Chapter 18: Construction

A. INTRODUCTION

This chapter summarizes the construction plan for the proposed project at West 61st Street and assesses the potential for construction-period impacts. Construction stages and activities are described and, next, the types of impacts likely to occur during construction of the mixed-use project proposed on the project site (Lots 5, 8, 10-13, 43, 52, 53, and 55 of Block 1152) are discussed. As there are not yet any specific plans for the proposed development sites (Lots 56, 57, 58, and 61 of Block 1152), the construction stages and activities have not been developed. Therefore, for the proposed development sites, a qualitative description of likely potential impacts is included in the assessment presented in this chapter. The assessment also describes methods that may be employed to minimize construction-related impacts at the project site and the proposed development sites.

B. CONSTRUCTION STAGES AND ACTIVITIES

Construction of the proposed project is expected to last approximately 22 months. Based on current plans, construction would begin in late 2006 and would be completed in 2008. Construction of the proposed project would generally involve three phases, which would overlap: foundation and below-grade construction, building structure construction, and interior construction and finishing. While the start and end dates for construction on the proposed development sites is not known, it is anticipated that construction on Lots 58 and 61 would have similar or lesser schedules, sequences, and number of workers to what is described for the project site. For the possible addition of a penthouse floor on Lots 56 and 57, the duration would likely be much shorter than 22 months, and no foundation work would be required. Each of these stages is described in more detail below.

FOUNDATIONS AND BELOW-GRADE CONSTRUCTION

Because the site is currently being remediated under the New York State Department of Environmental Conservation's (NYSDEC) Brownfield Cleanup Program and there are no longer any structures on the project site, demolition would not be necessary for this project. Construction would begin with excavation for the foundation and below-grade work. Foundation work would include the use of bobcats, rockbreakers, loaders, pumps, motorized concrete buggies, concrete pumps, jack hammers, pneumatic compressors, and a variety of small, mostly hand-held tools, as well as dump trucks and concrete trucks. In areas where removal of bedrock is necessary, there is the possibility that limited blasting may be employed. If needed, such blasting would only occur for short periods of time. Blasting in New York City is tightly regulated and restricted. All blasting would conform to FDNY regulations, and any other applicable regulations. It is estimated that all of the foundation and below-grade construction work would last for approximately 5 months. Excavated material would be disposed off-site via trucks. Pile driving is anticipated during this phase and would last for approximately 1 month.

Dewatering would be necessary during this stage. Utility connections would be installed during the first phase. During this phase of construction, about 25 construction workers would be on site.

SUPERSTRUCTURE

This stage of construction would last approximately 8 months and would overlap with the foundations phase. The development would comprise a retail base, condominium tower, and rental tower. Construction of the exterior enclosure, or "shell," of the building would include construction of the building's framework (installation of beams and columns), floor decks, facade (exterior walls and cladding), and roof construction. These activities would require the use of tower cranes, compressors, personnel and material hoists, front-end loaders, concrete pumps, on-site bending jigs, welding machines, and a variety of hand-held tools, in addition to the delivery trucks bringing construction materials to the site. On average, between 300 and 400 construction workers would be required for this phase each day.

Construction is expected to generate an average of five trucks per phase per day. Construction would be staged on West 60th and 61st Streets. It is anticipated that there could be a lane closure on both West 60th and 61st Streets.

INTERIOR CONSTRUCTION AND FINISHING

This stage would include the construction of interior walls, installation of lighting fixtures, and interior finishes (flooring, painting, etc.), as well as mechanical and electrical work, such as the installation of elevators. Interior construction for the development is expected to be completed in 2008. Mechanical and other interior work for the retail base would last 9 months and is anticipated to overlap with the superstructure phase. As mentioned above, it is expected that this phase would employ between 300 and 400 employees with a greater number of employees expected during phase overlaps. Equipment used during interior construction would include exterior hoists, pneumatic equipment, delivery trucks, and a variety of small hand-held tools.

TYPICAL CONSTRUCTION ACTIVITIES

Typical equipment used for excavation and pouring the foundation would include excavators, bulldozers, rockbreakers, backhoes, tractors, hammers, and concrete pumping trucks. Excavation of the foundation would be the first step. In areas where removal of bedrock is necessary, there is the possibility that limited blasting may be undertaken. If needed, such blasting would only occur for short periods of time. Blasting would involve the use of timed multiple charges with limited blast intensity, which would reduce potential impacts. Blastmats would be placed over the blasting areas. The bulldozers would excavate the soil and load it onto trucks for transport and disposal. The trucks would remove any excavated material and construction debris. Then, concrete trucks would arrive at the site with pre-mixed concrete and pump it into the site to form the foundations and building walls. At the same time, infrastructure connections would be built. These include lines for water, sewer, stormwater, electricity, and telecommunications.

