Chapter 18: Construction

A. INTRODUCTION

As described in greater detail in Chapter 1, "Project Description," the Proposed Project is a mixed-use commercial center with associated parking, open space, and street and infrastructure improvements. The Proposed Project consists of several free standing and interconnected buildings atop a subsurface accessory parking garage. The Project Site is bounded by the structural supports for the Outerbridge Crossing to the north, Arthur Kill Road to the east, the mapped but unbuilt Richmond Valley Road and the shoreline of Mill Creek to the south, and the Arthur Kill waterway to the west. With a projected commencement of construction in early 2018 with an approximately 13-month construction period, the Proposed Project is expected to be completed and occupied in 2019.

This chapter summarizes the projected construction program for the Proposed Project and assesses the potential for significant adverse impacts during construction. The City, state, and federal regulations and policies that govern construction are described, followed by the anticipated construction schedule and the types of activities likely to occur during the construction of the Proposed Project. Based on this information, an assessment is provided of the potential impacts from construction activities.

PRINCIPAL CONCLUSIONS

Construction of the Proposed Project, as is the case with any construction project, may result in some temporary disruptions in the surrounding area. The construction of the Proposed Project is anticipated to take approximately 13 months to complete. According to the *CEQR Technical Manual*, a development with an overall construction period lasting shorter than two years is considered short-term. During construction of the Proposed Project, all necessary measures would be implemented to ensure adherence to the New York City Air Pollution Control Code regulating construction-related dust emissions and the New York City Noise Control Code regulating construction noise. In addition, Maintenance and Protection of Traffic (MPT) plans would be developed for any curb-lane and/or sidewalk closures. Approval of these plans and implementation of all temporary closures during construction would be coordinated with the New York City Department of Transportation (NYCDOT)'s Office of Construction Mitigation and Coordination (OCMC). A Construction Protection Plan (CPP) would be prepared to avoid inadvertent construction-related impacts on the Outerbridge Crossing. In regard to hazardous materials, based on the findings of the Phase II Investigation, a Remedial Action Plan (RAP) and an associated Construction Health and Safety Plan (CHASP) would be prepared and submitted to the New York City Department of Environmental Protection (DEP) for review and approval prior to implementation during project construction. In addition, the Proposed Actions include an (E) designation (E-443) for the Project Site related to hazardous materials to ensure that no significant adverse impacts related to hazardous materials occur. Through implementation of the

measures described above, adverse effects associated with the proposed construction activities would be minimized.

With these proposed measures and considering the limited duration and intensity of construction activities associated with the Proposed Project, construction of the Proposed Project would not result in any significant adverse impacts.

B. GOVERNMENTAL COORDINATION AND OVERSIGHT

Construction oversight involves several city, state, and federal agencies. **Table 18-1** lists the primary involved agencies and their areas of responsibility. For projects in New York City, primary construction oversight lies with the New York City Department of Buildings (DOB), which oversees compliance with the New York City Building Code. In addition, DOB enforces safety regulations to protect workers and the general public during construction. The areas of oversight include installation and operation of equipment such as cranes and safety netting. DEP enforces the *New York City Noise Code*, reviews and approves any needed RAPs and associated CHASPs, as well as abatement of hazardous materials. The New York City Fire Department (FDNY) has primary oversight of compliance with the *New York City Fire Code* and the installation of tanks containing flammable materials. DOT's OCMC reviews and approves any street and infrastructure improvements on NYCDOT-mapped streets. The Landmarks Preservation Commission (LPC), along with and the New York State Historic Preservation Office (SHPO), approves the historic and cultural resources analysis, the CPP, and monitoring measures established to prevent damage to historic structures, as needed.

Table 18-1
Summary of Primary Agency Construction Oversight

Agency	Areas of Responsibility
New York City	
Department of Buildings	Building Code and site safety
Department of Environmental Protection	Noise Code, RAPs/CHASPs, hazardous materials abatement
Fire Department	Compliance with Fire Code, fuel tank installation
Department of Transportation	Lane and sidewalk closures
Landmarks Preservation Commission	Archaeological and architectural resources protection
New York State	
Department of Labor	Asbestos Workers
Department of Environmental Conservation	Wetlands and water quality, hazardous materials, fuel/chemical storage tanks, and SWPPP
Historic Preservation Office	Archaeological and architectural resources protection
Federal	
U.S. Army Corps of Engineers	Wetlands
Environmental Protection Agency	Air emissions, noise, hazardous materials, poisons
Occupational Safety and Health Administration	Worker safety

At the state level, the New York State Department of Labor (DOL) licenses asbestos workers. The New York State Department of Environmental Conservation (NYSDEC) regulates construction activities in and around tidal and freshwater wetlands, as well as the handling, transport, and disposal of hazardous materials, and construction and operation of bulk petroleum and chemical storage tanks. In addition, a Stormwater Pollution Prevention Plan (SWPPP) consist of both temporary erosion and sediment controls and post-construction stormwater management practices will be developed in accordance with the NYSDEC State Pollution Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity (GP-0-15-002). At the federal level, the United States Army Corps of

Engineers (USACE) regulates construction activities in wetlands. The U.S. Environmental Protection Agency (EPA) also has wide-ranging authority over environmental matters, including air emissions, noise, hazardous materials, and the use of poisons, although much of its responsibility is delegated to the state level. The Occupational Safety and Health Administration (OSHA) also sets standards for work site safety and construction equipment.

C. OVERVIEW OF CONSTRUCTION ACTIVITIES

CONSTRUCTION SCHEDULE

The Proposed Project would first entail clearing and grading activities, followed by excavation and installation of foundations and superstructure for the proposed retail buildings and parking. This would be followed by completion of the street and infrastructure improvements along Richmond Valley and Arthur Kill Roads. Finally, there would be the landscaping and final finishes, including the proposed waterfront open spaces, private drives and sidewalls, tidal and freshwater wetland restoration. The Proposed Project also includes renovation of the Cole House. With a projected commencement of construction in early 2018 and an approximately 13-month construction period, the Proposed Project would be completed and occupied in 2019. **Figure 18-1** identifies the major phases of construction with the Proposed Project.

