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Public Health

This chapter addresses the Proposed Development's effect on public health. As defined by the *2021 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.

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 related to public health—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 Actions would not result in significant adverse impacts in any of the technical areas related to public health. The relevant analyses for the consideration of public health impacts are summarized and reviewed in this chapter.

Principal Conclusions

The Proposed Actions would not result in any significant adverse public health impacts as defined by CEQR. The Proposed Actions would not result in unmitigated significant adverse impacts in the areas of hazardous materials, water quality, air quality, or noise. While significant adverse noise impacts could occur during construction, these would be temporary impacts resulting from conditions that are common during the construction of high-rise buildings in New York City. Excessive noise can affect health through the disruption of sleep or hearing. While noise during the construction period would reach applicable impact thresholds at one receptor, these thresholds are based on quality-of-life considerations as opposed to public health considerations. Noise levels during the construction period would not be high enough to constitute a public health concern. Construction of the Proposed Development would not result in chronic exposure to high levels of noise, prolonged exposure to noise levels above 85 dBA, or episodic and unpredictable exposure to short-term impacts of noise at high decibel levels, as per the *CEQR Technical Manual*. Consequently, construction of the Proposed Development would not result in a significant adverse public health impact.

Methodology

As noted above, the *CEQR Technical Manual* states that where no significant unmitigated adverse impact is found in other CEQR analysis areas related to public health—such as hazardous materials, water quality, air quality, 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

Assessment

Hazardous Materials

Potential health exposures from hazardous materials in soil and dust include metals, hazardous compounds, or dust conditions that the public can be exposed to through ingestion, inhalation, or dermal contact. Health effects of exposure can lead to poisonings, gastroenteric illnesses, chronic illnesses, asthma, or respiratory complaints. The potential for health impacts associated with hazardous materials can be evaluated in terms of potential concentrations from the analysis in **Chapter 10, Hazardous Materials.**

As detailed in **Chapter 10, Hazardous Materials**, the Project Developer would comply with the requirements of the existing (E)-Designation E-138 on the Development Site and the new (E)-Designation (E-870) for the New York City Transit Authority (NYCTA) Relocation Site. Any potential remedial action that may be required would be administered as part of the (E)-Designation protocol under the regulatory oversight of the Mayor's Office of Environmental Remediation (OER). The Project Developer is also applying to enroll the Lot 1 portion of the Development Site[1] and NYCTA Relocation Site into the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP), which would provide a pathway to further characterize, investigate and

[1] Two separate applications would be prepared for the East and West Buildings, which would cover the entirety of Lot 1.

remediate the Lot 1 and the NYCTA Relocation Site under regulatory oversight provided by NYSDEC. The BCP is also considered an accepted pathway for site investigation and remediation that satisfies the requirements of OER's (E)-Designation program. Compliance with either the (E)-Designation program under OER oversight or the BCP under NYSDEC oversight would provide for the protection of human health and the environment within the Development Site and NYCTA Relocation Site once a Certificate of Completion (COC) is issued by NYSDEC or a Notice of Satisfaction (NOS) is issued by OER, and any required long-term institutional and engineering controls (if required) are implemented.

In addition to the requirements mandated under the (E)-Designation and/or enrollment in the BCP, regulatory requirements pertaining to the disturbance and handling of any lead-based paint (LBP), asbestos-containing materials (ACM), and polychlorinated biphenyl (PCB)-containing building materials would be followed. As such, implementation of the Proposed Actions would not result in significant adverse impacts related to hazardous materials. With the absence of significant adverse impacts to hazardous materials, there is no potential for an adverse impact to public health.

Air Quality

Potential health exposure from inhalation of air pollutants such as fine particulate matter ($PM_{2.5}$), carbon monoxide (CO), nitrogen dioxide (NO_2), and ozone (O_3) can lead to the exacerbation of asthma symptoms and can contribute to poor cardiovascular and respiratory health outcomes. Health effects may also occur from exposure to other pollutants from combustion and process emissions, such as volatile organic compounds (VOCs). The potential for health impacts associated with air quality conditions can be evaluated from the results of the analysis detailed in **Chapter 13, Air Quality**.

As detailed in **Chapter 13, Air Quality**, the Proposed Actions would not result in significant adverse air quality impacts on the surrounding sensitive receptors, nor would nearby emission sources significantly impact the Proposed Development. The air quality analysis of the Proposed Actions addresses mobile sources, parking facilities, and existing industrial sources for the Proposed Development, and addressed heating, ventilation, and air conditioning (HVAC) and hot water system emissions for the NYCTA Replacement Facility.

