A. INTRODUCTION

This chapter summarizes the construction plan for the proposed project at 770 Eleventh Avenue (Manhattan Block 1082, Lot 1) and assesses the potential for construction-period impacts. Construction stages and activities are described and the types of impacts likely to occur during construction of the proposed mixed-use project are discussed. The assessment also describes methods that may be employed to minimize construction-related impacts at the project site.

Although the site could be redeveloped as-of-right with permitted commercial or manufacturing uses under the existing M1-5 zoning, the analysis in this EIS conservatively assumes that in the future without the proposed action there would be no new uses or buildings on the project site.

B. FUTURE WITHOUT THE PROPOSED ACTION

As discussed in Chapter 1, "Project Description," the applicant had the previously existing buildings on the project site, which Verizon occupied, demolished during summer 2007. Beginning fall 2007, the applicant commenced excavation of the project site for an as-of-right development in anticipation of its redevelopment. Related to this work, the applicant conducted sample borings and performed any necessary environmental remediation actions and followed requirements for special handling for disposal of demolished structures or excavated soil or debris. This work occurred as-of-right in the future with or without the proposed action, however, as the proposed project requires CEQR review, the applicant has been consulting with the NYC Department of Environmental Protection (DEP) regarding these activities (refer to Chapter 10, "Hazardous Materials").

C. CONSTRUCTION STAGES AND ACTIVITIES

Construction at 770 Eleventh Avenue involves initial below-grade work being conducted as-of-right under the existing zoning. This would be followed by additional above-grade work contingent upon the approval of the proposed action. In total, construction on the project site would have a duration of approximately three years. Excavation of the site commenced in fall 2007 and was completed in 2008. Overlapping with and following excavation is as-of-right foundation and related site preparation work, with an expected duration of approximately 6 to 9 additional months and expected to be completed in by early 2009. Following the completion of this as-of-right work and with the approval of the proposed action, construction of the proposed project would proceed in 2009 and would be completed in late 2010 or early 2011, with full occupancy of the building during 2011. This work would consist of three overlapping stages, including superstructure; interiors; and exteriors. Each of these stages is described in more detail below.

Information on construction stages and staffing is described below and summarized in Tables 17-1 and 17-2.

Below-grade Construction: Excavation and Foundation

Overview

Demolition of previously existing structures on the project site occurred during summer 2007 and as-of-right excavation began in fall 2007, was completed in 2008, and as-of-right foundation work is ongoing. As discussed in Chapter 10, "Hazardous Materials," the excavation work was carried out concurrently with hazardous materials sampling and, as required, remediation and disposal. Excavation and foundation work includes the use of bobcats, rockbreakers, loaders, pumps, motorized concrete buggies, concrete pumps, jackhammers, 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, limited blasting may be used. Such blasting only occurs for short periods of time and in New York City is tightly regulated and restricted. All blasting in the City must conform to FDNY and any other applicable regulations. Excavated material is disposed off-site via trucks. Pile driving may be necessary during this stage. Dewatering is necessary during this stage. Utility connections would be installed during this stage.

Schedule and Workforce

This as-of-right work is expected to have a duration of up to approximately 18 months, with foundation work proceeding during the latter half of this period. During this stage of construction, the first six months excavation work is expected to involve a maximum of approximately 25 construction workers per day while during the later months with foundation work underway there is expected to be a maximum of approximately 65 construction workers per day on-site.

Above-grade Construction: Superstructure, Exteriors, and Interiors

Overview

These stages of construction would last approximately 18 months and would proceed concurrently. The proposed development would have a commercial base (with residential lobbies and other accessory space) and residential tower rising above it. Construction of the exterior enclosure, or "shell," 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.

Interiors 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. Equipment used during interior construction would include exterior hoists, pneumatic equipment, delivery trucks, and a variety of small hand-held tools.

Table 17-1, Tentative Project Construction Worker Schedule -- Peak Workers per Day by Quarter

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
25		65				240					

Table 17-2, Tentative Quarterly Construction Schedule

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
Excavation (as-of-right)											
		Foundation (as-of-right)									
						Superstructure					
						Interiors					
						Exteriors					

Note: Q1 is Oct.-Dec. 2007; Q12 is Oct.-Dec. 2010; Full occupancy: early 2011

Schedule and Workforce

A maximum of 80 construction workers per day would be required for superstructure work, a maximum of 40 construction workers per day would be required for exteriors, and a maximum of 120 construction workers per day would be required for interiors. Accordingly, during these stages, up to a maximum of 240 constructions workers per day would be on-site. These stages are expected to have a duration of approximately 24 months. This information is summarized in Table 17-1.