GENERAL CONSTRUCTION PRACTICES

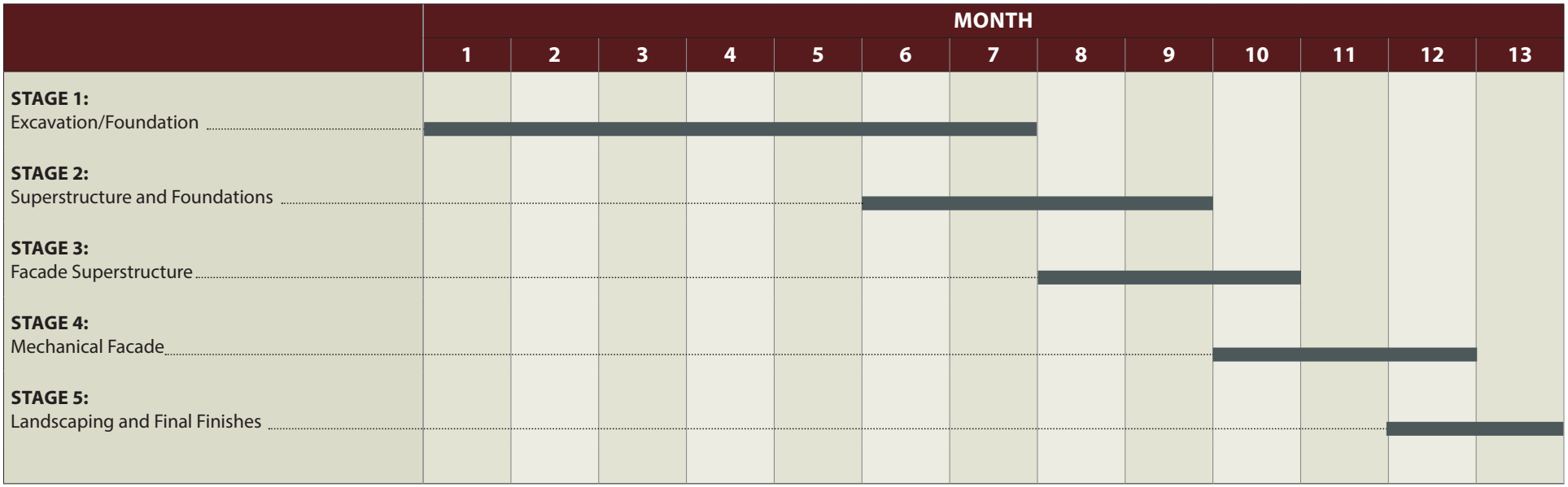
HOURS OF WORK

Construction of the Proposed Project would be carried out in accordance with New York City laws and regulations, which allow construction activities between 7:00 AM and 6:00 PM. Construction work would typically begin at 7:00 AM on weekdays with most workers arriving between 6:00 AM and 7:00 AM. Normally weekday work would end by approximately 4:00 PM, but it can be expected that, in order to meet the construction schedule, the workday may occasionally be extended beyond normal work hours. Such extended workdays would generally last until approximately 6:00 PM and would not include all construction workers on-site, but only those involved in the specific task requiring additional work time.

The New York City Noise Control Code, as amended in December 2005 and effective July 1, 2007, limits construction (other than special circumstances as described below) to weekdays between the hours of 7 AM and 6 PM, and sets noise limits for certain specific pieces of construction equipment. Construction activities occurring after hours (weekdays between 6 PM and 7 AM and on weekends) may be permitted only to accommodate: (1) emergency conditions; (2) public safety; (3) construction projects by or on behalf of City agencies; (4) construction activities with minimal noise impacts; and (5) undue hardship resulting from unique site characteristics, unforeseen conditions, scheduling conflicts, and/or financial considerations. Appropriate work permits would be obtained for any necessary work outside of normal construction hours (e.g., weekend work) and no work outside of normal construction hours could be performed until such permits are obtained.

STAGING AREAS AND ACCESS POINTS

Because the portion of the Project Site to be developed comprises of an area totaling approximately 17.72 acres, there is expected to be substantial flexibility in on-site construction equipment and materials staging areas within the site, including accommodating worker parking.



Projected Construction Schedule by Stage

Figure 18-1

Access to the Project Site during construction would be controlled. The work areas would be fenced off and limited access points for workers and construction-related trucks would be provided. Flaggers would be posted as necessary to control trucks entering and exiting the construction site from/to Arthur Kill Road and to alert or slow down the traffic. In addition, MPT plans would be developed for any temporary curb-lane and sidewalk closures as required by DOT to ensure the safety of the public and workers during the construction of the Proposed Project. Approval of these plans and implementation of the closures would be coordinated with DOT's OCMC.

GENERAL CONSTRUCTION TASKS

Prior to the commencement of construction, the work area would first be prepared for construction and would involve the installation of public safety measures such as fencing and signs. Access points to the Project Site would be established. Field office trailers for the construction engineers and managers, portable toilets, and dumpsters for trash would be hauled to the Project Site and installed.

SITE CLEARING

Based upon the current proposed site plan, approximately 17.72 acres of the Project Site would be cleared and graded as the first stage of construction. Existing features of the Project Site that would be disturbed include successional old field, successional maritime forest, reedgrass/purple loosestrife marsh, mowed lawn with trees, unpaved road/path, and paved road path. A detailed assessment of potential construction impacts on natural resources is described below in "Natural Resources." Site clearing activities would include the use of a variety of forestry equipment (i.e., harvester, log hauler, chipper, etc.) Although construction of the Proposed Project would result in the loss of trees, tree protection measures would be implemented to protect existing trees that are located near the limits of disturbance on the boundaries of the Project Site. Protection measures for wetlands would also be implemented.