The mobile source analyses determined that project-generated traffic resulting in concentrations of CO and $PM_{2.5}$ at the analyzed intersections would not result in any violations of National Ambient Air Quality Standards (NAAQS). Further, the 8-hour CO incremental concentrations, and the 24-hour and annual incremental $PM_{2.5}$ concentrations, were predicted to be below the City's *de minimis* criteria.

An air quality parking analysis was conducted for the proposed accessory parking garage at the Development Site (140 spaces). This analysis determined that the maximum predicted $PM_{2.5}$ increments at this facility would be well below the respective $PM_{2.5}$ *de minimis* criteria of 7.6 $\mu g/m^3$ for the 24-hour average concentration and 0.3 $\mu g/m^3$ for the annual concentration. As such, the parking garage analyzed would not result in any significant adverse air quality impacts. Two distinct, separated parking garages would be provided at the NYCTA Relocation Site—the Mobile Wash Unit garage would have a capacity of 121 vehicles, which includes parking spaces for 106 wash trucks, ten vans, and five box trucks; the ERU garage would have a capacity of 38 vehicles, which includes parking spaces for three large trucks and 35 Suburbans/large SUVs. The garage at the Development Site would have the highest overall capacity (up to 140 spaces, versus 121 and 38) and would generate a higher maximum number of peak hour vehicle ins/outs, meaning that this facility would

have the highest potential incremental concentrations of pollutants. As such, an analysis of the parking proposed at the NYCTA Replacement Facility is not warranted.

Because the Applicant would commit to using electric HVAC and hot water systems for the Proposed Development, a stationary source analysis is not warranted, and no significant adverse impacts would occur. Regarding the NYCTA Relocation Site, a screening analysis, using the nomograph provided in the *CEQR Technical Manual*, determined that there would be no potential significant adverse air quality impacts from fossil fuel-fired heat and hot water systems. Regarding the NYCTA Relocation Site, there are no sensitive stationary source receptors in the area, as adjacent properties contain manufacturing or industrial uses. As the NYCTA Replacement Facility would not introduce a sensitive use, an analysis of the potential for existing sources to impact this facility is not warranted.

The analysis of existing light industrial/manufacturing uses in the surrounding study area determined that emissions of air-toxic compounds would not result in any potential significant adverse air quality impacts. An analysis of the cumulative health risk impacts of existing industrial sources on the Proposed Development was also performed. Maximum concentration levels were found to be below the applicable health risk criteria.

As the results of the air quality analyses demonstrate that the Proposed Actions would not generate any significant adverse air quality impacts, there is no potential for public health impacts related to air quality.

Noise

Prolonged exposure to high noise levels has the potential to decrease quality of life and raise blood pressure and myocardial infarctions. Chronic exposure to levels above 85 dBA will eventually harm hearing. Noise modeling results from **Chapter 15, Noise** assess whether there will be exceedances of allowable noise levels that may result in public health impacts.

As detailed in **Chapter 15, Noise**, the Proposed Development would introduce new mobile sources of noise as well as new sensitive receptors at the Development Site. The NYCTA Replacement Facility would be located in an industrial area with similar uses and no nearby noise-sensitive receptors. Therefore, a noise analysis is not warranted for this site.

Based on the results of the screening analysis, the Proposed Development would not generate sufficient vehicular traffic in the vicinity of existing noise receptors to exceed the threshold for a detailed transportation noise analysis. In the vicinity of the existing receptors, the maximum increase in the With-Action noise level compared to the No-Action noise level is projected to be approximately 1.2 A-weighted decibels (dBA), which is below the 3-dBA threshold for significance per the *CEQR Technical Manual*. Therefore, the Proposed Development would not cause a significant adverse vehicular noise impact.

The Proposed Development is not anticipated to include any substantial stationary source noise generators. The design and specifications for the building's mechanical equipment would incorporate sufficient noise reduction devices that would comply with applicable noise regulations and standards, including the standards contained in the revised New York City Noise Control Code. Therefore, the Proposed Development would not result in a significant adverse noise impact due to mobile and new stationary sources.

The noise analysis evaluates whether the Proposed Development would introduce new receptors into an environment with acceptable ambient noise conditions. With-Action noise levels have been

evaluated at new receptors introduced by the Proposed Development based on ambient noise measurements and mobile source proportional noise modeling. Based on the highest predicted L_{10} sound levels, a minimum outdoor-to-indoor window/wall sound attenuation of 28 dBA is required for all façades of the East Building, West Building, and the Museum to maintain acceptable interior noise conditions per the *CEQR Technical Manual* noise exposure guidelines for residential and community facility uses. To implement this attenuation requirement, a restrictive declaration for noise would be recorded against the Development Site that would specify the appropriate amount of window/wall attenuation and the need for alternate means of ventilation.

