

**A. INTRODUCTION**

This chapter assesses the Proposed Project’s effect on public health. As defined by the 2020 *City Environmental Quality Review (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 SEQRA 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 alternatives and measures to avoid or mitigate such effects.

The *CEQR Technical Manual* states that a public health assessment is not necessary for most projects. Where no unmitigated significant adverse impacts are found in other analysis areas—such as air quality, water quality, hazardous materials, or noise—no public health analysis is warranted. If, however, an unmitigated adverse impact is identified in any of these analysis areas, the lead agency may determine that a public health assessment is warranted for that specific technical area. This assessment represents a distinct layer of inquiry; its criteria are informed by public health considerations and are therefore different from the criteria that triggered the need to conduct a public health assessment.

The following sections of this chapter discuss the potential for the Proposed Project to result in public health effects related to air quality, hazardous materials, and noise. The Proposed Project would not have the potential to result in significant adverse impacts to water quality, and therefore no further assessment of public health impacts due to water quality is warranted.

**PRINCIPAL CONCLUSIONS**

The Proposed Project would not result in a significant adverse public health impact. As described in the relevant analyses of this Environmental Impact Statement (EIS), the Proposed Project would not result in unmitigated significant adverse impacts in the areas of hazardous materials, water quality, or air quality, and therefore would not have the potential for a public health impact related to these technical areas. As described in Chapter 17, “Noise,” the Proposed Project would result in a significant adverse noise impact at sensitive receptors along West 30th and West 31st Streets due to noise increases from project-generated trucks traveling on these streets, which would be unmitigated or only partially mitigated (see Chapter 22, “Mitigation”). In addition, as noted in Chapter 20, “Construction,” construction activities for the Proposed Project would result in unmitigated significant adverse noise impacts at several sensitive receptor locations, as defined by *CEQR Technical Manual* thresholds, during certain phases of project construction. A public health assessment was conducted for these unmitigated noise impacts. The assessment determined that the predicted noise exposure that would be experienced by people inhabiting affected areas would be comparable to existing noise exposure at other nearby areas, and it would not exceed the threshold that would be expected to result in health effects. Therefore, the Proposed Project’s unmitigated noise impacts would not result in a significant adverse public health impact.

## **B. HAZARDOUS MATERIALS**

The presence of hazardous materials on a given site may threaten human health or the environment if exposure to those materials occurs. Potential routes of exposure to hazardous materials can include: direct contact, e.g., contact between contaminated soil and skin (dermal contact); breathing of volatile organic compounds (VOCs) or chemicals associated with suspended soil particles (inhalation), swallowing of soil or water (ingestion). Public health may also be threatened when soil vapors migrate through the subsurface and/or along preferential pathways (e.g., building foundations, utility conduits, or duct work) and accumulate beneath a concrete slab or inside a basement, resulting in an explosive, oxygen-deficient, or hazardous atmosphere. The health effects of contaminants that may be encountered within existing structures and in the subsurface are diverse, and include effects associated with short-term exposure (such as skin or respiratory irritation) and long-term exposure (such as effects on various organs or cancer). However, health effects can only occur if a complete exposure pathway to hazardous materials exists.

As described in Chapter 10, “Hazardous Materials,” a hazardous materials assessment was performed to identify the potential for contamination in the buildings and the subsurface, based on past and current use. Potential contamination may be present in both the subsurface (related primarily to localized former gas stations, historic fill, current and abandoned heating oil underground storage tanks [USTs], and historical operations) and inside buildings (related primarily to asbestos, lead-based paint [LBP], and polychlorinated biphenyls [PCBs]).

With the implementation of a variety of standard precautionary measures (e.g., identification of hazardous materials as part of Phase I and Phase II investigations,<sup>1</sup> development of site-specific Remedial Action Plans [RAPs] and Construction Health and Safety Plans [CHASPs] for implementation during subsurface disturbance, and handling/disposal of hazardous materials in accordance with applicable regulations, material management plans, and health and safety plans), no significant adverse impacts related to hazardous materials would be expected to occur as a result of construction of the Proposed Project. Although some hazardous materials would likely still remain in the subsurface following construction of the Proposed Project, with the groundwater, vapor control, and other remedial measures described in Chapter 10, there would be no exposure pathways and operation of the Proposed Project would not result in significant adverse public health impacts due to hazardous materials.

