Chapter 18: Public Health

A. INTRODUCTION

This chapter assesses the Proposed Actions' effect on public health. As defined by the 2014 *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 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.

The *CEQR Technical Manual* states that a public health assessment is not necessary for most projects. Where no significant adverse unmitigated impacts are 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 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. 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.

PRINCIPAL CONCLUSIONS

The Proposed Actions would not result in any significant adverse public health impacts. The Proposed Actions would not result in unmitigated significant adverse impacts in the areas of air quality, operational noise, water quality, or hazardous materials. While the Proposed Actions could result in unmitigated construction noise impacts as defined by *CEQR Technical Manual* thresholds, a public health assessment was conducted and it was determined that the construction noise impact would not generate a significant adverse public health impact.

B. GOWANUS CANAL SUPERFUND SITE

The Gowanus Canal (formerly occupied by Gowanus Creek, local tributaries, and lowland marshes) was bulkheaded and dredged in the late 1860s to facilitate the construction of a passageway for the numerous industrial uses in the area. It quickly became one of the nation's busiest industrial waterways, serving three MGP facilities (Fulton Municipal Works, Citizens (Public Place) Gas Works, and the Metropolitan Works), coal yards, cement manufacturers, tanneries, paint and ink factories, machine shops, chemical plants, oil refineries, and other industrial and manufacturing establishments. Many of these facilities, including those adjoining the Canal and others farther away, likely intentionally or unintentionally discharged to the Canal through sewer/discharge piping or overland/underground flows, contributing to contamination of the Canal's sediments and the associated water quality impacts.

In 2010, the U.S. Environmental Protection Agency (EPA) placed the Canal on its National Priorities List (NPL) under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, commonly referred to as Superfund), with the goal of remediating constituents of concern (certain hazardous substances) in sediments that were deposited over the Canal's long history. In September 2013, EPA issued a Record of Decision (ROD) identifying actions to be undertaken by various parties to remediate contamination in the Canal. These actions include dredging of approximately 307,000 cubic yards of highly contaminated sediment and 281,000 cubic yards of less contaminated sediment. After dredging is complete, a multi-layer cap (i.e., treatment layer, isolation layer, and armor layer) would be placed over the dredged portions of the Canal.

A public health assessment (PHA)[1] prepared the New York State Department of Health (DOH) concluded that there is increased risk of contracting diseases through swallowing or skin contact with these disease-causing agents in Canal waters, and that exposure to chemicals in accessible sediments is a potential health concern for swimmers, as well as others who might come into contact with sediments during fishing, boating or wading in the Canal. The PHA also concluded that individuals who eat more fish and crabs from the Canal than recommended in a DOH advisory may be at risk for increased adverse health effects. With respect to the health risks from long-term exposure to outdoor air near the Canal (at street- or Canal-level), the PHA found the "risks for health effects posed by the air contaminants" to be comparable to that of urban air, and that that breathing contaminants from the Canal in outdoor air is not expected to harm people's health.

In the PHA, DOH recommended that people avoid the Canal water after periods of effluent discharge, rainfall, when the water is cloudy or turbid, or when pollution is clearly visible, and that any activity that will result in swallowing canal water be avoided. Because children's behavior patterns, play activities, and physiology may result in more exposure than adults, particular attention should be paid to children to ensure that their contact with Canal water is minimized. People should wash their hands after contacting the water and sediments, especially before eating and at the end of the day. If people get water or sediments on more than just their hands and arms, it would also be prudent to take a shower to wash off canal water and sediments. As noted in the EPA ROD for the Superfund designation, major intrusive activities at the Canal during the Superfund remediation would occur in accordance with project-specific Community Health and Safety Plans, which will restrict public access to Canal and prevent the public from coming into contact with contamination and other physical hazards.

As discussed in more detail in Chapter 10, "Hazardous Materials," the Proposed Actions are designed to include measures to preclude impacts and minimize exposure to hazardous materials. EPA and DEC would work closely with the City of New York, including the New York City Department of Environmental Preservation (DEP), the Mayor's Office of Environmental Remediation (OER), the New York City Department of Parks and Recreation(NYC Parks), the New York City Department of Housing Preservation and Development (HPD), and other agencies to assess cleanup levels for soils related to their intended reuse, in particular, for construction of new housing, parks and playgrounds adjacent to the Canal.

By 2035, the Canal would be cleaner and safer than it is currently. Since the Proposed Actions would include required measures to ensure the adequate testing and remediation of new

[1] *Public Health Assessment (Final Release),* prepared by the New York State Department of Health, January 11, 2017.

developments and open space that would occur in accordance with government oversight and approval, the Proposed Project would not would not pose a public health risk.

C. PUBLIC HEALTH ASSESSMENT—CONSTRUCTION NOISE

As described in Chapter 20, "Construction," the *CEQR Technical Manual* specifies that the construction noise analysis consider the potential for construction of a project to create high noise levels (the "intensity"), whether construction noise would occur for an extended period of time (the "duration"), and the locations where construction has the potential to produce noise ("receptors") in evaluating potential construction noise effects.

Construction noise associated with the Proposed Actions would be required to follow the requirements of the New York City Noise Control Code (NYC Noise Code) for construction noise control measures. Specific noise control measures will be described in noise mitigation plans required under the NYC Noise Control Code. These measures could include a variety of source and path controls. Even with these measures, the analysis presented in Chapter 20, "Construction," found that predicted noise levels due to construction-related activities would result in noise levels that may exceed the *CEQR Technical Manual* impact criteria during two or more consecutive years at receptors within and in the vicinity of the Project Area.

ASSESSMENT

The *CEQR Technical Manual* construction 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 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 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 affect health. Accordingly, it is appropriate to evaluate magnitude of noise level and duration of exposure when examining public health.

Although the *CEQR Technical Manual* thresholds for significant adverse impacts are predicted to be exceeded at certain locations during construction, 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 construction noise are based on quality of life considerations and not on public health considerations. An impact found pursuant to a quality of life framework does not imply that an impact will exist when the analysis area is evaluated in terms of public health. The predicted absolute noise levels would be below the health-based noise threshold of 85 dBA at all receptors. Additionally, outdoor terraces are not common within the rezoning area. As such, residents at these receptors would not experience exterior levels of construction noise. Because the buildings at these receptors would provide approximately 25 dBA window/wall attenuation, interior noise levels would be below the health-based noise threshold of 85 dBA. Accordingly, neither the magnitude nor the duration of the construction noise reaches the public health impact threshold. Since these are the appropriate criteria for the Public Health assessment, it follows that the Proposed Actions would not result in significant adverse public health impacts due to construction noise. ✷