BUILDING CONSTRUCTION (COMMERCIAL CENTER AND PARKING GARAGE)

First, excavators and front end loaders would be used for the task of soil excavation. The soil would be loaded onto dump trucks for transport to a licensed disposal facility or for reuse on a construction site that needs fill. Then, piles would be driven to support the new buildings. Pile caps would be formed and concrete poured to build the foundations for the buildings. When the below-grade construction is completed, construction of the superstructures of the new buildings would begin. The superstructure of the proposed buildings would include the building's framework (beams and columns) and floor decks. Construction of the interior structure, or core, of the building would include elevator shafts; vertical risers for mechanical, electrical, and plumbing systems; electrical and mechanical equipment rooms; core stairs; and restroom areas. Cranes would be used to lift structural components, façade elements, and other large materials. Finally, interior fit-out activities would commence and would include the construction of nonstructural building elements such as interior partitions, lighting fixtures, and interior finishes (i.e., flooring, painting, etc.).

STREET AND INFRASTRUCTURE IMPROVEMENTS

The Proposed Project would include building and opening as a public street the mapped but unbuilt portion of Richmond Valley Road that would extend in an east-west direction from

Arthur Kill Road, terminating to the west along the Arthur Kill waterfront. Portions of Arthur Kill Road would also be improved, including the creation of a new intersection with Richmond Valley Road and turning lanes into the Proposed Project. New sidewalks along Arthur Kill Road and Richmond Valley Road would be constructed as a part of the Proposed Project.

Typically three to four layers of material are laid down to form a new roadway. First a subbase is placed and compacted, followed by the base layer, a binder layer, and finally the top layer of asphalt. The final work would be striping the streets and crosswalks. Construction of the roads would involve graders, bull dozers, and compactors for the first three layers. The asphalt would need a paving machine and rollers to compact the asphalt. The materials would be brought to the site by trucks and immediately placed by the graders and bull dozers. The roller/compactor would be used after each layer has been placed. The asphalt would be brought by trucks and placed into the paving machine for spreading and compacting. For the construction of the sidewalks, forms are placed by hand to shape the curb and sidewalk. After reinforcing mesh is laid, concrete is poured from concrete trucks to form the sidewalk.

OPEN SPACE AND LANDSCAPE IMPROVEMENTS

The Proposed Project includes waterfront open space that would include passive recreational open space with the installation of a public walkway, landscaping improvements (planting of native trees, shrubs, grasses, etc.), tidal wetland enhancements along the shoreline, and freshwater wetland enhancements in the northern preserved area. During construction of the open space, clean top soil would be imported for installation of the grassy areas and landscaping. The top soil would involve dump trucks bringing the soil and hand spreading. Trees would also be planted during this stage of construction. Concrete sidewalks would be poured, and furniture such as benches, would be installed. Additionally, there would be new sidewalks and walkways throughout the Project Site that would be finished with landscaping and tree plantings. This includes both along the proposed private drives as well as Richmond Valley Road.

ARCHITECTURAL RENOVATIONS

The Project Site contains one known architectural resource, Cole House, located at 4927 Arthur Kill Road. The Proposed Project would retain the Cole House and renovate it for use as a management office.

D. THE FUTURE WITHOUT THE PROPOSED PROJECT

For the future without the Proposed Project, it is assumed that the Project Site would not be altered and conditions on the site would remain unchanged.

E. THE FUTURE WITH THE PROPOSED PROJECT

Construction of the Proposed Project, as is the case with any construction project, may result in some temporary disruptions in the surrounding area. The following analysis describes the overall temporary effects of construction of the Proposed Project on transportation, air quality, noise, vibration, land use and public policy, socioeconomic conditions, open space, historic and cultural resources, hazardous materials, and natural resources.

TRANSPORTATION

The construction transportation analysis assesses the potential for construction activities to result in significant adverse impacts to traffic, parking conditions, and transit and pedestrian facilities. The analysis is based on the peak worker and truck trips during construction of the Proposed Project, which are developed based on several factors including worker modal splits, vehicle occupancy and trip distribution, truck passenger car equivalents (PCEs), and arrival/departure patterns.

The following sections evaluate the potential for the Proposed Project's peak construction worker and truck trips to result in significant adverse impacts to traffic, parking, transit facilities, and pedestrian facilities.

TRAFFIC

An evaluation of construction sequencing and worker/truck projections was undertaken to assess potential traffic impacts.

Daily Workforce and Truck Deliveries

It is expected that construction activities associated with the Proposed Project would generate a peak of approximately 170 workers and 17 truck deliveries per day. These estimates of construction activities are discussed further below.

Construction Trip-Generation Projections

The average worker and truck trip projections were further refined to account for worker modal splits and vehicle occupancy, arrival and departure distribution, and truck PCEs. The daily construction worker and truck trip projections during the peak construction period are presented in **Table 18-2.**

Construction Worker Modal Splits and Vehicle Occupancy

Based on the latest available U.S. Census data (2000 Census data) for workers in the construction and excavation industry, it is anticipated that 94 percent of construction workers would commute to the project area by private autos at an average occupancy of approximately 1.17 persons per vehicle.

Peak-Hour, Construction-Worker Vehicle and Truck Trips

Similar to other construction projects in New York City, most of the construction activities at the project area are expected to take place from 7:00 AM to 4:00 PM. While construction truck trips would occur throughout the day (with more trips during the early morning), and most trucks would remain in the area for short durations, construction workers would commute during the hours before and after the work shift. For analysis purposes, each truck delivery was assumed to result in two truck trips during the same hour (one "in" and one "out"), whereas each worker vehicle was assumed to arrive near the work shift start hour and depart near the work shift end hour. Further, in accordance with the 2014 *CEQR Technical Manual*, the traffic analysis assumed that each truck has a PCE of 2.