## **C. AIR QUALITY**

In regard to the effects of air quality on public health, fine particles (PM<sub>2.5</sub>), carbon monoxide (CO), and ozone are pollutants of particular concern. These and other air pollutants associated with motor vehicles, including compounds designated by the U.S. Environmental Protection Agency (EPA) as mobile source air toxics (MSATs), are associated with a range of health effects since these pollutants exacerbate asthma symptoms and are known to contribute to emergency department visits, hospitalizations for respiratory and cardiovascular conditions, and overall mortality. Ambient levels of ozone occur due to reactions of precursor pollutants (particularly nitrogen oxides and volatile organic compounds), which occur over time; ozone is therefore considered a pollutant of regional concern.

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<sup>1</sup> Phase I Environmental Site Assessments (ESAs) and any subsequent subsurface investigations (Phase II Environmental Site Investigations), which may be required based on the conclusions of the Phase I ESA, as well as any necessary remedial plans would be required by ESD and prepared prior to site development.

As described in Chapter 15, “Air Quality,” the Proposed Project would not result in significant adverse impacts related to mobile source or stationary source air pollutant emissions. However, the mobile source analyses found that maximum incremental PM<sub>2.5</sub> concentrations are predicted to exceed the *CEQR Technical Manual* 24-hour average *de minimis* criterion at one of the intersection sites analyzed, and the annual average *de minimis* criterion at all three intersection sites analyzed. While the maximum incremental increase in PM<sub>2.5</sub> concentrations was predicted to exceed the annual average *de minimis* criteria set forth in the *CEQR Technical Manual*, the maximum total 24-hour average concentration is 34.2 µg/m<sup>3</sup>, which is below the National Ambient Air Quality Standard (NAAQS) of 35 µg/m<sup>3</sup>, and the maximum total annual concentration is 11.98 µg/m<sup>3</sup>, which is below the NAAQS of 12 µg/m<sup>3</sup>. The NAAQS were established pursuant to the Clean Air Act to limit concentrations of pollutants considered harmful to public health and the environment. The NAAQS established by EPA are designed to protect public health with an adequate margin of safety, including sensitive populations such as children, asthmatics, and the elderly. Therefore, because the maximum 24-hour and annual average PM<sub>2.5</sub> concentrations would not exceed the NAAQS, they would not constitute a significant adverse air quality impact, nor would they constitute a significant adverse public health impact.

Overall, the Proposed Project would not result in significant adverse public health impacts due to air quality.

## **D. NOISE**

### **OPERATIONAL NOISE**

As described in Chapter 17, “Noise,” in the 2038 analysis year, traffic generated by the Proposed Project would produce significant increases in noise levels at receptors along portions of West 30th and West 31st Streets. Specifically, the significant adverse noise impacts are predicted to occur at 371 Ninth Avenue, 432 West 31st Street, 252 West 30th Street, 234 West 30th Street, 360 Seventh Avenue, 355 Seventh Avenue, 130 West 30th Street, 133-143 West 31st Street, 132 West 32nd Street, 110 West 32nd Street, 109 West 31st Street, and 855 Sixth Avenue. These locations are highlighted in Figure 17-2 of Chapter 17, “Noise.” The increases would occur primarily due to project-generated trucks travelling along the New York City Department of Transportation (DOT) truck route on these streets. The increases would constitute a significant adverse noise impact at the receptors along these roadway segments. At the impacted locations, ESD would require project developers to implement window-wall attenuation measures (i.e., storm windows and alternative ventilation, where applicable) available at no cost for purchase and installation to owners of residences to the extent the measures are not already in place on the West 30th or West 31st Street façades. At locations where owners elect not to take advantage of these mitigation measures, the Proposed Project would result in unmitigated significant adverse noise impacts.

The *CEQR Technical Manual* noise impact thresholds are based on quality of life considerations. These differ from public health considerations, which employ distinct criteria that are appropriate in the public health context. Thus, pursuant to the public health assessment, significance is assessed in terms of the magnitude of noise level and duration of exposure rather than the incremental change in noise level. As stated in Chapter 20 of the *CEQR Technical Manual*, these criteria are appropriate because they more closely relate to public health concerns. For example, chronic noise exposure at elevated decibel levels may raise blood pressure and has been suggested to contribute to myocardial infarctions and to interfere with language development in children. Additionally, prolonged exposure to levels above 85 dBA will eventually harm hearing. Moreover, episodic and unpredictable exposure to short-term impacts of noise at high decibel levels may also

## **Empire Station Complex Civic and Land Use Improvement Project**

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affect health. Accordingly, it is appropriate to evaluate the magnitude of noise levels and duration of exposure when examining public health.

