.7~~55~~	49.7~~55.5~~	-3.0~~0.3~~	3	No
						Sat < 10 pm	68.9~~58~~	66.3~~58.4~~	-2.6~~0.3~~	~~5~~3	No
						Sat > 10 pm	58.5~~61~~	55.5~~61.5~~	-3.0~~0.1~~	3	No
O	3029 W. 23rd St.	7071	90	3	3	Wkday < 10 pm	59.8~~57~~	58.6~~57.2~~	-1.2~~0.2~~	5	No
						Wkday >10 pm	52.7~~55~~	49.7~~55.4~~	-3.0~~0.2~~	3	No
						Sat < 10 pm	68.9~~58~~	66.3~~58.4~~	-2.6~~0.2~~	~~5~~3	No
						Sat > 10 pm	58.5~~61~~	55.5~~61.4~~	-3.0~~0.0~~	3	No
P	3031 W. 23rd St.	7071	89	3	3	Wkday < 10 pm	59.8~~57~~	58.6~~57.7~~	-1.2~~0.7~~	5	No
						Wkday >10 pm	52.7~~55~~	49.7~~55.8~~	-3.0~~0.5~~	3	No
						Sat < 10 pm	68.9~~58~~	66.3~~58.7~~	-2.6~~0.5~~	~~5~~3	No
						Sat > 10 pm	58.5~~61~~	55.5~~61.5~~	-3.0~~0.1~~	3	No
Q	2226 Surf Ave.	7071	1	2	2	Wkday < 10 pm	67.2~~66~~	67.4~~67.3~~	0.2~~0.6~~	3	No
						Wkday >10 pm	68.9~~62~~	69.2~~64.1~~	0.3~~1.2~~	3	No
						Sat < 10 pm	65.4~~68~~	65.6~~69.4~~	0.2~~0.5~~	3	No
						Sat > 10 pm	66.1~~64~~	66.3~~65.4~~	0.2~~0.7~~	3	No

Source: Sandstone Environmental Associates, Inc.

Summary of Results

Noise levels were evaluated for the traffic network and for specific sensitive receptor locations in order to project future noise levels at buildings near the proposed concert site. No impacts due to increases in traffic were projected. The CADNA and EASE models were~~was~~ used to model concert noise, and the L_{max} concert noise levels at the ~~front row of seats~~mix position were limited to ~~90~~ 98 dBA before 10 PM and ~~87~~ 92 dBA beginning at 10 PM. Design features to control the propagation of noise beyond the site boundaries include~~d~~ an 8-foot high masonry wall at the south edge of the loading dock. During concerts, a sound curtain would be temporarily deployed to the ground on the northwestern side of the tensile fabric roof. Additionally, a canopy extension would be deployed with sound curtains extending to the ground on the western edges, with the exception of the entrance at West 22nd Street which would maintain a clearance of 80 inches above the ground for ingress and egress. Modeling without the presence of the Brooklyn Human Resources Building was carried out. Although noise levels at some receptors would be higher, no impacts would occur and the proposed window attenuation recommended in the 2009 Coney Island Rezoning FEIS for projected development Sites 1 and 2 still would be sufficient to maintain an indoor noise level of 45 dBA in the future with the proposed amphitheater.

The modeled L_{max} noise levels were compared with the L_{eq}s under With-Action traffic-only conditions~~No-Action Conditions~~. The results showed that concert noise levels would not exceed the permissible noise increments in Section 24-2~~18~~44 of the NYC Noise Code. Further, based on the results of the CEQR analysis, the project is not anticipated to exceed the commercial music standards in Section 24-231 of the Noise Code; however, it is difficult to predict noise levels within receiving properties, and any violation would be handled as an enforcement action.

The L_{eq}s for the concert noise were logarithmically added to the L_{eq} traffic noise levels for With-Action Conditions and compared to No Action Conditions. This indicated that no sensitive receptors in the vicinity of the amphitheater would experience a significant adverse impact under CEQR. Therefore, no further measures are required to avoid noise impacts. ~~The proposed design plans will be reviewed between the Draft and Final EIS in order to optimize the sound level mitigation. However, if potential noise impacts are identified during refinement of analyses to further enhance noise attenuating measures of the project prior to the issuance of the FEIS, the Applicant commits to providing additional measures as necessary to ensure that no such significant adverse noise impacts occur due to the proposed project.~~