Chapter 16: Public Health

This chapter addresses the Proposed Action's effect on public health. As defined by the *2014 CEQR Technical Manual*, public health is the organized effort of society to protect and improve the health and well-being of the population through monitoring; assessment and surveillance; health promotion; prevention of disease, injury, disorder, disability, and premature death; and reducing inequalities in health status. The goal of CEQR with respect to public health is to determine whether adverse impacts on human health may occur as a result of a proposed project—and if so, to identify measures to mitigate such effects.

16.1 Introduction

The *CEQR Technical Manual* states that a public health assessment is not necessary for most projects. Where no significant unmitigated adverse impact is found in other CEQR analysis areas—such as air quality, water quality, hazardous materials, or noise—no public health analysis is warranted. If, however, an unmitigated significant adverse impact is identified in any of these other CEQR analysis areas, the lead agency may determine that a public health assessment is warranted for that specific technical area.

As described in the relevant analyses of this EIS, upon completion of construction, the Proposed Action would not result in significant adverse impacts in any of the technical areas related to public health. However, as discussed in Chapter 18, "Construction," the Proposed Action has the potential, at times, to result in temporary unmitigated significant adverse noise impacts during construction. Therefore, this chapter examines the potential effects of construction-period noise impacts on public health.

Principal Conclusions

As described in the preceding chapters of this EIS, the Proposed Action would not result in unmitigated significant adverse impacts in the following technical areas: air quality, water quality, hazardous materials, or operational noise.

While during some periods of construction, the Proposed Action could potentially result in significant adverse impacts related to noise as defined by CEQR thresholds, the predicted overall changes to noise levels would not be large enough to significantly affect public health. Therefore, the Proposed Action would not result in significant adverse public health impacts.

16.2 Public Health Assessment – Construction Noise

As described in Chapter 18, "Construction," according to the *CEQR Technical Manual*, depending on the background noise level, a significant noise impact occurs when there is an increase of 5 decibels A-weighted (dBA) in the one-hour equivalent noise level (Leq(1)), as compared to the noise level without the Proposed Action. The CEQR noise thresholds are based on quality of life considerations and not on

public health considerations. In terms of public health, significance is not determined based upon the incremental change in noise level, but is based principally upon the magnitude of the noise level and duration of exposure.

Construction of the Proposed Action would be required to include measures to reduce noise levels during construction as required by the New York City Noise Control Code. Even with these measures, the analysis presented in Chapter 18, "Construction," found that construction activities associated with the Proposed Action would occur on multiple development sites within the same geographic area and, as a result, has the potential to increase interior noise levels of existing adjacent buildings. These increases would likely approach or marginally exceed the CEQR impact threshold for short periods of time during the peak construction period, and have the potential to do so during other construction quarters bordering the peak construction period.

Construction activities would take place between 2019 and 2036, and the construction noise impact assessment identified the second quarter of the year 2029 as the peak construction time period, yielding the greatest overlapping construction activities and, therefore, likely the worst (loudest) construction noise condition for any single time period over the 20-year construction phase.

The findings indicate that noise levels above the CEQR impact threshold are expected at several existing adjacent buildings to Projected Development Sites 4 and 5. The highest noise levels are projected to be at ground level and at elevated receptor locations adjacent to existing commercial and residential buildings on West 44th, 45th and 46th Streets between Madison and Fifth Avenues. Receivers along 44th and 46th Streets border Projected Development Sites 4 and 5, respectively. Receivers along 45th Street border both Projected Development Sites 4 and 5 and although these locations are expected to experience exterior noise levels significantly above CEQR limits, at those buildings with double-paned glazed-glass windows and a closed ventilation system, interior noise levels would be near or below the CEQR 50-dBA L_{10} impact threshold for commercial buildings and the CEQR 45-dBA L_{10} impact threshold for residential buildings. The interior noise levels of these adjacent buildings would likely approach or marginally exceed the CEQR L_{10} impact thresholds for short periods of time. The same potential for noise impacts also exists for similar noise-level increases at these and/or other receptor locations in the immediate vicinity of Projected Development Sites 4 and 5 during other construction quarters bordering this peak construction period of the second quarter of 2029. Therefore, if the peak simultaneous construction scenario, conservatively assumed for the purposes of this analysis, is realized on Projected Development Sites 4 and 5, the Proposed Action would result in a significant adverse construction noise impact.

Partial mitigation for construction noise impacts could include—in addition to the requirements under the New York City Noise Control Code—noise barriers; use of low noise emission equipment; locating stationary equipment far away from receptors as feasibly possible; enclosing areas; limiting the duration of activities; specifying quiet equipment; scheduling activities to minimize impacts (either time of day or seasonal considerations); and locating noisy equipment near natural or existing barriers that would shield sensitive receptors.

The construction noise impact assessment focused on noise sensitive land uses in the immediate vicinity of these two Projected Development Sites (Sites 4 and 5). Affected locations include commercial uses adjacent to the Projected Development Sites and routes construction-related vehicles would be expected to travel to and from the construction sites. Most affected buildings have double-glazed windows and air-conditioning, and would consequently be expected to experience interior $L_{10}(1)$ values less than 45 dBA, which would be considered acceptable according to CEQR criteria. Although these structures have double-glazed windows and alternate ventilation, during some limited time

periods construction activities may result in interior noise levels that would be above the 45 dBA $L_{10}(1)$ noise level recommended by CEQR for these uses.

At affected locations that do not already have double-glazed windows and an air-conditioned interior, $L_{10}(1)$ values resulting from construction may exceed 45 dBA. Thus, should the Proposed Action be developed and constructed as conservatively presented in the construction conceptual schedule, these affected locations could experience significant impacts for certain limited periods during construction.

Although the CEQR thresholds for significant adverse impacts are predicted to be exceeded at certain locations during construction, the magnitude and duration of these exceedances would not constitute significant adverse public health impacts. As discussed above, the CEQR noise thresholds are based on quality of life considerations and not on public health considerations. The predicted absolute noise levels would be below the health-based noise threshold.[1] Therefore, the Proposed Action would not result in significant adverse public health impacts.

[1] According to the *CEQR Technical Manual* (p. 20-6), prolonged exposure to levels above 85 dBA will eventually harm hearing.