

A. INTRODUCTION

This chapter evaluates the potential for impacts from the construction of the Farley Post Office/Moynihan Station Redevelopment Project (Farley/Moynihan). As discussed in Chapter 1, “Project Description,” the project would be constructed in up to two phases and three qualified developer teams submitted proposals for the Farley/Moynihan project. Phase I of the project (the new train station, USPS space, and commercial development) would be constructed within the footprint of the superblock bounded by Eighth and Ninth Avenues, and West 33rd and 31st Streets. This block encompasses the James A. Farley Building (Farley Building) and the Western Annex, which are collectively referred to as the Farley Complex. The Farley Complex is currently used solely by the United States Postal Service (USPS) for mail sorting, administration and carrier operations. In addition, tracks and platforms servicing Pennsylvania Station (Penn Station) are located below the Farley Building, and rail yards are located under the Western Annex. The proposed Farley/Moynihan project would involve construction activities at each of these key facilities.

As proposed by all three developers, Phase I would be completed in 2010 and would involve construction of the Daniel Patrick Moynihan Station (Moynihan Station), about 250,000 square feet of space for the USPS and about 863,000 square feet of private commercial development, which includes about 100,000 square feet of transit-related retail. Phase II of the project involves the utilization of 1 million zoning square feet of the Farley Complex’s unused development rights. For Phase II, two of the developer teams, Developers A and B, propose constructing an approximately 1 million-zoning-square-foot office building over the Western Annex. This overbuild would be constructed by 2015. The third developer, Developer C, proposes constructing either a primarily residential or mixed-use building of 1.1 million gross square feet on the east side of Eighth Avenue between West 33rd and 34th Streets (the Development Transfer Site) instead of constructing an overbuild on the Western Annex. The building proposed by Developer C would be constructed concurrently with Phase I of the proposed project and completed by 2010. Impacts would be different for an overbuild compared with the Development Transfer Site building.

PRINCIPAL CONCLUSIONS

Although there would be localized, temporary disruptions, the proposed project is not expected to result in significant adverse construction related impacts.

Throughout construction, USPS retail uses and Penn Station operations would continue in the Farley Building. Some USPS administrative functions would also remain, but these functions would be relocated within the Farley Complex. New Jersey Transit (NJT), Long Island Railroad (LIRR) and Amtrak would continue their operations uninterrupted within Penn Station. In addition, the Eighth Avenue subway lines would remain in operation throughout the construction period.

With the implementation of applicable controls and measures, no significant adverse impacts in the area of historic resources, hazardous materials, transportation, air quality, and noise are expected during the construction period.

B. OVERVIEW OF CONSTRUCTION ACTIVITIES

Throughout construction, USPS retail uses and Penn Station operations would continue in the Farley Building. It is anticipated that USPS administrative functions would be temporarily relocated within the Farley Complex itself in order to implement Phase I work. A detailed relocation plan for USPS functions is under development (in consultation with USPS representatives) that would provide appropriate space for USPS needs throughout the duration of construction activities anticipated to occur in the Farley Complex. After Phase I construction is completed, these relocated functions would be accommodated in USPS space within the Farley Complex. NJT, LIRR, and Amtrak would coordinate any required track outages during off-peak periods with the construction managers, to allow for continued rail operations without major interruptions within Penn Station. In addition, the Eighth Avenue subway lines would remain in operation throughout the construction period.

Whenever possible, the bulk of the Moynihan Station construction activities would take place during the normal permitted working hours, Monday through Friday. However, there may be cases where the delivery or installation of certain critical or oversized equipment could occur on weekends. The permitted hours of construction are regulated by the New York City Noise Code and the New York City Department of Buildings (DOB). In the event that overtime work on the buildings is required, appropriate work permits from DOB would be obtained. In accordance with city regulations, work could 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 that work is appropriately permitted by DOB. It is anticipated that overtime work will be required for Train Shed work, asbestos abatement, deliveries and other critical time-sensitive areas adjacent to USPS occupied areas in the Farley Complex. Overtime work may also be needed over the course of the project.

Track level work is expected to involve the relocation of telecommunications and existing infrastructure to accommodate some of the project's vertical transportation elements. Additionally, for the Developer A and B proposals, the installation of large columns to support the on-site overbuild would also require track-level work, which could not be performed during normal working hours, and would need to be undertaken at off-peak periods. A detailed plan for coordinating the necessary construction period track outages will be developed in coordination with the various railroads. Track level work would generally be done at off-peak periods, such as midday, night and weekend. The installation of the vertical transportation elements from Moynihan Station to the existing train platforms would generally be conducted within temporary enclosures to ensure public safety. Extension of the LIRR west end concourse and the rehabilitation of the Eighth Avenue subway corridors and stairways would also generally be separated from publicly accessible areas. Work on the superstructure and the installation of work platforms and barriers would be performed after regular working hours. Once these spaces have been segregated from public access, the balance of construction would be performed during normal working hours with the potential for some restrictions at peak commuting hours.

