A. INTRODUCTION

The potential for noise impacts from the proposed 53 West 53rd Street project is examined in this chapter. The proposed project would not generate sufficient traffic to have the potential to cause a significant noise impact (i.e., it would not result in a doubling of passenger car equivalents [PCEs], which would be necessary to cause a 3 dBA increase in noise levels). However, ambient noise levels adjacent to the development site must be considered to address New York City Environmental Quality Review (CEQR) noise abatement requirements for the building. This potential is assessed below.

B. NEW YORK CEQR NOISE STANDARDS

The New York City *CEQR Technical Manual* defines attenuation requirements for buildings based on exterior noise levels (see **Table 17-1**). Recommended noise attenuation values for buildings are designed to maintain interior noise levels of 45 dBA or lower for residential, hotel, museum, etc. uses (and 50 dBA or lower for commercial and office uses), and are determined based on exterior $L_{10(1)}$ noise levels.

Table 17-1
Required Attenuation Values to Achieve Acceptable Interior Noise Levels

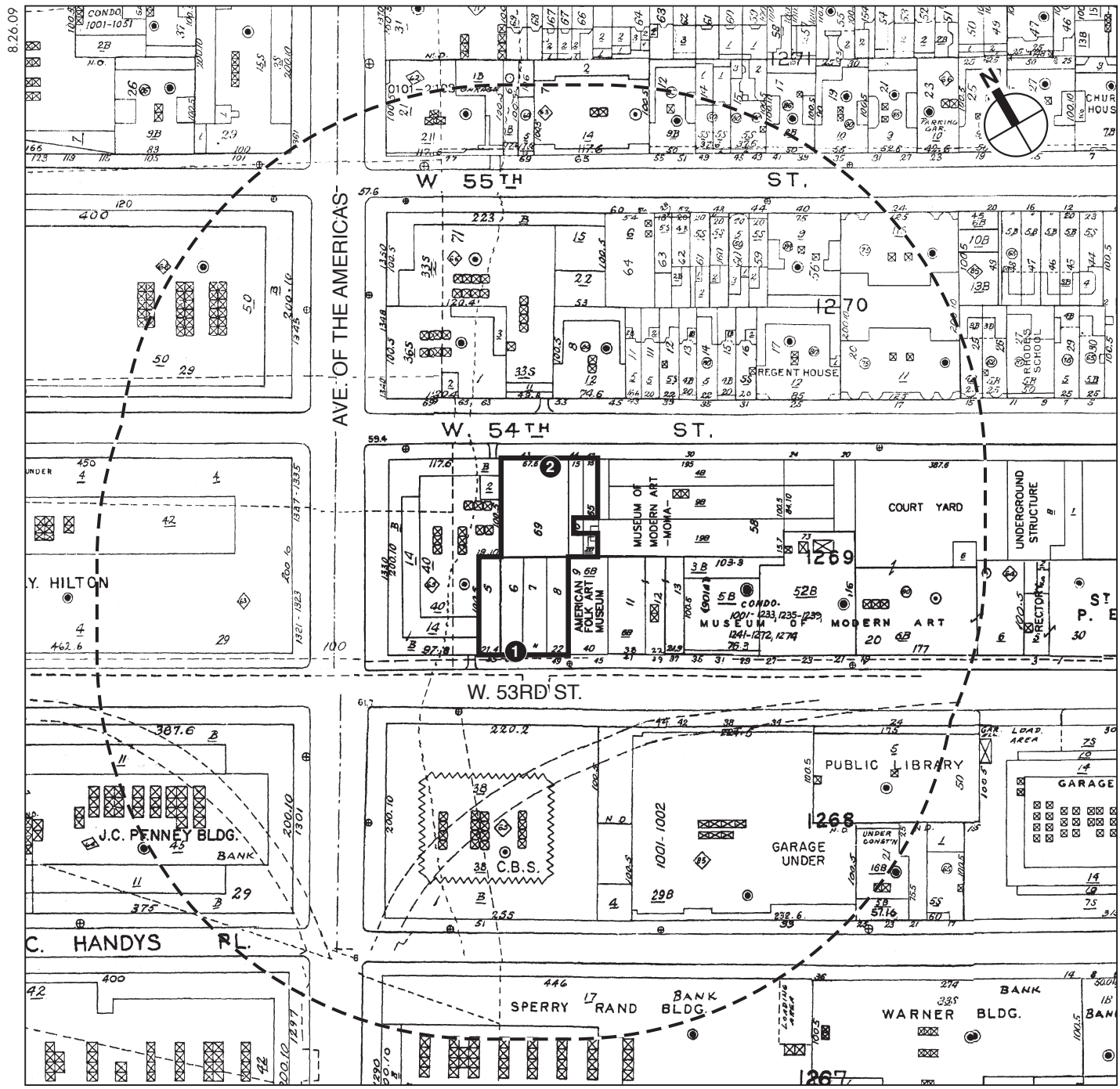
	Marginally Acceptable	Marginally Unacceptable		Clearly Unacceptable		
Noise Level With Proposed Action	$65 < L_{10} \leq 70$	$70 < L_{10} \leq 75$	$75 < L_{10} \leq 80$	$80 < L_{10} \leq 85$	$85 < L_{10} \leq 90$	$90 < L_{10} \leq 95$
Attenuation*	25 dB(A)	(I) 30 dB(A)	(II) 35 dB(A)	(I) 40 dB(A)	(II) 45 dB(A)	(III) 50 dB(A)

Note: * The above composite window-wall attenuation values are for residential dwellings. Commercial office spaces and meeting rooms would be 5 dB(A) less in each category. All the above categories require a closed window situation and hence an alternate means of ventilation.
Source: New York City Department of Environmental Protection

C. EXISTING NOISE LEVELS

Existing noise levels were measured for 20-minute periods during the three weekday peak periods—AM (8:00 to 9:00 AM), midday (MD) (noon to 1:00 PM), and PM (4:30 to 5:30 PM) peak periods on January 31 and February 1, 2007, at two receptor sites adjacent to the development site. Site 1 was located on West 53rd Street between Fifth and Sixth Avenues, and Site 2 was located on West 54th Street between Fifth and Sixth Avenues (see **Figure 17-1**).

