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Construction

Construction activities, although temporary in nature, can sometimes result in significant adverse impacts. A project's construction activities may affect a number of technical areas analyzed for the operational period, such as air quality, noise, and traffic; therefore, a construction assessment relies to a significant extent on the methodologies and resulting information gathered in the analyses of these technical areas.

Introduction

According to the *CEQR Technical Manual*, construction activities, although temporary in nature, can sometimes result in significant adverse impacts. Consideration of several factors including the location and setting of the project in relation to other uses, and the intensity and duration of the construction activities, may indicate that a project's construction activities warrant analysis.

The introduction of a CPC special permit for new hotels in M1 districts could result in shifting hotel development from M1 districts to other locations where they will continue to be permitted as-of-right but would not otherwise change any rules regulating development in these locations. Thus, the possible effects of a shift in

some hotel development from M1 districts in the future No-Action and With-Action conditions will be considered by means of a prototypical analysis. The construction assessment will be performed for each of the seven prototypical sites as defined and described in **Chapter 1, "Project Description"** to identify the possible effects of shifting from one use (such as a residential or different commercial use) in the No-Action condition to a commercial hotel use in the With-Action condition.

Principal Conclusions

Analyses were conducted on the prototypical sites to assess the possible effects related to construction activities as it pertains to the shift from non-hotel use (i.e., a residential or different commercial use) in the No-Action condition to commercial hotel use in the With-Action condition.

Based on *CEQR Technical Manual* guidelines, where the duration of construction is expected to be short-term (less than two years) a construction assessment is not warranted. Based on the screening assessment, the proposed action is not expected to result in construction on the prototypical sites that would last in excess of two years—with the exception of the Jamaica Prototypical Sites—and further analysis of these sites was not warranted. Therefore, a preliminary analysis was conducted only for the Jamaica sites.

As explained in the preliminary analysis, if the sites are built as three separate buildings, construction at the sites would last a little over three years. However, the heavy construction phases of these buildings would not occur consecutively, allowing for demobilization and remobilization of construction work, and include breaks where the main construction work would be conducted on the building's interiors. Therefore, even though there would be a longer overall construction duration, it would not be continuously disruptive to the surroundings.

It should be noted that construction at all prototypical sites would be subject to the government regulations and oversight detailed above in Construction Regulations and General Practices and would employ the general construction practices described therein. In addition, any designated NYCL- or S/NR-listed historic buildings located within 90 linear feet of a projected or potential new construction site would be subject to the Department of Building's (DOB's) Technical Policy and Procedure Notice (TPPN) #10/88, which would ensure the protection of historic resources.

Screening Assessment

The proposed action is a generic action, and there are no known development sites at this time. As described in **Chapter 1, "Project Description,"** the proposed action would affect zoning regulations on a citywide basis and would result in the creation of a CPC special permit for hotel developments in M1 districts, except for areas that are airport property or areas adjacent to airports that are predominantly non-

residential. The proposed action itself is not expected to induce development on sites where development would not have otherwise been possible.

The introduction of a CPC special permit for new hotels in M1 districts could result in shifting hotel development from M1 districts to other locations where they will continue to be permitted as-of-right, but would not otherwise change any rules regulating development in these locations. Thus, the possible effects of a shift in some hotel development from M1 districts in the future No-Action and With-Action conditions will be considered by means of a prototypical analysis of seven representative development prototypical sites.

According to the *CEQR Technical Manual*, where the duration of construction is expected to be short-term (less than two years), any impacts resulting from such short-term construction would be temporary and, therefore, would not require further assessment. The prototypical sites—excluding the Jamaica Prototypical Site—are single sites, and the maximum development size that may occur at any one of these sites is approximately 60,000 square feet. Construction of single-site developments typically take less than two years to complete in New York City. As such, construction at the prototypical sites—apart from the Jamaica Site—would be considered short-term and would not require a further analysis.