Although construction of Phase I would be similar under all three developer proposals, each of the developers has a different construction plan for the Farley/Moynihan project. The construction sequencing and approach for Developers A and B would be similar in terms of potential

environmental impact, and all construction would take place within the Farley Complex. The proposal for Developer C's (the conditionally designated preferred developer) would involve construction both within the Farley Complex and at the Development Transfer Site across Eighth Avenue from the Farley Complex. Square footage of the proposed uses by each developer is shown on Table 17-1.

**Table 17-1
Comparison of Proposals**

Use	Developer Proposals		
	A	B	C
Train station	174,748	219,486	231,194
Train station retail	100,499	92,289	72,016
USPS	253,084	254,644	263,279
Hotel	0	124,431	121,099
Retail	658,417	377,693	564,045
Banquet facilities	0	33,412	0
Common service areas	147,393	131,426	67,890
Total	1,334,141	1,233,381	1,319,523

CONSTRUCTION PHASES

As described above, it is assumed that the proposed project would be constructed in up to two development phases. Phase I—development of Moynihan Station, USPS space, and the commercial uses within the Farley Complex—is expected to be completed by 2010. As proposed by developers A and B, the potential Phase II commercial overbuild would likely be completed by 2015. The primarily residential or mixed-use building of up to 1.1 million gsf proposed by Developer C as the Phase II development would be constructed on the Development Transfer Site by 2010, concurrently with Phase I of the proposed project.

Construction of Phase I would be staged over a period of about four years to minimize disruption and inconvenience for subway and train patrons and to allow for an orderly transition of USPS operations. Work that may affect train operations would be scheduled for off-peak hours. With the exception of new vehicular and pedestrian entrances and exits, major skylights for the intermodal hall and train hall, and roof renovations to the Farley Complex (inclusive of mechanical, electrical, and plumbing infrastructure work), the majority of the construction activities would involve work in the interior of the Farley Complex. Construction activities at the Farley Complex and the existing Penn Station are both anticipated to start in late 2006 and be completed by mid-2010 during Phase I of the proposed project.

GENERAL CONSTRUCTION ACTIVITIES

In general, construction activities for each of the facilities would include abatement of potentially hazardous or dangerous materials; construction of special and temporary protection for rail operations; demolition; construction of structural elements; mechanical, electrical and plumbing installations; and finishing activities.

In Phase I, three main construction activities would take place at or within the Farley Complex:

- historic restoration of the Farley Complex;
- construction of the Moynihan Station; and

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- reconstruction for new commercial and retail uses within the Farley Complex.

DEMOLITION AND ABATEMENT

Demolition and abatement are among the earliest on-site construction activities. Because some USPS operations are expected to continue during construction of the Farley/Moynihan project, demolition is expected to occur over a period of time. When one area is demolished and readied for construction, the demolition crew would move onto a new area within the Farley Complex.

The first phase of demolition is asbestos abatement and lead-based paint removal at those areas impacted by construction activities. These are specialty tasks that are strictly regulated in New York City to protect the health and safety of the construction workers and nearby residents and workers. Depending on the extent of the presence of these materials, areas would be enclosed in plastic sheeting. The sheeting prevents any asbestos or paint particles from being transported airborne out of the enclosed area. Specially trained workers in protective clothing use hand tools to remove these materials. These materials are sealed in bags and taken to licensed landfills for disposal. After a New York City inspector certifies that the areas to be affected in the building are free of asbestos, general demolition can begin. Depending on the amount of asbestos (and to a lesser degree, lead-based paint) to be removed, up to 50 workers can be on site, and about one or two truckloads of materials can be removed per day. These abatement activities, if implemented in a progressive manner, could last approximately one year. However, given the relocation phasing of USPS occupancies, abatement will likely extend over an 18 to 24-month period.

