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Construction

Construction activities, although temporary in nature, can sometimes result in significant adverse impacts. A project's construction activities may affect a number of technical areas analyzed for the operational period, such as air quality, noise, and traffic. This chapter assesses the potential for the Proposed Project to result in significant adverse impacts during construction.

Introduction

This chapter provides an assessment of the potential for construction of the Proposed Project to result in significant adverse impacts during the construction period. The Proposed Project would consist of approximately 2,992,161 gsf (2,246,515 zsf) of mixed-use development space, including a hotel, office, and public space (the Proposed Project). The Development Site would contain approximately 2,108,820 gross square feet (gsf)[1] of office space; an approximately 452,950-gsf, 500-room hotel; public space; and retail space on the cellar, ground, and second floors of the proposed building. The Proposed Project would also include significant public realm improvements, as well as subway and mass transit improvements to enhance circulation and reduce congestion at Grand Central Terminal (GCT) and the Grand Central – 42nd Street subway station.

[1] Development may also occur under an All Office Scenario. Under this scenario, the overall building square footage and building massing would be the same as under the Proposed Project but would be comprised of approximately 2,561,770 gsf of office space, retail, and no hotel.

Principal Conclusions

Governmental oversight of construction in New York City is extensive and involves a number of City, State, and Federal agencies, each with specific areas of responsibility. Construction at the Development Site would be subject to government regulations and oversight described below in Construction Regulations and General Practices and would employ the general construction practices described below. The Proposed Project would also comply with the requirements of the New York City Noise Control Code.

Transportation

Traffic

The projected construction activities would yield less total traffic than the amount of traffic projected for the Proposed Project. However, significant traffic impacts could still occur at some of the study area locations during construction, similar to impacts identified in **Chapter 9, Transportation.** In addition, travel and parking lane closures associated with construction activities would be needed along the Lexington Avenue and East 42nd Street site frontages. In coordination with the Department of City Planning and New York City Department of Transportation (NYCDOT), five intersections were identified for analysis—Lexington Avenue with East 42nd Street, East 43rd Street, East 44th Street, and East 45th Street, and Third Avenue with East 42nd Street—during the AM and PM construction peak hours.

Construction activities for the Proposed Project would generate 118 construction worker auto trips and 30 construction truck trips during the AM construction peak hour, and 117 construction worker auto trips and 14 construction truck trips during the PM construction peak hour. Construction trucks would be required to use NYCDOT-designated truck routes to get to the project area and would then use local streets to access the Development Site.

Significant impacts were identified at ~~four of the five analysis intersections during the AM construction peak hour and at~~ all five intersections during the AM and PM construction peak hours. Where impacts during construction may occur, measures similar to the ones recommended in **Chapter 16, Mitigation** could be implemented early to aid in alleviating congested traffic conditions. Significant impacts to the intersections of East 42nd Street with Third Avenue and Lexington Avenue, and the intersection of East 43rd with Lexington Avenue during the AM and PM peak hours, and the intersection~~s~~ of Lexington Avenue with ~~East 43rd Street and~~ East 45th Street during the PM peak hour, could not be mitigated under construction conditions~~,~~. These findings are similar to the findings of the operational With-Action conditions except for the intersection of Lexington Avenue and East 43rd Street which could be mitigated during the AM peak hour under the operational With-Action conditions.

Parking

Construction workers would generate an estimated peak daily parking demand of 147 spaces during the peak construction quarter for the Proposed Project and would be accommodated by the off-street parking facilities available within a quarter-mile radius.

Transit and Pedestrians

It is anticipated that approximately 71 percent of construction workers would commute to the Development Site by public transportation during the peak construction quarter and would result in approximately 589 construction worker transit trips arriving during the AM construction peak hour and departing during the PM construction peak hour. The study area is well served by public transit and the Development Site is located above the Grand Central – 42nd Street subway station and next to GCT. Several Manhattan and Queens local bus routes and express bus routes also serve the study area. These trips would be distributed to the different transit options and are not expected to result in transit or pedestrian impacts.

Because of proposed sidewalk closures associated with construction activities along the Lexington Avenue and East 42nd Street site frontages, an assessment of the proposed walkway level of service during construction was performed and compared to the No-Action condition when the sidewalks would be available, as requested by NYCDOT. For the purposes of a conservative analysis, the No-Action condition analyzed a condition where the existing building would remain. Pedestrian impacts would be expected at both sidewalks during the AM and PM operational peak hours during construction.

Air Quality

Based on the results of the emissions intensity and quantitative construction air quality analysis for on-site emissions (construction equipment, trucks and fugitive dust from demolition and excavation/foundations), and ~~taking into account~~based on the ~~volume~~results of the screening analysis for off-site construction ~~trucks compared to the operational period~~traffic, the Proposed Project would not result in significant adverse impacts on air quality during construction. The results of the quantitative on-site construction analysis indicate that the Proposed Project would not exceed NO_2, PM_{10}, and CO NAAQS. In addition, the maximum predicted 8-hour CO concentration would be well below and incremental concentrations of $PM_{2.5}$ would not exceed the City's *de minimis* criteria. The off-site screening demonstrated no potential for significant adverse CO and $PM_{2.5}$ impacts from construction-related traffic.

Noise

Construction of the Proposed Project would involve standard construction activities and practices for buildings in New York City. Excavation, foundation, demolition, and superstructure phases of construction are typically when the noisiest activities occur. The interior fitout phase of construction typically involves minimal exterior equipment and substantially quieter noise conditions. The Proposed Project is near existing commercial and hotel land uses. Based on the proximity of these noise-sensitive land uses, there is the potential for construction to cause significant adverse noise impacts.

Construction of the Proposed Project would include a weekday period from 6:00 AM to 7:00 AM when construction mobile sources (i.e., worker vehicles and trucks) would arrive at the Project Site. There would be mobile and stationary construction sources during the first shift period from approximately 7:00 AM to 3:30 or 4:00 PM and the second shift period from approximately 3:30 PM to 12:00 AM. The second shift construction typically includes fewer

activities and quieter noise levels than first shift conditions. Work permits would be obtained from DOB prior to second shift work commencing.

Construction noise from mobile sources has been evaluated for the With-Action condition from 6:00 AM to 7:00 AM which is when construction traffic would be greatest. There would not be construction noise from stationary sources during this time since first shift construction activities are between 7:00 AM and 3:30 PM or 4:00 PM. Construction noise from mobile sources would not increase by 3 dBA or more at any receptor and there would be no significant adverse noise impact between 6:00 AM and 7:00 AM.

Construction noise from mobile and stationary sources has been evaluated for first and second shifts for the following phases:

- From Month 1 to 12, the Make Ready phase would include box and pickup trucks, but no stationary equipment for both the No-Action and With-Action conditions. Therefore, there would be no stationary source noise and no potential for significant adverse noise impact since trucks would not idle for longer than 3 minutes in accordance with New York City Administrative Code §24-163.
- From Month 12 to 18, the Platform over MTA phase would include box trucks, pickup trucks, and tractor trailers. Similar to the Make ready phase, there would be no stationary source noise for both the No-Action and With-Action conditions and no potential for significant adverse noise impact since trucks would not idle for longer than 3 minutes.
- From Month 12 to 34, the Demolition, Excavation and Foundation phase would occur for a total of 23 months during the No-Action and With-Action conditions. Construction has been evaluated based on Month 24 for this period which is when there would be the highest construction sound emissions.
- From Month 35 to 65, the Superstructure phase would occur for a total of 31 months during the No-Action and With-Action conditions. Construction would include structural steel, concrete, spray fireproofing, and curtain wall activities during both the No-Action and With-Action conditions. Construction sound emissions would be the same for the No-Action and With-Action Conditions. Construction has been evaluated based on Month 57 for this period.
- From Month 66 to 73, the Superstructure phase would continue for 8 more months during the No-Action condition including structural steel and curtain wall activities. This portion of the No-Action Superstructure phase includes less equipment and sound emissions than during the Month 35 to 65 period. Construction has been evaluated based on Month 70 for this period.
- From Month 66 to 87, the Superstructure phase would occur for 30 more months during the With-Action condition including structural steel, concrete, spray fireproofing, and curtain wall activities. Construction has been evaluated based on Month 70 for this period.
- From Month 88 to 98, the Superstructure phase would occur for 11 more months during the With-Action condition including structural steel, spray fireproofing, and curtain wall activities. This portion of the With-Action Superstructure phase includes less equipment and sound emissions than from Month 35 to Month 87. Construction has been evaluated based on Month 88 for this period.

› From Month 99 to 110, the Interior Fitout phase would occur for 12 months during the With-Action condition and would include box trucks and tractor trailers. Therefore, there would be no stationary source noise and no potential for significant adverse noise impact since trucks would not idle for longer than 3 minutes in accordance with New York City Administrative Code §24-163.

The significance of construction noise impact depends on the absolute exterior level, as it relates to the Public Health noise criterion, the increase in noise level over ambient conditions, the interior noise level, time of day, and whether such conditions would occur in the No-Action and/or With-Action condition (see **Construction Noise Criteria** for further details). For construction noise impact to be significant, the Proposed Project must cause noise levels to exceed the exterior increase criteria and interior criteria. The exterior increase criteria depend on the time of day where there is a greater potential for construction noise impact during the evening or night when second shift construction activities would occur. There would be significant adverse noise impact if absolute construction noise levels exceed the Public Health criterion of 85 dBA.

The following summarizes the results of the construction noise assessment at the closest receptors surrounding the Proposed Project.

› Construction noise impact results during Excavation-Foundation-Demolition phase for both No-Action and With-Action conditions between month 12 and 34 include:
  - First shift construction noise levels would range from 68.2 to 83.8 dBA at nearby receptors, with a maximum increase of 15.9 dBA above ambient at one receptor location at 420 Lexington Avenue (R42). First shift construction noise levels would increase by 3 dBA or more and exceed the interior noise criteria at 23 receptor locations.
  - Second shift construction noise levels would range from 59.6 to 75.1 dBA at nearby receptors, with a maximum increase of 13.3 dBA above ambient levels. Second shift construction noise levels would increase by 7 dBA or more during the evening period (6:00 PM to 10:00 PM) at eight receptor locations and increase by 3 dBA or more at 37 receptor locations during the nighttime period (10:00 PM to 12:00 AM). Noise levels would not exceed the interior criteria at any receptor locations.
› Construction noise impact results during the Superstructure phase for both No-Action and With-Action conditions between month 35 and 65 include:
  - First shift construction noise levels would range from 67.9 to 80.5 dBA at nearby receptors, with a maximum increase of 10.1 dBA above ambient. First shift construction noise levels would increase by 3 dBA or more and exceed the interior noise criteria at eight receptor locations.
  - Second shift construction noise levels would range from 59.5 to 73.8 dBA at nearby receptors, with a maximum increase of 13.1 dBA above ambient. Second shift construction noise levels would increase by 7 dBA or more during the evening at seven receptor locations and increase by 3 dBA or more during the nighttime at 21 receptor locations. Interior noise levels would not exceed criteria at any receptor locations.

- Construction noise impact results during the Superstructure phase for the With-Action condition, when there would be less equipment on site, between month 66 and 73 include:
  - First shift construction noise levels would range from 67.9 to 78.0 dBA, with a maximum increase of 6.1 dBA above ambient. First shift construction noise levels would not increase by 3 dBA or more and exceed the interior noise criteria within the project study area.
  - Second shift construction noise levels would range from 59.5 to 70.4 dBA, with a maximum increase of 9.1 dBA above ambient. Second shift construction noise levels would increase by 7 dBA or more during the evening period at two receptor locations and increase by 3 dBA or more during the nighttime period at seven receptor locations. Interior noise levels would not exceed criteria at any receptor locations.
- Construction noise impact results during the Superstructure phase for the With-Action condition between months 66 and 87, when construction activities would not be reduced as with the No-Action condition, include:
  - First shift construction noise levels would be range from 67.9 to 80.5 dBA with a maximum increase of 10.1 dBA above ambient. First shift construction noise levels would increase by 3 dBA or more and exceed the interior noise criteria at eight receptor locations.
  - Second shift construction noise levels would be range from 59.5 to 73.7 dBA with a maximum increase of 13.2 dBA above ambient. Second shift construction noise levels would increase by 7 dBA or more during the evening at seven receptor locations and increase by 3 dBA or more at 21 receptor locations. Interior noise levels would not exceed criteria at any receptor locations.
- Construction noise impact results during the Superstructure phase for the With-Action condition, when there would be less equipment on site, between months 88 and 98 include:
  - First shift construction noise levels would be range from 67.9 to 78.3 dBA with a maximum increase of 7.1 dBA above ambient. First shift construction noise levels would increase by 3 dBA or more and exceed the interior noise criteria at two receptor locations (R22-R23).
  - Second shift construction noise levels would be range from 59.5 to 73.2 dBA with a maximum increase of 12.3 dBA above ambient. Second shift construction noise levels would increase by 7 dBA or more during the evening at seven receptor locations and increase by 3 dBA or more at 19 receptor locations. Interior noise levels would not exceed criteria at any receptor locations.

Construction noise levels would be up to 83.8 dBA at all receptor locations for the No-Action and With-Action ~~conditions~~ and would not exceed the public health noise criterion of 85 dBA.

During the first shift, exterior construction noise levels would exceed 3 dBA or more above ambient levels and exceed interior criteria for more than 24 months at five nearby buildings including 110 East 42nd Street, 374 Lexington Avenue, 395 Lexington Avenue, 420 Lexington Avenue, and 416 Lexington Avenue for both the No-Action and With-Action conditions. At

five other buildings including 118 Park Avenue, 125 Park Avenue, 150 East 42nd Street, 425 Lexington Avenue, and Grand Central Station, construction noise levels would exceed 3 dBA or more above ambient levels and exceed interior criteria for less than 24 months for both the No-Action and With-Action conditions. Therefore, since both the No-Action and With-Action constructions would cause potential noise impact, there would not be any new significantly adverse impacts caused by the Proposed Project during the first shift.

During the second shift, exterior construction noise levels would not exceed the evening increase criterion (7 dBA), increase by 3 dBA for 24 months or longer, or exceed the nighttime increase criterion (3 dBA) and also exceed interior criteria at any receptor location for the No-Action or With-Action condition. Since second shift construction noise levels are substantially lower than first shift levels, noise levels would not exceed the interior impact thresholds and there would not be significant adverse noise impact.

With the adherence to existing construction noise regulations and the implementation of a Construction Noise Mitigation Plan, as required by the New York City Noise Code, as well as the use of an 8-foot perimeter construction noise barrier and use of a perimeter shed 16 feet in height, construction noise would be below the level of significant adverse noise impact. The use of a 16-foot-tall perimeter shed will be a Project Component Related to the Environment (PCRE) and will be included in the Restrictive Declaration. Therefore, construction of the Proposed Project is not anticipated to result in significant adverse construction noise impact at receptors near the Project Site.

Vibration

Construction activities have the potential to generate ground-borne vibration that can potentially cause structural or architectural damage or annoy people in nearby vibration-sensitive spaces, such as commercial offices or hotels. The most substantial sources of construction vibration are equipment associated with the excavation and foundation phase, such as drill rigs, bulldozers, and jack hammers.

Buildings within 90 feet of the Project Site, where there is the greatest potential for vibration impact, include 420 Lexington Avenue (Graybar Building), 89 East 42nd Street (Grand Central Terminal), 125 Park Avenue (Pershing Square Building), 110 East 42nd Street (Bowery Savings Bank Building), 374 Lexington Avenue (Chanin Building), and 395 Lexington Avenue (Chrysler Building). The Grand Central Terminal building and the Graybar Building are adjacent to the Project Site.

Due to the buildings listed above being classified as individual landmarks, the NYCDOB Technical Policy and Protection Notice (TPPN) #10/88 would apply, which requires a vibration monitoring program to reduce the likelihood of construction damage to adjacent New York City Landmarks and NR-listed properties within 90 feet. The applicant would employ means/methods that meet acceptable vibration levels as mandated by NYCDOB.

Since no construction activities would generate vibration levels in excess of the LPC vibration criteria, there is no potential for significant adverse construction vibration impact.

Methodology

As discussed in **Chapter 1, Project Description**, for conservative analysis purposes the EIS considers the two building program options to determine the With-Action reasonable worst case development scenario (RWCDS) for each density-based technical area: the Proposed Project with a mix of hotel, commercial office, local retail, and publicly accessible space; and the All Office Scenario, based on the same overall building square footage and building massing as the Proposed Project but comprised of approximately 2,561,770 gsf of office space, retail, and no hotel. In each chapter, where applicable, the EIS analyzes the scenario with the greater potential for impacts. Since the overall building massing and design would be the same in both program options, this chapter evaluates the With-Action condition including the hotel space, as described above, because it represents the Proposed Project.

Construction Regulations and General Practices

Construction Oversight

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

- The New York City Department of Buildings (DOB) has primary oversight of construction. DOB oversees compliance with the New York City Building Code to ensure that buildings are structurally, electrically, and mechanically safe. In addition, DOB enforces safety regulations to protect both workers and the general public during construction. Areas of oversight include installation and operation of equipment such as cranes and lifts, sidewalk sheds, safety netting, and scaffolding.
- The New York City Department of Environmental Protection (DEP) enforces the New York City Noise Code, reviews and approves any needed Remedial Action Plans (RAPs) and associated Construction Health and Safety Plans (CHASPs) as well as the removal of fuel tanks and abatement of hazardous materials. DEP also regulates water disposal into the sewer system and reviews and approves any rerouting of wastewater flow.
- The New York City Fire Department (FDNY) has primary oversight of compliance with the New York City Fire Code and the installation of tanks containing flammable materials.
- The New York City Department of Transportation Office of Construction Mitigation and Coordination (DOT OCMC) reviews and approves any traffic lane and sidewalk closures.[2]
- New York City Transit (NYCT) is responsible for bus stop relocations and subsurface construction within 200 feet of a subway, if needed.
- The New York City Landmarks Preservation Commission (LPC) approves studies and testing to prevent loss of archaeological resources and to prevent damage to architectural resources.
- The Metropolitan Transit Authority (MTA), together with State Historic Preservation Office (SHPO), in consultation with LPC, are responsible for oversight of work within Grand Central Terminal so as to avoid adverse impacts to the architectural features of the Terminal.

[2] No traffic lane or sidewalk closures of existing streets are anticipated during project construction.

- The MTA also reviews and approves the design of transit improvements provided pursuant to land use approvals, in consultation with SHPO, as well as means and methods for the performance of construction, in coordination with MTA operations with regard to temporary closures of passageways during construction in order to manage pedestrian flow during the period of closure.
- The New York State Department of Environmental Conservation (NYSDEC) regulates disposal of hazardous materials, and construction, operation, and removal of bulk petroleum and chemical storage tanks. NYSDEC also regulates discharge of water into rivers and streams.
- The New York State Department of Labor (DOL) licenses asbestos workers.
- The New York State Department of Transportation (NYSDOT) reviews and approves any traffic lane closures on its roadways, should any be necessary.
- The U.S. Environmental Protection Agency (EPA) has wide-ranging authority over environmental matters, including air emissions, noise, hazardous materials, and the use of poisons, however, much of its responsibility is delegated to the state level.
- The Occupational Safety and Health Administration (OSHA) sets standards for work site safety and construction equipment.