Transportation: Truck Trips and Lane Closures

The number of truck trips generated by construction is expected to vary based on the phase of construction. As-of-right excavation work will involve up to 24 trucks per day, with the possibility that each truck could make two round trips to and from the site. As-of-right foundation work will involve up to 10 trucks per day, with each truck making one round trip to and from the site. During the overlapping superstructure, interiors, and exteriors stages, there would be a maximum of 15 trucks per day, with each truck making one round trip to and from the site. Construction would be staged on W. 53rd Street, W. 54th Street, and possibly Eleventh Avenue. It is anticipated that there could be a closure of one lane on each of the three streets fronting the site, but that these streets would retain at least one moving lane during almost all times. Additional information on truck trips and lane closures is provided below under "Traffic and Transportation."

Typical Construction Activities

Typical equipment used for excavation and pouring the foundation include excavators, bulldozers, rockbreakers, backhoes, tractors, hammers, and concrete pumping trucks. During the as-of-right excavation, in areas where removal of bedrock is necessary, limited blasting may be undertaken. Such blasting only occurs for short periods of time and involves the use of timed multiple charges with limited blast intensity, which reduces potential blast effects. In addition, blastmats are placed over the blasting area. Bulldozers excavate the soil and load it onto trucks for transport and disposal. The trucks remove any other excavated material and construction debris. Then, concrete trucks arrive at the site with pre-mixed concrete and pump it into the site to form the foundation and building walls. At the same time, infrastructure connections are built. These include lines for water, sewer, stormwater, electricity, and telecommunications.

The construction equipment likely to be used during erection of the proposed 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 the site, and a wide variety of supplies would have to delivered to the site.

Work Hours

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 stage could occur on a Saturday. Also, on occasion, overtime may be required to complete some time-sensitive tasks beyond the normal work day on weekdays and possibly weekends. The permitted hours of construction regulated by the NYC Noise Code and the NYC 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 AM and 7 AM. Normally, work would end at 3:30 PM, unless overtime is required and appropriately permitted.

At limited times over the course of constructing a building, weekend work would be required. Weekend work requires a permit from DOB and in certain instances, approval of a noise mitigation plan from DEP under the City's Noise Code. In such cases, the numbers of workers and pieces of equipment in operation would be limited to those needed to complete the particular authorized task. Therefore, the level of activity for any weekend work would be less than a normal workday. The typical weekend workday would be on Saturday from 7:00 AM with worker arrival and site preparation, to 5:00 PM for site cleanup.

Deliveries and Access

Access to the project site during construction would be tightly controlled. Work areas would be fenced off, and limited access points for workers and trucks would be provided. Workers vehicles would not be allowed into the site. Security guards and flaggers would be posted, and all persons and trucks would have to pass through security points. Workers or trucks without a need to be on the site would not be allowed entry. After work hours, the gates would be closed and locked. Unauthorized access would be prevented outside of work hours.

Material deliveries to the site would be highly controlled and scheduled. Unscheduled or haphazard deliveries would not be allowed.

As the applicant is currently proceeding with as-of-right excavation of the site, some of these measures are already in effect at the project site and would be continued with the construction of the proposed project.

D. ANALYSES OF PROJECT CONSTRUCTION

The following analyses describe temporary effects on land use, historic resources, hazardous materials, traffic and transportation, air quality, noise, as well as the economic benefits associated with construction.

Land Use

Construction of the proposed project would cause some disruption to activities in the surrounding area. However, these disruptions would be temporary in nature, with overall construction anticipated to last approximately three years, as noted previously. Construction would not alter surrounding land uses, although certain types of activities would be intrusive to adjacent residences and other uses. Land uses on the blocks adjacent to the project site are particularly sensitive to construction activities. These include Clinton Towers, a 39-story 396-DU apartment building and Centro Maria, a young women's residence facility, located north of the project site; the Flats/Old School complex with 86 DUs to the south, and De Witt Clinton Park, a 5.8 acre park to the west. Certain construction activities, such as excavation and exterior construction, may be disruptive to these uses. In latter stages of construction, when work would take place within building shells, effects on surrounding uses would be substantially reduced. There may be some inconvenience associated with construction, but these construction activities would be similar to those at any other construction site in Manhattan, and the hours of construction would be regulated by the NYC Noise Code and the DOB. Other changes, such as sidewalk closures, also would be apparent to people living and working in the surrounding area, but the implementation of a construction management plan would be approved by NYCDOT to minimize the effects of these closures.

Economic Benefits

Construction of the proposed project 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 other involved in the project. Project construction would also contribute to increased tax revenues for the City, State, and Federal governments, including corporate taxes, personal income taxes, business taxes and fees, City and State sales tax, etc.