The next step in general demolition is to remove any economically salvageable materials. Much of the reclaiming of salvageable materials is done on-site and the materials are transported to salvage dealers. Typical demolition requires solid temporary walls around the work area to prevent accidental dispersal of building materials into areas accessible to the general public. After the walls and other elements are collapsed, small machines are used to move the materials to enclosed chutes. The chutes lead to dumpsters, which when filled, are loaded onto trucks. The demolition debris is taken to landfills for disposal. Depending on the size of the area being demolished, about 20 to 30 workers can be on site, and two to four truckloads of debris can be removed per day.

RAIL ACCESS AND OPERATIONS

Under any of the developer proposals, three main activities would affect railroad operations. The first is the installation of vertical transportation elements, such as stairs, escalators and elevators at the western end of the platforms. Under current operations, the western end of the platforms is the least used. Generally, temporary enclosures would be used to separate the vertical transportation construction work from the public using the platforms.

The second activity is the installation of large columns to support the overbuild on the Western Annex for the Developer A and B proposals. Limited available space is found at the track level. Eight to ten large columns would be drilled into the bedrock in the vicinity of the western ends of platforms 5, 6, and 7. The drill would be above the track level. Because of the size and weight of these columns, they would have to be installed piece by piece and would require extensive lateral bracing to form a rigid frame. Cranes would be used to lower the pieces of the column where they would be bolted or welded into place.

The third activity at the track level would involve interim measures to avoid impacts to existing rail power and signal systems. Protection of existing signal systems in proximity to Farley work

zones would be implemented. Temporary re-hanging of the various railroad electrical catenary system components will be necessary for extending the West End Concourse. These activities will require track outages so that workers can access the track areas during off peak hours. Certain work may be performed during normal work hours, only after areas have been segregated from public access, with work platform barriers.

HISTORIC PRESERVATION

A comprehensive and detailed restoration of the historic elements of the Farley Complex would be undertaken; restoration of the Eighth Avenue façade is currently underway. It is expected that Developers A and B would attempt to follow the Secretary of the Interior's Standards (SI Standards) for the Treatment of Historic Properties. These are stringent federal standards that are used to guide treatments where the goal is to rehabilitate interiors and exteriors of buildings on the National Register of Historic Places. As described in Chapter 8, "Historic Resources," it is assumed that the Developer C program would be more extensive, because Developer C would apply for Federal Historic Preservation Tax Incentives. In general, the restoration program, as proposed by the developers, would include:

- cleaning and re-pointing the granite façades;
- restoring the terra cotta cresting (ornamental ridge on the roof line) and replacing it where it is missing or heavily damaged;
- replacing the existing copper roof in kind;
- restoring the existing wood window sashes on the Farley Building or replacing them as needed;
- restoring the metal window wall at the Eighth Avenue colonnade (series of columns facing Eighth Avenue);
- replacing the fifth floor aluminum windows with new aluminum sash;
- replacing louvers with new windows designed to match original windows;
- installation of new granite where missing or damaged, or where required at new openings;
- using salvaged granite from other parts of the building when possible;
- replacement of the existing cobra-head light fixtures with more appropriate lighting; and
- restoring the rotundas and stairways and the side lobbies for adaptive reuse as pedestrian links between the USPS lobby and the station.

The restoration of the Eighth Avenue façade is currently underway, and public access to USPS retail operations is being maintained. During the renovation of the Eighth Avenue façade, the columned portico at the top of the stairs would be covered with scaffolding and netting. The façade would be cleaned and repainted where necessary. In addition, the cobra-head lights on the façade would be removed and replaced with lights of a design more in keeping with the architecture of the building. It should be noted that the renovation and restoration of the historic Eighth Avenue façade commenced in August 2005, and has an anticipated total duration of 12 to 18 months. Renovation of the postal retail lobby will be the responsibility of the USPS and will be committed to in an agreement with the designated developer.

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MOYNIHAN STATION AND THE FARLEY COMPLEX

Once hazardous material abatement has been completed within the Train Shed, work on vertical penetrations and the extension of the West End Concourse can commence.

One of the early activities within the Farley Complex would be preparation of temporary space for USPS. The area for USPS operations would be abated of hazardous materials, and the interior walls demolished. New walls would be constructed in the space, and then utilities added. Each of the developers has a different temporary location for USPS, and the specifics of the relocation plans are discussed below.

After USPS is relocated, general demolition within previously occupied areas of the Farley Complex can take place. This work is expected to take place at about the same time as the historic preservation of the exterior of the Farley Building. During the demolition, it is expected that West 31st and West 33rd Streets would be used for removal of the refuse.