Construction Hours

New York City regulates the hours of construction work through the New York City Noise Control Code, as amended in December 2005 and effective July 1, 2007. Construction is limited to weekdays between the hours of 7:00 AM and 6:00 PM, and noise limits are set for certain specific pieces of construction equipment. The City may permit work outside of these hours to accommodate: (1) emergency conditions; (2) public safety; (3) construction projects by or on behalf of City agencies; (4) construction activities with minimal noise impacts; and (5) undue hardship resulting from unique site characteristics, unforeseen conditions, scheduling conflicts, and/or financial considerations. The DOB issues these work permits, and for new building construction, like the proposed development, approval of a noise mitigation plan from the DEP under the City's Noise Code is also required.

In New York City, construction work typically occurs on weekdays and begins at 7:00 AM, with most workers arriving between 6:00 AM and 7:00 AM. Work would typically end at 3:30 PM or 4:00 PM, with some exceptions when certain critical tasks (e.g., finishing a concrete pour for a floor deck, completing the drilling of piles, or completing the bolting of a steel frame erected that day) require that the workday be extended beyond normal work hours. For construction of the Proposed Project, a second work shift would be needed during specific tasks between 3:30 PM and midnight; work permits would be obtained from DOB prior to such work commencing. During specific periods of construction, workers would be expected to work extended hours generally lasting until approximately 5:30 PM or 6:00 PM with no second work shift. The numbers of workers and pieces of equipment in operation for work outside normal hours is generally limited to those needed to complete the authorized task. Overall, the level of activity for any work outside of normal construction hours is less than a normal workday.

Construction Practices

Access, Deliveries and Staging Area

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

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

Lane and Walkway Closures

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

Public Safety

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

Rodent Control

Construction projects in New York City typically include provisions for a rodent (i.e., mouse and rat) control program with provisions for this formalized in construction contracts for the development. Rodent control programs are typically carried out throughout construction, beginning with surveying and baiting appropriate areas prior to construction and providing for proper site sanitation and maintenance during construction. Signage is posted, and coordination is conducted with appropriate public agencies. Only EPA- and NYSDEC-registered rodenticides are permitted, and the contractor is required to implement the

rodent control program in a manner that is not hazardous to the general public, domestic animals, and non-target wildlife.

Construction Schedule and Activities

Construction Schedule

Figure 15-1 shows the anticipated construction schedule for the Proposed Project under the No-Action and With-Action conditions as well as the sequencing of construction stages as currently anticipated. The details of each construction schedule are described further below.

No-Action Condition

Absent the Proposed Project, the Development Site would be developed with a 27-FAR development of approximately 1,883,743 gsf (1,546,884 zsf), comprised of approximately 1,682,336 gsf of office space; approximately 18,300 gsf of retail; and an approximately 5,896-sf enclosed publicly accessible space on the ground floor. In addition, approximately 10,220 gsf of MTA circulation space would be provided on the ground floor. In the No-Action condition, the Applicant would provide transit improvements from the Priority Improvement List set forth in ZR Section 81-682 to improve circulation and reduce congestion. Specifically, at the 42nd Street – Bryant Park/Fifth Avenue station, the Applicant would provide the following Type 1 improvements:

- ADA elevator between Flushing platform and mezzanine level;
- A new street entrance from the north side of West 42nd Street;
- ADA elevator between Sixth Avenue northbound platform and mezzanine level;
- ADA elevator between Sixth Avenue southbound platform and mezzanine level.

These transit improvements would be coordinated with and ultimately scheduled in conjunction with the MTA. However, it is assumed that all improvements would be implemented prior to the completion of the No-Action development.

The Future No-Action condition building construction is anticipated to be completed over the course of 70 months. It would begin with the "make ready" phase in early 2022 (Q1 2022), and is anticipated to take 12 months to complete, the same as the anticipated period for the Proposed Project, as discussed below under the With-Action Condition. Demolition, construction of a structural platform over the MTA circulation areas, and excavation/ foundation would all start at the same time in Q4 2022. Demolition of the building would occur over an 18-month period. It is anticipated that excavation and foundation work would take 20 months to complete and end in Q2 2024. Platform construction is expected to occur over a 7-month period.

After the excavation and foundation stage is complete, the erection of structural steel, concrete, spray fireproofing, and curtain wall phases would commence, followed by interior fit-out. It is anticipated that core, shell, and interior work would start in Q3 of 2024 in month 33 and finish at the end of Q4 in 2027 in month 70 of the construction schedule.

The subway entrance on East 42nd Street would remain accessible throughout construction. The subway entrance on Lexington Avenue, also known as the Strawberry stair (M9), would

also remain accessible throughout the duration of construction. The MTA Stair within the Lexington Passage (M8/10) would close for four to six months starting in month 20, and then would be reopened and accessible through the remainder of construction. Any temporary closures needed throughout construction would be conducted in coordination with the MTA. All transit improvements would be completed prior to the end of construction.

With-Action Condition

As discussed above and in **Chapter 1, Project Description**, in the future With-Action condition, the Applicant proposes to redevelop the Development Site with approximately 2,992,161 gsf (2,246,515 zsf) of mixed-use development, including office, local retail, hotel, and public space. Furthermore, the project would provide transportation improvements on-site that would create 16,245 gsf of space for transit circulation and include the following transit and public realm improvements:

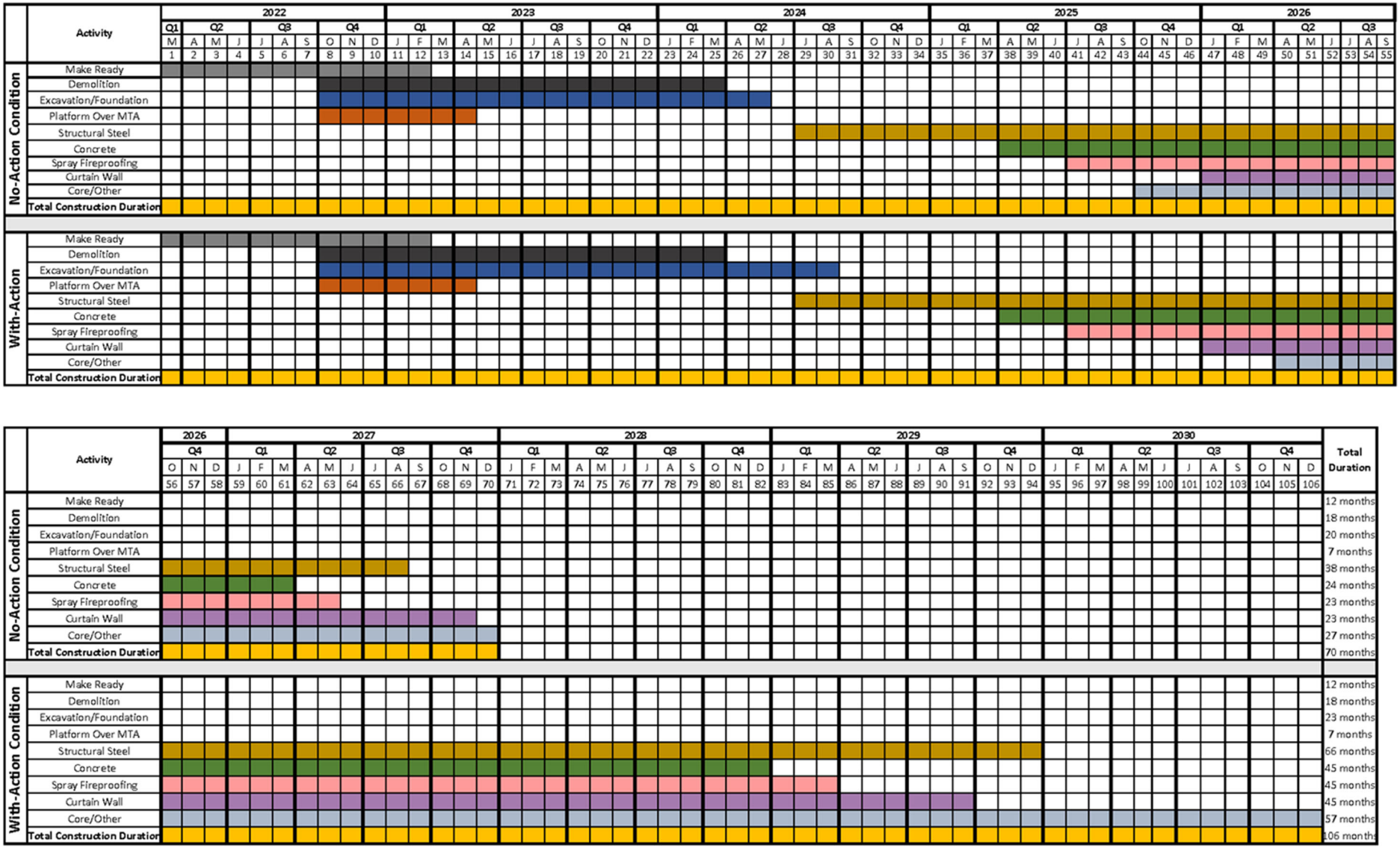
- Redesign and expansion of the subway entrance at East 42nd Street (R-238 fare control area), which would include construction of a new subway stair and a new subway entrance with direction connection from East 42nd Street to the subway.
- A new transit hall containing retail, information screens and booths, and connections to the Terminal would be constructed at the ground floor level on the western side of the Development Site.
- Improvements to subway entrance on Lexington Avenue and redesign of below-grade mezzanine.
- The proposed building would be set back from Lexington Avenue to allow for increased sidewalk widths and enhanced views to adjacent landmarks. In concert with this change, the Strawberry stairs would be relocated further north as part of the reconstructed Lexington Avenue subway entrance.
- The Lexington Passage entrance would be redesigned and refinished, and its ceiling height would be increased.
- Girders would be removed from the subway mezzanine level to improve circulation and enhance sightlines.
- A "Short Loop Connection" would be constructed to provide direct access through GCT from the lower-level Metro North trains and East Side Access to the Subway mezzanine level.

Construction of the Proposed Project under the With-Action condition is anticipated to begin in early 2022 (Q1 2022) and is expected to be completed in December 2030 (Q4 2030) with a 106-month total construction period. Construction would begin with the "make ready" phase which is anticipated to take 12 months to complete. The overall duration of the make ready phase would be the same as the anticipated period for the No-Action building. Demolition, construction of a structural platform over the MTA circulation areas, and excavation/ foundation would all start at the same time in Q4 2022. Demolition of the building would occur over an 18-month period, consistent with the No-Action building. Excavation and foundation work would occur over 23 months, with an anticipated complete and end in Q3 2024. Platform construction would take 7 months, similar to the construction of the No-Action building.

Proposed Project construction would then enter core, shell, and interiors construction phase consisting of phases for structural steel, concrete, spray fireproofing, and curtain wall. Core, shell and interior work would start in Q3 of 2024 in month 29 of the construction schedule, and finish at the end of Q4 in 2030 in month 106 of the construction schedule.

The subway entrance on East 42nd Street will remain accessible throughout construction. Construction of the new Strawberry stair on Lexington Avenue (next to the Lexington Passageway) will be completed prior to the demolition of the existing Strawberry stair. The Lexington Passage subway stair (M8/10) would be closed for four to six months starting in month 20, and then would be reopened and accessible through the remainder of construction. Any temporary closures needed throughout construction would be conducted in coordination with the MTA. All transit improvements would be completed prior to the end of construction.

Figure 15-1 Anticipated Construction Schedules



Construction Activities

Construction of the Proposed Project or the No-Action building would be subject to the government regulations and oversight detailed above and would employ the general construction practices described above. Construction activities for the No-Action and With-Action conditions would be relatively similar in character, but of different durations as described above. The activities in each stage of construction apply to both the No-Action and With-Action conditions.

Make Ready Work and Site Preparation

Construction at the Project Site would begin with a number of activities to prepare the site for construction work. Debris removal activities would occur in the northwest corner of the site at the existing loading area along Depew Place which is accessed from East 45th Street. Make ready work would consist of emptying the building to prepare for soft demo and abatement, and any activities necessary for removal of hazardous materials.

Demolition and MTA Platform Construction

Demolition and MTA platform construction would start concurrently. A structural platform would be constructed over the subway mezzanine below the ground floor in order to protect the transit circulation space and rails. For the demolition stage, in addition to roof protection being installed over the Park Avenue Viaduct and Grand Central Market, scaffolding and protective safety netting would be installed around the envelope of the existing building to protect surrounding structures and pedestrians. Debris staging would be set up within the site initially just at the Depew Place loading area and then later at both Depew Place and along Lexington Avenue. The interior of the building would be deconstructed to the floor plates and structural columns. As the interior is being deconstructed, the existing elevators and other vertical transportation shafts would be used to move debris to ground level. Enclosed chutes would be used to move the debris to the ground level. Bobcats and brocks would be used on the ground floor to load materials into packer trucks and 30-yard containers.

As demolition construction progresses from soft demolition and abatement work to hard demolition work, public safety measures, such as Jersey barriers and fencing, would be installed. The East 42nd Street sidewalk and curbside parking lane, and the Lexington Avenue sidewalk and two travel lanes closest to the site would be closed. Temporary walkways and protective sheds would be installed along the Lexington Avenue and East 42nd Street frontage to maintain pedestrian access during the sidewalk closures. The construction site would be fenced off, with solid fencing to minimize interference between the persons passing by the site and the construction work. Gates for workers and for construction vehicles would be installed. An office trailer for the construction engineers and managers would be placed on the site. Also, portable toilets, dumpsters for trash, and water and fuel tankers would be brought to the site and installed. Temporary utilities would be connected to the construction trailer. During the startup period, permanent utility connections may be made, especially if the construction manager has obtained early electric power for construction use, but utility connections may be made almost any time during the construction sequence. Roof protection would also be installed over the Park Avenue Viaduct and the Grand Central Market building.

Excavation and Foundation

Excavation and foundation work would start at the same time as the demolition and MTA platform construction work, and these tasks would overlap during the majority of this task duration. Since the site in its current configuration is constructed above transportation corridor and will not involve significant new in-ground disturbance, excavation will be minimal. As part of the foundation construction, concrete would be poured starting in select areas. A concrete operation would be installed within the site with access from East 42nd Street, and debris staging from excavation would be from Depew Place and Lexington Avenue. In the later stages of this task, two mobile cranes would be brought into the site.

Superstructure and Exterior Construction (Core and Shell)

Construction of the core and shell involves construction of the building's framework, core, and exterior. The superstructure is the building's framework (beams and columns) and floor decks. Construction of the core, or interior structure, includes construction of the building's elevator shafts; vertical risers for mechanical, electrical, and plumbing systems; electrical and mechanical equipment rooms; core stairs; and restroom areas. Construction of the exterior involves the installation of the façade (exterior walls, windows, and cladding and the roof).

During this stage steel would be installed for the superstructure and concrete would be poured for the core and the superstructure. An electric hoist would be installed and operated to facilitate these activities, including the delivery of various materials to the site. During steel installation, a safety cocoon would be erected around floors that are undergoing construction. A sidewalk shed also would be installed along the curb edge around the site. Protective decking would be installed over the Park Avenue Viaduct and the Grand Central Market during this stage.

Equipment used during this stage typically includes air compressors, generators, delivery and concrete trucks, concrete pumps, concrete trowels, welding equipment, and a variety of handheld tools. Access for concrete and spray fireproofing operations would be provided via East 42nd Street; other deliveries would primarily take place along Lexington Avenue. Temporary construction elevators (hoists) would also be constructed for the delivery of materials and vertical movement of workers when necessary. Superstructure activities would also require the use of mobile cranes, welders, and a variety of trucks.

At this stage two tower cranes would be used on the site (TC1 and TC2), one on the interior of the site and a second on the corner of Lexington Avenue and East 42nd Street. In month 42, these cranes would be dismantled and replaced by two additional tower cranes (TC3 and TC4). A smaller tower crane would be brought on site in months 42 through 76 for concrete (TC5). In month 76 two new tower cranes (TC6 and TC7) would be brought on-site to dismantle TC3 and TC4. TC7 would later dismantle TC6 and then be taken apart at the end of the super structure and brought down through hoists.

Interiors and Finishing

Interior fit-out activities include the construction of interior partitions, installation of lighting fixtures and interior finishes (i.e., flooring, painting, etc.); mechanical and electrical work; and lobby finishes. In addition, final cleanup and touchup of the proposed building and final building systems (i.e., electrical system, fire alarm, plumbing, etc.) testing and inspections are part of this stage of construction.

Equipment used during interior construction typically includes exterior hoists, compressors, delivery trucks, and a variety of small hand-held tools. This stage of construction is typically the quietest and does not generate fugitive dust since this work occurs within the building with the façades substantially complete.

This stage of construction is also when the construction protection measures (fencing, sidewalk enclosures, bridges, temporary sidewalks, remaining scaffolding, etc.) around the construction site would be removed. This stage of construction would also include punch list completion activities, which are typically small tasks that were not completely finished, and project commissioning to ensure compliance with contract requirements.

Following removal of the hoists, and construction protection measures, the terrace open spaces could be completed.

Assessment of Project Construction

In accordance with the guidelines of the *CEQR Technical Manual*, this preliminary assessment evaluates the effects associated with the Proposed Projects' construction related activities—including historic and cultural resources, transportation, air quality, noise, and vibration—on sensitive receptors located near the area of construction, as well as the construction related effects on the Project Site's existing nearby historic architectural resources. Hazardous materials are discussed in **Chapter 7, Hazardous Materials**.

Transportation

Daily Workforce and Truck Deliveries

Construction of the Proposed Project would extend over a period of 107 months, completing by the year 2030 and would generate trips from construction workers traveling to and from the site as well as from the delivery of materials and equipment, and the removal of debris. An evaluation of construction sequencing and projections of workers and trucks was undertaken to assess potential traffic-related impacts associated with construction. **Table 15-1**~~**Table 15-12**~~ shows the estimated number of workers and truck deliveries to the Development Site per quarter (i.e., three-month period) of each calendar year for the duration of construction activities. These represent the average number of daily workers and trucks within each quarter. The average number of workers would be about 507 per day throughout the construction period. The peak number of workers would be 1,035 per day in the second and third quarters of 2027. For truck trips, the average number of trucks would be 37 per day, and the peak of 60 trucks per day would occur in the second and third quarters of both 2026 and 2027.

Peak Daily Vehicle Trips by Quarter

The average daily workforce and truck trip estimates shown in **Table 15-1**~~**Table 15-12**~~ above were then refined to account for the travel characteristics of construction workers including modal splits and vehicle occupancy rates. Based on survey data collection during construction of the New York Times Building in 2006, it is anticipated that construction workers would primarily take public transportation (approximately 71 percent) to the Development Site, with a smaller percentage driving to work (approximately 29 percent, with

an average auto occupancy of 2.04). Transit service within the study area includes the No. 4, 5, 6, 7, and S subway lines at the Grand Central – 42nd Street station, as well as several Manhattan and Queens local buses and express buses.