Historic Resources

Architectural Resources

The NYC Department of Building's (DOB) Technical Policy and Procedure Notice (PPN) #10/88, provides procedures for avoidance of damage to historic structures from adjacent construction. The PPN defines an adjacent historic structure as being a building which is a designated NYC Landmark (NYCL) or listed on National Register of Historic Places that is contiguous to or within 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 (CPP) must be provided to the NYC Landmarks Preservation Commission (LPC) for review and approval prior to construction. When required, a CPP would follow the guidelines set forth in LPC's Guidelines for Construction Adjacent to a Historic Landmark and Protection Programs for Landmark Buildings.

As described in Chapter 7, "Historic Resources," there are three architectural historic resources within a 400-foot radius of the project site. These resources consist of Centro Maria, at 539 W. 54th Street, a women's residence operated by an order of Catholic nuns, and two adjoining buildings, 552 W. 53rd Street and 554 W. 53rd Street. The former was originally known as the 53rd Street

Industrial School and is now known as the Old School, while the latter was originally known as the Emerson and is now known as the Flats. Although built at different times as distinct buildings, these properties now function as a single integrated residential development. All three of these buildings are located across the street from the project site, at a lateral distance of approximately 60 feet. The NY State Historic Preservation Office (SHPO) has determined that these buildings are eligible for listing on the State and National Registers of Historic Properties (S/NR); however, these properties are not listed on listed on the S/NR or designated NYC Landmarks.

As eligible resources, these historic resources are not subject to the special protections and requirements of PPN #10/88. Without such special protections, these resources could potentially experience adverse direct impacts associated with construction. However, in order to avoid the potential for significant adverse impacts, the applicant is willing to voluntarily provide and comply with a Construction Protection Plan for the proposed project to avoid the potential for construction related impacts on these historic resources. Accordingly, with these special protections the proposed project would not result in any significant adverse construction related impacts on these historic resources.

Archaeological Resources

As also described in Chapter 7, the project site is not sensitive for archaeological resources. Therefore, construction on the project site would not result in any significant adverse impacts on archaeological resources.

Hazardous Materials

As discussed in Chapter 10, "Hazardous Materials," the applicant conducted as-of-right excavation on the project site and related to this conducted sample borings and performed any necessary environmental remediation actions and followed requirements for special handling for disposal of demolished structures or excavated soil or debris. This work occurred independent of the proposed action, however, as the proposed project requires environmental review, DEP has reviewed and approved the applicant's Remedial Action Plan (RAP) and Construction Health and Safety Plan (CHASP) that applies to future construction work on the project site (refer to Chapter 10, "Hazardous Materials").

By following the *CHASP*), *RAP*, and requirements of DEP, there would be no significant adverse impacts to construction workers, neighborhood 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 project.

Traffic and Transportation

Construction of the proposed project would generate trips from workers traveling to and from the site, as well as from movement of materials and equipment, and removal of construction waste. Workers would typically arrive before the area's AM peak period and depart before the PM peak period and would not represent a substantial increment during peak travel periods. Construction worker personal travel would be primarily by public transportation or walking, with a smaller

percentage by private auto. Therefore, as described in more detail below, vehicle trips associated with construction workers would not be likely to have any significant adverse impacts on surrounding streets. Approximately fifteen trucks per day (for materials delivery and removal of debris/scrap from construction operations) are anticipated during the overlapping superstructure, interiors, and exteriors stages. As construction progresses toward primarily interior and finishing work, it is likely that there would be fewer large trucks and a greater number of smaller delivery vehicles. (As discussed above, a greater number of trucks and truck trips will occur during the as-of-right excavation and foundation stages.) 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. While truck staging is expected on the streets adjoining the project site, it is likely that moving lanes of traffic would be available at all times. To the extent that there would be any disruption of traffic flow from construction, the changes would be relatively minor and expected to occur on side streets.

Construction Travel Demand

Table 17-3 shows the expected peak construction travel demand.

As shown in Table 17-3, the proposed project's maximum construction travel demand would consist of 48 vehicles per hour (vph) in the 6:00 AM to 7:00 AM peak hour and 40 vph in the 3:00 PM to 4:00 PM peak hour. In addition, the peak construction travel demand for the proposed project would be 115 person trips via transit and walking in both the morning and afternoon peak hours. As the project's peak construction demand would occur outside the travel network peak travel hours and would be below 50 vehicle trips per hour, no significant adverse traffic impact would occur and further assessment is not warranted.

Parking Demands

The proposed project would generate a peak parking demand of approximately 51 autos. This peak demand would occur from weekday morning through mid-afternoon. This is a relatively small increment of increased parking demand relative to the supply of on-street and off-street public parking within a quarter-mile radius of the project site. As discussed in Chapter 13, "Traffic and Parking," there are available parking spaces for these vehicles under Existing and 2011 No-Build parking conditions.