At this point, construction of both the Moynihan Station and the new uses within the Farley Complex would commence. Steel columns and beams would be erected. For the overbuild scenario at the Farley Complex site construction materials could be brought in either by truck or rail. Because of the large area covered by the Farley Complex, one stiff-leg crane could not service the site and it is likely that four or five cranes would be used to move large and heavy materials into place. It is expected that up to 50 deliveries per day could be made to the site during peak periods, but the average daily deliveries would be less. The deliveries would generally occur on West 31st and West 33rd Streets.

Because of the large amount of construction to be completed in a short period of time, it is expected that a number of construction crews would be used simultaneously to build Moynihan Station and the commercial/retail space in the other areas of the Farley Complex. It is expected that between 750 and 1,000 workers could be on-site during peak construction periods at the Farley Complex, but on average approximately 300 workers would be on-site. When the structural components of an area are completed, the finishing would begin, as discussed below. Therefore, the erection of the structure and finishing work would occur at the same time in different parts of the Farley Complex.

OVERBUILD (CORE AND SHELL) CONSTRUCTION

For the potential Phase II overbuild scenario, construction would begin by 2010. Under the scenario in which an off-site building would be constructed instead of the overbuild, construction would be concurrent with Phase I of the proposed project and would be completed by 2010. Although construction of the foundations would be different for the overbuild and off-site building, the construction techniques for Phase II developments would be the same. 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 and 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. About 100 to 150 construction workers would be required for construction of either the overbuild or the off-site development.

INTERIOR CONSTRUCTION AND FINISHING

This stage of construction 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). Mechanical and other interior work would overlap with the Phase II development scenario core and shell construction. This activity would employ about 250 to 300 workers and could involve as many as 750 to 1,000 workers during peak periods. Equipment used during interior construction would include exterior hoists, pneumatic equipment, delivery trucks, and a variety of small hand-held tools.

DEVELOPER PROPOSALS

With the exception of the support columns for the Western Annex overbuild that would not be required for construction of the Development Transfer Site building, the construction activities described above are generally applicable to each of the three proposals submitted for the Farley/Moynihan project. However, some of the logistical details proposed by each developer team differ from the other proposals. These differences are discussed below.

DEVELOPER "A" PROPOSAL

Developer A would consolidate USPS administrative functions in the Farley Complex during construction. USPS would remain in place until construction is completed and would then be moved to its final location. In addition, USPS would use the truck loading docks on West 31st Street throughout the construction period. New loading docks would be constructed on West 33rd Street and would be used for delivery of construction materials to the site. The first floor in the Farley Complex would be used for construction materials staging.

In Phase I of the Farley/Moynihan project, columns to support the overbuild would be installed and terminate at the new roof height so that the overbuild could be constructed without disturbing users of Moynihan Station. Construction of the overbuild is expected to follow the sequencing described above, beginning in about 2010 and finishing in 2015.

DEVELOPER "B" PROPOSAL

Developer B would place priority on completing the public spaces before completing other elements of the project. The loading docks on West 31st Street would be closed early in the project, and a ramp to the concourse level from the first floor would be constructed. USPS would have access to either the loading docks on West 33rd Street or Ninth Avenue. After the ramp is constructed, it would be covered over, and the new below-grade loading docks would be opened. USPS administrative offices would be in the Farley Building until their new facilities on the fourth floor of the Western Annex are ready.

Like Developer A, Developer B would drill large columns into bedrock during Phase I for overbuild support.

DEVELOPER "C" PROPOSAL

Developer C has been conditionally designated as the preferred developer for the proposed project. The major difference between Developer C's proposal and the other two proposals is the location of the Phase II development to be constructed with the unused development rights. As mentioned above, Developer C would build a tower on the Development Transfer Site. One Penn Plaza occupies the largest part of this block, and two small retail buildings are located on the area where

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Developer C proposes to build. The two retail structures would be demolished, and part of the below-grade parking garage would also be demolished. It is anticipated that the parking garage would be closed throughout most of the construction period for the off-site tower, to ensure public safety. Foundation work would include the use of bobcats, rockbreakers, loaders, pumps, motorized concrete buggies, concrete pumps, jack hammers, pneumatic compressors, pile drivers, a variety of small (mostly hand-held) tools, as well as dump trucks and concrete trucks. It is estimated that foundations and below-grade construction would last for approximately 7 to 12 months. During this phase of construction, about 75 construction workers would be on the site.