Based on the surveyed auto modal split and vehicle occupancy, the average daily construction auto trips and truck trips (in and out combined) were determined for each quarter, as shown in **Table 15-2~~Table 15-23~~**. The peak quarter with the maximum construction passenger-car equivalents [PCEs][3]) is expected to be approximately 414 daily vehicle trips (534 PCE trips) during the second and third quarters of 2027.

Table 15-1 Average Daily Number of Workers and Trucks by Quarter – Proposed Project

Year	2022				2023				2024			
Quarter	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th
Workers	10	14	19	132	183	167	160	160	160	53	77	167
Trucks	2	3	5	27	47	49	47	48	44	28	32	18
Year	2025				2026				2027			
Quarter	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th
Workers	120	213	297	343	368	678	968	1,015	995	1,035	1,035	1,015
Trucks	10	30	36	35	41	60	60	57	53	60	60	57
Year	2028				2029				2030			
Quarter	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th
Workers	995	1,015	942	822	765	745	737	690	610	610	610	327
Trucks	53	59	59	56	42	41	40	31	12	12	12	12

	Project	
	Average	Peak
Workers	507	1,035
Trucks	37	60

[3] Since larger vehicles such as trucks typically make up a significant portion of construction traffic, a passenger car equivalent factor is applied to these vehicles to account for their size difference. Per the *CEQR Technical Manual*, it is assumed that one truck is equivalent to two passenger cars.

Table 15-2 Average Daily Number of PCE Trips by Quarter – Proposed Project

Year	2022				2023				2024			
Quarter	**1st**	**2nd**	**3rd**	**4th**	**1st**	**2nd**	**3rd**	**4th**	**1st**	**2nd**	**3rd**	**4th**
Auto Trips	2	4	6	38	52	48	46	46	46	16	22	48
Truck Trips	4	6	10	54	94	98	94	96	88	56	64	36
Vehicle Trips	6	10	16	92	146	146	140	142	134	72	86	84
PCE Trips	10	16	26	146	240	244	234	238	222	128	150	120
Year	**2025**				**2026**				**2027**			
Quarter	**1st**	**2nd**	**3rd**	**4th**	**1st**	**2nd**	**3rd**	**4th**	**1st**	**2nd**	**3rd**	**4th**
Auto Trips	34	60	84	98	104	192	274	288	282	**294**	**294**	288
Truck Trips	20	60	72	70	82	120	120	114	106	**120**	**120**	114
Vehicle Trips	54	120	156	168	186	312	394	402	388	**414**	**414**	402
PCE Trips	74	180	228	238	268	432	514	516	494	**534**	**534**	516
Year	**2028**				**2029**				**2030**			
Quarter	**1st**	**2nd**	**3rd**	**4th**	**1st**	**2nd**	**3rd**	**4th**	**1st**	**2nd**	**3rd**	**4th**
Worker Trips	282	288	266	232	216	212	208	196	172	172	172	92
Truck Trips	106	118	118	112	84	82	80	62	24	24	24	24
Vehicle Trips	388	406	384	344	300	294	288	258	196	196	196	116
PCE Trips	494	524	502	456	384	376	368	320	220	220	220	140

Note: Bold text denotes quarter with peak PCEs

Traffic Analysis

Peak Hour Construction Worker Vehicle and Truck Trips

Construction activities would be expected to occur on weekdays and would typically occur in two shifts—a 7 AM-to 3:30 PM main shift and 3:30 PM to midnight second shift that would have a lower level of construction activities compared to the main shift. During specific periods of construction, workers would be expected to work extended hours between 7 AM and 6 PM with no second work shift. For conservative analysis purposes, the extended construction shift of 7 AM to 6 PM was assumed for the AM peak hour analysis so that all workers arrive for the same one-shift start time, and a two-shift construction plan was conservatively assumed for the PM peak hour during which (within the 3 PM-to-4 PM hour),

the main shift workers would be departing while second-shift workers would be arriving, and some deliveries for the second shift would also arrive during this time. This provides a highly conservative theoretical analysis of worst-case conditions for both AM and PM construction conditions.

Construction truck trips would typically be distributed throughout the day—depending upon the specific types of construction activities taking place—and most trucks would remain in the area for short durations. Auto trips associated with construction worker travel would typically take place during the hour before and the hour after the daily work shift. For analysis purposes, each worker vehicle was assumed to arrive in the morning and depart in the afternoon or evening and each truck delivery was assumed to result in one "in" trip and one "out" trip during the same hour.

The estimated daily vehicle trips for the peak hour of construction traffic were distributed throughout the workday based on projected arrival/departure patterns of construction workers, and the projected pattern of truck deliveries was based on the types of construction activities that would occur during the second and third quarters of 2027. For construction workers, typical arrival patterns show that most arrivals (approximately 80 percent) occur during the 6 AM to 7 AM hour (the hour before the beginning of a regular day shift) and the same percentage of departure trips occurs during the end of the shift. For trucks, deliveries are usually spread throughout the day but the peak activity (approximately 25 percent) would occur during the 6 AM to 7 AM hour. Similar assumptions were made for the second shift start at the 3 PM to 4 PM hour.

The estimated daily average number of construction workers and truck deliveries during the peak construction quarter is approximately 1,035 construction workers and 60 trucks per day for the Proposed Project. The peak construction hourly trip projections for the peak construction quarter are summarized in **Table 15-3**~~**Table 15-34**~~ for one extended shift construction day, and **Table 15-4**~~**Table 15-45**~~ for a two-shift construction day.

Table 15-3 Proposed Project Construction Vehicle Trips by Hour (One Extended Shift)

	Auto Trips		Truck Trips		Total Vehicle Trips			Total PCE Trips		
Hour	In	Out	In	Out	In	Out	Total	In	Out	Total
6 AM – 7 AM	118	0	15	15	133	15	148	148	30	178
7 AM – 8 AM	29	0	6	6	35	6	41	41	12	53
8 AM – 9 AM	0	0	6	6	6	6	12	12	12	24
9 AM – 10 AM	0	0	6	6	6	6	12	12	12	24
10 AM – 11 AM	0	0	6	6	6	6	12	12	12	24
11 AM – 12 PM	0	0	3	3	3	3	6	6	6	12
12 PM – 1 PM	0	0	3	3	3	3	6	6	6	12
1 PM – 2 PM	0	0	3	3	3	3	6	6	6	12
2 PM – 3 PM	0	0	3	3	3	3	6	6	6	12
3 PM – 4 PM	0	0	3	3	3	3	6	6	6	12
4 PM – 5 PM	0	0	3	3	3	3	6	6	6	12
5 PM – 6 PM	0	29	3	3	3	32	35	6	35	41
6 PM – 7 PM	0	118	0	0	0	118	118	0	118	118

Table 15-4 Proposed Project Construction Vehicle Trips by Hour (Two Shifts)

	Auto Trips		Truck Trips		Total Vehicle Trips			Total PCE Trips		
Hour	In	Out	In	Out	In	Out	Total	In	Out	Total
6 AM – 7 AM	102	0	10	10	112	10	122	122	20	142
7 AM – 8 AM	26	0	4	4	30	4	34	34	8	42
8 AM – 9 AM	0	0	4	4	4	4	8	8	8	16
9 AM – 10 AM	0	0	4	4	4	4	8	8	8	16
10 AM – 11 AM	0	0	4	4	4	4	8	8	8	16
11 AM – 12 PM	0	0	4	4	4	4	8	8	8	16
12 PM – 1 PM	0	0	4	4	4	4	8	8	8	16
1 PM – 2 PM	0	0	2	2	2	2	4	4	4	8
2 PM – 3 PM	0	6	2	2	2	8	10	4	10	14
3 PM – 4 PM	15	102	7	7	22	109	131	29	116	145
4 PM – 5 PM	4	20	2	2	6	22	28	8	24	32
5 PM – 6 PM	0	0	2	2	2	2	4	4	4	8
6 PM – 7 PM	0	0	2	2	2	2	4	4	4	8
7 PM – 8 PM	0	0	2	2	2	2	4	4	4	8
8 PM – 9 PM	0	0	2	2	2	2	4	4	4	8
9 PM – 10 PM	0	0	2	2	2	2	4	4	4	8
10 PM – 11 PM	0	0	1	1	1	1	2	2	2	4
11 PM – 12 AM	0	4	1	1	1	5	6	2	6	8
12 AM – 1 AM	0	15	1	1	1	16	17	2	17	19

The estimated number of vehicle trips generated by construction activities during the peak quarter would be 148 vehicle trips (178 PCEs) during the AM construction peak hour (6 AM to 7 AM) and 131 vehicle trips (145 PCEs) during the PM construction peak hour (3 PM to 4 PM). In comparison, upon completion, the Proposed Project would generate 217 vehicle trips (235 PCEs), 251 vehicle trips (267 PCEs), and 274 vehicle trips (276 PCEs) during the weekday AM, midday, and PM peak hours, respectively, as shown in **Table 15-5~~Table 15-56~~**.

Table 15-5 Comparison of Vehicle Trips – Construction vs. Operational Conditions

	Construction Peak Hour Trips		Operational Peak Hour Trips		
	6 – 7 AM	**3 – 4 PM**	**8 – 9 AM**	**12 – 1 PM**	**5 – 6 PM**
Auto/Taxi Trips	118	117	199	235	272
Truck Trips	30	14	18	16	2
Total Vehicle Trips	148	131	217	251	274
Total PCE Trips	178	145	235	267	276

Construction Traffic Volumes and levels of Service

Since traffic volumes during the construction peak hours are expected to be less than the operational peak hours, and the roadway capacities are similar, construction activities would be expected to result in fewer or similar impacts as the operational analysis. However, construction activities during the peak quarter would result in the closure of the west curbside travel lane and the adjacent travel lane along Lexington Avenue between East 42nd and East 43rd Street. In addition, the parking lane along the site's East 42nd Street frontage, which is currently a hotel loading zone for the existing building, would be closed; the adjacent bus lane would not be affected by this closure.

Construction vehicle trips were assigned through the roadway work network based on worker travel trends, similar to in the operational analysis. Based on the construction trip assignments and proposed lane closures associated with construction activities, five intersections were identified for analysis in coordination with DCP and NYCDOT—Lexington Avenue with East 42nd Street, and with East 43rd Street, East 44th Street, and East 45th Street, and Third Avenue with East 42nd Street—during the AM and PM construction peak hours.

Existing Conditions

Based on the Automatic Traffic Recorder (ATR) traffic volume data, background traffic volumes during the 6 AM to 7 AM construction peak hour are approximately 13 percent lower than the 8 AM to 9 AM operational peak hour. Therefore, it would be expected that construction activities would likely result in fewer significant traffic impacts during the peak construction hour.

While the ATR background traffic volumes during the 3 PM to 4 PM construction peak hour are higher than traffic volumes during the 5 PM to 6 PM operational peak hour, there is a greater level of constrained and congested traffic conditions during the 5 PM to 6 PM peak hour. In consultation with DCP and per the *CEQR Technical Manual* guidance, the 5 PM to 6 PM is considered the afternoon peak hour for the overall Midtown Manhattan area;

therefore, background volumes for this hour were used for analysis of the 3 PM to 4 PM construction peak hour.

Each of the five intersections identified for analysis were evaluated and were found to operate at an overall acceptable level of service during the 6 AM to 7 AM construction peak hour, and three of the five intersections operate at overall acceptable level of service during the 3 PM to 4 PM construction peak hour. Of the approximately 19 movements analyzed during the AM construction peak hour, six movements operate at unacceptable levels of service (i.e., mid-LOS D or worse). Of the 18 movements analyzed during the PM construction peak hour, 11 movements operate at unacceptable levels of service. Detailed traffic levels of service are provided in **Table 15-6**~~**Table 15-67**~~.

Table 15-6 Year 2019 Existing Traffic Level of Service

Intersection & Approach		AM Peak Hour Mvt	AM V/C	AM Ctrl Delay[1]	AM LOS	PM Peak Hour Mvt	PM V/C	PM Ctrl Delay[1]	PM LOS
Third Avenue and East 42nd Street									
East 42nd Street	EB	L	0.81	53.3	D	L	0.86	69.7	E
		T	0.70	18.1	B	T	0.92	48.0	D
	WB	T	0.65	32.7	C	T	0.52	49.7	D
		R	0.82	63.7	E	R	1.01	109.5	F
Third Avenue	NB	LT	0.78	20.8	C	LT	0.82	22.1	C
		R	0.65	28.7	C	R	0.97	65.5	E
Overall Intersection		-	-	**27.2**	**C**	-	-	**40.6**	**D**
Lexington Avenue and East 42nd Street									
East 42nd Street	EB	T	0.55	41.4	D	T	0.92	39.4	D
		R	0.25	46.7	D	R	0.31	23.2	C
	WB	LT	0.66	50.2	D	LT	0.95	42.0	D
Lexington Avenue	SB	L	0.69	47.1	D	L	0.90	58.8	E
		T	0.71	10.0	A	T	0.77	15.6	B
		R	0.74	49.8	D	R	0.90	50.7	D
Overall Intersection		-	-	**31.3**	**C**	-	-	**31.6**	**C**
Lexington Avenue and East 43rd Street									
East 43rd Street	WB	L	0.36	23.3	C	L	0.73	40.0	D
Lexington Avenue	SB	T	0.72	12.6	B	T	1.01	33.6	C
Overall Intersection		-	-	**14.4**	**B**	-	-	**34.9**	**C**
Lexington Avenue and East 44th Street									
Lexington Avenue	SB	LT	0.84	14.2	B	LT	1.09	70.5	E
Overall Intersection		-	-	**14.2**	**B**	-	-	**70.5**	**E**
Lexington Avenue and East 45th Street									
East 45th Street	WB	DefL	0.45	28.3	C	LT	0.98	67.3	E
		T	0.54	27.7	C	-	-	-	-
Lexington Avenue	SB	T	0.78	12.4	B	T	0.95	69.9	E
		R	0.78	37.9	D	R	0.91	55.3	E
Overall Intersection		-	-	**18.6**	**B**	-	-	**68.0**	**E**

[1] Control delay is measured in seconds per vehicle.

[2] Overall intersection v/c ratio is the critical lane groups' v/c ratio.

No-Action without Construction Conditions

As described in above, absent the Proposed Project, the Development Site would be developed with a 27-FAR development of approximately 1,883,743 gsf. However, for purposes of a conservative analysis, it is assumed that the existing building would remain under the No-Action condition. An annual growth rate of 0.25 percent per year was assumed for the first five years (years 2020 to 2024) and a growth rate of 0.125 percent per year was assumed for the subsequent three years (years 2024 to 2027) as per the *CEQR Technical Manual* in order to estimate the background volumes for the 2027 No-Action without Construction condition. Vehicle trips for No-Action background development sites discussed in **Chapter 9, Transportation,** expected to be developed in the area and completed by the year 2027, were assigned to the roadway network. It is expected that roadway improvements projects identified in **Chapter 9, Transportation,** would also be completed by the year 2027. Since the issuance of the DEIS, NYCDOT has continued the development of the Lexington Avenue sidewalk improvement project and the updated plan will also include an extension of the Lexington Avenue bus lane to East 42nd Street (the bus lane currently ends at East 44th Street) and prohibition of left turns from southbound Lexington Avenue onto 42nd Street. These changes to the project plan were incorporated as part of the FEIS analysis.

Under future No-Action conditions in year 2027, ~~two of the five intersections would continue to operate at acceptable overall levels of service during the AM construction peak hour, and~~ all intersections would operate at unacceptable overall levels of service during the AM and PM construction peak hours. Of the ~~21~~19 movements analyzed during the AM construction peak hour, ~~ten~~11 movements would operate at unacceptable levels of service, compared to six movements in existing conditions. Of the ~~19~~18 movements analyzed during the PM construction peak hour, ~~18~~16 movements would operate at unacceptable levels of service, compared to 11 movements in existing conditions. Detailed traffic levels of service are provided in **Table 15-7~~Table 15-78~~**.

Table 15-7 Year 2027 No-Action without Construction Traffic Level of Service

Intersection & Approach		AM Peak Hour Mvt	AM Peak Hour V/C	AM Peak Hour Ctrl Delay[1]	AM Peak Hour LOS	PM Peak Hour Mvt	PM Peak Hour V/C	PM Peak Hour Ctrl Delay[1]	PM Peak Hour LOS
Third Avenue and East 42nd Street									
East 42nd Street	EB	L	0.76	44.6	~~E~~D	L	0.94	65.0	~~F~~E
		T	0.59	10.3	B	T	0.87	34.0	~~E~~C
	WB	T	1.36	199.4	F	T	1.38	211.1	F
		R	0.83	54.1	D	R	1.14	119.4	F
Third Avenue	NB	L	2.00+	500.0+	F	L	2.00+	500.0+	F
		T	0.84	27.2	C	T	0.89	64.6	E
		R	2.00+	500.0+	F	R	2.00+	500.0+	F
Overall Intersection		-	-	**148.8**	**F**	-	-	**260.5**	**F**
Lexington Avenue and East 42nd Street									
East 42nd Street	EB	T	0.56	44.2	D	T	1.05	60.2	E
		R	0.30	48.0	D	R	0.49	27.6	C
	WB	LT	1.34	198.6	F	LT	2.00+	500.0+	F
Lexington Avenue	SB	~~L~~T	1.08	66.8	~~D~~E	~~L~~T	1.24	129.4	~~D~~F
		~~T~~	~~1.08~~	~~72.9~~	~~E~~	~~T~~	~~1.24~~	~~128.1~~	~~F~~
		R	1.16	126.9	F	R	1.38	202.0	F
Overall Intersection		-	-	**101.9**	**F**	-	-	**247.0**	**F**
Lexington Avenue and East 43rd Street									
East 43rd Street	WB	L	0.36	23.4	C	L	0.89	59.3	E
Lexington Avenue	SB	T	1.08	67.7	~~B~~E	T	1.57	278.7	~~E~~F
Overall Intersection		-	-	**59.8**	**~~B~~E**	-	-	**233.1**	**~~E~~F**
Lexington Avenue and East 44th Street									
Lexington Avenue	SB	LT	1.42	207.0	~~C~~F	LT	2.01	478.3	F
Overall Intersection		-	-	**207.0**	**~~C~~F**	-	-	**478.3**	**F**
Lexington Avenue and East 45th Street									
East 45th Street	WB	DefL	0.47	28.9	C	LT	1.03	81.4	F
		T	0.55	27.9	C	-	-	-	-
Lexington Avenue	SB	T	1.27	140.6	F	T	1.62	308.7	F
		R	0.97	38.0	D	R	1.22	133.6	F
Overall Intersection		-	-	**103.2**	**F**	-	-	**234.1**	**F**

[1] Control delay is measured in seconds per vehicle.

[2] Overall intersection v/c ratio is the critical lane groups' v/c ratio.

With-Action with Construction Condition

Construction activities would generate 118 construction worker auto trips and 30 construction truck trips during the AM construction peak hour, and 117 construction worker auto trips and 14 construction truck trips during the PM construction peak hour. Construction trucks would be required to use NYCDOT-designated truck routes to get to the project area and would then use local streets to access the construction site.