The estimated daily vehicle trips were distributed throughout the workday based on projected work shift allocations and conventional arrival/departure patterns for construction workers and trucks. For construction workers, the majority (approximately 80 percent) of the arrival and departure trips would take place during the hour before and after each work shift (6:00 to 7:00

AM for arrival and 4:00 to 5:00 PM for departure on a regular day shift). Construction truck deliveries typically peak during the hour before each shift (25 percent), overlapping with

construction worker arrival traffic. As shown in **Table 18-2**, based on these projections, the maximum construction-related traffic increments would be approximately 125 PCEs between 6:00 AM and 7:00 AM and 109 PCEs between 4:00 PM and 5:00 PM. It is expected that only a limited number of worker and trucks would travel to or from the site during the standard vehicular peak traffic hours (e.g., 8:00 AM to 10:00 AM and 5:00PM to 7:00 PM). Traffic generated during construction would also be temporary and of short duration. In addition, the construction traffic increments would be substantially lower than the operational traffic increments for the full build-out under the Proposed Project in 2019. For these reasons, it is concluded that the Proposed Project would not result in potential significant adverse traffic impacts generated by construction activity.

Table 18-2
Daily Construction Worker and Truck Trip Projections

	Auto Trips			Truck Trips			Total					
	Regular Shift			Regular Shift			Vehicle Trips			PCE Trips		
Hour	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
6 AM - 7 AM	109	0	109	4	4	8	113	4	117	117	8	125
7 AM - 8 AM	27	0	27	2	2	4	29	2	31	31	4	35
8 AM - 9 AM	0	0	0	2	2	4	2	2	4	4	4	8
9 AM -10 AM	0	0	0	2	2	4	2	2	4	4	4	8
10 AM -11 AM	0	0	0	2	2	4	2	2	4	4	4	8
11 AM - 12 PM	0	0	0	2	2	4	2	2	4	4	4	8
12 PM - 1 PM	0	0	0	2	2	4	2	2	4	4	4	8
1 PM - 2 PM	0	0	0	1	1	2	1	1	2	2	2	4
2 PM - 3 PM	0	0	0	0	0	0	0	0	0	0	0	0
3 PM – 4 PM	0	27	27	0	0	0	0	27	27	0	27	27
4 PM - 5 PM	0	109	109	0	0	0	0	109	109	0	109	109
5PM – 6PM	0	0	0	0	0	0	0	0	0	0	0	0
6PM – 7PM	0	0	0	0	0	0	0	0	0	0	0	0
Daily Total	136	136	272	17	17	34	153	153	306	170	170	340

Note: Hourly construction worker and truck trips were derived from an estimated quarterly average number of construction workers and truck deliveries per day, with each truck delivery resulting in two daily trips (arrival and departure).

PARKING

As described above, the peak number of workers would be 170 per day. Based on the latest available U.S. Census data (2000 Census data) for workers in the construction and excavation industry, it is anticipated that 94 percent of construction workers would commute to the project area by private autos at an average occupancy of approximately 1.17 persons per vehicle. The anticipated construction activities are therefore projected to generate a maximum parking demand of 137 parking spaces.

As stated above, construction worker parking is expected to be accommodated on-site.

TRANSIT

Based on the latest available 2000 U.S. Census data for workers in the construction and excavation industry, it is anticipated that approximately 6 percent of construction workers would commute to the project area via transit. During the peak-construction worker shift (170 average

daily construction workers in the 7:00 AM to 4:00 PM shift during), approximately 10 workers would travel by transit. With 80 percent of these workers arriving or departing during the construction peak hours, the estimated number of peak-hour transit trips would be eight, well below the *CEQR Technical Manual* 200-transit-trip analysis threshold. Therefore, construction of the Proposed Project would not result in any significant adverse construction transit impacts, and no further analysis is required.

PEDESTRIANS

As summarized above, 170 average daily construction workers are projected in the 7:00 AM to 4:00 PM shift during peak construction. With 80 percent of these workers arriving or departing during the construction peak hours (6:00 AM to 7:00 AM and 3:00 PM to 4:00 PM), the corresponding numbers of peak-hour pedestrian trips traversing the area's sidewalks, corners, and crosswalks would be approximately 136. This number is below the *CEQR Technical Manual* 200-pedestrian-trip analysis threshold for detailed analysis. Therefore, construction of the Proposed Project would not result in any significant adverse pedestrian impacts, and no further analysis is required.

AIR QUALITY

Emissions from on-site construction equipment and on-road construction-related vehicles, as well as dust generating construction activities, have the potential to affect air quality. The *City Environmental Quality Review (CEQR) Technical Manual* state that the significance of a predicted consequence of a project (i.e., whether it is material, substantial, large or important) should be assessed in connection with its setting (e.g., urban or rural), its probability of occurrence, its duration, its irreversibility, its geographic scope, its magnitude, and the number of people affected. This guidance was followed to assess the potential for construction air quality impacts from the Proposed Project.

The overall construction period for the Proposed Project is anticipated to be approximately 13 months and would be considered short -term (less than two years) in accordance with the *CEQR Technical Manual*. As stated in the *CEQR Technical Manual,* any impacts from such short-term construction generally do not require detailed assessment. The portion of the study area immediately adjacent to the Project Site contains predominantly commercial and light industrial uses; the nearest sensitive receptor locations are the two single-family homes located on the east side of Arthur Kill Road immediately north of Richmond Valley Road. Given the distance from the construction activities, the presence of these receptors would not trigger the need for a detailed assessment. In addition, the Proposed Project would be put into use as a single phase, so there would not be the potential for completed buildings to become on-site receptors before construction of the Proposed Project is completed. Therefore, a qualitative assessment of the potential air quality effects during construction of the Proposed Project is presented below.

EMISSION CONTROL MEASURES

Construction activity in general has the potential to adversely affect air quality as a result of diesel emissions. Measures would be taken to reduce pollutant emissions during construction in accordance with all applicable laws, regulations, and building codes. In addition to adhering to the local law restricting unnecessary idling on roadways, on-site vehicle idle time would also be restricted to three minutes for all equipment and vehicles that are not using their engines to operate a loading, unloading, or processing device (e.g., concrete mixing trucks) or otherwise

required for the proper operation of the engine. All measures required by the portion of the *New York City Air Pollution Control Code* regulating construction-related dust emissions would be implemented. For example, all trucks hauling loose material would be equipped with tight-fitting tailgates and their loads securely covered prior to leaving the construction site; area(s) would be established for washing off the wheels of all construction trucks that exit the Project Site; and water sprays would be used to ensure that materials are dampened as necessary to avoid release of dust into the air.