Although the *CEQR Technical Manual* thresholds for significant adverse impacts are predicted to be exceeded during the AM and midday peak hours along portions of West 30th and West 31st Streets, the additional traffic noise—considering the criteria used for public health, (i.e., the magnitude and duration of these exceedances)—would not constitute a significant adverse public health impact. As discussed above, the *CEQR Technical Manual* thresholds for noise are based on quality of life considerations and not on public health considerations. An impact found pursuant to a quality of life framework (i.e., significant adverse noise impact) does not imply that an impact will exist when the analysis area is evaluated in terms of public health (i.e., significant adverse public health impact).

The predicted absolute noise levels would be below the health-based noise threshold of 85 dBA<sup>1</sup> at all receptors. Because the buildings at these receptors, with the window/wall attenuation measures to be provided by the project developers, would provide approximately 25 dBA window/wall attenuation, interior noise levels would be below the predicted exterior noise levels. Furthermore, the predicted impacts would occur only during the hours of the day when delivery trucks would be traveling to and from the development sites at certain volumes, which would not occur throughout the entire day. Additionally, the maximum noise exposure at the locations along West 31st and West 30th Streets would be comparable to or less than the 2019 existing condition noise levels on West 34th Street and many other streets in Manhattan on which noise-sensitive uses, including residences, currently exist. Accordingly, neither the magnitude nor the duration of the noise reaches the threshold for a public health impact. Therefore, the Proposed Project would not result in significant adverse public health impacts due to operational noise.

### **CONSTRUCTION-PERIOD NOISE**

Construction of the Proposed Project would include noise control measures as required by the *New York City Noise Control Code*. These measures include a variety of source (i.e., reducing noise levels at the source or during the most sensitive time periods) and path (e.g., placement of equipment, implementation of barriers or enclosures between equipment and sensitive receptors) controls. Even with these noise control measures, the analysis presented in Chapter 20, “Construction,” finds that noise resulting from the Proposed Project’s construction activities is expected to exceed the *CEQR Technical Manual* noise impact thresholds at numerous receptors near the Project Area.

As with the operational noise impact criteria discussed above, the *CEQR Technical Manual* construction noise impact thresholds are based on quality of life considerations rather than public health considerations. Accordingly, it is appropriate to evaluate the magnitude of construction noise levels and duration of exposure during construction when examining public health. Noise in and around residences may decrease quality of life by disrupting sleep or interfering with conversations. Prolonged exposure to levels above 85 dBA will eventually harm hearing.

Although the *CEQR Technical Manual* thresholds for significant adverse impacts are predicted to be exceeded at certain locations during construction if unmitigated, these exceedances would not constitute a significant adverse public health impact. As discussed above, the *CEQR Technical Manual* thresholds for noise are based on quality of life considerations and not on public health

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<sup>1</sup> *CEQR Technical Manual*, page 20-6.

considerations. An impact found pursuant to a quality of life framework (i.e., significant adverse construction noise impact) does not imply that an impact will exist when the analysis area is evaluated in terms of public health (i.e., significant adverse public health impact).

As presented in Chapter 22, “Mitigation,” and Chapter 23, “Unavoidable Adverse Impacts,” potential measures to mitigate the significant adverse construction noise impacts were explored in consideration of their effectiveness, cost, and feasibility. No feasible cost-effective measures were identified that would fully mitigate the identified and significant adverse construction noise impacts. However, the predicted exterior absolute noise levels would be below the health-based noise threshold of 85 dBA at all receptors, as required by the *New York City Noise Control Code*. At the locations in the area where project impacts would be predicted to occur (based on the quality of life criteria in the *CEQR Technical Manual*), most residences already have either double-glazed windows or storm windows, and many have some form of alternative ventilation (air conditioning). At the impacted locations, ESD would require project developers to make these types of noise mitigation measures (i.e., storm windows and alternative ventilation, where applicable) available at no cost for purchase and installation to residents to the extent the measures are not already in place on façades that face construction sites. Additionally, outdoor terraces are not common within the area at which impacts are predicted to occur. As such, residents at these receptors would not experience noise levels of the same volume as exterior levels of noise. With the window/wall attenuation measures to be provided as noise mitigation, interior noise levels would be lower than noise levels at residences or other buildings adjacent to other large construction projects in New York City. With or without attenuation, the magnitude of noise at the locations in the area where construction-related noise impacts are predicted to occur would not exceed 85 dBA, nor would it constitute short-term exposure to unusually high decibel levels. Consequently, the predicted construction noise impacts would not reach the threshold for a public health impact. Therefore, the Proposed Project would not result in significant adverse public health impacts due to construction-period noise. \*