As indicated in **Table 15-8~~Table 15-89~~** and **Table 15-9~~Table 15-910~~**, ~~four of the~~all five ~~analysis~~ intersections ~~—Third Avenue and East 42nd Street, Lexington Avenue and East 42nd Street, Lexington Avenue and East 44th Street, and Lexington Avenue and East 45th Street—~~ would be significantly impacted during the AM ~~construction peak hour. All five intersections would be significantly impacted during the~~ and PM construction peak hours.

~~The significant impacts at the intersections of Lexington Avenue and East 44th Street and Lexington Avenue and East 45th Street could be mitigated with signal timing modifications at East 45th Street during the AM construction peak hour. Significant~~The significant impacts at the intersection of Lexington Avenue and East 44th Street could be mitigated with signal timing modifications during ~~the PM construction peak hour.~~both the AM and PM construction peak hour. Significant impacts at the intersection of Lexington Avenue and East 45th Street could be mitigated with signal timing modifications during the AM construction peak hour but would remain unmitigated during the PM construction peak hour. Significant impacts at three intersections—Third Avenue and East 42nd Street, ~~and~~ Lexington Avenue ~~and~~with East 42nd Street and with East 43rd Street – could not be mitigated during both peak hours~~, and significant impacts could not be mitigated at two intersections—Lexington Avenue at East 43rd Street and East 45th Street—during the PM peak hour~~. Detailed descriptions of the Construction traffic levels of service and all traffic mitigation measures are presented in **Table 15-8~~Table 15-89~~** and **Table 15-9~~Table 15-910~~**.

Table 15-8 No-Action vs With-Action vs Mitigation Traffic Levels of Service Comparison – AM Construction Peak Hour

Intersection & Approach		2027 No-Action				2027 With-Action				2027 Mitigation				
		Mvt	V/C	Ctrl Delay[1]	LOS	Mvt	V/C	Ctrl Delay[1]	LOS	Mvt	V/C	Ctrl Delay[1]	LOS	Mitigation Measures
Third Avenue and East 42nd Street														
East 42nd Street	EB	L	0.76	44.6	~~E~~D	L	0.79	46.6	~~E~~D					**-Unmitigable**
		T	0.59	10.3	B	T	0.60	10.2	B					
	WB	T	1.36	199.4	F	T	1.37	201.8	F					
		R	0.83	54.1	D	R	0.86	55.9	E					
Third Avenue	NB	L	2.00+	500.0+	F	L	2.00+	500.0+	F					
		T	0.84	27.2	C	T	0.85	29.7	C					
		R	2.00+	500.0+	F	R	2.00+	500.0+	F					
Overall Intersection[2]		-	-	**148.8**	**F**	-	-	**162.0**	**F**					
Lexington Avenue and East 42nd Street														
East 42nd Street	EB	T	0.56	44.2	D	T	0.56	44.3	D	T	0.56	44.3	D	**- Unmitigable**
		R	0.30	48.0	D	R	0.32	48.5	D	R	0.32	48.5	D	[Intersection delays change as a result of signal timing changes at Lexington Avenue and East 43rd Street.]
	WB	LT	1.34	198.6	F	LT	1.35	203.2	F	LT	1.35	203.2	F	
Lexington Avenue	SB	~~L~~T	1.08	66.8	~~D~~E	~~L~~T	1.11	71.7	~~D~~E	T	1.11	70.8	E	
		~~T~~	~~1.08~~	~~72.9~~	~~E~~	~~T~~	~~2.00+~~	~~500.0+~~	~~F~~					
		R	1.16	126.9	F	R	1.19	131.3	F	R	1.19	130.7	F	
Overall Intersection[2]		-	-	**101.9**	**F**	-	-	**105.1**	**F**	-	-	**104.7**	**F**	
Lexington Avenue and East 43rd Street														
East 43rd Street	WB	L	0.36	23.4	C	L	0.36	23.4	C	L	0.36	23.4	C	
Lexington Avenue	SB	T	1.08	67.7	~~B~~E	T	1.11	75.1	~~C~~E	T	1.11	74.6	~~C~~E	

Table 15-8 No-Action vs With-Action vs Mitigation Traffic Levels of Service Comparison – AM Construction Peak Hour

Intersection & Approach		2027 No-Action				2027 With-Action				2027 Mitigation				
		Mvt	V/C	Ctrl Delay[1]	LOS	Mvt	V/C	Ctrl Delay[1]	LOS	Mvt	V/C	Ctrl Delay[1]	LOS	Mitigation Measures
Overall Intersection[2]		-	-	59.8	~~B~~E	-	-	66.1	~~C~~E	-	-	65.7	~~C~~E	**- Unmitigable** -Modify offset from 47 sec to 48 sec in conjunction with signal timing modification with Lexington Avenue and East ~~45th~~44th Street
Lexington Avenue and East 44th Street														
Lexington Avenue	SB	LT	1.42	207.0	~~C~~F	LT	1.47	231.5	~~D~~F	LT	1.41	199.4	~~C~~F	-Modify signal timing: Shift 2 sec of green time from Pedestrian phase to SB phase. [SB green time shifts from 40 sec to 42 sec. Pedestrian phase shifts from 45 sec to 43 sec.] -Modify offset from 40 sec to 39 sec.
Overall Intersection[2]		-	-	**207.0**	~~C~~F	-	-	**231.5**	~~D~~F	-	-	**199**.4	~~C~~F	
Lexington Avenue and East 45th Street														
East 45th Street	WB	DefL	0.47	28.9	C	DefL	0.49	29.6	C	DefL	0.52	32.5	C	-Modify signal timing: Shift 2 sec of green time from WB phase to SB phase. [SB green time shifts from 40 sec to 42 sec. WB green time shifts from 33 sec to 31 sec. LPI phase time remains the same.]
		T	0.55	27.9	C	T	0.55	27.9	C	T	0.58	30.6	C	
Lexington Avenue	SB	T	1.27	140.6	F	T	1.31	161.1	F	T	1.25	129.8	F	
		R	0.97	38.0	D	R	0.98	39.8	D	R	0.93	30.4	C	
Overall Intersection[2]		-	-	**103.2**	**F**	-	-	**117.5**	**F**	-	-	**96.8**	**F**	

[1] Control delay is measured in seconds per vehicle.

[2] Overall intersection v/c ratio is the critical lane groups' v/c ratio.

Denotes a significantly impacted movement

Table 15-9 No-Action vs With-Action vs Mitigation Traffic Levels of Service Comparison – PM Construction Peak Hour

Intersection & Approach		2027 No-Action				2027 With-Action				2027 Mitigation				
		Mvt	V/C	Ctrl Delay[1]	LOS	Mvt	V/C	Ctrl Delay[1]	LOS	Mvt	V/C	Ctrl Delay[1]	LOS	Mitigation Measures
Third Avenue and East 42nd Street														
East 42nd Street	EB	L	0.94	65.0	~~F~~E	L	0.96	67.6	E					**-Unmitigable**
		T	0.87	34	~~E~~C	T	0.87	33.8	~~E~~C					
	WB	T	1.38	211.~~2~~1	F	T	1.38	213.6	F					
		R	1.14	119.4	F	R	1.15	124.~~3~~2	F					
Third Avenue	NB	L	2.00+	500.0+	F	L	2.00+	500.0+	F					
		T	0.89	64.6	E	T	0.90	67.1	E					
		R	2.00+	500.0+	F	R	2.00+	500.0+	F					
Overall Intersection[2]		-	-	**260.5**	**F**	-	-	**290.9**	**F**					
Lexington Avenue and East 42nd Street														
East 42nd Street	EB	T	1.05	60.2	E	T	1.05	62.1	E					**- Unmitigable**
		R	0.49	27.6	C	R	0.50	28.0	C					
	WB	LT	2.00+	500.0+	F	LT	2.00+	500.0+	F					
Lexington Avenue	SB	~~L~~T	1.24~~0.96~~	129.4	~~D~~F	~~L~~T	1.25	132.7	~~D~~F					
		~~T~~	~~1.24~~	~~128.1~~	~~F~~	~~T~~	~~2.49~~	~~689.1~~	~~F~~					
		R	1.38	202.0	F	R	1.39	204.9	F					
Overall Intersection[2]		-	-	**247.0**	**F**	-	-	**254.0**	**F**					
Lexington Avenue and East 43rd Street														
East 43rd Street	WB	L	0.89	59.3	E	L	0.89	59.3	~~F~~E	~~L~~	~~0.92~~	~~113.4~~	~~F~~	**- Unmitigable**
Lexington Avenue	SB	T	1.57	278.7	~~E~~F	T	1.58	283.7	F	~~T~~	~~1.13~~	~~82.0~~	~~F~~	
Overall Intersection[2]		-	-	**233.1**	**~~E~~F**	-	-	**237.2**	**F**	~~-~~	~~-~~	~~88.2~~	~~F~~	

Table 15-9 No-Action vs With-Action vs Mitigation Traffic Levels of Service Comparison – PM Construction Peak Hour

Intersection & Approach		2027 No-Action				2027 With-Action				2027 Mitigation				Mitigation Measures
		Mvt	V/C	Ctrl Delay[1]	LOS	Mvt	V/C	Ctrl Delay[1]	LOS	Mvt	V/C	Ctrl Delay[1]	LOS	
Lexington Avenue and East 44th Street														
Lexington Avenue	SB	LT	2.00+	478.3	F	LT	2.00+	484.0	F	LT	1.97	460.2	F	-Modify signal timing. Shift 1 sec of green time from Pedestrian phase to SB phase. [SB green time shifts from 40 sec to 41 sec. Pedestrian green time shifts from 40 sec to 39 sec.] -Modify offset from 30 sec to 29 sec.
Overall Intersection[2]		-	-	**478.3**	**F**	-	-	**484.0**	**F**	-	-	**460.2**	**F**	
Lexington Avenue and East 45th Street														
East 45th Street	WB	LT	1.03	81.4	F	LT	1.05	86.1	F					**-Unmitigable**
Lexington Avenue	SB	T	1.62	308.7	F	T	1.63	311.9	F					
		R	1.22	133.56	F	R	1.24	138.5	F					
Overall Intersection[2]		-	-	**234.1**	**F**	-	-	**237.7**	**F**					

[1] Control delay is measured in seconds per vehicle.

[2] Overall intersection v/c ratio is the critical lane groups' v/c ratio.

Denotes a significantly impacted movement

Deliveries

Construction trucks would be required to use NYCDOT-designated truck routes, including Lexington Avenue, Third Avenue, and 42nd Street. Trucks would then use local streets to access the construction site. Construction site deliveries service the construction site at its designated loading zone.

Parking

Construction workers would generate an estimated peak daily parking demand of 147 spaces during the peak construction quarter for the Proposed Project (under the one extended shift schedule, which would result in more workers on-site at the same time than during the two-shift schedule and would be the maximum parking demand condition with most construction worker parking demand) and would be accommodated by off-street parking facilities available within a quarter-mile radius.

Transit and Pedestrians

Based on construction survey data described above, it is anticipated that approximately 71 percent of construction workers would commute to the Development Site by public transportation during the peak construction quarter and would result in approximately 589 transit trips arriving during the AM construction peak hour and departing during the PM construction peak hour. The study area is well served by public transit and the Development Site is located above the Grand Central – 42nd Street station (served by the No. 4, 5, 6, 7, and S subway lines) and next to GCT (served by MNR and LIRR); subway and rail trips would not need to access the surrounding roadway network to access the site. Several Manhattan and Queens local bus routes, and express bus routes, also serve the study area. These trips would be distributed to the different transit options and construction activities are not expected to result in transit or pedestrian impacts.

During the peak construction quarter (second and third quarters of 2027), sidewalk closures would be needed along the East 42nd Street and Lexington Avenue frontages. Temporary walkways, approximately eight feet in width, would be installed along the length of the East 42nd Street and Lexington Avenue sides of the Development Site to maintain pedestrian access during the sidewalk closures. At the northwest corner of Lexington Avenue and East 42nd Street, the sidewalk shed would be extended to align with the closed curbside lanes along Lexington Avenue and East 42nd Street which would provide additional space compared to existing conditions for pedestrians to queue at the corner. Flaggers would be employed to provide guidance to pedestrians traveling along the edges of the Development Site.

Because of proposed sidewalk closures associated with construction activities along the Lexington Avenue and East 42nd Street site frontages, an assessment of the proposed walkway level of service during construction as compared to the No-Action condition when the sidewalks would be available, was requested by NYCDOT. This analysis was conducted during the AM and PM operational peak hours for the west sidewalk of Lexington Avenue between East 42nd Street and East 43rd Street, and the north sidewalk of East 42nd Street between Lexington Avenue and Park Avenue.

Detailed pedestrian levels of service for Existing, No-Action without Construction and With-Action with Construction conditions are shown in **Table 15-10~~Table 15-1011~~**. The No-

Action without Construction pedestrian volumes were estimated using annual growth rates as per the *CEQR Technical Manual* as well as No-Action background development sites expected to be developed by the year 2027. It is also expected that the Lexington Avenue west sidewalk would be expanded by ten feet as part of a NYCDOT's Lexington Avenue Street Improvement Project (SIP), as discussed in **Chapter 9, Transportation,** and would be completed by the year 2027. In the With-Action with Construction condition, both the widened sidewalk and adjacent curbside travel lane along Lexington Avenue would be closed, and temporary eight-foot-wide walkways would be provided along the site frontages.

Table 15-10 Existing vs No-Action vs With-Action Pedestrian Levels of Service – Sidewalks

		Existing			No-Action			With-Action		
Location	**Sidewalk**	**Effective Width (ft)**	**Avg Ped Space, SF/P**	**Platoon LOS**	**Effective Width (ft)**	**Avg Ped Space, SF/P**	**Platoon LOS**	**Effective Width (ft)**	**Avg Ped Space, SF/P**	**Platoon LOS**
AM Peak Hour										
Lexington Avenue between East 42nd Street and East 43rd Street	West	5.5	11.3	E	15.5	33.7	D	5.0	8.0	F
East 42nd Street between Park Avenue and Lexington Avenue	North	12.5	42.6	C	12.5	39.3	D	5.0	13.1	E
PM Peak Hour										
Lexington Avenue between East 42nd Street and East 43rd Street	West	5.5	14.3	E	15.5	35.9	D	5.0	8.9	F
East 42nd Street between Park Avenue and Lexington Avenue	North	12.5	37.0	D	12.5	34.6	D	5.0	11.2	E

Denotes significantly impacted pedestrian element

As a result of the sidewalk closures during construction, pedestrian impacts would be expected at both sidewalks during both the AM and PM peak hours. For both sidewalks along the site frontage, these levels of service would be temporary until completion of construction activities associated with the project.

Subway access will also be maintained and coordinated with MTA throughout construction. The Strawberry stairs located along Lexington Avenue near the southeast corner of the Development Site would be relocated to the north prior to the peak construction quarter, near the Lexington Passageway, so that subway riders would be traveling along the periphery of the construction staging area and away from the core area of the construction work zone.

Air Quality

Introduction

Construction impacts on air quality levels may occur because of particulate matter (fugitive dust) created by excavation, demolition, transfer of debris into trucks, emissions from on-site diesel equipment, and emissions from increased truck traffic to and from the construction site on local roadways. As discussed in the *CEQR Technical Manual,* the determination whether it is sufficient to conduct a qualitative analysis of these emissions or whether a quantitative analysis is required should take into account factors such as the location of the project site in relation to existing residential uses or other sensitive receptors, the intensity of the construction activity, and the extent to which the project incorporates commitments to appropriate emission control measures.

The most intense construction activities in terms of emissions are typically from demolition, excavation, and foundation stages, since it is during these stages that the largest number of large, non-road diesel engines are employed, which combined with the fugitive dust from debris moving operations results in the highest levels of air emissions. The other stages of construction, including superstructure, exterior façades, interior finishes and site work, typically result in lower air emissions since they require fewer pieces of heavy-duty diesel equipment. Equipment used in the latter stages of construction generally involves use of small engines, with use of electric tools dispersed vertically throughout the building, resulting in very low concentration increments in adjacent areas. Additionally, the latter stages of construction do not involve soil disturbance activities and therefore result in significantly lower fugitive dust emissions. Interior finishes activities are shielded from nearby sensitive receptors by the proposed structures themselves.

For the Proposed Project, the overall construction period would be approximately nine years. Given the magnitude of construction and proximity to sensitive receptors, a detailed quantitative analysis of the potential for construction to result in air quality impacts was undertaken.

Air Quality Analysis Methodologies

On-Site and Off-Site Construction Impacts

Based on a conceptual construction schedule developed by the Applicant, the peak cumulative short-term and annual $PM_{2.5}$ emissions were evaluated for full construction

process (demolition, excavation, foundations, tower erection through finishing) during the 2022–2030 construction duration by each phase of construction. The phase with the highest $PM_{2.5}$ emissions was selected as the period with the highest potential $PM_{2.5}$ effects. This analysis, called the intensity assessment, was used to identify the peak construction phase and year for the dispersion impact modeling analysis.

The dispersion analysis—which considers the PM_{10}, $PM_{2.5}$, NO_x and CO emissions from on-site sources (construction equipment, fugitive dust and trucks idling, loading and unloading next to the site)—was performed to determine potential air quality effects during the peak emission construction phase.

The effects of the trucks approaching and departing the site along Lexington Avenue, 42nd Street and Depew Place were also included in the dispersion analysis as line and area sources, representing the approach and departure in all three locations. Additionally, impacts of construction traffic emissions at intersections and streets elsewhere in the City were considered separately using *CEQR Technical Manual* screening methodologies (see the ***Off-Site Construction Impacts*** subsection).

The following sections provide additional details relevant to the construction air quality analysis methodology. For a review of the applicable regulations, standards and criteria, and benchmarks for stationary and mobile source air quality analyses, refer to Chapter 10, Air Quality.

The analysis was performed following EPA and *CEQR Technical Manual* procedures and analytical tools and New York City Department of City Planning (DCP) recommendations to determine source emission rates. The estimated emission rates were then used as input to the air quality dispersion model to determine potential impacts.

Emission Estimation Process

The construction analyses used an emission estimation method and a modeling approach previously developed for evaluating air quality impacts of construction projects in New York City in consultation with DCP. Because the level and types of construction activities would vary from month to month, the approach includes a determination of the worst-case emission period based on an estimated monthly construction work schedule, the number of on-site construction equipment types and rated horsepower of each unit, quantities of materials to be demolished, and number of trucks arriving, working and leaving the site.

The worst-case short-term emissions (e.g., maximum daily emissions) and the maximum annual emissions (based on a 12-month rolling average) were determined based on the construction schedule activities and equipment projected to be required for the construction period. The assessment considered several main phases of construction: demolition, excavation-foundation, tower superstructure, tower enclosure and general building finishes.

The specific construction information used to calculate emissions generated from the construction process included, but is not limited to, the following:

- The number of units and fuel-type of construction equipment to be used;
- Rated horsepower and load factors for each piece of equipment;
- Utilization rates for equipment;
- Hours of operation on-site;

- Demolition processing rates; and
- Average distance to approach the site and idling time by trucks.