LOCATION OF NEARBY SENSITIVE RECEPTORS

Sensitive receptors are locations where people are likely to have continuous access such as areas with exterior uses (i.e., parks and playgrounds) and buildings with sensitive interior uses (i.e., residences, hospitals, nursing homes, schools, and community facilities). The portion of the study area immediately adjacent to the Project Site (located along Arthur Kill Road between the Outerbridge Crossing and Richmond Valley Road) contains predominantly commercial and light industrial uses. In addition, there are no publicly accessible open space resources within the ¼-mile study area surrounding the Project Site. The nearest sensitive receptor locations are the two single-family homes located on the east side of Arthur Kill Road immediately north of Richmond Valley Road. However, although there is frontage, most of the Project Site is set back from Arthur Kill Road. Therefore, with the increased distance, air emissions generated by on-site construction equipment would be dispersed before reaching these receptor locations, which would result in reduced concentrations.

DURATION AND INTENSITY

While the overall construction period for the Proposed Project is anticipated to be approximately 13 months, the most intense construction activities in terms of air pollutant emissions (site clearing, excavation, and foundation activities where a handful of large non-road diesel engines such as excavations and loaders would be employed) would last for only a portion of this duration. The latter stages of construction, including building construction and interior fit-outs, would result in much lower air emissions since they would require few pieces of heavy duty diesel equipment. In addition, the latter stages of construction would not involve soil disturbance activities and therefore would result in significantly lower dust emissions. Interior fit-out and renovation activities would occur within substantially enclosed buildings where the walls would act as barriers for air pollutants transport, thereby minimizing the effects of construction on the nearby community.

Based on the nature of the construction work for the Proposed Project, construction activities would not be considered out of the ordinary in terms of intensity, and emissions would be reduced through implementation of the measures described above under "Emission Control Measures." Overall, the air quality effects would be temporary and limited and would only occur during the construction period.

OFF-SITE SOURCES

As discussed above in Transportation, the construction of the Proposed Project is anticipated to generate a modest increase in vehicular trips. In addition, localized increases in mobile source emissions would be minimized during construction by incorporating traffic management requirements and ensuring that idling of construction trucks would not be permitted during periods when they are unloading or not in active use. Moreover, these increases would also be

short term and temporary. Therefore, the increase in air emissions along the truck routes to and from the Proposed Project is also not anticipated to be significant.

SUMMARY

The construction of the Proposed Project is anticipated to take approximately 13 months to complete. According to the *CEQR Technical Manual*, a development with an overall construction period lasting shorter than two years is considered short-term. In addition, based on the information presented above and considering the limited duration and intensity of construction activities associated with the Proposed Project, the use of emission control measures, and a relatively modest increase in construction vehicular trips, the construction of the Proposed Project would not have the potential for significant adverse impacts on local air quality and no further analysis is required.

NOISE

Potential impacts on community noise levels during construction could result from the operation of construction equipment and from construction and delivery vehicles traveling to and from the Project Site. Noise levels at a given location are dependent on the type and quantity of construction equipment being operated, the acoustical utilization factor of the equipment (i.e., the percentage of time the equipment is operating), the distance from the construction site, and any shielding effects (from structures such as walls or barriers). Noise levels caused by construction activities would vary widely and the location of the construction activities relative to noise-sensitive receptor locations would also vary.

The overall construction period for the Proposed Project is anticipated to be approximately 13 months and would be considered short term (less than two years) in accordance with the *CEQR Technical Manual*. As stated in the *CEQR Technical Manual,* any impacts from such short-term construction generally do not require detailed assessment. The portion of the study area immediately adjacent to the Project Site contains predominantly commercial and light industrial uses; the nearest sensitive receptor locations are the two single-family homes located on the east side of Arthur Kill Road immediately north of Richmond Valley Road. However, construction of the Proposed Project would be short term and would not affect these receptor locations for a period of time exceeding two years. Given the distance from the construction activities, the presence of these receptors would not trigger the need for a detailed assessment. In addition, the Proposed Project would be put into use in a single phase, so there would not be the potential for completed buildings to become on-site receptors before construction of the Proposed Project is completed. Therefore, a qualitative assessment of the potential noise effects during construction of the Proposed Project is presented below.

NOISE CONTROL MEASURES

Noise from construction activities and some construction equipment is regulated by the *New York City Noise Control Code* (also known as Chapter 24 of the Administrative Code of the City of New York, or Local Law 113) and by USEPA's noise emission standards. These local and federal requirements mandate that specific construction equipment and motor vehicles meet specified noise emission standards; that construction activities be limited to weekdays between the hours of 7:00 AM and 6:00 PM (for weekend and after hour work, permits would be required to be obtained before these activities could occur); and that construction materials be handled and transported in such a manner as not to create unnecessary noise. During construction of the

Proposed Project, all necessary measures would be implemented to ensure adherence to the *New York City Noise Control Code* regulating construction noise. The *New York City Noise Control Code* regulations would minimize noise disruption to nearby community during the construction of the Proposed Project. In accordance with City regulations, a noise control plan would be developed and implemented to minimize intrusive noise impacts on sensitive receptors near the Project Site. This noise control plan is expected to include such measures as avoiding unnecessary evening construction and truck idling. A copy of the noise mitigation plan would also be kept at the construction site for compliance review by DEP and DOB.