The construction equipment likely to be used during erection of the superstructure and framing would include cranes, compressors, derricks, hoists, bending jigs, and welding machines. During facade and roof construction, hoists and cranes would continue to be used. Trucks would remain in use for material supply and construction waste removal.

During construction of the superstructure and interior work, the greatest number of construction workers would be employed on site, and a wide variety of supplies would have to be delivered to the site. It is anticipated that the bulk of construction activities related to the new construction would take place Monday through Friday, although construction activities during the foundations phase could occur on Saturday. The permitted hours of construction regulated by the New York City Noise Code and the New York City Department of Buildings (DOB) apply in all areas of the City, and are reflected in the collective bargaining agreements with major construction trade unions. In the event that overtime work is required, appropriate work permits from the DOB would be obtained. In accordance with City regulations, work would begin at 7 AM on weekdays, with some workers arriving to prepare work areas between 6 and 7 AM. Normally, work would end at 3:30 PM, unless overtime is required and appropriately permitted. On occasion, overtime may be required to complete some time-sensitive tasks beyond the normal work day on weekdays and possibly on weekends.

C. THE FUTURE WITH THE PROPOSED ACTION

As with most development in New York City, construction of the proposed project or the proposed development sites may be disruptive to the surrounding area for limited periods of time throughout the construction period. The following analyses describe temporary effects on land use, historic resources, hazardous materials, traffic and transportation, air quality, and noise, as well as the economic benefits associated with the construction.

LAND USE

Construction of the proposed project or the proposed development sites would cause some disruptions to activities in the surrounding area. However, these disruptions would be temporary in nature, with overall construction of the proposed project anticipated to last approximately 22 months, and construction at the proposed development sites anticipated to be of a similar or shorter duration. Construction would not alter surrounding land uses, although certain types of activities would be intrusive to adjacent residences and community facilities. Land uses on the blocks adjacent to the project and proposed development sites are particularly sensitive to construction activities. The Heschel School is located on the southwest portion of the project site block, and a primary school, P.S. 191, is located on the eastern portion of the block. Another school—the Beacon School—is located to the north of the project and proposed development sites. To the north of the sites are residential uses. Certain construction activities, such as excavation and exterior construction, may be disruptive to these uses. In later stages of construction, when work would take place within building shells, effects on the surrounding uses would be substantially reduced. There may be some inconvenience associated with construction of the project or proposed development sites and construction hours would coincide with the hours of operation of nearby schools. However, construction activities would be similar to construction activities at any other site in Manhattan, and the hours of construction would be regulated by the New York City Noise Code and the DOB. Other changes, such as sidewalk closures, would also be apparent to people living and working in the surrounding area, but the implementation of a construction management plan would minimize the effects of these closures.

ECONOMIC BENEFITS

The economic effects of major construction projects are typically estimated based on direct benefits—the value of site improvements as measured by construction-related labor, materials and services, and indirect benefits—expenditures made by suppliers, construction workers, and other employees involved in the direct activity.

Construction of the proposed project and proposed development sites would create direct benefits resulting from expenditures on labor, materials, and services, and indirect benefits created by expenditures made by material suppliers, construction workers, and others involved in each of these projects. Construction of the project and proposed development sites would also contribute to increased tax revenues for the City and State, including corporate taxes, personal income taxes, business taxes, City and State sales taxes, etc.

HISTORIC RESOURCES

ARCHITECTURAL RESOURCES

As described in Chapter 7, "Historic Resources," there is one architectural resource located within 90 feet of the project site: the West 59th Street Recreation House/West 60th Street Public Bath (S/NR-eligible, NYCL-eligible). The West 59th Street Recreation House/West 60th Street Public Bath is protected by the requirements laid out in the DOB's Technical Policy and Procedure Notice (PPN) #10/88, concerning procedures for avoidance of damage to historic structures from adjacent construction. The PPN defines an adjacent historic structure as being contiguous to or within a lateral distance of 90 feet from a lot under development or alteration. Developed by the DOB, the PPN must be followed for construction within proximity of historic landmarks to avoid potential adverse impacts during construction. Under the PPN, a construction protection plan must be provided to the Landmarks Preservation Commission (LPC) for review and approval prior to construction. With these measures in place, it is unlikely that there would be any adverse physical impacts on the historic resource. This resource is more than 90 feet from the proposed development sites; thus construction-related impacts on this resource from construction at the proposed development sites would not be a concern.

The remaining architectural resources identified in the study area are located beyond 90 feet of both the project site and the proposed development sites, outside the range of potential construction-related damage described in DOB Technical Policy and Procedure Notice #10/88, concerning procedures for avoidance of damage to historic structures from adjacent construction. Thus, construction-related impacts to these architectural resources would not be a concern.