Emissions Reduction Measures Considered

As discussed above, construction activities could affect air quality because of engine emissions from on-site construction equipment and dust-generating activities. In general, much of the heavy equipment used in construction has diesel-powered engines, which produce relatively high levels of nitrogen oxides and particulate matter. Gasoline engines produce relatively high levels of carbon monoxide. Construction activities also generate fugitive dust emissions. As a result, the air pollutants analyzed for construction activities include nitrogen dioxide (NO_2), particulate matter with an aerodynamic diameter of less than or equal to 10 micrometers (PM_{10}), particulate matter with an aerodynamic diameter of less than or equal to 2.5 micrometers ($PM_{2.5}$), and carbon monoxide (CO).

Since ultra-low-sulfur diesel (ULSD) will be used for all diesel engines related to construction activities due to federal and state mandates, sulfur dioxides (SO_2) emitted from those construction activities would be negligible, and an analysis of SO_2 emissions is not warranted. For more details on a description of air pollutants and standards, see **Chapter 10, Air Quality**.

As stated above, construction activity in general, and large-scale construction in particular, has the potential to adversely affect air quality as a result of diesel emissions. The main component of diesel exhaust that has been identified as having an adverse effect on human health is fine particulates. To ensure that the construction of the Proposed Project results in the lowest feasible diesel particulate matter (DPM) emissions, a series of emissions reduction strategies required by DEP and state mandates would be implemented.

The evaluation performed in this section therefore assumes a combination of emission reduction measures that are mandated by law and are common practice in large-scale New York City construction projects, and follow the requirements included in NYC Law 77 and the NYC Air Pollution Control Code. These include the following:

- Fugitive Dust Control Plans. In compliance with the NYC Air Pollution Control Code provisions regarding control of fugitive dust, contractors would be required to ensure that all trucks carrying loose material use water as a dust suppression measure, that trucks hauling loose material be equipped with tight-fitting tailgates and their loads securely covered prior to leaving the site, that streets adjacent to the site be cleaned as frequently as needed by the construction contractor, and that water sprays be used for transfer of spoils to ensure that materials are dampened as necessary to avoid the suspension of dust into the air. These measures would be expected to reduce dust generation by more than 50 percent.
- Clean Fuel. Ultra-low sulfur diesel (ULSD) would be used exclusively for diesel engines related to construction activities for the Proposed Project. This is a federal requirement since 2010 that enables the use of tailpipe reduction technologies that reduce diesel particulate matter and SO_2 emissions.
- Diesel Equipment Reduction. Hoists and small equipment, such as lifts, compressors, welders, and pumps would use electric engines that operate on grid power instead of

diesel power engines, to the extent practical. This is a common practice that has been achieving wider use as technology improves.

- Restrictions on Vehicle Idling. This would be required in compliance with local law restricting unnecessary idling. On-site vehicle idle time would be restricted to three minutes for all equipment and vehicles that are not using their engines to operate a loading, unloading, or processing device (e.g., concrete mixing trucks) or otherwise required for the proper operation of the engine.
- Given the construction timeframe for the Proposed Project (2022-2030), equipment meeting Tier 4 standards for diesel engines (model years 2011/12 and beyond) would be expected to be in wide use and comprise the majority of contractors' fleets. If contractors choose to use older diesel equipment, the use of diesel particulate filters (DPF) in Tier 3 emission standard for diesel engines (model years 2006-2011 for engine sizes between 100 and 600 hp)[4] will have to be implemented. Tier 3 with DPF achieves the same $PM_{2.5}$ emission reductions as a newer Tier 4 emission standard for diesel engines. The combination of Tier 4 and Tier 3 engines with DPF would achieve DPM reductions of approximately 90 percent when compared to older uncontrolled engines.

Overall, these emission control measures would be expected to significantly reduce DPM emissions. In addition, as per *CEQR Technical Manual* recommendations, all necessary measures would be implemented to ensure that the New York City Air Pollution Control Code provisions regulating construction-related dust emissions are followed.

Engine Exhaust Emissions Estimation Process

Emission factors for NO_x, PM_{10}, $PM_{2.5}$, and CO from the combustion of fuel for on-site construction equipment were developed using the EPA MOVES2014b-NONROAD Emission Model.

The MOVES2014b-NONROAD model can generate unitary emission factors, in grams per horsepower/hour (g-hp/hr) by engine size (hp), equipment type, engine technology type, fuel type, and year of analysis. The model estimates emissions as the average emission factor by year for the county fleet sorted by the above-mentioned parameters. As an example, if New York County and the year 2020 were selected for diesel engines, the output generates emissions (g-hp/hr) for each type of equipment from 3 hp to 3,000 hp rating for each one of the model years of the County fleet going back up to 40 years. The model calculates how many pieces of equipment for each engine technology group and model year are present in the County fleet and produces the yearly average emission factor. Because the model years of the actual construction equipment to be used for the proposed developments are unknown, emission factors for the different equipment types were estimated by using the weighted average (emission factor and activity level) of the model years 2008 to 2020 to account for the use of tier 4 engines (for model years 2012 to 2020) and tier 3 engines retrofitted with DPF to achieve a 90-percent removal rate of DPM (for model years 2008 to 2011).

Emission rates from combustion of fuel for on-site dump trucks, pickup trucks, and other heavy trucks, such as tractor-trailers, were developed using the EPA MOVES2014b Emission

[4] See Table 2-1 of the USEPA's Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES2014b document

Model. New York City restrictions placed on idling times were applied for heavy trucks, with the exception of concrete trucks where one hour of idling was assumed. Short-term and annual emission rates were adjusted from the peak-hour emissions by applying usage factors for each equipment unit.

Fugitive Sources Emission Estimation Process

Road dust (PM_{10} and $PM_{2.5}$) emissions from trucks moving (approach and departure from the construction site) were calculated using equations from EPA's AP-42, Section 13.2.1 for paved roads. There are no vehicles driving in unpaved areas since the subsurface already a finished surface (concrete). Average vehicle weights (i.e., unloaded going in and loaded going out) were used in the analysis and reasonably conservative travel distances was estimated for on-site travel. Dust control measures (described previously) would provide at least a 50-percent reduction in PM_{10} and $PM_{2.5}$ emissions.

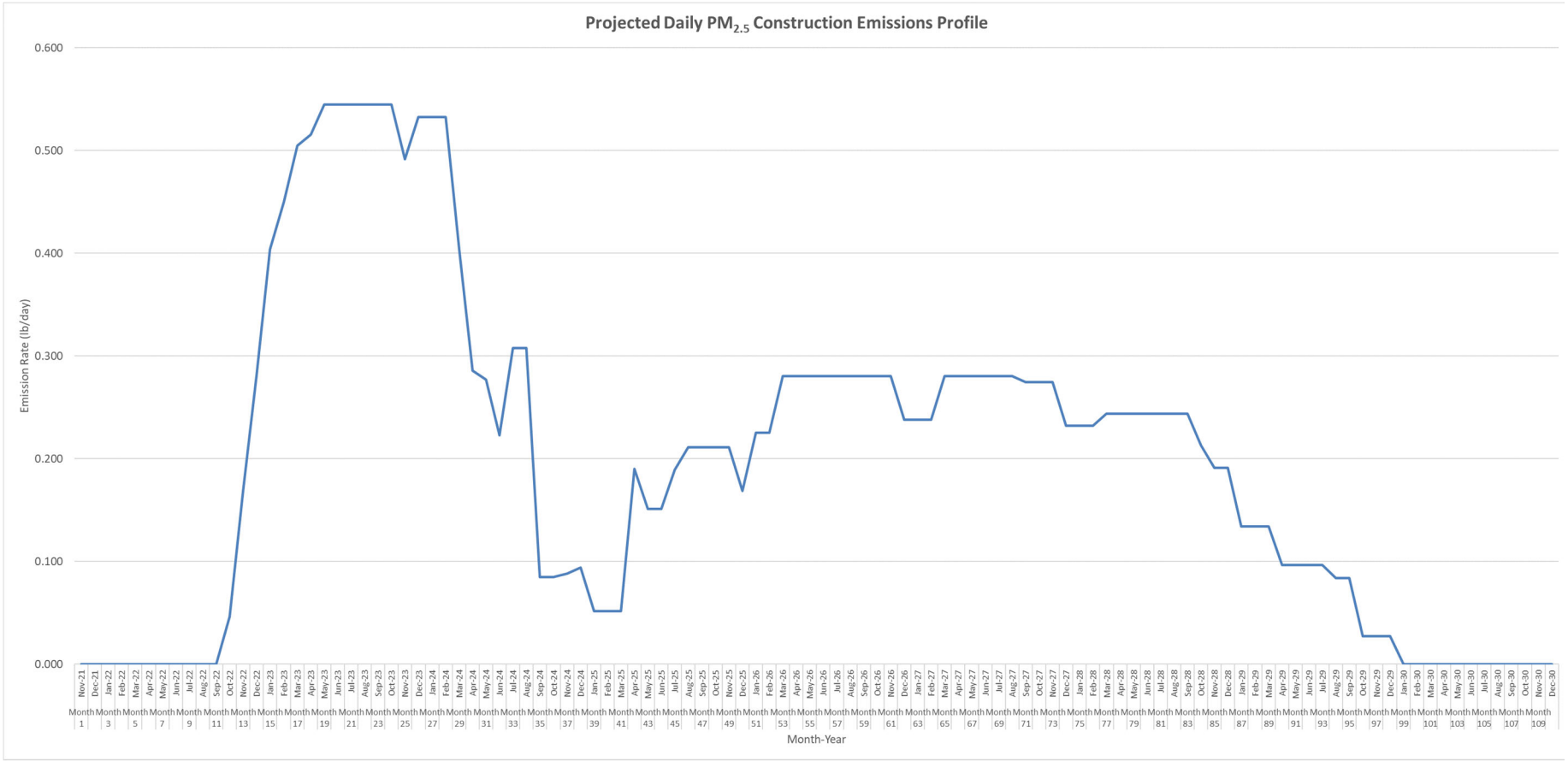
Construction Activity Emissions Intensity Assessment

To determine which construction phase constitutes the worst-case period for the pollutants of concern, construction-related emissions were calculated throughout the duration of construction on a monthly basis using peak daily emissions for short term $PM_{2.5}$, and average monthly usage for annual $PM_{2.5}$.

Based on the resulting multiyear profiles by month, the worst-case period was identified as fall 2023 (month 23) for the highest of the short-term emission impacts, and months 17 to 28 (March 2023 to February 2024) for the annual emission impacts.

To determine the worst short-term emission and the worst annual emission, an emission intensity assessment (emission profiles) was conducted, and the simultaneous occurrence of demolition and excavation/foundations phases during months 23 to 24 of 2023 was identified as the phase with the highest emission estimates (see **Figure 15-2**).

Figure 15-2 Projected Peak Daily $PM_{2.5}$ Construction Emissions Profile



Impact Assessment

Off-Site Construction Impacts

Construction activities would result in a smaller number of generated trips at any intersection as compared to operations of the Proposed Project. Overall, no more than 42 trips per hour would be generated under construction as compared to 93 under operations. ~~As the screening analysis under operational conditions demonstrated no significant adverse CO impacts from mobile source emissions, no significant adverse CO impacts are anticipated from construction.~~

Twenty-two (22) construction-related truck trips would be generated in the 6–7 AM period at the intersection of East 42nd Street and Lexington Avenue; these trucks would be combined with 20 worker auto trips~~, it would exceed~~ at the ~~$PM_{2.5}$ screening threshold at this~~same intersection. ~~However, considering~~ Conservatively assuming that ~~these construction truck trips and~~ worker ~~auto trips~~vehicles are ~~concentrated in a single one-hour period and that significantly less trips are generated in other hours of the day, construction-generated~~ classified as LDGT1 vehicle ~~trips are not expected to result in~~category, and construction trucks as HDDV8B, CEQR $PM_{2.5}$ screening analysis passes for principal arterial roadways, the functional class assigned to 42nd Street and Lexington Avenue by New York State DOT functional classification. As a result, no significant adverse ~~air quality impact. A more refined analysis will be conducted between the Draft EIS and the Final EIS to incorporate the worst construction~~ PM impacts are expected from construction-generated traffic~~, condition into the cumulative construction air quality impact analysis.~~

On-Site Construction Impacts

The effects of construction emissions on the surrounding environment for the relevant air pollutants were quantified using a dispersion computer model.

The emission intensity analysis indicated that the highest $PM_{2.5}$ emissions result from construction activities between months 17 through 28. This is the most critical construction period because of the overlap and concurrence of demolition and excavation/foundation phase activities. These phases yield the highest number of non-road equipment emissions and fugitive dust emissions from transfer operations and paved road dust.

While excavation/foundation activities consistently occur below grade with pollutants emitted through five ventilation stacks (modeled as point sources) around the construction site and approximately 20 feet above ground from months 12 through 34, demolition of the top-most floor to the ground floor of the existing building spans out from months 12 through 29. During month 23, the demolition equipment and transfer operation emissions are distributed between the ground floor level and the 10th floor level, with the 10th floor being over 100 feet tall.

In contrast, during month 27, 100 percent of demolition equipment and transfer operation emissions are concentrated at the ground floor level. This combination of all demolition and excavation/foundation emissions between ground level and 20-foot-tall point sources produce the highest potential for impacts on receptors located at grade or at the first two floors of adjacent buildings.

As the month 27 emissions encompassed approximately 97 percent of the total emissions of month 23, and had the demolition emissions concentrated at ground level, the worst-case modeling scenario to evaluate short-term air quality impact was determined to be month 27. Additionally, as the average $PM_{2.5}$ emissions and equipment usage from months 17 to 28 (March of 2023 to February of 2024) were nearly identical to those of month 27, the month 27 scenario was used as the worst-case modeling scenario to evaluate annual air quality impact.

Dispersion Modeling – Source simulation

Potential impacts from on-site construction equipment and off-site truck emissions were evaluated using the EPA's most current version of the AERMOD dispersion model (version 19191). AERMOD is a steady-state plume model that incorporates current concepts about flow and dispersion in complex terrain, including updated treatments of the boundary layer theory, understanding of turbulence and dispersion; it also includes handling of terrain interactions. The AERMOD model calculates pollutant concentrations from one or more points (e.g., exhaust stacks) based on hourly meteorological data, and has the capability to calculate pollutant concentrations at locations where the plume from the exhaust stack is affected by the aerodynamic wakes and eddies (downwash) produced by the source building itself or by nearby structures. When plume gets entrapped in a wake, it could potentially result in excessive concentrations, especially close to the source. AERMOD can be run with and without building downwash (the downwash option accounts for the effects on plume dispersion created by the wake).

During construction, various types of construction equipment would be used throughout the site. Some of the equipment is mobile and would operate throughout the site, while some would remain stationary on-site at distinct locations during short-term periods (i.e., daily and hourly). Stationary emission sources include (but are not limited to) air compressors, cranes, and concrete pumps. Equipment such as excavators, bobcats, concrete trucks, and dump trucks would operate throughout the site.

Since the peak period of 2023 site emissions include demolition at ground level, and excavation and foundations at below grade (with a ventilation system to exhaust construction equipment emissions at five stack locations), all construction equipment sources were simulated as followed:

- All demolition equipment and transfer operation emissions and idling trucks emissions from demolition and excavation were included into the full (large) area source.
- All foundation/excavation equipment and transfer operations emissions were modeled as point sources (emissions underground at railroad level are vented through the five ventilation stacks distributed between Lexington Avenue, 42nd Street and the Park Avenue Viaduct). These point sources are subject to downwash from the buildings surrounding the site.
- The moving trucks (approach and departure) and paved road dust sources are equally divided between the Lexington Avenue line source and L-shaped area source at Depew Place for demolition trucks and dump trucks from excavation/foundation. The 42nd Street line source includes all other foundation/excavation phase trucks.
- Applied variable emission rate factors to reflect that demolition equipment is used for 8 hours/day and foundations for 16 hours/day.

Both the on-site sources (point and area sources) plus the sources adjacent to the site (line sources) were combined and modeled using one AERMOD model to account for cumulative effects. The on-site sources represented more than 85 percent of the total sources for the most critical pollutants.

Receptor Locations

AERMOD was used to predict maximum pollutant concentrations at nearby locations of likely public exposure ("sensitive receptors") such as operable windows and air intakes. Discrete receptors were placed along nearby sensitive receptor locations, such as the Graybar building behind the Grand Central Market building within the same block, the Chrysler building across the street on Lexington Avenue, and the first floor to the 8th floor of the building facades along East 42nd Street.

Meteorological Data

All analyses were conducted using five consecutive years of meteorological data (2015 to 2019). Surface data were obtained from La Guardia Airport and upper air data were obtained from Brookhaven station, New York.

Background Concentrations

Where needed to determine potential air quality impacts from the construction of the project, background ambient air quality data for criteria pollutants (See **Chapter 10, Air Quality, Table 10-2**) were added to the predicted site concentrations. The background data represent the latest available three years of data and were obtained from a nearby NYSDEC monitoring station that best represents the area surrounding the site. The latest three-year period (2017 to 2019) data were used for the 24-hour PM_{10} and for annual average NO_2 background concentration.

The 24-hour average $PM_{2.5}$ background concentration of 23.3 $\mu g/m^3$ from the latest three-year period (2017 to 2019) was used to establish the *de minimis* value, consistent with the guidance provided in the 2020 *CEQR Technical Manual*. The annual average $PM_{2.5}$ impacts were assessed on an incremental basis and compared with the $PM_{2.5}$ *de minimis* criteria thresholds, without considering the annual background.

Potential Impacts from Proposed Project Construction

This section provides a summary of the construction air quality results from the construction activities of the Proposed Project. The peak emissions for all pollutants were predicted to occur during the demolition and excavation phases in 2023 to 2024.

Table 15-11~~**Table 15-11**~~ presents the maximum predicted total concentration (including background for appropriate pollutants) due to the proposed construction activities for the Proposed Project, including the on-site sources (construction equipment and activities) and sources adjacent to the site (construction trucks). Since a portion of construction emissions would be exhausted through stacks, dispersion analysis included an analysis of the potential for downwash impacts from the tall buildings around construction site: Graybar, Chrysler, Chanin, Grand Central Station and other buildings located within close proximity to the site.

As indicated in **Table 15-11~~Table 15-11~~**, the maximum predicted total concentrations of 1-hour CO, 8-hour CO, annual NO_2, and 24-hour PM_{10} would not result in any concentrations that exceed the NAAQS. The maximum predicted 8-hour CO concentration is well below the City's *de minimis* criteria. The maximum predicted 24-hour and annual $PM_{2.5}$ incremental concentration (for a discrete receptor locations) would not exceed the City's *de minimis* criteria of 5.8 µg/m^3 and 0.3 µg/m^3 respectively.

Table 15-11 Maximum Predicted Total Concentrations for Construction Activities

Pollutant	Averaging Period	Maximum Modeled Concentration[4]	Background Concentration	Total Concentration	NAAQS/De Minimis
CO	1-Hour[1]	0.18 ppm	2.5 ppm	2.68 ppm	35 ppm
	8-Hour[1]	0.10 ppm	1.2 ppm	1.30 ppm	9 ppm/3.9 ppm
NO_2	Annual[1]	2.8 ppb	14.6 ppb	17.4 ppb	53 ppb
PM_{10}	24-Hour	1.5 µg/m^3	39 µg/m^3	40.5 µg/m^3	150 µg/m^3
$PM_{2.5}$	24-Hour[2]	1.67 µg/m^3	---	1.67 µg/m^3	5.8 µg/m^3
	Annual[3]	0.16 µg/m^3	---	0.16 µg/m^3	0.3 µg/m^3

Notes:

[1] CO and NO_2 concentrations can be converted from ppm/ppb to µg/m^3 based on 1 ppm = 1145 µg/m^3 for CO and 1 ppb=1.88 µg/m^3 for NO_2.