C. FUTURE WITH THE PROPOSED ACTION

POSTAL SERVICE

Most USPS operations would be relocated during the construction period, but would continue to function within the Farley Complex (although they could also be relocated temporarily to adjacent sites, the relocation plan under development in consultation with USPS keeps all of the USPS functions within the Farley Complex during construction). The retail operations would be open to the public at all times. Provisions would be made for delivery, sorting and exporting of mail. In the Developer A proposal, USPS would have access to the West 31st Street loading docks throughout the entire construction period. In the Developer B proposal the USPS would have access to the West 33rd Street or Ninth Avenue loading docks throughout the entire construction period. In the Developer C proposal, trucks would have access to a portion of the existing loading docks off of Ninth Avenue on a temporary basis until completion of the new 31st Street loading dock at-grade, and within the Concourse level. Administrative offices would be provided. Upon Developer turnover of core and shell spaces to USPS, USPS would perform an interior fit-out project, thereby achieving upgraded facilities within the redeveloped Farley Complex. In the Developer A and B proposals, the construction of below grade columns to support the Phase II overbuild is not anticipated to affect USPS operations. Therefore, the proposed project would not have a significant adverse impact on the USPS.

HISTORIC RESOURCES

Reconstruction work on the Farley Complex is expected to meet the SI Standards, where practicable. Further, construction protection measures would be developed and implemented in consultation with the New York State Office of Parks, Recreation, and Historic Preservation (OPRHP) to avoid and mitigate any adverse impacts on the Farley Complex exterior and interior spaces to be preserved as part of the proposed project

Certain construction activities may produce vibration levels that are perceptible at nearby locations. However, these levels would not result in architectural or structural damage to nearby buildings. The exception could be older buildings of historical significance, where special measures would be implemented to avoid potential damage.

In addition to the work on the Farley Complex, which is a New York City Landmark that is also listed on the State and National Registers of Historic Places, the project construction would occur within 90 feet of other known historic resources. A detailed description of these resources and potential impacts on them is included in Chapter 8, "Historic Resources." Therefore, consistent with the applicable policies of the OPRHP and the New York City Landmarks Preservation Commission (LPC), a Construction Protection Plan would be developed and implemented for historic resources within 90 feet of project construction. The Construction

Protection Plan would be developed in consultation with and approved by OPRHP. The Construction Protection Plan would conform with the requirements of DOB Technical Policy and Procedure Notice # 10/88 (described in Chapter 8, “Historic Resources”).

Table 17-2 shows typical construction equipment and vibration levels at various distances. The Federal Transportation Authority’s (FTA) noise assessment manual uses the terms “fragile” and “extremely fragile historic” to define vibration-sensitive buildings that may be subject to architectural and/or structural damage due to construction activities. That manual recommends that the vibration damage threshold criterion for fragile buildings exposed to construction vibration should be 0.20 inches per second. As shown in the table, with the exception of pile installation machines, at distances greater than 20 feet, all of the vibration values for the types of equipment likely to be used are below the vibration damage threshold criterion for fragile buildings. Nearby sensitive buildings, including all historic structures, would receive careful consideration to determine appropriate vibration thresholds. In addition, special measures would be taken at all phases of construction to avoid damaging fragile structures.

**Table 17-2
Vibration Levels Due to Construction Equipment at Various Distances**

Equipment	Peak Particle Velocity (inches per second) at Various Distances					
	5 feet	10 feet	20 feet	30 feet	40 feet	50 feet
Pile driver (typical impact)	7.20	2.55	0.90	0.49	0.32	0.23
Large bulldozer	1.00	0.35	0.12	0.07	0.04	0.03
Loaded trucks	0.86	0.30	0.11	0.06	0.04	0.03
Jackhammer	0.39	0.14	0.05	0.03	0.02	0.01
Small bulldozer	0.03	0.01	0.00	0.00	0.00	0.00
Note: Based on data in softer rock than present in New York City. Levels may be higher.						

To control vibration levels, a number of measures would be implemented during construction. A preconstruction survey of any structures or use (e.g., operation of vibration-sensitive equipment) that could be adversely affected by the construction activities would be performed, and threshold or limiting values would be established that take into account each structure’s or use’s ability to withstand the loads and displacements due to construction vibrations. Detailed construction specifications that impose reasonable acceptance criteria would be included in construction contracts.

As part of the Construction Protection Plan, a vibration monitoring program would also be developed and implemented to monitor and measure vibration levels from construction activities at or adjacent to historic resources, the subway, and the commuter rail lines. If the established peak particle velocity is exceeded, the activity causing the exceedance would be suspended, and mitigation measures would be implemented before the activity is resumed. A licensed surveyor would measure both horizontal and vertical movements in the historic resources at least twice a week. Crack monitors would be used to monitor existing cracks in the historic resources.