LOCATION OF NEARBY SENSITIVE RECEPTORS

As described above in "Air Quality," sensitive receptors are locations where people are likely to have continuous access such as areas with exterior uses (i.e., parks and playgrounds) and buildings with sensitive interior uses (i.e., residences, hospitals, nursing homes, schools, and community facilities). The portion of the study area immediately adjacent to the Project Site (located along Arthur Kill Road between the Outerbridge Crossing and Richmond Valley Road) contains predominantly commercial and light industrial uses. In addition, there are no publicly accessible open space resources within the ¼-mile study area surrounding the Project Site. The nearest sensitive locations are the two single-family homes located on the east side of Arthur Kill Road immediately north of Richmond Valley Road. Although these locations are located within 1,500 feet of construction noise sources, most of the Project Site is set back from Arthur Kill Road, increasing the distance from constructions sources to these receptor locations. Construction of the Proposed Project would adhere to the *New York City Noise Control Code* to minimize noise disruption on these residences and, as discussed below, construction of the Proposed Project would be intermittent and limited to approximately 13 months which is considered to be short term (i.e., less than 24 months) in accordance with the *CEQR Technical Manual*.

DURATION AND INTENSITY

While the overall construction period for the Proposed Project is anticipated to be approximately 13 months, the most intense construction activities in terms of noise (site clearing, excavation, and foundation activities where heavy equipment such as pile drivers and excavators, would be employed) would last for only a portion of this duration. The latter stages of construction, including superstructure construction and interior fit-outs, would result in much lower noise emissions since they would require less heavy construction equipment as compared to the demolition, excavation, and foundation work. Construction equipment with higher noise levels such as pile drivers, excavators, etc. would not be used during the superstructure and interior fit-out stages of construction for the mixed-use commercial center. In addition, interior fit-out and renovation activities would occur within substantially enclosed buildings where the walls of the buildings would provide acoustical shielding, thereby minimizing the effects of construction noise on the nearby community.

Based on the intermittent nature of the construction work for the Proposed Project, construction activities would not be considered out of the ordinary in terms of intensity, and noise levels would be minimized by adherence to the *New York City Noise Control Code* and implementation of a noise control plan as discussed above. Overall, the noise effects would be temporary and limited and would only occur during the construction period.

OFF-SITE SOURCES

As discussed above in "Transportation," the construction of the Proposed Project is anticipated to generate a modest increase in vehicular trips, especially when compared with the vehicle trips generated for the full build-out condition under the Proposed Project. In addition, localized increases in noises due to mobile sources would be minimized during construction by incorporating traffic management requirements and ensuring that idling of construction trucks would not be permitted during periods when they are unloading or not in active use. Moreover, these increases would also be short term and temporary. Therefore, the increase in noise emissions along the truck routes to and from the Proposed Project is also not anticipated to be significant.

SUMMARY

The construction of the Proposed Project is anticipated to take approximately 13 months to complete. According to the *CEQR Technical Manual*, a development with an overall construction period lasting shorter than two years is considered short term. In addition, based on the information presented above and considering the limited duration and intensity of construction activities associated with the Proposed Project, the adherence to the *New York City Noise Control Code* to minimize noise disruption, and a relatively modest increase in construction vehicular trips, construction of the Proposed Project would not result in any significant adverse noise impacts.

VIBRATION

Construction activities have the potential to result in vibration levels that may in turn result in structural or architectural damage, and/or annoyance or interference with vibration-sensitive activities. In general, vibratory levels at a receiver are a function of the source strength (which in turn is dependent upon the construction equipment and methods utilized), the distance between the equipment and the receiver, the characteristics of the transmitting medium, and the receiver building construction. Construction equipment operation causes ground vibrations which spread through the ground and decrease in strength with distance. Vehicular traffic, even in locations close to major roadways, typically does not result in perceptible vibration levels unless there are discontinuities in the roadway surface. With the exception of the case of fragile and possibly historically significant structures or buildings, generally construction activities do not reach the levels that can cause architectural or structural damage, but can rise to levels that may be perceptible and annoying in buildings very close to a construction site. An assessment has been prepared to examine potential vibration impacts of construction activities on structures and residences near the Project Site.

As described in Chapter 6, "Historic and Cultural Resources," there is one known architectural resource in the study area: the Outerbridge Crossing. An approximately 200-foot vegetated buffer—which corresponds to the distance between the bridge and existing adjacent commercial development east of the Project Site—comprising existing vegetation and four wetland mitigation ponds is proposed between the north edge of the footprint of the Proposed Project and the south edge of the Outerbridge Crossing. Therefore, only wetland mitigation activities (e.g., limited grading and planting) would occur within 90 feet of this resource. While this level of construction activity would not result in any impacts to the bridge structure, consistent with the *CEQR Technical Manual*, a CPP would be developed, if necessary, to avoid potential inadvertent construction-related impacts on this architectural resource. The CPP would be

developed in consultation with SHPO and the Port Authority of New York and New Jersey (PANYNJ) and would be implemented by a professional engineer prior to any excavation of the Project Site. With the preparation and the implementation of a CPP, construction of the Proposed Project would not result in significant adverse construction impacts with respect to vibration. Construction of the Proposed Project would only occur for limited periods of time at a particular location and therefore, while it may result in vibration that is noticeable in buildings very close to the Project Site, it would not result in any significant adverse vibration impacts. Although there is frontage along Arthur Kill Road, most of the construction activities at the Project Site would be set back from Arthur Kill Road. All DOB safety requirements pertaining to the protection of existing buildings during construction would be followed and construction of the Proposed Project would be undertaken so as to ensure the safety of the nearby residences.

OTHER TECHNICAL AREAS

Following the guidance of the *CEQR Technical Manual*, potential construction-related impacts for additional technical areas are described below.

LAND USE AND NEIGHBORHOOD CHARACTER

Construction activities would affect in changes in land use on the Project Site (e.g., undeveloped vacant land would be developed as a commercial retail center with access roads and there would also be preserved wetlands and woodlands), but would not alter surrounding land uses. As is typical with construction projects, during periods of peak construction activity there would be some disruption to the nearby area, including construction deliveries and construction workers traveling to and from the Project Site. There would also be noise, sometimes intrusive, from drilling activities. These construction activities would be temporary and would not impact land uses within the study area. Overall, while construction activities associated with the Proposed Project would be evident to the local land uses and neighborhood, the limited duration of construction would not result in any significant or long-term adverse impacts on local land use patterns or the neighborhood.