[2] The 24-hour $PM_{2.5}$ background concentration is used to develop the *de minimis* criteria.

[3] Annual $PM_{2.5}$ impacts with discrete receptors modeling are compared with the $PM_{2.5}$ *de minimis* criteria of 0.3 µg/m^3, without considering the annual background.

[4] Maximum modeled concentrations are the highest concentrations from with and without downwash modeling analyses.

The results of this quantitative analysis indicate that the Proposed Project would not result in any concentrations of NO_2, PM_{10}, and CO that exceed the NAAQS. In addition, the maximum predicted incremental concentrations of $PM_{2.5}$ would not exceed the City's *de minimis* criteria. No significant adverse air quality impacts are anticipated from the off-site mobile source emissions. Therefore, no significant adverse air quality impacts are expected from the construction-related sources.

Noise

Construction activities have the potential to affect the noise conditions of receptors near the proposed development. Construction noise can vary widely depending on the phase of construction (e.g., demolition, excavation, foundation, steel, and concrete erection, mechanical and interior fit out) and the specific equipment and methods being used. The most significant construction noise sources at a construction site are generally back-up alarms, and equipment such as excavators, drill rigs, and cranes. The noisiest phase of construction is typically during demolition, excavation, and foundation work. The superstructure phase of construction can also have higher noise levels associated with concrete trucks and cranes. Similar to air emissions, interior fit out typically results in lower noise emissions, since it requires fewer pieces of heavy-duty diesel equipment.

As discussed in the *CEQR Technical Manual,* the need to conduct a qualitative analysis of construction noise emissions or a quantitative analysis is considered based on factors such as the location of the project site in relation to existing residential uses or other sensitive receptors, the intensity of the construction activity, and the extent to which the project incorporates commitments to appropriate noise control measures.

Construction Noise Code

Noise from construction activities and some construction equipment is regulated by the NYCDEP Noise Control Code. The NYCDEP Noise Code (Section 24-228) limits noise from non-impulsive construction equipment to a maximum of 85 dBA as measured 50 feet from the source. The code also limits noise from paving breakers, such as jackhammers, to 95 dBA at a distance of one (1) meter and requires that a pneumatic discharge muffler be used that provides an insertion loss of 5 dBA. Impulsive construction noise is considered unreasonable when it measures 15 dBA or above ambient noise levels at a receiving property. The NYCDEP Noise Code limits construction activities to weekdays between the hours of 7:00 AM and 6:00 PM and requires that a Construction Noise Mitigation Plan be implemented. For construction on weekends or weekdays between 6:00 PM and 7:00 AM, NYCDEP Noise Code requires after hours work authorization. In accordance with the NYCDEP Noise Code §24-223, the afterhours work must be conducted in compliance with the Construction Noise Mitigation Plan, shall not exceed 7 dBA above ambient sound levels within a residential receptor, and must involve activities with minimal noise impact.

As required by the NYCDEP Noise Code, the following source controls to reduce construction noise would be implemented:

- The contractor will self-certify that all construction tools and equipment have been maintained to not generate excessive or unnecessary noise and that the noise emissions would not exceed the levels specified in the Federal Highway Administration's Roadway Construction Noise Model User's Guide, January 2006. **Table 15-12** through **Table 15-14** show the noise levels for typical construction equipment that would be used for the proposed project and the mandated noise levels for the equipment that would be used for construction of the proposed project.
- All construction equipment would be equipped with necessary noise reduction equipment including mufflers. All equipment with internal combustion engines would be operated with the doors closed including noise-insulating materials.
- Where feasible, practical, and safe, the use of back-up alarms would be minimized and/or quieter back-up alarms would be installed in accordance with OSHA standards.
- Vehicles would not be allowed to idle more than three minutes in accordance with New York City Administrative Code §24-163.
- The contractor shall utilize a training program to inform workers on methods that can minimize construction noise.
- The contractor shall install piles using drilling equipment instead of impact pile driver.

The following path noise controls would be implemented as required by the NYCDEP Noise Code:

- The DOB regulations require a perimeter barrier or "construction noise barrier" and when the site is within 200 feet of a receptor, the barrier shall be constructed in a specific

manner (as described in the New York City Noise Code) to provide sufficient sound attenuation. Section 3307.7 of the New York City Building Code requires a solid perimeter noise barrier made from wood or other suitable material be constructed where a new building is being constructed or a building is being demolished to grade. For the proposed project, a perimeter noise barrier 8 feet in height and a perimeter shed with a height of 16 feet have been included along the East 42nd Street to the south and Lexington Avenue to the east. The western façade abuts GCT to the west and Grand Central Market to the north. The use of a 16-foot-tall perimeter shed will be a PCRE and will be included in the Restrictive Declaration.

› Should noise complaints occur during construction, as practicable, the contractor shall use path noise control measures such as temporary noise barriers and jersey barriers.

Construction Noise Criteria

As discussed in the *CEQR Technical Manual*, Chapter 22 (Construction), Section 400, thresholds for significant construction noise impact are based on operational noise impact criteria. As described in Chapter 19 (Noise), Section 410, there would be significant noise impact from long-term operational conditions if ambient sound levels increase by 3 dBA (L_{eq}) or more and absolute levels would exceed 65 dBA L_{eq}, or, if No-Action ambient sound levels are 60 dBA L_{eq} or less, if noise levels would increase by 5 dBA (L_{eq}) or more. Between 10:00 PM and 7:00 AM, when there is a greater sensitivity to noise, there would be significant impact from long-term operational conditions if ambient sound levels increase by 3 dBA (L_{eq}) regardless of whether No-Action or existing ambient sound levels exceed 60 dBA L_{eq}.

The detailed construction noise analysis evaluates the specific activities, types of equipment, duration of activities, and locations of nearby sensitive receptors. Based on the results of the detailed analysis, there would be significant adverse noise impact if construction noise due to the Proposed Project exceeds the screening criteria for a prolonged period of 24 months or more. The Proposed Project is near primarily existing commercial and hotel land uses. Based on the proximity of these noise-sensitive land uses, there is the potential for construction noise levels to exceed the screening criteria.

The significance of construction noise effects depends on the intensity and duration of construction activities. If construction noise levels would exceed the screening criteria for 24 months or more, a detailed construction noise analysis is warranted and there is a potential for significant adverse noise impact. Construction noise occurring for shorter durations would not typically result in significant impact unless there is a higher intensity of noise. For example, construction may cause significant impact if noise would increase by 15 dBA or more above existing background ambient conditions for a prolonged period of 12 months or more, or by 20 dBA or more for a prolonged period of 3 months or more. These criteria apply to residential, hotel, and commercial office spaces, but does not apply to retail spaces.

Interior noise criteria for construction activities are similar to operational noise criteria which are 45 dBA (L_{10}) for residential and hotel locations and 50 dBA (L_{10}) for commercial office properties.

A significant adverse noise impact would result if the maximum exterior noise level exceeds 85 dBA, as indicated in the *CEQR Technical Manual* Public Health chapter.

For the Proposed Project, there would be significant construction noise impact for the With-Action condition according to the following criteria:

- Future exterior construction noise levels would exceed the Public Health criterion (85 dBA (L_{eq})) during any phase of construction.
- Between 6:00 AM and 7:00 AM, if noise from construction mobile sources would increase by 3 dBA or more over existing ambient.
- For construction between 7:00 AM and 6:00 PM (includes first shift), the following must all apply:
  - Exterior With-Action construction noise levels would increase by 3 dBA (L_{eq}) or more and exceed 65 dBA (L_{eq}) (or increase by 5 dBA if existing levels are 60 dBA or less) for 24 months or more or would increase by 15 dBA or more for 12 months or more or would increase by 20 dBA or more for 3 months or more, and
  - Interior closed-window With-Action construction noise levels would exceed 45 dBA (L_{10}) inside residential, hotel, and community facility spaces or exceed 50 dBA (L_{10}) inside commercial office spaces, and
  - These exterior and interior criteria would not be exceeded for the No-Action condition.
- For construction between 6:00 PM and 10:00 PM during the evening period of the second shift, the following must all apply:
  - Exterior With-Action construction noise levels would increase by 3 dBA (L_{eq}) or more for 24 months or more or would increase by 7 dBA (L_{eq}) or more for a prolonged period of time (i.e., more than a few days) in accordance with NYCDEP Noise Code §24-223, and
  - Interior closed-window With-Action construction noise levels would exceed 45 dBA (L_{10}) inside residential, hotel, and community facility spaces or exceed 50 dBA (L_{10}) inside commercial office spaces, and
  - These exterior and interior criteria would not be exceeded for the No-Action condition.
- For construction between 10:00 PM and 12:00 AM during the nighttime period of the second shift, the following must all apply:
  - Exterior With-Action construction noise levels would increase by 3 dBA (L_{eq}) or more for a prolonged period of time (i.e., more than a few days) in accordance with the *CEQR Technical Manual*, and
  - Interior closed-window With-Action construction noise levels would exceed 45 dBA (L_{10}) inside residential, hotel, and community facility spaces or exceed 50 dBA (L_{10}) inside commercial office spaces, and
  - These exterior and interior criteria would not be exceeded for the No-Action condition.

Construction Noise Assessment Methodology

The detailed construction noise analysis includes both mobile and stationary construction noise sources. Stationary sources are based on typical equipment used during all phases of construction including demolition, excavation/foundation, structural steel, concrete, spray

fireproofing, and curtainwall construction. For both the No-Action and With-Action condition, there would be overlapping demolition, excavation, and foundation activities and overlapping superstructure activities including structural steel, concrete, spray fireproofing, and curtain wall construction.

Construction mobile sources include worker vehicles and trucks. Construction noise has been evaluated for the construction mobile source peak period from 6:00 AM to 7:00 AM. During this period, there would be no construction noise from stationary sources. Construction mobile source noise between 7:00 AM and 8:00 AM has been evaluated and included with noise from stationary sources in the first shift analysis. Construction mobile source noise between 11:00 PM and 12:00 AM has been evaluated and included with noise from stationary sources in the second shift analysis.

The following summarizes when construction noise was evaluated:

- From Month 1 to 12, the Make Ready phase would include box and pickup trucks, but no stationary equipment for both the No-Action and With-Action conditions. Therefore, there would be no stationary source noise and no potential for significant adverse noise impact since trucks would not idle for longer than 3 minutes in accordance with New York City Administrative Code §24-163.
- From Month 12 to 18, the Platform over MTA phase would include box trucks, pickup trucks, and tractor trailers. Similar to the Make ready phase, there would be no stationary source noise for both the No-Action and With-Action conditions and no potential for significant adverse noise impact since trucks would not idle for longer than 3 minutes.
- From Month 12 to 34, the Demolition, Excavation and Foundation phase would occur for a total of 23 months during the No-Action and With-Action conditions. Construction has been evaluated based on Month 24 for this period which is when there would be the highest construction sound emissions.
- From Month 35 to 65, the Superstructure phase would occur for a total of 31 months during the No-Action and With-Action conditions. Construction would include structural steel, concrete, spray fireproofing, and curtain wall activities during both the No-Action and With-Action conditions. Construction sound emissions would be the same for the No-Action and With Action conditions. Construction has been based on Month 57 for this period.
- From Month 66 to 73, the Superstructure phase would continue for 8 more months during the No-Action condition including structural steel and curtain wall activities. This portion of the No-Action Superstructure phase includes less equipment and sound emissions than during the Month 35 to 65 period. Construction has been based on Month 70 for this period.
- From Month 66 to 87, the Superstructure phase would occur for 30 more months during the With-Action condition including structural steel, concrete, spray fireproofing, and curtain wall activities. Construction has been evaluated based on Month 70 for this period.
- From Month 88 to 98, the Superstructure phase would occur for 11 more months during the With-Action condition including structural steel, spray fireproofing, and curtain wall activities. This portion of the With-Action Superstructure phase includes less equipment

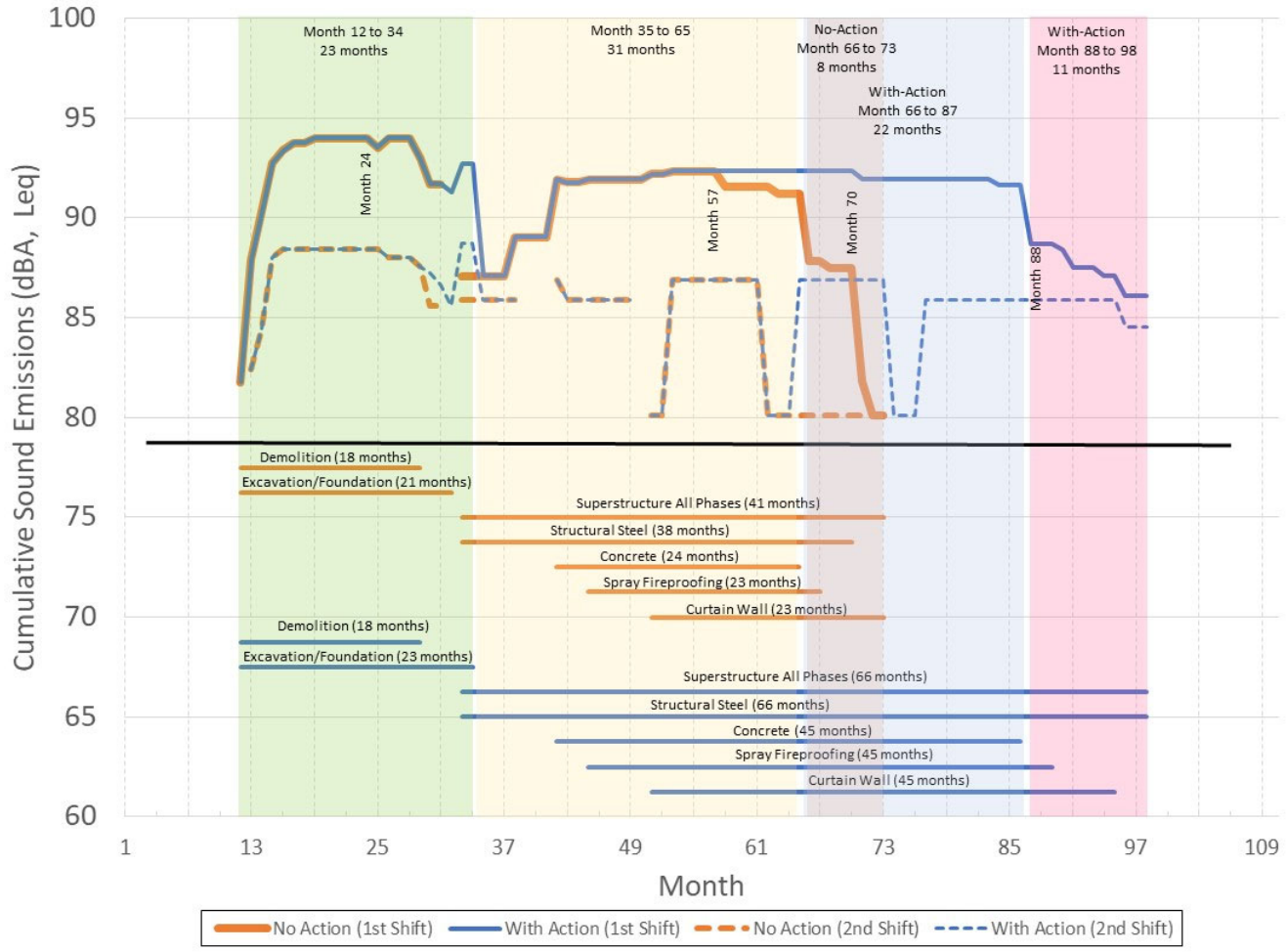
and sound emissions than from Month 35 to Month 87. Construction has been evaluated based on Month 88 for this period.

› From Month 99 to 110, the Interior Fitout phase would occur for 12 months during the With-Action condition and would include box trucks and tractor trailers. Therefore, there would be no stationary source noise and no potential for significant adverse noise impact since trucks would not idle for longer than 3 minutes in accordance with New York City Administrative Code §24-163.

Construction Equipment Noise Emissions

Figure 15-3 presents the cumulative sound emissions from stationary construction equipment during each month for the No-Action and With-Action conditions including first and second shift activities. The cumulative sound emissions represent the total energy-average (L_{eq}) level of all equipment operating at a distance of 50 feet. This sound emission is not the actual sound level that would exist on the Project Site since actual equipment is distributed throughout the site, but the cumulative emissions level indicates which periods of construction are expected to be the loudest and which months are used for analysis. Based on this construction noise intensity analysis, noise has been evaluated during months 24, 57, 70, and 88.

Figure 15-3 Construction Noise Intensity Analysis



Source: VHB, 2021.

Table 15-12 to **Table 15-14** present the type of equipment, the maximum sound level at 50 feet, the utilization factors (percentage of time the equipment is operating at full power), and the number of each piece of equipment that is used during each phase of construction based on the *CEQR Technical Manual*. This table does not include trucks at the project site such as box trucks, pickup trucks, tractor trailers, packer trucks, container trucks, and dump trucks since they are not allowed to idle more than three minutes in accordance with New York City Administrative Code §24-163. These tables show that there will be up to 15 concrete mixer trucks during various phases of construction. However, this is the total number of vehicles operating and not the total number of concrete mixer trucks that can or would be at the site at any given time. Given the limited space for unloading concrete trucks at the site, up to five concrete mixer trucks would be at the project site at any given time.

Table 15-12 Construction Equipment (Month 24 and 57)

			Number of Construction Pieces of Equipment			
			Month 24 – Demolition/ Excavation/Foundation		Month 57 – Superstructure	
			No-Action & With-Action		No-Action & With-Action	
Equipment	Maximum Sound Level at 50 feet (dBA, Lmax)	Utilization Factor (%)	1st Shift	2nd Shift	1st Shift	2nd Shift
Bobcat (Excavator)	85	40	4	0	0	0
Brock (Hoe Ram)	90	20	4	0	0	0
Caisson Rig (Auger)	85	20	2	2	0	0
Compressor (>350 CFM)	80	40	5	2	0	0
Concrete Mixer Truck	85	40	10	2	15	0
Concrete Pump Truck	82	20	2	1	1	0
Hoist	85	20	0	0	6	2
Excavator	85	40	2	0	0	0
Generator	82	50	2	1	4	2
Spray Pump	77	50	0	0	2	0
Tie-back Drill (Auger)	85	20	2	2	0	0
Tower Crane	85	16	0	0	3	2
Valla (Crane)	85	16	0	0	3	2

Source: AECOM Tishman, VHB, 2021.