ARCHAEOLOGICAL RESOURCES

As described in Chapter 7, both the project site and the proposed development sites are not sensitive for archaeological resources. Therefore, construction on the project site and the proposed development sites would not result in any significant adverse impacts to archaeological resources.

HAZARDOUS MATERIALS

As discussed in Chapter 1, "Project Description," and Chapter 10, "Hazardous Materials," independent of the proposed action, the project applicant is participating in the Brownfield

Cleanup Program (BCP) administered by the New York State Department of Environmental Conservation. The project site will continue to be cleaned up pursuant to a negotiated agreement between the project applicant and NYSDEC under the BCP. On November 8, 2006, the applicant also entered into a Restrictive Declaration, which ensures that no significant adverse impacts with respect to hazardous materials would result from the development of the project site, in the event that the BCP agreement is terminated (see Appendix A: "Hazardous Materials"). An Interim Remedial Measure Work Plan and a Remediation Work Plan (RWP) were prepared and approved to address how the identified contamination will be handled. The RWP included a Health and Safety Plan and a Community Air Monitoring Plan that have been approved by both the New York State Department of Health (NYSDOH) and the NYSDEC. As part of the site cleanup, all surficial and subsurface soil will be removed and/or covered to standards acceptable to the NYSDEC and NYSDOH. The NYSDEC/NYSDOH-approved Health and Safety Plan, and Expanded Community Air Monitoring Odor/Vapor Control Plan are being implemented to protect the on-site workers and the people attending school, working, or living near the site.

By following the requirements of the (E) Designation at the projected development sites, there would be no significant adverse impacts to construction workers, neighboring residents, or future occupants of new buildings. Therefore, no significant adverse impacts related to hazardous materials would be expected to occur as a result of construction activities for the proposed action.

TRAFFIC AND TRANSPORTATION

Construction of both the proposed project and the projected development sites would generate trips from workers traveling to and from the sites, as well as from the movement of materials and equipment, and removal of construction waste. Workers would typically arrive before the AM peak period and depart before the PM peak hour and would not represent a substantial increment during peak travel periods. Construction worker travel would be primarily by public transportation, with a smaller percentage by private auto. Therefore, vehicle trips associated with construction workers would not be likely to have any significant adverse impacts on surrounding streets. Approximately five trucks per day (for materials delivery and removal of debris/scrap from construction operations) are anticipated during the each construction stage. During the interior construction and finishing stage, it is likely that there will be fewer large trucks and a greater number of smaller delivery vehicles. Wherever possible, the scheduling of deliveries and other construction activities would take place during off-peak travel hours. As a result of the anticipated future levels of traffic and scheduling measures to avoid peak periods, significant interruptions of traffic would not be expected during the construction period for either the proposed project or the projected development sites. While truck staging is expected on West 60th and 61st Streets, it is likely that moving lanes of traffic would be available at all times. To the extent that there would be any disruption in traffic flow from construction of either the proposed project or the projected development sites, the changes would be relatively minor and expected to occur on side streets.

STREET LANE AND SIDEWALK CLOSURES

There could be various lane and/or sidewalk closures associated with the project's construction activities. Lane closures are expected on West 60th and 61st Streets. Material storage areas would be located on site. Truck movements would be spread throughout the day and would generally occur between the hours of 7:00 AM and 3:30 PM, depending on the stage of

construction. No rerouting of traffic is anticipated and, as mentioned above, moving lanes of traffic are expected to be available at all times. It is anticipated that the sidewalk immediately adjacent to the project site on West 60th and 61st Streets would also be closed for the duration of the construction period. Pedestrians would either walk on the opposite side of the street or in a sectioned-off portion of the street. The New York City Department of Transportation (DOT) would be consulted to determine the appropriate protective measures for ensuring pedestrian safety surrounding the project site, including at the schools located on the project block.

For the construction of the proposed development sites, the effect on street lanes and sidewalks would be expected to be similar or less than for the proposed project, since the buildings on Lots 56, 57, 58, and 61 would be much smaller than the proposed project. Similar pedestrian safety measures would be required for construction at the proposed development sites.

AIR QUALITY

Described in greater detail below, the possible impacts on local air quality during construction of the proposed project and the proposed development sites include:

- Fugitive dust (particulate) emissions from demolition; and
- Mobile-source emissions, including hydrocarbons, nitrogen oxide, and carbon monoxide emissions.

FUGITIVE EMISSIONS

Actual quantities of fugitive dust depend on the extent and nature of the excavation operations, the type of equipment employed, the physical characteristics of the underlying soil, the speed at which construction vehicles are operated, and the type of fugitive dust control methods employed. The U.S. Environmental Protection Agency (EPA) has suggested, in general, an overall emission rate of about 1.2 tons of particulate/acre/month of active construction from all phases of land-clearing operations with no fugitive dust control measures. However, this is a national estimate and actual emissions would vary widely depending on many factors, including the intensity and type of land-clearing operations. Much of the fugitive dust generated by construction activities consists of relatively large-sized particles, which are expected to settle within a short distance from the construction site and not significantly affect the buildings or people nearby.