SOCIOECONOMIC CONDITIONS

Construction activities would not affect the operations and viability of any nearby businesses, or block major thoroughfares used by customers or businesses. Construction may create direct benefits resulting from expenditures on labor, materials, and services, and indirect benefits created by expenditures by material suppliers, construction workers, and other employees involved in the construction activity. Therefore, construction of the Proposed Project would not result in any significant adverse impacts on socioeconomic conditions.

OPEN SPACE

There are no existing recreational open spaces within the Project Site, and no recreational open space resources would be used for staging or other construction activities. There are no publicly accessible open space resources, as defined by the *CEQR Technical Manual,* within the study area. Therefore, construction of the Proposed Project would not result in any significant adverse impacts on open space.

HISTORIC AND CULTURAL RESOURCES

A detailed assessment of potential impacts on historic and cultural resources is described in Chapter 5, "Historic and Cultural Resources."

All archaeological investigations will be completed in consultation with SHPO, LPC, and any consul as appropriate, which may also require consultations in accordance with the Section 106 process. Prior to any additional archaeological investigations/data recoveries, an Archaeological Mitigation will be developed in consultation with SHPO, LPC, and any additional consul as appropriate.

Only wetland mitigation activities (e.g., limited grading and planting) and would occur within 90 feet of the Outerbridge Crossing structure, a State and National Register (S/NR)-eligible architectural resource. While this level of construction activity would not result in any impacts to the bridge structure, consistent with the *CEQR Technical Manual*, a CPP would be developed, if necessary, in consultation with LPC, SHPO, and PANYNJ and would be implemented by a professional engineer prior to any project construction within 90 feet of the Outerbridge Crossing. The CPP would follow the guidelines set forth in section 523 of the *CEQR Technical Manual*. Therefore, with these measures in place, construction of the Proposed Project would not result in any significant adverse impacts on architectural resources.

HAZARDOUS MATERIALS

A detailed assessment of potential impacts on hazardous materials during construction is described in in Chapter 9, "Hazardous Materials." The section below summarizes the potential for the Proposed Project to result in adverse construction-period impacts on hazardous materials.

The Proposed Project would involve reuse of the existing residence located on Block 7632, Lot 6 and soil disturbance for the construction of new buildings, paved parking areas, public waterfront and open spaces. Impacts would be avoided by implementing the following measures:

- A RAP and associated CHASP would be prepared and submitted to DEP for review and approval prior to implementation during project construction. The RAP would address requirements such as potentially capping certain existing soils with imported clean soil as a "site cap" in new landscaped/unpaved areas; soil reuse criteria; soil testing, stockpiling, disposal and transportation; dust control; dewatering procedures; procedures for closure and removal of the septic tank and any encountered petroleum storage tanks; and contingency measures should unexpected contamination be encountered. The CHASP would identify potential hazards that may be encountered during construction and specify appropriate health and safety measures to be undertaken to ensure that subsurface disturbance is performed in a manner protective of workers, the community, and the environment (such as personal protective equipment, air monitoring requirements including community air monitoring, and emergency response procedures).
- Unless information exists to indicate that the existing residence does not contain asbestos, an asbestos survey would be completed and all asbestos-containing materials (ACM) would be removed and disposed of prior to renovation, in accordance with applicable regulatory requirements.
- Any renovation activities with the potential to disturb lead-based paint would be performed in accordance with the applicable Occupational Safety and Health Administration regulation (OSHA 29 CFR 1926.62—Lead Exposure in Construction).

- Unless labeling or laboratory testing data indicates that suspect polychlorinated biphenyl (PCB)-containing electrical equipment (including underground transformers) and fluorescent lighting fixtures do not contain PCBs, and that fluorescent lights do not contain mercury, any required disposal would be performed in accordance with applicable regulatory requirements.
- Any petroleum storage tanks installed for the new buildings (e.g., for emergency generators) would be maintained in accordance with the applicable regulations, including NYSDEC tank maintenance requirements and spill reporting requirements.
- The abandoned fuel tank encountered in the historic filling area and any unexpectedly encountered underground storage tanks (USTs) would be properly closed and disposed of in accordance with the applicable regulations, including any applicable NYSDEC tank registration and spill reporting requirements.
- Soil and fill materials to be removed as part of Project Site development would be sampled for waste classification purposes. Excavated soil and fill materials would be handled and managed in accordance with applicable regulations and the RAP/CHASP. Transportation of material leaving the Project Site for off-site disposal would be in accordance with federal, state, and local regulatory requirements covering licensing of haulers and trucks, placarding, truck routes, manifesting, etc.
- If dewatering is required, it would be performed in accordance with DEP requirements for discharge to sanitary/combined sewers or NYSDEC requirements for discharge to surface waters (either directly or via storm sewer outfalls). Additional groundwater testing and possibly pre-treatment (unlikely but dependent upon the testing results) may be necessary to comply with these requirements.

With these measures in place and with the (E) designation (E-443) for the Project Site related to hazardous materials in place to ensure that no significant adverse impacts related to hazardous materials would occur (as discussed in Chapter 9, "Hazardous Materials"), there would be no significant impacts, and as such, no further analysis of the effect of construction activities on hazardous materials is needed.

NATURAL RESOURCES

Impact Avoidance Measures to be Implemented During Construction

To avoid construction-related impacts to natural resources, the following impact avoidance measures would be implemented:

- Demarcate and maintain the boundaries of site disturbance with construction fencing so that areas of the site to remain undisturbed, principally on the northern, western, and southern portions of the Project Site, are not cleared/graded accidentally during construction.
- Install and maintain erosion control measures as part of SWPPP so that indirect impacts to onsite and adjacent wetlands and waters are not adversely affected by erosion and sedimentation during construction.
- Use turbidity curtain(s) and erosion controls for the installation of the stormwater outfall structure, requiring the disturbance of a minimal amount of tidal wetland acreage (0.02 acres).