A complaint response procedure would be implemented to promptly address community concerns and implement additional control methods where necessary. In addition, in advance of certain activities that are likely to result in vibrations, outreach to those in the surrounding blocks that could be affected would be conducted. Further, best management practices, such as low-impact machines and ground improvement to limit vibration, would be employed. With these measures in place, construction of the Moynihan/Farley project is not expected to have significant adverse impacts on historic structures during construction.

HAZARDOUS MATERIALS

The construction activities necessary to implement the proposed project would incorporate protective measures to prevent workers and others from coming into contact with hazardous or contaminated materials associated with normal rail operations. This is especially relevant to older facilities (such as the existing Farley Complex) that were built before restrictions were placed on the use of materials containing asbestos or paint containing lead. Potential contaminants of concern in the building or subsurface include the following:

- Lead-based paints;
- Polychlorinated biphenyls (PCBs)—from transformers and hydraulic elevators;
- Polycyclic aromatic hydrocarbons (PAHs) and metals—primarily from oil used to lubricate engines and other equipment; and
- A range of volatile organic compounds—from solvents and other cleaning materials.

These materials could be exposed through renovation activities in the Farley Complex. They could also be exposed under the Phase II overbuild scenario when the ground beneath the Farley Complex is disturbed for the placement of structural columns. The overbuild design calls for approximately 8 to 10 columns to be placed at the platform or track level that would sit on pylon footings. These would be drilled, not driven, and would involve only limited soil/ballast disturbance and removal. Soil/ballast sampling would need to be conducted in any areas where excavation or disturbance would be required for construction of new footings for the Phase II Overbuild. Potential environmental hazards associated with these activities would then be mitigated by some combination of: a Health and Safety Plan (including air monitoring to protect both workers and other users of the facility), a Soil Management Plan (to address appropriate handling, storage, transportation and disposal or reuse of excavated materials), a Soil Gas Management Plan, if necessary (to detect and respond to any subsurface gases or odors), and a Groundwater Management Plan (to handle and dispose of any liquids generated during dewatering). These plans would likely mirror equivalent procedures currently used by Amtrak (and approved by NYSDEC) when performing subsurface work in railyards.

While much of the Farley Complex was built before the use of asbestos containing materials was common, subsequent renovations and construction activities at the site occurring in the 1940s, 1950s, and 1960s, would be likely to have used asbestos in a variety of applications, making its presence a concern for the new construction activities related to the proposed project.

To the extent that existing data are not available, the selected developer would undertake a field sampling program of all typical or likely potential locations of contaminated materials for areas likely to be disturbed by demolition or construction activities. If the Phase II off-site building is to be constructed, these potential locations of contaminated materials would include the buildings on the Development Transfer Site. Measures may include sampling in the Farley Complex at any transformers and the areas around them, hydraulic elevator units, oil, solvent, and unidentified wastes stored in the building, paint chips, and the flooring and soil/ballast beneath the tracks (where columns would be placed under the Phase II overbuild scenario). Based on the sampling results, remediation would be undertaken as necessary. A health and safety plan devised to protect workers and others (e.g., postal employees, postal customers, other office workers, visitors, etc.) would be developed and instituted throughout the field sampling program and during the project's construction. Typical remediation would include the removal

of any contaminated materials for off-site treatment and disposal at an appropriate site, or encapsulation.

A Construction Health and Safety Plan (CHASP) would be developed to assign responsibilities, establish personnel protection standards and mandatory safety practices and procedures, and provide for contingencies that may arise during construction at the Farley Complex and potentially at the Development Transfer Site. The plan is intended to minimize health and safety risks resulting from known and potential hazardous materials encountered during construction. The CHASP would address various construction activities associated with the project (pile and footing placement/drilling, soil removal, interior demolition of walls and floors, etc.) and would be developed in accordance with Federal Occupational Safety and Health Administration (OSHA) regulations and guidelines.