For this project (and the proposed development sites), excavation, and construction would be conducted with the care mandated by the site's proximity to active uses. All appropriate fugitive dust control measures—including watering of exposed areas and dust covers for trucks—would be employed. In addition, all necessary measures would be implemented to ensure that the New York City Air Pollution Control Code regulating construction-related dust emissions is followed. As a result, no significant adverse air quality impacts from fugitive dust emissions are expected.

MOBILE-SOURCE EMISSIONS

Mobile-source emissions are emissions of air pollutants from motor vehicles, referred to as mobile sources. During construction, such emissions may result from: (1) trucks delivering construction materials and removing debris, (2) workers' private vehicles, (3) disruptions in traffic near the construction site, and (4) construction equipment.

Localized increases in mobile-source emissions would be minimized by incorporating traffic maintenance requirements into the construction contract documents to ensure that:

- Construction requiring temporary street closings for the relocation of utilities and for other purposes in heavily traveled areas would be performed, to the maximum extent possible, during off-peak hours;
- The existing number of traffic lanes would be maintained to the maximum extent possible; and
- Idling of delivery trucks or other equipment would not be permitted during periods when they are being unloaded or are not in active use.

NOISE

Potential effects on community noise levels during construction of the proposed project (or the proposed development sites) would include noise from construction equipment operation, and noise from construction vehicles and delivery vehicles traveling to and from the site. The level of impact of these noise sources depends on the noise characteristics of the equipment and activities involved, the construction schedule, and the location of potentially sensitive noise receptors.

Noise levels at a given location depend on the kind and number of pieces of construction equipment being operated, as well as the distance from the construction site. Typical noise levels of construction equipment that may be employed during the construction process are presented in Table 18-1. Noise levels caused by construction activities would vary widely, depending on the phase and location of construction.

Increased noise levels caused by construction activities can be expected to be greatest during the early phases of construction. It is anticipated that the most significant noise source associated with the construction equipment would be jackhammers, paving breakers, and pile drivers. <u>While some limited blasting may occur, such blasting (if required) would not be anticipated to result in significant noise impacts. If needed, all blasting would be performed to conform to FDNY regulations and any other applicable regulations. Should blasting need to be employed for this project's construction, it would be limited to a maximum of two blasts on any given day, and timed multiple charges of limited intensity, and blastmats, would be utilized to limit potential impacts. With these measures, the limited amount of blasting that may occur would not be expected to result in any significant adverse noise impacts.</u>

Construction noise is regulated by the New York City Noise Control Code and by EPA noise emission standards for construction equipment. These local and federal requirements mandate that certain classifications of construction equipment and motor vehicles meet specified noise emissions standards; that, except under special circumstances, construction activities be limited to weekdays between the hours of 7 AM and 6 PM; and that construction material be handled and transported in such a manner as not to create unnecessary noise. These regulations would be followed. In addition, appropriate low-noise emission level equipment and operational procedures would be used, when practicable. Any noise impacts would be temporary and short term.

Table 18-1
Typical Noise Emission Levels for Construction Equipment

Equipment Item	Noise Level at 50 Feet (dBA)
Air compressor	81
Asphalt spreader (paver)	89
Asphalt truck	88
Backhoe	85
Bulldozer	87
Compactor	80
Concrete plant	83
Concrete spreader	89
Concrete mixer	85
Concrete vibrator	76
Crane (derrick)	76
Delivery truck	88
Diamond saw	90
Dredge	88
Dump truck	88
Front-end loader	84
Gas-driven vibro-compactor	76
Hoist	76
Jackhammer (paving breaker)	88
Line drill	98
Motor crane	93
Pile driver/extractor	101
Pump	76
Roller	80
Shovel	82
Truck	88
Vibratory pile driver/extractor	89

Notes:

[1] Wood, E.W. and A.R. Thompson, Sound Level Survey, Concrete Batch Plant; Limerick Generating Station, Bolt Beranek and Newman Inc., Report 2825, Cambridge, MA, May 1974.

[2] New York State Department of Environmental Conservation, Construction Noise Survey, Report No. NC-P2, Albany, NY, April 1974.

[3] F.B. Foster Company, Foster Vibro Driver/Extractors, Electric Series Brochure, W-925-10-75-5M.

Source: Patterson, W.N., R.A. Ely, and S.M. Swanson, Regulation of Construction Activity Noise, Bolt Beranek and Newman, Inc., Report 2887, for the Environmental Protection Agency, Washington, D.C., November 1974, except for notated items.

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