The Jamaica Prototypical Site consists of three buildings and would result in approximately 225,000 square feet of development under the With-Action condition. It is possible for construction at the Jamaica Prototypical Site to potentially exceed two years. However, all construction activities would be carried out in accordance with applicable construction codes and regulations, and NYC Building Department permits. In addition, as discussed in **Chapter 7, “Historic and Cultural Resources,”** any designated NYCL or S/NR-listed historic buildings located within 90 linear feet of a projected or potential new construction site would be subject to the protections of the Department of Building’s (DOB’s) Technical Policy and Procedure Notice (TPPN) #10/88, which would ensure that any development resulting from the proposed action would not result in any significant adverse construction-related impacts to designated historic resources.

Preliminary Assessments

Construction Regulations and General Practices

Construction Oversight

Governmental oversight of construction in New York City is extensive and involves a number of City, State, and Federal agencies, each with specific areas of responsibility, as follows.

- › The New York City Department of Buildings (DOB) has primary oversight of construction. DOB oversees compliance with the New York City Building Code to ensure that buildings are structurally, electrically, and mechanically safe. In

addition, DOB enforces safety regulations to protect both workers and the general public during construction. Areas of oversight include installation and operation of equipment such as cranes and lifts, sidewalk sheds, safety netting, and scaffolding.

- › The New York City Department of Environmental Protection (DEP) enforces the New York City Noise Code, reviews and approves any needed Remedial Action Plans (RAPs) and associated Construction Health and Safety Plans (CHASPs) as well as the removal of fuel tanks and abatement of hazardous materials. DEP also regulates water disposal into the sewer system and reviews and approves any rerouting of wastewater flow.
- › 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.
- › The New York City Department of Transportation Office of Construction Mitigation and Coordination (DOT OCMC) reviews and approves any traffic lane and sidewalk closures.
- › New York City Transit (NYCT) is responsible for bus stop relocations and subsurface construction within 200 feet of a subway, if needed.
- › The New York City Landmarks Preservation Commission approves studies and testing to prevent loss of archaeological resources and to prevent damage to architectural resources.
- › The New York State Department of Environmental Conservation (NYSDEC) regulates disposal of hazardous materials and construction, operation, and removal of bulk petroleum and chemical storage tanks. NYSDEC also regulates discharge of water into rivers and streams.
- › The New York State Department of Labor (DOL) licenses asbestos workers.
- › The New York State Department of Transportation (NYSDOT) reviews and approves any traffic lane closures on its roadways, should any be necessary.
- › The U.S. Environmental Protection Agency (EPA) has wide-ranging authority over environmental matters, including air emissions, noise, hazardous materials, and the use of poisons, however, much of its responsibility is delegated to the state level.
- › The Occupational Safety and Health Administration (OSHA) sets standards for work site safety and construction equipment.

Construction Hours

New York City regulates the hours of construction work through the New York City Noise Control Code, as amended in December 2005 and effective July 1, 2007. Construction is limited to weekdays between the hours of 7:00 AM and 6:00 PM, and noise limits are set for certain specific pieces of construction equipment. The City may permit work outside of these hours 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. The DOB issues these work permits, and in some instances, approval of a noise mitigation plan from the DEP under the City's Noise Code is also required.

In New York City, construction work typically occurs on weekdays and begins at 7:00 AM, with most workers arriving between 6:00 AM and 7:00 AM. Work typically ends at 4:00 PM, with some exceptions when certain critical tasks (e.g., finishing a concrete pour for a floor deck, completing the drilling of piles, or completing the bolting of a steel frame erected that day) require that the workday be extended beyond normal work hours. Any extended workdays generally last until approximately 5:30 PM or 6:00 PM and do not include all construction workers on-site, but only those involved in the specific task requiring additional work time. For work outside of normal construction hours, work permits are obtained from DOB prior to such work commencing. The numbers of workers and pieces of equipment in operation for work outside normal hours is generally limited to those needed to complete the particular authorized task. Overall, the level of activity for any work outside of normal construction hours is less than a normal workday.

Construction Practices

Access, Deliveries and Staging Area

Access to construction sites is controlled. Work areas are fenced off, and limited access points for workers and construction-related trucks are provided. Typically, worker vehicles are not allowed into the construction area, and workers or trucks without a need to be on the site are not allowed entry. After work hours, the gates are closed and locked. Security guards may patrol the construction site after work hours and over weekends to prevent unauthorized access.