Overall, the Proposed Actions are not anticipated to cause high chronic noise exposure and therefore, are not expected to result in a significant adverse public health impact related to operational noise.

Water Quality

Potential exposures to contaminated water (potable, non-potable, and recreational) from ingestion or secondary contact can cause infectious disease, neurologic effects, and kidney or other organ system effects, or cancers. The potential effects of a project's impact of water quality can be assessed from its potential to impact surrounding natural resources or water systems as analyzed in **Chapter 9, Natural Resources** and **Chapter 11, Water and Sewer Infrastructure**.

Development Site

As described in **Chapter 9, Natural Resources** implementation of the Proposed Development would result in the removal of the existing shoreline revetment and construction of a new sheet pile bulkhead and rock revetment within the same general footprint as the existing revetment, thereby avoiding permanent loss of tidal wetlands and associated impacts to tidal habitats, vegetation, and organisms. The new bulkhead and revetment would address ongoing shoreline erosion and resulting sedimentation impacts to the intertidal zone that occur currently at the Development Site, thereby improving wetland habitat quality within Bushwick Inlet. Additionally, construction of the Proposed Development would enable the excavation necessary to perform the required remediation of contaminated soils and groundwater at the Development Site, thereby preventing future contamination of tidal habitats within Bushwick Inlet and the East River. Temporary impacts to Bushwick Inlet and the East River adjacent to Development Site would occur during demolition and construction activities along the shoreline due to site redevelopment, including bulkhead/revetment construction, noise, and vibration. Similar to the NYC Parks habitat restoration and coastal resiliency efforts at the portions of Bushwick Inlet Park that adjoin the Development Site, both upland and in-water construction activities would employ best management practices (BMPs) and would comply with all conditions, restrictions, and avoidance/minimization measures of the anticipated U.S. Army Corps of Engineers and NYSDEC permits for the Proposed Development. Accordingly, the overall impacts to wetlands and surface water are expected to be minimal and temporary in nature and would be largely avoided due to BMPs and adherence to regulatory agency permitting requirements. Based on the foregoing, no significant adverse impacts to natural resources are anticipated.

As detailed in **Chapter 11, Water and Sewer Infrastructure** the increment of sanitary and stormwater flows to the combined sewer system (CSS) would exceed the 5 percent threshold established in the *CEQR Technical Manual*, and as such, further review by and coordination with NYC DEP would be required to determine the site-specific stormwater management measures that would be implemented as part of the Proposed Development to ensure that sanitary and stormwater flows

to the combined sewer system would not exceed operational capacity. Additionally, the implementation of BMP's is required under NYC's Unified Stormwater Rule (USWR), which updated and aligned water quantity requirements in the city's combined sewer drainage areas with water quality requirements in separately sewered drainage areas, providing a comprehensive, citywide stormwater management policy for public and private development. Therefore, stormwater retention would be required on-site for small and frequent rainfall events to prevent an increase in combined sewer overflow (CSO) events. The projected increase in sanitary and stormwater flows would not cause the Newtown Creek Wastewater Resource Recovery Facilities (WRRF) to exceed its operational capacity, or cause an increase in CSO events, as such, no significant adverse impact would occur.

NYCTA Relocation Site

As described in **Chapter 9, Natural Resources** the NYCTA Relocation Site consists entirely of buildings, pavement, and other unvegetated, impervious surfaces. Therefore, natural resources, as defined in Chapter 11 of the *CEQR Technical Manual,* do not occur at the NYCTA Relocation Site. Therefore, an assessment of natural resources is not warranted and related impacts would not be expected to occur.

As detailed in **Chapter 11, Water and Sewer Infrastructure** the Proposed Actions would result in a 0.01 percent increase of the Newtown Creek WRRF State Pollutant Discharge Elimination System (SPDES)-permitted capacity from the NYCTA Replacement Facility. While future coordination with NYC DEP would be required to assess the existing sanitary infrastructure's capacity for sewage generation from the NYCTA Relocation Site, the projected increase in sanitary flows would not cause the Newtown Creek WRRF to exceed its operational capacity, or SPDES-permitted capacity. The increment of stormwater flows to Newtown Creek would be between zero and 0.020 mgd (between 0 and 16.6 percent) over the existing condition. Although the increase in volume exceeds the 2 percent threshold for a drainage area of concern, the implementation of BMPs, which are required by the USWR, would reduce stormwater runoff and regulate stormwater release rates into the existing stormwater infrastructure. Therefore, the Proposed Actions would not result in a significant adverse impact to stormwater infrastructure tributary to Newtown Creek.