- Install and maintain turtle exclusion fencing to prevent eastern box turtle (*Terrapene carolina*), a New York State species of special concern, from entering the work zones during construction.
- Maintain undisturbed land along the northern property boundary to act as a buffer for indirect noise impacts that may affect Peregrine falcon known to occasionally nest on the Outerbridge Crossing, and implement a noise control plan in accordance with New York City Noise Control Code regulations to minimize noise impacts during construction.
- If dewatering is necessary during construction, water would be discharged to sewers in accordance with DEP requirements.

With these measures in place, no significant adverse impacts related to natural resources would result from construction of the Proposed Project.

Construction Activities Within Wetlands

The Proposed Project, inclusive of roads, grading, habitat restoration, and commercial development, would disturb 0.55 acres of regulated NYSDEC tidal wetland, 5.14 acres of onsite regulated NYSDEC tidal wetland adjacent area, and 2.28 acres of USACE regulated freshwater wetlands. In addition, a small area of NYSDEC and USACE tidal wetland area (0.02 acres) would be disturbed for the installation of a proposed DEP storm sewer outfall that would extend outward from under Richmond Valley Road to the Arthur Kill and three private outfalls. The disturbance to the federally regulated freshwater wetland areas were minimized to the maximum extent possible when designing the site plan, but due to the centralized location of the wetlands, the impacts depicted are unavoidable due to road access and building construction. To compensate for the loss of NYSDEC tidal wetland adjacent area and USACE freshwater wetlands, the Applicant has proposed 3.00 acres of tidal wetland enhancement and 2.90 acres of freshwater wetland creation.

Stormwater Pollution Prevention Plan —SWPPP

To avoid impacts to onsite wetlands and water quality, including the Essential Fish Habitat (EFH) within the waters of the Arthur Kill, a SWPPP would be developed in accordance with the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-15-002). The SWPPP would consist of both temporary erosion and sediment controls and post-construction stormwater management practices.

Erosion controls would be installed prior to site disturbance (clearing/grading), and would include, but would not be limited to, silt fencing, temporary sedimentation traps, stabilization of disturbed areas, and installation of catch basin inlet protection along the proposed public and private roadway. Stabilized construction entrances would prevent soil from being carried onto the adjacent and nearby roads. Inspection and needed maintenance would be provided immediately prior to and after all rain events for the duration of construction. For areas not undergoing active construction, bare soil would be temporarily planted/seeding to prevent erosion. All landscape plantings would be monitored to ensure successful establishment, including the prompt stabilization and restoration of damaged plantings and seeded areas.

All erosion controls would be installed in compliance with the New York State Standards and Specifications for Erosion and Sediment Control (NYSDEC 2016). These measures would minimize the potential for construction of the project to adversely affect the quality of stormwater discharged to the Arthur Kill or the violation of Use Classification I saline surface

water standards. The tidal wetlands would also continue to act as a natural filter for the Proposed Project's stormwater runoff.

Stormwater Outfall – Tidal Wetland Disturbance

A small area of NYSDEC and USACE tidal wetland area (0.02 acres) would be disturbed for the installation of a DEP storm sewer outfall that would extend outward from under Richmond Valley Road to the Arthur Kill. The outfall would convey stormwater runoff from a larger watershed east of Arthur Kill Road. Because the rip-rap outlet protection would extend into tidal wetlands and to mean high water (MHW), it would require permits from NYSDEC and USACE. During construction, upland portions of the outfall would be properly protected by erosion and sediment control measures as part to the SWPPP, as discussed above. During installation, construction equipment would be kept entirely within the uplands of the site with careful attention to minimizing the footprint of disturbance in regulated wetland/waters. Turbidity curtains may be used if it is determined the outfalls construction would cause sediment disturbance which could increase turbidity locally in the waters of the Arthur Kill.

With these measures in place, no significant adverse impacts related to aquatic resources and wetlands would result from construction of the Proposed Project.

Construction Activities Within Terrestrial Habitats

As presented in Chapter 8, "Natural Resources," the Proposed Project would include construction activities at a primarily vacant lot that presently contains natural resources including vegetation in previously disturbed areas, freshwater and tidal wetlands, patches of forested upland area, manicured lawn with trees, and disturbance-tolerant wildlife species that are ubiquitous in urban areas.

Tree protection measures would be implemented during construction to protect existing trees that are located near the limits of disturbance on the boundaries of the Project Site. Trees near working areas may be wrapped at the base by snow fencing to avoid accidental damage to trunks and roots. No disturbance is planned within the projected root zone of these trees or within the drip line of the tree foliage. Snow fencing or other highly visible means of marking should be placed around the maximum area of the root system to prevent the destruction of roots by exposure or through the compaction of soils. Construction crews would be notified to exclude all equipment from these protected areas. If necessary, trees would be protected by tree wells in fill areas, and retaining walls in cut areas.

Displacement of some wildlife would occur during construction of the Proposed Project, but the shoreline, the area of highest wildlife utilization, would remain undeveloped or enhanced in some locations with native vegetative plantings that would provide food and cover for wildlife. Habitat would remain on the Project Site to support potentially displaced wildlife.

Threatened, Endangered, and Special Concern Species

Eastern Box Turtle – Exclusion Fencing

The eastern box turtle (*Terrapene carolina*), a New York State *species of special concern*, was identified onsite. This species would be protected during construction by installation of exclusion fencing and movement of individual turtles to the protected, northern portions of the Project Site. Prior to site disturbance, an ecologist familiar with the eastern box turtle would conduct an inventory of the Project Site to find and relocate individual turtles to protected areas of the Project Site or an appropriate offsite location. The ecologist would also periodically investigate the site during construction to identify and relocate any eastern box turtles.

Peregrine Falcon – Indirect Noise Impacts from Construction

Peregrine falcon, a NYS-listed *endangered* species, have nested intermittently on the Outerbridge Crossing, north of the Project Site. Given the limited work on wetlands creation areas in the northern portion of the property closest to the Outerbridge Crossing, there would be no indirect impacts from construction noise to Peregrine falcons that may be nesting on the bridge during the 13-month construction period.

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