Material deliveries to the site are controlled and scheduled. To aid in adhering to the delivery schedules, as is normal for building construction in New York City, flaggers are employed at each of the construction site's access points. Flaggers are typically supplied by either the subcontractor on-site at the time or by the construction manager. The flaggers control trucks entering and exiting the project site so that they would not interfere with one another. In addition, they provide an additional traffic aid as trucks enter and exit the on-street traffic streams.

Lane and Walkway Closures

Temporary curb-lane and sidewalk closures are typical for construction projects in New York City. To manage such closures, a Maintenance and Protection of Traffic (MPT) plan is developed consistent with DOT requirements. DOT OCMC reviews and approves MPT plans, and the implementation of the closures is also coordinated with DOT OCMC. In general, construction managers for major projects on adjacent sites also coordinate their activities to avoid delays and inefficiencies.

Public Safety

A variety of measures are employed to ensure public safety during construction at sites within New York City. Examples include the use of sidewalk bridges to provide overhead protection for pedestrians passing by the construction site and the employment of flaggers to control trucks entering and exiting the construction site, to provide guidance to pedestrians, and/or to alert or slow down the traffic. Other safety measures include following DOB requirements during the installation and operation of tower cranes to ensure safe operation of the equipment and the installation of safety nettings on the sides of the project as the superstructure advances upward to prevent debris from falling to the ground.

Rodent Control

Construction projects in New York City typically include provisions for a rodent (i.e., mouse and rat) control program with provisions for this formalized in construction contracts for the development. Rodent control programs are typically carried out throughout construction, beginning with surveying and baiting appropriate areas prior to construction and providing for proper site sanitation and maintenance during construction. Signage would be posted, and coordination would be conducted with appropriate public agencies. Only EPA- and NYSDEC-registered rodenticides would be permitted, and the contractor would be required to implement the rodent control program in a manner that is not hazardous to the general public, domestic animals, and non-target wildlife.

Construction Assessment

As described previously, the prototypical sites—excluding the Jamaica Prototypical Site—would be single sites and would not require construction over two years. The Jamaica Prototypical Sites (Site A, Site B, and Site C), which consists of three buildings, could potentially result in construction exceeding two years, and as such, further analysis was undertaken for this site.

Jamaica Prototypical Sites

Total development on the Jamaica Prototypical Sites would be approximately 225,870 sf. The building on Site A would be approximately 61,850 sf, the Site B hotel would be 67,930 sf, and the hotel on Site C would be 96,630 sf. Depending on size, the construction period for each building would range from less than a year to more than two years.

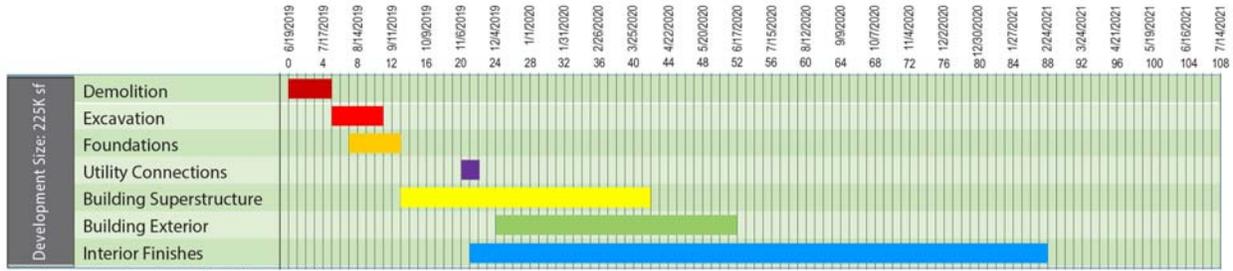
The general phases of construction include:

- › Demolition
- › Excavation
- › Foundations
- › Utility/Sewer Connections
- › Building Superstructure