Table 15-13 Construction Equipment (Month 70)

Equipment	Maximum Sound Level at 50 feet (dBA, Lmax)	Utilization Factor (%)	Number of Construction Pieces of Equipment			
			Month 70 – Superstructure			
			No-Action		With-Action	
			1st Shift	2nd Shift	1st Shift	2nd Shift
Bobcat (Excavator)	85	40	0	0	0	0
Brock (Hoe Ram)	90	20	0	0	0	0
Caisson Rig (Auger)	85	20	0	0	0	0
Compressor (>350 CFM)	80	40	0	0	0	0
Concrete Mixer Truck	85	40	0	0	15	0
Concrete Pump Truck	82	20	0	0	1	0
Hoist	85	20	4	0	6	2
Excavator	85	40	0	0	0	0
Generator	82	50	2	0	4	2
Spray Pump	77	50	0	0	2	0
Tie-back Drill (Auger)	85	20	0	0	0	0
Tower Crane	85	16	0	0	3	2
Valla (Crane)	85	16	3	2	3	2

Source: AECOM Tishman, VHB, 2021.

Table 15-14 Construction Equipment (Month 88)

Equipment	Maximum Sound Level at 50 feet (dBA, Lmax)	Utilization Factor (%)	Number of Construction Pieces of Equipment	
			Month 88 – Superstructure	
			With-Action	
			1st Shift	2nd Shift
Bobcat (Excavator)	85	40	0	0
Brock (Hoe Ram)	90	20	0	0
Caisson Rig (Auger)	85	20	0	0
Compressor (>350 CFM)	80	40	0	0
Concrete Mixer Truck	85	40	0	0
Concrete Pump Truck	82	20	0	0
Hoist	85	20	6	2
Excavator	85	40	0	0
Generator	82	50	2	2
Spray Pump	77	50	2	0
Tie-back Drill (Auger)	85	20	0	0
Tower Crane	85	16	0	0
Valla (Crane)	85	16	3	2

Source: AECOM Tishman, VHB, 2021.

Construction Methods

The construction methods to be used for the Proposed Project are highly effective at controlling noise within the site. Since demolition, excavation, and foundation will occur simultaneously for both the No-Action and With-Action conditions, excavation and foundation activities will occur within the building from the ground level down while demolition occurs from the roof down. The window facades of the building will be removed; however, the building floors will remain intact as they are removed from the top of the building down. Therefore, the first-floor ceiling/second-floor floor will help to shield noise from excavation/foundation equipment (i.e. excavators, caisson rigs, compressors, generators, and tie-back drills) which will be located 10 feet below grade from propagating upwards. Similarly, as demolition occurs from the roof down, each building floor will be removed one at a time. As such, the upper building floor will remain in place and will help to reduce noise from propagating downwards as the remote-controlled electric demolition equipment (Brock machines) with hoe ram impact hammers operate on the floor. The demolition/excavation/foundation phase has been modeled based on demolition occurring on the 10th floor since this is representative of the overall construction noise conditions during this phase.

During superstructure construction, activities will occur from the ground level to the roof. The majority of noise-generating equipment (i.e., concrete mixer trucks, concrete pump truck, hoists, generators, spray pumps, and cranes) will be located on the ground. The construction method involves the use of small tracked cranes (Valla brand) and tower cranes.

Construction Noise Assessment

The Proposed Project is near primarily existing commercial and hotel land uses. **Table 15-15** details all receptors locations and land use descriptions. As shown in **Figure 15-4**, construction noise has been evaluated at 60 existing receptor locations near the Proposed Project. Receptors were modeled at the ground level receptors and every 5th floor up to the top floor and including the top floor of the building.

Figure 15-4 Construction Noise Receptor Locations

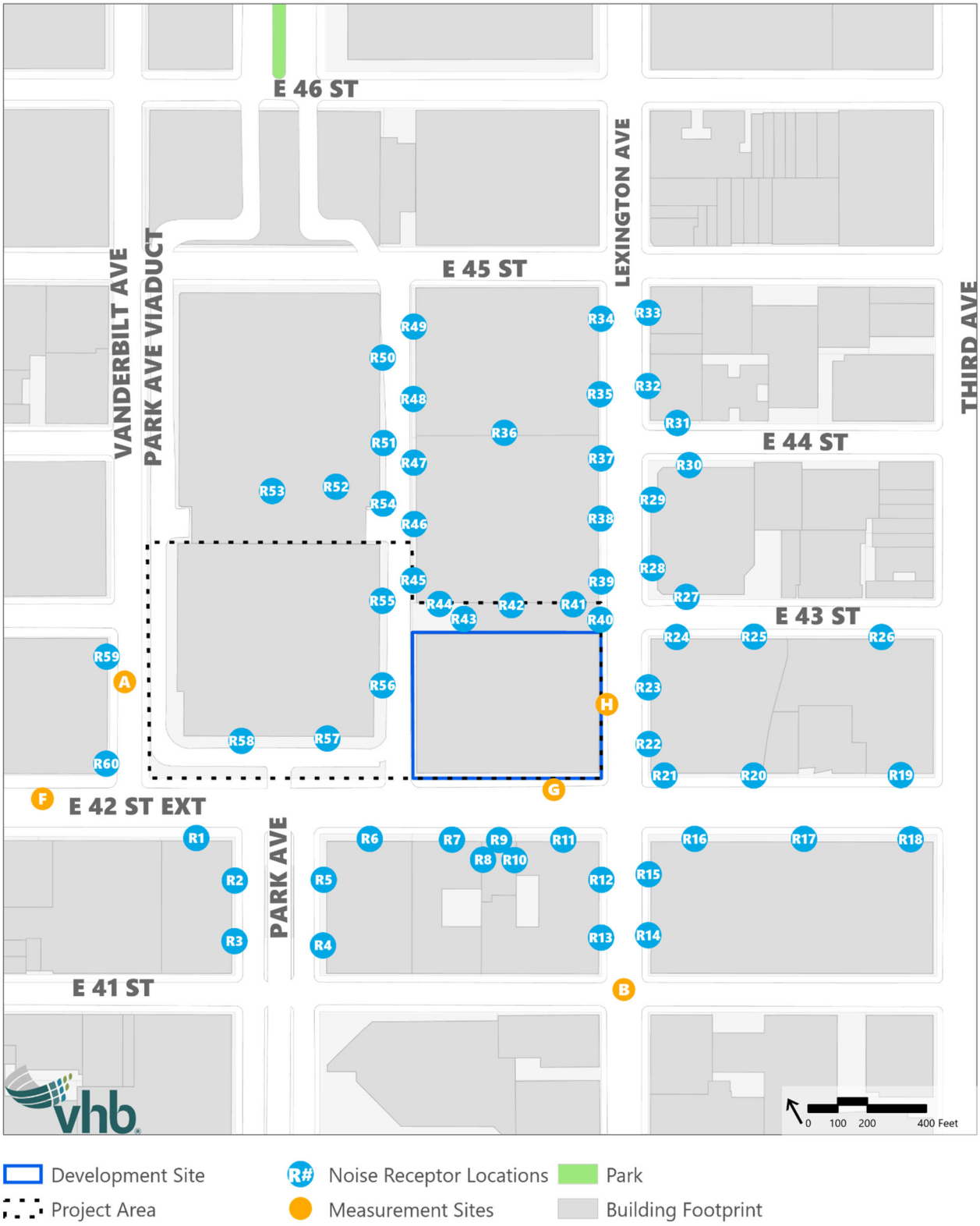


Table 15-15 Construction Noise Receptor Locations and Land Use Descriptions

Receptor	Location/Address	Land Use Description
R1 - R3	118 Park Avenue	Commercial & Office space; Retail
R4 -R6	125 Park Avenue	Commercial & Office space; Retail
R7 - R9	110 East 42nd Street	Commercial & Office space; Retail
R10 - R13	374 Lexington Avenue	Commercial & Office space; Retail
R14 - R18	150 East 42nd Street	Commercial & Office space; Retail
R19, R26	666 3rd Avenue	Commercial & Office space; Retail
R20 - R25	395 Lexington Avenue	Commercial & Office space; Retail
R27 - R30	425 Lexington Avenue	Commercial & Office space; Retail
R31 - R32	437 Lexington Avenue	Commercial & Office space; Retail
R33	451 Lexington Avenue	Hotel; Commercial
R34 - R36	450 Lexington Avenue	Commercial & Office space; Utility/Industrial
R37 - R39, R41, R42, R44 - R47	420 Lexington Avenue	Commercial & Office space; Retail
R40, R43, R48, R49	416 Lexington Avenue	Commercial & Office space; Retail
R50, R54	200 Park Avenue - East 42nd St	Commercial; Industrial
R51 - R53	200 Park Avenue - Metlife	Commercial & Office space; Retail
R55 - R58	Grand Central Station	Transportation; Commercial; Retail
R59 - R60	One Vanderbilt	Commercial & Office space

Source: VHB, 2021.

Existing Ambient Noise Levels

Existing ambient sound levels at all receptor locations have been determined based on measurements conducted in the study area and Cadna-A modeling of the traffic noise conditions. Measurements include those conducted during the morning (8:00 AM to 9:00 AM) at the 3rd floor of 317 Madison Avenue (Site A) and East 42nd Street between Madison Avenue (Site F) as part of the One Vanderbilt EIS, during the morning (8:00 AM to 9:00 AM) at East 41st Street and Lexington Avenue (Site B) as part of the Greater East Midtown EIS, B), and during the night (11:00 PM to 12:00 AM) at the Project Site on 42nd Street (Site G) and Lexington Avenue (Site H) as shown in **Table 15-16**.

Table 15-16 Ambient Sound Level Measurements

Site	Monitoring Location	Time Period	Duration	L_{eq}	L_{10}	L_{50}	L_{90}
A	3rd Floor of 317 Madison Avenue facing Park Avenue (One Vanderbilt Site A)	Morning	20 minutes	70.0	71.7	69.6	67.9
		Midday	20 minutes	73.0	73.0	69.5	68.1
		Evening	20 minutes	72.3	73.0	71.1	69.4
B	East 41st Street and Lexington Avenue (Greater East Midtown Site 11)	Morning	20 minutes	75.6	78.3	72.1	67.9
		Midday	20 minutes	74.6	76.3	72.8	69.1
		Evening	20 minutes	74.1	77.1	71.1	67.9
F	East 42nd Street between Madison Avenue and Vanderbilt Avenue (One Vanderbilt Site 2)	Morning	20 minutes	74.8	77.1	72.5	70.3
		Midday	20 minutes	73.7	75.7	72.5	70.6
		Evening	20 minutes	75.3	77.5	73.1	70.6
G	Project Site at 42nd Street	Night (11 PM to 12 AM)	20 minutes	69.3	71.3	65.1	60.8
H	Project Site at Lexington Avenue	Night (11 PM to 12 AM)	20 minutes	69.0	67.3	60.6	58.1

Source: *Greater East Midtown EIS*, Measurements conducted on September 13 and 29, 2016.
Vanderbilt Corridor and One Vanderbilt EIS, Measurements conducted on June 20, 2013 and June 25, 2014.
Project Site measurements conducted by VHB on February 9, 2021.

The ambient sound level at each receptor was determined based on the measured sound level at the closest measurement location and an adjustment based on the difference in modeled sound levels at the closest measurement location and each specific receptor location. The minimum daytime background sound level assumed for any receptor was 69.1 dBA which is the average L90 at all sites and all time periods. The minimum nighttime background sound level assumed for any receptor was 59,.5 dBA, the average L90 at the nighttime measurement sites (60.8 dBA at Site G and 58.1 dBA at Site H). Based on this analysis, the existing daytime ambient sound levels range from 67.9 to 75.6 dBA (L_{eq}) and the nighttime ambient sound levels range from 59.5 to 70.3 dBA (L_{eq}).

Existing traffic conditions are based on the results of **Chapter 9, Transportation** and review of the Automatic Traffic Recorder (ATR) data. The traffic volumes between 6:00 AM and 7:00 AM are based on 87% of the morning peak period volumes (8:00 AM to 9:00 AM). Traffic volumes between 7:00 AM to 8:00 AM are equivalent to the morning peak period volumes. Traffic volumes between 11:00 PM and 12:00 AM are based on 87% of the volumes during the midday period (12:00 PM to 1:00 PM).

Construction Noise Levels

The construction noise predictions include the equipment described in **Table 15-12** to **Table 15-14.** The 8-foot perimeter wall, solid gates, and 16-foot-tall perimeter shed have been included for the demolition/excavation/foundation and superstructure phases of construction. The project site abuts adjacent buildings to the north and east, further shielding receptors from construction equipment noise emissions.

Based on street-level field observations, they appear to have insulated glass windows and central air-conditioning. For buildings with insulated glass windows and central air conditioning, interior noise levels would be approximately 30 dBA less than exterior noise

levels. The *2020 CEQR Technical Manual* defines 45 dBA L_{10} as an acceptable interior noise level limit for hotel spaces, as discussed in **Chapter 12**, **Noise**. Interior noise levels of 50 dBA L_{10} is typically considered to be an acceptable interior noise level limit for office spaces. The L_{10} metric is calculated by adding a 3-dBA adjustment factor to the calculated L_{eq} in conformance with FHWA's Roadway Construction Noise Model (RCNM) guidance.

The assessment results in **Table 15-17** through **Table 15-27** present the range of construction noise levels at each building (or building façade), including the results at all floors. During excavation and foundation phases, construction noise levels would typically range from the low 40's to low-80's dBA (L_{eq}) at all receptor locations, accounting for both the first and second shift work schedule. During superstructure phases, construction noise levels would range from the mid 30's to high 70's dBA (L_{eq}) at all receptors, accounting for both the first and second shift work schedule.

Table 15-17 Construction Sound Levels: Mobile Source Only (6–7 AM)

Receptor	Location	Existing Ambient (dBA, L_{eq})	Construction Mobile Source (dBA, L_{eq})	Future Sound Level (dBA, L_{eq})	Maximum Increase (dBA)	Interior Levels (L_{10}, dBA)	Increase of 3 dBA or More Over Ambient
R1	118 Park Avenue - 42nd St Side	72.6 - 73.8	50.9 - 51.9 – 52.3	72.6 - 73.8	0.0	45.6 - 46.8	No
R2	118 Park Avenue - Park Ave North	68.8 - 69.8	55 – 55.948.1 -	68.8 - 69 – 70.8	0.21	41.8 - 42 – 43.8	No
R3	118 Park Avenue - Park Ave South	68.1 - 68.9	55.6 – 57.147 -	68.4 – 69.1 - 68.9	0.30	41.4 – 42.1 - 41.9	No
R4	125 Park Avenue - Park Ave South	67.9 - 68.8	5547.1 - 47.5 –	67.9 - 68.2 – 698	0.30	40.9 - 41.2 – 428	No
R5	125 Park Avenue - Park Ave North	68.8 - 69.6	53.9 – 55.349.8 -	68.9 - 69 – 69.8.7	0.21	41.9 - 42 – 42.8.7	No
R6	125 Park Avenue - 42nd St Side	72.2 - 73.5	49.2 – 5056.9 -	72.23 - 73.56	0.01	45.23 - 46.56	No
R7	110 East 42nd Street	72.1 - 73	46.1 – 46.657 -	72.12 - 73.1	0.01	45.12 - 46.1	No
R8	110 East 42nd Street - Alley Side	67.9 - 69.3	44.7 – 44.951 -	67.968 - 69.34	0.01	40.941 - 42.34	No
R9	110 East 42nd Street - Alley Building	72.3 - 73.2	45.5 – 46.157.3 -	72.34 - 73.23	0.01	45.34 - 46.23	No
R10	374 Lexington Avenue - Alley Side	68.2 - 69.3	4153.3 - 46.854.3	68.23 - 69.34	0.01	41.23 - 42.34	No
R11	374 Lexington Avenue - 42nd St Side	71.3 - 73.5	44.9 – 4656.2 -	71.34 - 73.56	0.01	44.34 - 46.56	No
R12	374 Lexington Avenue - Lex Ave North	71.4 - 73.3	4856.9 - 58.4 –	71.46 - 73.34	0.02	44.46 - 46.34	No
R13	374 Lexington Avenue - Lex Ave South	70.5 - 72.8	49.9 – 51.656.2 -	70.57 - 72.89	0.02	43.57 - 45.89	No
R14	150 East 42nd Street - Lex Ave South	70.8 - 72.7	49.7 – 5156.6 -	70.871 - 72.78	0.02	43.844 - 45.78	No
R15	150 East 42nd Street - Lex Ave North	70.2 - 73.2	47 – 4955.8 -	70.24 - 73.23	0.02	43.24 - 46.23	No
R16	150 East 42nd Street - West	72 - 74.1	50.3 – 52.456 -	72.1 - 74.12	0.01	45.1 - 47.12	No
R17	150 East 42nd Street - Mid	71.8 - 73.6	50.9 – 52.755.4 -	71.89 - 73.67	0.01	44.89 - 46.67	No
R18	150 East 42nd Street - East	72.3 - 74.4	52.1 – 53.955.6 -	72.34 - 74.45	0.01	45.34 - 47.45	No
R19	666 3rd Avenue - South Side	72.1 - 73.8	53.7 – 55.4 - 57	72.2 - 73.9	0.1	45.2 - 46.9	No
R20	395 Lexington Avenue - 42nd St Side East	71.3 - 73.5	53.1 – 55.154.8 -	71.4 - 73.6	0.1	44.4 - 46.6	No
R21	395 Lexington Avenue - 42nd St Side West	72.2 - 74.3	52.2 – 56.6 -	72.3 - 74.34	0.1	45.3 - 47.34	No
R22	395 Lexington Avenue - Lex Ave Side South	71 - 73.8	40.4 – 48.456 -	71.1 - 73.89	0.01	44.1 - 46.89	No
R23	395 Lexington Avenue - Lex Ave Side North	70.2 - 73.3	3855.5 - 48.358.4	70.23 - 73.34	0.02	43.23 - 46.34	No
R24	395 Lexington Avenue - 43rd St Side West	67.9 - 69	4849.4 - 5051.6	67.968 - 69.1	0.1	40.941 - 42.1	No
R25	395 Lexington Avenue - 43rd St Side East	67.9 - 68.5	47.8 – 50.644.9 -	67.9 - 68.65	0.1	40.9 - 41.65	No
R26	666 3rd Avenue - North Side	67.9 - 68.5	48.947.3 - 50.32	67.9 - 68 – 68.6.5	0.1	40.9 - 41 – 41.6.5	No
R27	425 Lexington Avenue - South Side	67.9 - 67.9	4648.3 - 47.849.3	67.9 - 67.968	0.01	40.9 - 40.941	No
R28	425 Lexington Avenue - Lex Ave South	70.4 - 72.3	39.9 – 4255.7 -	70.45 - 72.34	0.02	43.45 - 45.34	No
R29	425 Lexington Avenue - Lex Ave North	69.1 - 72.2	37.1 – 41.854.5 -	69.12 - 72.23	0.02	42.12 - 45.23	No
R30	425 Lexington Avenue - North Side	67.9 - 67.9	38.8 – 43.147.5 -	67.9 - 67.968	0.01	40.9 - 40.941	No
R31	437 Lexington Avenue - South Side	67.9 - 67.9	40 – 4249.8 -	67.9 – 67.968 -	0.01	40.9 – 40.941 -	No

Table 15-17 Construction Sound Levels: Mobile Source Only (6–7 AM)