The instrumentation used for the 20-minute noise measurements was a Brüel & Kjær Type 4189 ½-inch microphone connected to a Brüel & Kjær Model 2260 Type 1 (according to ANSI Standard S1.4-1983) sound level meter. This assembly was mounted at a height of five feet above the ground surface on a tripod and at least six feet away from any large sound-reflecting surface to avoid major interference with sound propagation. The meter was calibrated before and



Noise Receptor Locations
Figure 17-1

53 West 53rd Street

after readings with a Brüel & Kjær Type 4231 sound-level calibrator using the appropriate adaptor. Measurements at each location were made on the A-scale (dBA). The data were digitally recorded by the sound level meter and displayed at the end of the measurement period in units of dBA. Measured quantities included L_{eq}, L_1, L_{10}, L_{50}, and L_{90}. A windscreen was used during all sound measurements except for calibration. All measurement procedures conformed with the requirements of ANSI Standard S1.13-2005.

The results of the measurements of existing noise levels are summarized in **Table 17-2**.

Table 17-2
Existing Noise Levels at Sites 1 and 2 (in dBA)

Site	Measurement Location	Time	L_{eq}	L_1	L_{10}	L_{50}	L_{90}
1	West 53rd Street between Fifth and Sixth Avenues	AM	69.5	77.4	72.0	67.9	65.5
		MD	71.4	81.8	73.1	67.2	65.1
		PM	68.8	77.2	70.5	66.7	65.1
2	West 54th Street between Fifth and Sixth Avenues	AM	71.0	80.2	73.2	68.7	65.7
		MD	70.9	81.2	72.1	67.4	64.4
		PM	68.5	75.9	70.7	66.8	65.0
Note: Field measurements were performed by AKRF, Inc. on January 31 and February 1, 2007.							

At all monitoring sites, traffic noise was the dominant noise source. Measured noise levels are relatively high and reflect the level of vehicular activity on the adjacent streets. In terms of the CEQR criteria, the existing noise levels at Sites 1 and 2 would be in the "marginally unacceptable" category.

D. THE FUTURE WITHOUT THE PROPOSED PROJECT

As described in greater detail in Chapter 1, "Project Description," in the future without the proposed project the development site will be developed with one of two scenarios—the Previously Approved Project or the Expanded Development Scenario.

PREVIOUSLY APPROVED PROJECT

The Previously Approved Project will contain a combination of museum-related space, commercial office use, and ground-floor retail space. The Previously Approved Project requires no discretionary action, and consequently a building attenuation noise analysis is not required as part of CEQR. The Previously Approved Project design is expected to include the use of well sealed double-glazed windows and a means of alternate ventilation (i.e., air conditioning). With these expected design measures, it is likely that interior noise levels would satisfy CEQR requirements.

EXPANDED DEVELOPMENT SCENARIO

The Expanded Development Scenario will contain a combination of museum-related space, hotel use, and residential space. The Expanded Development Scenario requires no discretionary action, and consequently a building attenuation noise analysis is not required as part of CEQR. The Expanded Development Scenario design is expected to include the use of well-sealed, double-glazed windows and a means of alternate ventilation (i.e., air conditioning). With these expected design measures, it is likely that interior noise levels would satisfy CEQR requirements.

E. PROBABLE IMPACTS OF THE PROPOSED PROJECT

The proposed project would contain a combination of museum-related space, hotel use, and residential space. As shown in **Table 17-1**, the *CEQR Technical Manual* has set noise attenuation quantities for residential buildings based on exterior $L_{10(1)}$ noise levels in order to maintain interior noise levels of 45 dBA $L_{10(1)}$ or lower for residential, hotel, and museum~~,~~ uses and 50 dBA $L_{10(1)}$ or lower for commercial office uses. The design of the proposed project includes the use of well sealed double-glazed windows and central air conditioning (i.e., alternate means of ventilation). The north (West 54th Street) and south (West 53rd Street) facades of the proposed building would require 30 dBA of window/wall attenuation. All facades of the proposed building will be designed with a composite Outdoor-Indoor Transmission Class (OITC) of at least 30 to meet these attenuation requirements.

Based upon the $L_{10(1)}$ values (shown in **Table 17-2**) measured at the project site, the proposed project's design measures would be expected to provide sufficient attenuation to achieve the CEQR interior noise level requirements.

In addition, the building mechanical system (i.e., heating, ventilation, and air conditioning systems, which is anticipated to include chillers) would be designed to meet all applicable noise regulations (i.e., Subchapter 5, §24-227 of the New York City Noise Control Code and the New York City Department of Buildings code) and to avoid producing levels that would result in any significant increase in ambient noise levels.

Therefore, the proposed project would not result in any significant adverse noise impacts. ✷