- › Building Exterior
- › Building Interior

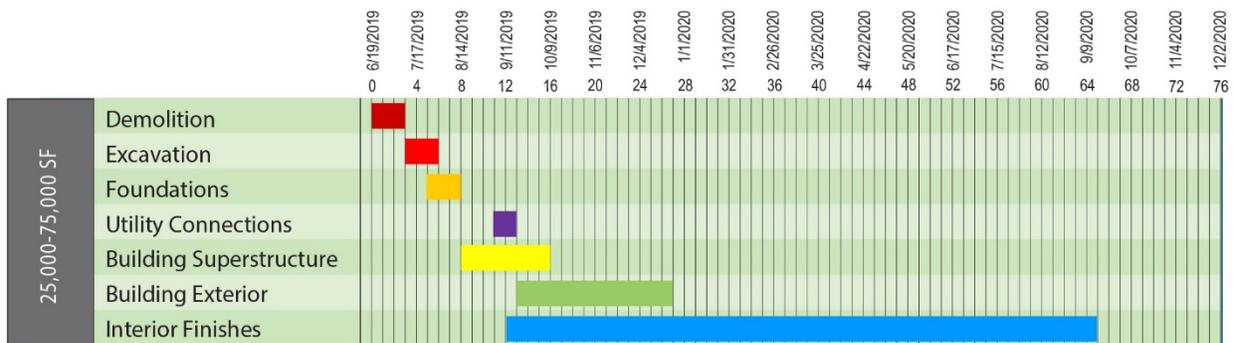
Some of these construction stages would overlap. Utility connections, Building Superstructure, Building Exterior, and Building Interior finishes would overlap to various degrees. As shown in **Figures 20-1 to 20-3**, although construction could potentially exceed two years, the longest stage of construction typically occurs during the Building Interior phase.

Figure 20-1 Jamaica Prototypes Sample Construction Schedule – 225,000 sf Development



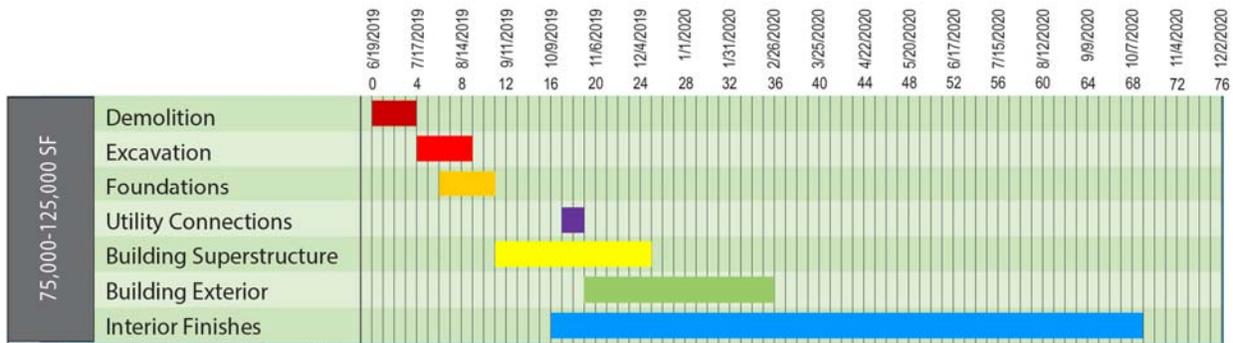
* Based on construction schedules from Crotona Park EIS

Figure 20-2 Jamaica Prototypes Sample Construction Schedule – 25,000-75,000 sf Development



* Based on construction schedules from Crotona Park EIS

Figure 20-3 Jamaica Prototypes Sample Construction Schedule – 75,000-125,000 sf Development



* Based on construction schedules from Crotona Park EIS

Table 20-1, which is based on the Crotona Park East EIS¹, summarizes pertinent information regarding construction activities by building type and construction phase. It includes:

- › Typical construction employees per day,
- › Truck trips per day (hauling out and delivery),
- › Noise PCEs for truck trips,
- › Typical quantity of on-site construction equipment, and
- › Length of time for each construction phase.