Street and Sidewalk Closures

There could be various lane and/or sidewalk closures associated with the project's construction activities. Lane closures are expected on W. 53rd Street, W. 54th Street, and Eleventh Avenue. 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 sidewalks immediately adjacent to the project site also would 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 protected

portion of the roadway. The NYC Department of Transportation (DOT) would be consulted to determine the appropriate protective measures for ensuring pedestrian safety surrounding the project site.

Table 17-3, Peak Construction Transportation Planning Calculations

Peak Construction Workers	240		
Total Worker Trips/Peak Day (excl. lunch/break walk trips)	480		
Peak Hour Trips			
Weekday AM (6-7 AM)	192		
Weekday PM (3-4 PM)	192		
Person Trips by Peak Hour			
Weekday AM (6-7 AM)	In	Out	Total
Auto	77	0	77
Transit/Walk	115	0	115
Total	192	0	192
Weekday PM (3-4 PM)	In	Out	Total
Auto	0	77	77
Transit/Walk	0	115	115
Total	0	192	192
Total Truck Trips/Peak Day	30		
Vehicle Trips by Peak Hour			
Weekday AM (6-7 AM)	In	Out	Total
Auto	40	0	40
Truck	4	4	8
Total	44	4	48
Weekday PM (3-4 PM)	In	Out	Total
Auto	0	40	40
Truck	0	0	0
Total	0	40	40

The existing M31 bus stop and layover area on W. 54th Street adjacent to the site is being maintained during the ongoing as-of-right excavation of the project site. It is expected that this would continue with the construction of the proposed project, including any necessary consultation with NYC Transit regarding any minor adjustments to operations. Therefore, there would be no impacts on the bus stop and layover area during project construction.

Air Quality

Described in greater detail below, the possible impacts on local air quality during construction of the proposed project 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 US 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 stages of land-clearing operations when no fugitive dust control measures are used. 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, people, or flora and fauna nearby.

For this project, 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 NYC 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 increase 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 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 17-4. Noise levels caused by construction activities would vary widely, depending on the stage and location of construction.

Increased noise levels caused by construction activities can be expected to be greatest during the early stage of construction. It is anticipated that the most significant noise source associated with the construction equipment would be jackhammers, paving breakers, and pile drivers. While some limited blasting will occur during the as-of-right excavation, such blasting is not anticipated to result in significant noise impacts. All blasting will be performed to conform to FDNY regulations and any other applicable regulations. It will be limited to eight blasts on any given day, and timed multiple charges of limited intensity, and blastmats will be utilized to limit potential impacts. With these measures, the blasting that is occurring is not expected to result in any significant adverse noise impacts.

Construction noise is regulated by the NYC 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 are being followed. In addition, appropriate low-noise emission level equipment and operational procedures are (and would continue to be) used, where practicable. Any noise impacts would be temporary and short term.

Table 17-4, 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 Breaking)	88
Line Drill	98
Motor Crane	93
Pile Driver/Extractor	101
Pump	76
Roller	80
Shovel	82
Truck	88
Vibratory Pile Drive/Extractor	89

Sources:

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

NYS Department of Environmental Conservation, Construction Noise Survey, Report No. NC-P2, Albany, NY April 1974.

Patterson, W.N., R.A. Ely, and S.M. Swanson, Regulation of Construction Activity Noise, Bolt Beranek and Newman Inc., Report 2887, for the EPA, Washington, DC, November 1974.

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.

E. CONCLUSION

As-of-right excavation on the project site began in autumn 2007 and was completed in 2008 while as-of-right foundation is ongoing and expected to be completed by 2009. Construction on the proposed project's superstructure, interior, and finishes would commence in 2009 contingent on the approval of the proposed action and is expected to be completed in late 2010 or early 2011[1]. Construction of the proposed project would create some disruptions and inconveniences on surrounding land uses, but these would be temporary in nature and would be minimized as the project is required to comply with various regulations and the project will also follow a construction management plan. The project will also coordinate with DEP to ensure that hazardous materials concerns are addressed and therefore impacts related to hazardous material will be avoided. In addition, effects of the proposed project on transportation and air quality are also governed by applicable government regulations and no impacts related to these areas are expected to occur.

As there are three S/NR eligible historic resources located within 90 feet of the project site, the potential for construction effects must be considered. As eligible historic resources, which are not S/NR-listed or NYC Designated Landmarks, a Construction Protection Plan that would provide special protections to these resources from the construction of the proposed project is not required. However, the applicant is willing to voluntarily provide and comply with a Construction Protection Plan for the proposed project to avoid the potential for construction related impacts on these historic resources. Accordingly, with these special protections the proposed project would not result in any significant adverse construction related impacts on these historic resources.

Accordingly, with its compliance to applicable regulations and construction management practices, the proposed action would not result in significant adverse impacts during project construction.

[1] Full occupancy of the proposed project is expected in early 2011.