TRANSPORTATION

STREET AND SIDEWALK CLOSURES

- Construction activities at the Farley Complex would require the closing of curbside traffic lanes immediately adjacent to the site on the north side of West 31st Street and the south side of West 33rd Street between Eighth and Ninth Avenues, as well as the eastern-most land on Ninth Avenue between 31st and 33rd Streets. In addition, construction activities may require the closing and/or relocation of pedestrian sidewalk paths at these same locations. It is anticipated that these closings or relocations will occur over a period of approximately three years. In general, once the taxi pick-up and drop-off facilities and the through-block Intermodal Hall located between West 33rd and West 31st Streets are constructed, these areas could be used as staging areas for ongoing construction activities, including material deliveries.
- Construction activities related to the Eighth Avenue subway may require some re-routing of pedestrian flows both above and below grade. In addition, construction activities may affect some subway movements during off-peak hours for a limited time period during stairway construction. It is intended that construction will be performed during normal hours by segregating pedestrian flows with barriers etc.,. While measures would be taken to minimize inconveniences to subway and other transit patrons (including scheduling construction activities during off-peak periods to the extent possible), construction activities may result in some disruptions to pedestrian circulation.
- Construction activities related to utility upgrading and relocations may require some partial closing of traffic lanes for short periods of time on the blocks adjacent to the Farley Complex and for feeder services along West 31st and West 33rd Streets and Eighth Avenue.
- Construction activities related to the truck entrance/exit—installing the new pedestrian entrance, and constructing new truck ramps—may require some partial closing of traffic lanes for extended periods of time on the blocks adjacent to the project site.
- Construction of the potential Development Transfer Site would involve a lane closure on West 33rd Street east of Eighth Avenue and could involve a lane closure on Eighth Avenue. The New York City Department of Transportation would have to approve any lane closures and would do so only if the lane closure would not unduly interfere with traffic flow. In addition, the sidewalk would likely be closed and the pedestrian traffic re-routed.

TRAFFIC

Construction activities at the Farley Complex are expected to generate an average of approximately 400 workers on-site. During peak construction periods a maximum of between 750 and 1,000 workers would be expected on-site. The availability of public transit and the limited availability of low-priced parking at the project site can be expected to result in a significant number of construction workers using public transportation rather than automobiles to commute to work. It is conservatively expected that on an average day, construction activities would generate approximately 80 worker automobiles; on a peak day, construction activities may generate between 180 and 240 worker automobiles. Construction workers typically arrive on-site between 6:30 and 7:30 AM and depart between 3:30 and 4:30 PM. Therefore, construction worker trips tend to occur before the AM and PM peak hours (when traffic volumes and transit ridership are at their highest levels). While construction worker site traffic during after hour phases is expected, these additional vehicular and transit trips would not be expected to result in any significant impacts.

In addition, construction activities are expected to generate approximately 20 to 30 truck and delivery vehicle trips on an average day, and approximately 50 truck and delivery vehicle trips on peak construction days. The days with the higher deliveries are expected to occur when structural work and finishing are occurring simultaneously. These trucks and delivery vehicles, when spread over the day, would not be expected to result in any significant adverse impacts. Trucks and delivery vehicles would be expected to access/egress the construction sites from the major adjacent north-south avenues (e.g., Eighth Avenue, Ninth Avenue, etc.), which are truck routes. Where feasible, the delivery of equipment and materials would take place directly on-site (rather than on-street) to minimize any traffic and/or pedestrian flow obstructions. However, lifting equipment will have to be located either in parking lanes or on sidewalks, and the delivery of equipment and supplies (primarily such structural elements as steel) will necessitate utilizing some street and/or sidewalk space. While these activities are generally expected to occur during regular construction work hours, whenever feasible, these activities would be scheduled to take place during off-peak periods to minimize any disruptions of traffic and/or pedestrian flows.

As discussed above, construction activities will require the closing of portions of one traffic lane on the streets rather than the avenues immediately adjacent to the construction sites, and will also require the closing and/or relocation of pedestrian sidewalk paths at some locations for extended periods of time. A plan would be developed in coordination with the Mayor's Office of Construction to minimize disruptions to traffic and pedestrian flows during the construction period. At all locations where either curbside or moving lanes of traffic are closed, measures would be taken to provide the maximum number of moving lanes to maintain traffic flows. While construction activities are likely to result in some inconveniences and delays to vehicular users passing through the area. The combination of trucks and worker vehicles is not expected to result in a significant adverse impact.

PEDESTRIANS

Pedestrian traffic would experience some inconvenience during construction, especially along West 31st and West 33rd Streets. Use of the sidewalk and a parking lane by construction equipment is expected to last about 3 years. During this time, covered pedestrian walkways would be provided to ensure public safety. For varying periods of time, pedestrian traffic along the eastern side of Ninth Avenue could be affected. It is not expected that pedestrian traffic along Eighth Avenue would be detoured, except for the periods of time involving work at the

Farley Complex entrances, and around the new or relocated subway entrances. These streets are not heavily used by pedestrians.

Construction of the potential off-site building would affect pedestrian traffic on West 33rd Street east of Eighth Avenue and along Eighth Avenue between West 33rd and 34th Streets. Covered pedestrian walkways would be provided to ensure public safety. The project is not expected to have a significant adverse impact on pedestrians at these locations.