As shown in the table and **Figure 20-1**, construction on the prototypical sites would take a little over 1.5 years if built as a single development of 225,870 sf. Generally, the heaviest construction would occur in the beginning stages of construction, which would generate the greatest vehicular trips. However, most of the construction would happen during Building Interior finishes, which would be the longest stage. This stage typically results in less noise and air emissions than the earlier stages of construction since activities are largely enclosed during this stage. In addition, construction of the site as a single development would be considered short-term, and as such, construction impacts are not anticipated for the Jamaica sites in this case.

Construction on the prototypical sites could potentially last over three years if the buildings are treated as separate independent developments (two buildings between 25,000-75,000 sf and one building between 75,000-125,000 sf) and the buildings were constructed sequentially. **Figure 20-2** shows the construction schedule for a building between 25,000-75,000 sf and **Figure 20-3** shows the schedule for a building between 75,000-125,000 sf. Construction for each building would take a little over 1 year. If the buildings were developed sequentially, there would likely be periods of inactivity as each site is demobilized before remobilization at the next site. As such, construction would not be continuous and none of the construction stages for each building would overlap. Therefore, adverse impacts to noise and air quality as a result of construction are not anticipated. In addition, construction at the sites would follow stringent government regulations and oversight as detailed above in Construction Regulations and General Practices and would employ the general construction practices described therein.

¹ Crotona Park East/West Farms Rezoning and Related Actions FEIS, August 2011, CEQR No.10DCP017X.

Table 20-1 Construction Activities by Building Type and Construction Phase

Item*	Demolition	Excavation & Foundations	Utility & Sewer	Building Super-structure	Building Exterior	Interior Finishes
Development size – 25K-75K sf						
Daily employee vehicles	5	11	4	18	11	23
Total daily truck trips	22	46	4	12	6	8
Average truck trips/hour	4	8	1	2	1	1
Maximum truck PCEs/hour	188	376	47	94	47	47
On-site equipment (#)	2	2	1	4	1	1
Duration of phase (weeks)	2	6	1.5	7	14	55
Development Size – 75K-125K sf						
Daily employee vehicles	5	11	4	18	11	23
Total daily truck trips	22	46	4	12	6	8
Average truck trips/hour	4	8	1	2	1	1
Maximum truck PCEs/hour	188	376	47	94	47	47
On-site equipment (#)	2	2	1	4	1	1
Duration of phase (weeks)	3	8	1.5	14	17	70
Development Size – 225K-275K						
Daily employee vehicles	5	15	5	18	18	29
Total daily truck trips	22	62	4	12	10	12
Average truck trips/hour	4	10	1	2	2	2
Maximum truck PCEs/hour	188	470	47	94	94	94
On-site equipment (#)	2	2	1	4	1	1
Duration of phase (weeks)	6	12	1.5	35	34	100

*Truck trips counted as one arrival and one departure per truck. Employee's vehicles counted as roundtrips per day.

Source: Stantec Consulting (Crotona Park East EIS)

Conclusion

Based on the screening assessment, construction at the prototypical sites – excluding the Jamaica Prototypical Sites – are expected to be short-term (less than two years) and further analyses of these sites was not warranted. Additional analysis was conducted for the Jamaica Prototypical Sites, which consist of three sites and could potentially result in a construction period in excess of two years if built sequentially. The preliminary analysis showed that construction would last just over 1.5 years if the sites were constructed as a single development of approximately 225,000 sf. As such adverse effects related to construction activities are not anticipated in this scenario. If built as three separate buildings, construction at the sites would last a little over three years. However, the heavy construction phases of these buildings would not occur consecutively, allowing for demobilization and remobilization of construction work, and include breaks where the main construction work would be conducted on the building's interiors. Therefore, even though there would be a longer overall construction duration, it would not be continuously disruptive to the surroundings.

It should be noted that construction at all prototypical sites would be subject to the government regulations and oversight detailed above in Construction Regulations and General Practices and would employ the general construction practices described therein. In addition, as stated earlier, any designated NYCL- or S/NR-listed historic buildings located within 90 linear feet of a projected or potential new construction site would be subject to the protections of the New York City Department of Building's (DOB's) Technical Policy and Procedure Notice (TPPN) #10/88, which would ensure that any development resulting from the proposed action would not result in any significant adverse construction-related impacts to designated historic resources.