With the absence of significant adverse impacts to natural resources and water infrastructure, there is no potential for a significant adverse impact to public health as a result of water quality impacts.

Construction

Air Quality

To assess the potential for the Proposed Actions to result in impacts related to air emissions, a detailed analysis was performed, as detailed in **Chapter 18, Construction**. Activities occurring between April 2029 to March 2030 were determined to be the peak period of on-site construction for air quality emissions. An analysis of on-site emissions (consisting of construction equipment, trucks, and fugitive dust[2]) for the peak period was conducted. A detailed mobile source analysis was also conducted to evaluate the impacts from off-site construction traffic. The results of the on-site construction air quality assessment indicate that the Proposed Development would not exceed the

[2] Significant atmospheric dust arises from the mechanical disturbance of granular material exposed to the air. Dust generated from these open sources is termed "fugitive" because it is not discharged to the atmosphere in a confined flow stream. Common sources of fugitive dust include unpaved roads, agricultural tilling operations, aggregate storage piles, and heavy construction operations.

applicable air quality standards and *de minimis* criteria. The off-site dispersion modeling analysis determined that $PM_{2.5}$ and CO concentrations would be below their corresponding *de minimis* thresholds or NAAQS, respectively. Therefore, construction of the Proposed Development would not result in significant adverse air quality impacts due to construction sources and there would be no potential for a significant adverse public health impact.

Noise

As detailed in **Chapter 18, Construction**, construction of the Proposed Development would involve standard construction activities and practices for buildings in New York City. Foundation installation and superstructure phases of construction are typically when the noisiest activities occur. The exterior and interior fit-out phases of construction typically involve minimal exterior equipment and substantially quieter noise conditions. The Development Site is near existing residential, community facility, and commercial land uses.

Construction noise from mobile sources was evaluated from 6:00 AM to 7:00 AM, when construction traffic would be greatest since this is the period that most worker vehicles and trucks would arrive at the Development Site. Noise from mobile sources between 6:00 AM and 7:00 AM would increase up to 2.5 dBA compared to the existing conditions during construction of the Proposed Development. As the construction mobile source noise levels would not increase by 3 dBA or more, there would be no significant adverse noise impacts from mobile sources.

Construction noise from stationary sources was evaluated using the Cadna-A sound prediction model at 24 noise sensitive receptors (buildings) for seven different phases of construction. Construction noise levels were found to exceed the relevant impact threshold at one receptor such that there would be potential for a significant adverse construction noise impact due to stationary sources.

As described in **Chapter 18, Construction**, construction noise impacts would occur at the future residential building at 3 West Street (R08) in the event that the future building at 3 West Street is constructed and occupied prior to or during the construction of the Proposed Development. The construction noise impact thresholds are based on quality-of-life considerations as opposed to public health considerations. An impact found pursuant to a quality-of-life framework (i.e., a significant adverse construction noise impact) does not necessarily indicate that an impact would occur in terms of public health (i.e., a significant adverse public health impact). As such, the magnitude of construction noise levels and duration of exposure during construction were considered 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 would eventually harm hearing. The predicted construction-period noise impacts identified and described in **Chapter 18, Construction**, would not constitute chronic exposure to high levels of noise because of the temporary and intermittent nature of construction-period noise. The maximum predicted construction noise levels associated with the Proposed Development would occur over a limited duration during the construction period based on the amount and type of construction work occurring in the construction work areas. Construction activity would typically be limited to the typical construction hours of 7 AM to 3 PM, with extended shifts not going beyond 6 PM, leaving the remainder of the day and the evening unaffected by construction noise. For the receptor at which a significant adverse construction noise impact is predicted to occur that represents indoor uses (i.e., not open space), the building façade at this receptor would provide at least 32 dBA of window/wall attenuation, ensuring interior L_{10} noise levels during construction activity no greater than 54.4 dBA,

and, thus, interior noise levels would not exceed 85 dBA (L_{eq}) at any receptor locations for any phase of construction. In addition, the potential for noise effects related to construction sources would be temporary and localized and is not expected to rise to area-wide level impacts that would warrant a detailed public health assessment. Therefore, given the magnitude and duration of the construction noise at nearby spaces, construction associated with the Proposed Development would not result in significant adverse public health impacts due to construction noise.