When the existing LIRR concourse at the west end of Penn Station is extended, some inconvenience to LIRR riders using the platforms serviced by this concourse may occur. The inconvenience is expected to be for a short period of time, primarily while the extended concourse is opened and connected to the existing concourse. In addition, at the far western end of the railroad platforms, new vertical transportation elements would be added to allow access from Moynihan Station. During construction of the escalators, elevators, and stairways, temporary enclosures would separate the construction work from the general public. Therefore, the main effect would be narrowing of the platforms for a period of time at their western ends. In addition, users of the Eighth Avenue subway may experience some inconvenience while stairways and corridors are widened. These temporary inconveniences are not considered to be significant adverse impacts on users of the subways and trains.

TRANSIT

Minimal disruptions to subways, Amtrak, LIRR and NJ Transit trains would occur. The track level work that could interfere with subway and train schedules would be carefully coordinated with the four operating agencies. The work would be scheduled for off-peak hours, and not during peak commuting times. In addition, the relocation of the stair to the Eighth Avenue subway at the southwest corner of Eighth Avenue and 33rd Street would be closed during its reconstruction. For the potential Development Transfer Site building, new subway entrances would be constructed within the building lines, some closures of the existing stairs on the east side of Eighth Avenue between 33rd and 34th Streets are likely as these new connections are constructed and the existing stairs are removed. These minor disruptions during off-peak hours are not considered to be significant adverse impacts.

AIR QUALITY

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 oxides, and carbon monoxide emissions.

FUGITIVE EMISSIONS

The most likely source of fugitive dust emissions from construction operations associated with the project would come from demolition activities. Demolition typically produces particulates up to a height equal to that of the structure being removed. For this project, most demolition activities would occur inside the Farley Complex or below it. If the Phase II overbuild were to be constructed, eight to ten large piles would be placed at track level under the Farley Building for the plans proposed by Developers A and B. These piles would be drilled and would require minimal soil disturbance and removal. No heavy earth moving equipment is anticipated to be used during construction for this project. Fugitive dust emissions would also be associated with

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demolition of the structures on the Developers Transfer Site, if that Phase II building scenario were to be developed.

Actual quantities of emissions depend on 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. Much of the fugitive dust generated by construction activities consists of relatively large-size particles, which are expected to settle within a short distance from the construction site and not significantly affect the buildings or people nearby. Almost all demolition activities would occur inside the Farley Complex or below-grade for this project; therefore, most of the fugitive dust from these activities would not escape to the surface.

As discussed in Chapter 11, “Hazardous Materials,” the existing structures are likely to contain asbestos and lead paint. Asbestos may be present in a variety of building materials, including pipe insulation, floor tiles, transite panels, and roofing materials. Since the Farley Complex was constructed when the use of paint containing lead was very common, it is probable that many painted surfaces in the building contain lead. Asbestos-containing materials in the buildings would be abated prior to any renovation activities. City, state, and federal regulations specify abatement procedures which prevent dispersal of asbestos into the air. These include the use of containment barriers, keeping work areas under negative air pressure, and monitoring for the presence of airborne asbestos before, during, and after abatement work. OSHA regulations require precautions to minimize exposure to lead during demolition activities such as demolition of interior walls painted with lead-based paint. For this project, demolition, 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. Any other hazardous materials that may be disturbed by renovation work would be identified during the final design stage and removed prior to construction following proper handling and disposal procedures. 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 air quality impacts from fugitive dust emissions would be anticipated.

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;
- 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

Impacts on community noise levels during construction of the proposed project include noise and vibration 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 and vibration 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 given in Table 17-3. Noise levels caused by construction activities would vary, depending on the phase and location of construction.

**Table 17-3
Typical Noise 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(1)
Concrete Spreader	89
Concrete Mixer	85
Concrete Vibrator	76
Crane (Derrick)	76
Delivery Truck	88
Diamond Saw	90(2)
Dredge	88
Dump Truck	88
Front End Loader	84
Gas-Driven Vibro-Compactor	76
Hoist	76
Jack Hammer (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(3)

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.

Sources: 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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Construction noise is regulated by the New York City Noise Control Code and by United States Environmental Protection Agency (USEPA) 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 exceptional 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 carefully followed. In addition, appropriate low-noise emission level equipment and operational procedures would be used. Compliance with noise control measures would be ensured by including them in the contract documents as material specification and by directives to the construction contractor.

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