Receptor	Location	Existing Ambient (dBA, L_{eq})	Construction Mobile Source (dBA, L_{eq})	Future Sound Level (dBA, L_{eq})	Maximum Increase (dBA)	Interior Levels (L_{10}, dBA)	Increase of 3 dBA or More Over Ambient
R32	437 Lexington Avenue - West Side	71.9 - 73.5	~~38.7 - 40.7~~57.2 -	~~71.9~~72 - 73.~~5~~6	0.~~0~~1	~~44.9~~45 - 46.~~5~~6	No
R33	451 Lexington Avenue	71.8 - 73.5	~~43.2 - 44.6~~57.1 -	71.~~8~~9 - 73.~~5~~6	0.~~0~~1	44.~~8~~9 - 46.~~5~~6	No
R34	450 Lexington Avenue - Lex Side North	71.9 - 73.7	~~42.7 - 46~~57.1 -	~~71.9~~72 - 73.~~7~~8	0.~~0~~1	~~44.9~~45 - 46.~~7~~8	No
R35	450 Lexington Avenue - Lex Side South	71.2 - 73.3	~~38.5 - 44.1~~56.6 -	71.~~2~~3 - 73.~~3~~4	0.~~0~~2	44.~~2~~3 - 46.~~3~~4	No
R36	450 Lexington Avenue - South Side	67.9 - 67.9	~~33 - 42.8~~31.6 -	67.9 - 67.9	0.0	40.9 - 40.9	No
R37	420 Lexington Avenue - Lex Side North	71.9 - 73.6	~~38.9 - 40.4~~57.6 -	~~71.9~~72.1 - 73.~~6~~7	0.~~0~~2	~~44.9~~45.1 - 46.~~6~~7	No
R38	420 Lexington Avenue - Lex Side Mid	71.5 - 73.3	~~37.3 - 39.4~~57.2 -	71.~~5~~7 - 73.~~3~~4	0.~~0~~2	44.~~5~~7 - 46.~~3~~4	No
R39	420 Lexington Avenue - Lex Side South	71.7 - 73.5	~~40.8 - 42~~57.2 -	71.~~7~~9 - 73.~~5~~6	0.~~0~~2	44.~~7~~9 - 46.~~5~~6	No
R40	416 Lexington Avenue - East	72.3 - 73.3	~~42.6 - 43~~57.1 -	72.~~3~~4 - 73.~~3~~4	0.~~0~~1	45.~~3~~4 - 46.~~3~~4	No
R41	420 Lexington Avenue - Alley Side East	67.9 - 67.9	~~23~~43.1 - ~~41.1~~50.9	67.9 - ~~67.9~~68	0.~~0~~1	40.9 - ~~40.9~~41	No
R42	420 Lexington Avenue - Alley Side Mid	67.9 - 67.9	~~35.2 - 42.4~~43 -	67.9 - 67.9	0.0	40.9 - 40.9	No
R43	416 Lexington Avenue - East	67.9 - 67.9	~~39.8 - 39.8~~40.7 -	67.9 - 67.9	0.0	40.9 - 40.9	No
R44	420 Lexington Avenue - Alley Side West	69.1 - 69.1	~~43.6 - 46.5~~40.3 -	69.1 - 69.1	0.0	42.1 - 42.1	No
R45	420 Lexington Avenue - Park Ave Side South	71.7 - 73.2	~~52~~29.8 - 41.9~~ -~~	71.~~8~~7 - 73.2	0.~~1~~0	44.~~8~~7 - 46.2	No
R46	420 Lexington Avenue - Park Ave Side Mid	71.7 - 72.8	~~52~~31.5 - 40.6~~ -~~	71.~~8~~7 - 72.8	0.~~1~~0	44.~~8~~7 - 45.8	No
R47	420 Lexington Avenue - Park Ave Side North	71.4 - 73.3	~~52.4 - 53.9~~22.1 -	71.~~5~~4 - 73.3	0.~~1~~0	44.~~5~~4 - 46.3	No
R48	416 Lexington Avenue - Park Ave Side South	69.8 - 72.4	~~50.6 - 52.8~~22 -	69.~~9~~8 - 72.4	0.~~1~~0	42.~~9~~8 - 45.4	No
R49	416 Lexington Avenue - Park Ave Side North	69.6 - 71.1	~~50~~12.4 - ~~51.2~~39.7	69.~~7~~6 - 71.1	0.~~1~~0	42.~~7~~6 - 44.1	No
R50	East 42nd St - North of Metlife	77.3 - 77.9	~~58.5 - 58.5~~28.6 -	77.~~4~~3 - 77.9	0.~~1~~0	50.~~4~~3 - 50.9	No
R51	Metlife - East	72.1 - 73.2	~~53.3 - 54.3~~29.9 -	72.~~2~~1 - 73.2	0.~~1~~0	45.~~2~~1 - 46.2	No
R52	Metlife - South Side - East	69.1 - 70.2	~~33~~22.1 - 46.7~~ -~~	69.1 - 70.~~3~~2	0.~~1~~0	42.1 - 43.~~3~~2	No
R53	Metlife - South Side - West	69.1 - 69.1	~~21~~8.2 - ~~51.8~~45	69.1 - 69.~~2~~1	0.~~1~~0	42.1 - 42.~~2~~1	No
R54	East 42nd St - South of Metlife	72 - 73.3	~~53.4 - 53.8~~31.6 -	72.~~1~~ - 73.3	0.~~1~~0	45.~~1~~ - 46.3	No
R55	Grand Central Station - Park Ave Side North	72 - 73.3	~~53.5 - 53.8~~33.2 -	72.~~1~~ - 73.3	0.~~1~~0	45.~~1~~ - 46.3	No
R56	Grand Central Station - Park Ave Side South	72 - 73.2	~~53 - 53.7~~38.5 -	72.~~1~~ - 73.2	0.~~1~~0	45.~~1~~ - 46.2	No
R57	Grand Central Station - 42nd St Side East	74.5 - 74.5	~~54.7 - 55.5~~50.2 -	74.5 - 74.~~6~~5	0.~~1~~0	47.5 - 47.~~6~~5	No
R58	Grand Central Station - 42nd St Side West	74.3 - 74.7	~~58.2 - 58.9~~47.8 -	74.~~4~~3 - 74.~~8~~7	0.~~1~~0	47.~~4~~3 - 47.~~8~~7	No
R59	One Vanderbilt - Vand Side North	69.1 - 69.1	~~55.5 - 58~~34.7 -	69.~~3~~1 - 69.~~5~~1	0.~~4~~0	42.~~3~~1 - 42.~~5~~1	No
R60	One Vanderbilt - Vand Side South	69.1 - 69.1	~~56.2 - 58~~46.4 -	69.~~3~~1 - 69.~~5~~1	0.~~4~~0	42.~~3~~1 - 42.~~5~~1	No

Source: VHB, 2021

Table 15-18 Construction Sound Levels: Construction and Mobile Source (1st Shift) – Month 24 – No-Action and With-Action

Receptor	Location	Existing Ambient (dBA, L_{eq})	Construction (dBA, L_{eq})	Future Sound Level (dBA, L_{eq})	Maximum Increase (dBA)	Interior Levels (L_{10}, dBA)	Increase of 3 dBA or More and Exceeds Interior Criterion
R1	118 Park Avenue - 42nd St Side	73.6 - 74.8	68.5 - 75.4	75.7 - 77.6	4.0	48.7 - 50.6	Yes
R2	118 Park Avenue - Park Ave North	69.5 - 70.4	67.9 - 75.3	71.8 - 76.5	6.3	44.8 - 49.5	No
R3	118 Park Avenue - Park Ave South	68.6 - 69.4	67.1 - 71.9	70.9 - 73.8	4.4	43.9 - 46.8	No
R4	125 Park Avenue - Park Ave South	68 - 69.3	66.3 - 70.1	70.2 - 72.6	3.7	43.2 - 45.6	No
R5	125 Park Avenue - Park Ave North	69.5 - 70.3	65.2 - 69.6	70.9 - 72.7	3.0	43.9 - 45.7	No
R6	125 Park Avenue - 42nd St Side	73.2 - 74.5	72.6 - 79.2	76.5 - 80.2	6.7	49.5 - 53.2	Yes
R7	110 East 42nd Street	73.1 - 74	71.8 - 78.8	76 - 79.9	6.5	49 - 52.9	Yes
R8	110 East 42nd Street - Alley Side	67.9 - 70.4	74.2 - 77.4	75.1 - 78.2	8.0	48.1 - 51.2	Yes
R9	110 East 42nd Street - Alley Building	73.4 - 74.3	72.2 - 77.3	76.4 - 78.8	5.4	49.4 - 51.8	Yes
R10	374 Lexington Avenue - Alley Side	69.3 - 70.4	71.2 - 78	73.5 - 78.6	9.0	46.5 - 51.6	Yes
R11	374 Lexington Avenue - 42nd St Side	72.5 - 74.6	71.3 - 79.2	75.1 - 80.2	6.7	48.1 - 53.2	Yes
R12	374 Lexington Avenue - Lex Ave North	73.3 - 75.2	66.~~3~~4 - 73.~~2~~3	74.7 - 76.7	2.6	47.7 - 49.7	No
R13	374 Lexington Avenue - Lex Ave South	72.4 - 74.8	64.~~5 - 70.9~~7 - 71	73.~~3~~4 - 75.6	1.9	46.~~3~~4 - 48.6	No
R14	150 East 42nd Street - Lex Ave South	72.8 - 74.7	68.1 - 75.7	74.6 - 77.6	4.4	47.6 - 50.6	Yes
R15	150 East 42nd Street - Lex Ave North	72.1 - 75.1	69.8 - 78.1	75.~~5~~6 - 79.5	5.6	48.~~5~~6 - 52.5	Yes
R16	150 East 42nd Street - West	73.2 - 75.2	68.~~9~~8 - 77.2	75.2 - 78.8	5.2	48.2 - 51.8	Yes
R17	150 East 42nd Street - Mid	72.8 - 74.7	65.~~6~~5 - 73.9	74.7 - 76.6	3.4	47.7 - 49.6	No
R18	150 East 42nd Street - East	73.4 - 75.5	~~62~~61.7 - 68.~~3~~2	74 - 75.7	1.1	47 - 48.7	No
R19	666 3rd Avenue - South Side	73.2 - 74.8	61.~~7~~5 - 68	73.9 - 75	1.1	46.9 - 48	No
R20	395 Lexington Avenue - 42nd St Side East	72.3 - 74.5	57.~~5~~2 - 70.7	72.4 - 75.2	1.9	45.4 - 48.2	No
R21	395 Lexington Avenue - 42nd St Side West	73.5 - 75.5	63.~~3~~2 - 74.6	73.9 - 77.4	3.3	46.9 - 50.4	Yes
R22	395 Lexington Avenue - Lex Ave Side South	72.6 - 75.6	69.1 - 81.9	74.3 - 82.6	8.3	47.3 - 55.6	Yes
R23	395 Lexington Avenue - Lex Ave Side North	72 - 75.2	69.2 - 82.2	74.5 - 82.8	9.1	47.5 - 55.8	Yes
R24	395 Lexington Avenue - 43rd St Side West	68.5 - 70.3	58.9 - 69.6	69.9 - 72.3	3.3	42.9 - 45.3	No
R25	395 Lexington Avenue - 43rd St Side East	67.9 - 70.1	55.4 - 71.8	68.8 - 73.3	5.4	41.8 - 46.3	No
R26	666 3rd Avenue - North Side	68.8 - 70	57 - 59.2	69.2 - 70.2	0.4	42.2 - 43.2	No
R27	425 Lexington Avenue - South Side	67.9 - 68.9	68.1 - 76.7	71.5 - 77.2	9.3	44.5 - 50.2	Yes
R28	425 Lexington Avenue - Lex Ave South	71.2 - 73.1	70.8 - 77.4	75.1 - 78.4	6.9	48.1 - 51.4	Yes
R29	425 Lexington Avenue - Lex Ave North	69.8 - 72.9	68.6 - 74.8	74.3 - 76.4	5.2	47.3 - 49.4	No
R30	425 Lexington Avenue - North Side	67.9 - 67.9	58.4 - 66.3	68.4 - 70.2	2.3	41.4 - 43.2	No
R31	437 Lexington Avenue - South Side	67.9 - 67.9	66 - 70.3	70.1 - 72.3	4.4	43.1 - 45.3	No

Table 15-18 Construction Sound Levels: Construction and Mobile Source (1st Shift) – Month 24 – No-Action and With-Action

Receptor	Location	Existing Ambient (dBA, L_{eq})	Construction (dBA, L_{eq})	Future Sound Level (dBA, L_{eq})	Maximum Increase (dBA)	Interior Levels (L_{10}, dBA)	Increase of 3 dBA or More and Exceeds Interior Criterion
R32	437 Lexington Avenue - West Side	72.5 - 74	66.2 - 70.9	74.3 - 74.8	2.3	47.3 - 47.8	No
R33	451 Lexington Avenue	72.3 - 74	64.5 - 68.1	73.5 - 74.5	1.4	46.5 - 47.5	No
R34	450 Lexington Avenue - Lex Side North	72.4 - 74.2	62.9 - 66.2	73 - 74.6	0.9	46 - 47.6	No
R35	450 Lexington Avenue - Lex Side South	71.8 - 73.8	63.8 - 66.4	72.4 - 74.3	1.0	45.4 - 47.3	No
R36	450 Lexington Avenue - South Side	67.9 - 67.9	56.4 - 65.1	68.2 - 69.7	1.8	41.2 - 42.7	No
R37	420 Lexington Avenue - Lex Side North	72.4 - 74.2	66.6 - 70.7	74.1 - 75	2.2	47.1 - 48	No
R38	420 Lexington Avenue - Lex Side Mid	72.1 - 73.9	68.4 - 73.7	74.8 - 76.2	3.7	47.8 - 49.2	No
R39	420 Lexington Avenue - Lex Side South	72.4 - 74.3	70.7 - 74.8	75.3 - 77	3.9	48.3 - 50	No
R40	416 Lexington Avenue - East	73.3 - 74.3	72.4 - 77.2	76.5 - 78.7	5.4	49.5 - 51.7	Yes
R41	420 Lexington Avenue - Alley Side East	67.9 - 67.9	68.2 - 80.1	71.1 - 80.4	12.5	44.1 - 53.4	Yes
R42	420 Lexington Avenue - Alley Side Mid	67.9 - 67.9	70.2 - 83.7	72.2 - 83.8	15.9	45.2 - 56.8	Yes
R43	416 Lexington Avenue - East	67.9 - 67.9	76.4 - 76.4	77 - 77	9.1	50 - 50	No
R44	420 Lexington Avenue - Alley Side West	69.1 - 69.1	73.5 - 80.3	74.8 - 80.6	11.5	47.8 - 53.6	Yes
R45	420 Lexington Avenue - Park Ave Side South	71.8 - 73.3	69.2 - 77.8	73.9 - 78.9	6.6	46.9 - 51.9	Yes
R46	420 Lexington Avenue - Park Ave Side Mid	71.8 - 73	63.9 - 72.9	72.5 - 75.4	3.5	45.5 - 48.4	No
R47	420 Lexington Avenue - Park Ave Side North	71.4 - 73.4	62.2 - 68.9	72.1 - 74	1.6	45.1 - 47	No
R48	416 Lexington Avenue - Park Ave Side South	69.9 - 72.5	59.9 - 65.3	70.4 - 72.9	1.1	43.4 - 45.9	No
R49	416 Lexington Avenue - Park Ave Side North	69.6 - 71.2	54.9 - 59.8	69.7 - 71.5	0.3	42.7 - 44.5	No
R50	East 42nd St - North of Metlife	77.4 - 78	62.5 - 65.2	77.7 - 78.1	0.3	50.7 - 51.1	No
R51	Metlife - East	72.2 - 73.3	64.7 - 70.8	73.2 - 74.9	2.2	46.2 - 47.9	No
R52	Metlife - South Side - East	69.1 - 70.8	63.3 - 73.1	70.1 - 74.6	5.5	43.1 - 47.6	No
R53	Metlife - South Side - West	69.1 - 69.1	62 - 71.1	69.9 - 73.2	4.1	42.9 - 46.2	No
R54	East 42nd St - South of Metlife	72.1 - 73.4	66.9 - 73.6	74.3 - 75.9	3.8	47.3 - 48.9	No
R55	Grand Central Station - Park Ave Side North	72.1 - 73.4	68.3 - 76.8	74.6 - 78.1	6.0	47.6 - 51.1	Yes
R56	Grand Central Station - Park Ave Side South	72.1 - 73.3	69.4 - 80.1	74.8 - 80.7	8.6	47.8 - 53.7	Yes
R57	Grand Central Station - 42nd St Side East	75 - 75.1	69.8 - 76.2	76.1 - 78.7	3.6	49.1 - 51.7	Yes
R58	Grand Central Station - 42nd St Side West	74.8 - 75.3	70 - 73.7	76 - 77.6	2.3	49 - 50.6	No
R59	One Vanderbilt - Vand Side North	69.1 - 69.1	50.8 - 54.7	69.2 - 69.3	0.2	42.2 - 42.3	No
R60	One Vanderbilt - Vand Side South	69.1 - 69.1	51.~~8~~7 - 54.8	69.2 - 69.3	0.2	42.2 - 42.3	No

Source: VHB, 2021

Table 15-19 Construction Sound Levels: Construction and Mobile Source (1st Shift) – Month 57 – No-Action and With-Action

Receptor	Location	Existing Ambient (dBA, L_{eq})	Construction (dBA, L_{eq})	Future Sound Level (dBA, L_{eq})	Maximum Increase (dBA)	Interior Levels (L_{10}, dBA)	Increase of 3 dBA or More and Exceeds Interior Criterion
R1	118 Park Avenue - 42nd St Side	73.6 - 74.8	59.57 - 67.6	74.3 - 74.9	1.0	47.3 - 47.9	No
R2	118 Park Avenue - Park Ave North	69.5 - 70.4	55.6 - 67.8	69.7 - 72.2	2.0	42.7 - 45.2	No
R3	118 Park Avenue - Park Ave South	68.6 - 69.4	46.78 - 59.7	68.6 - 69.8	0.4	41.6 - 42.8	No
R4	125 Park Avenue - Park Ave South	68 - 69.3	47.4 - 50.23	68 - 69.3	0.1	41 - 42.3	No
R5	125 Park Avenue - Park Ave North	69.5 - 70.3	50.1 - 55	69.5 - 70.4	0.1	42.5 - 43.4	No
R6	125 Park Avenue - 42nd St Side	73.2 - 74.5	68.3 - 73.8	74.7 - 76.8	3.0	47.7 - 49.8	No
R7	110 East 42nd Street	73.1 - 74	71.7 - 76.5	76 - 78.1	5.0	49 - 51.1	Yes
R8	110 East 42nd Street - Alley Side	67.9 - 70.4	65.1 - 73.4	69.7 - 75.1	4.9	42.7 - 48.1	No
R9	110 East 42nd Street - Alley Building	73.4 - 74.3	73 - 76.8	76.7 - 78.4	5.0	49.7 - 51.4	Yes
R10	374 Lexington Avenue - Alley Side	69.3 - 70.4	65.4 - 73.4	71.1 - 74.9	5.3	44.1 - 47.9	No
R11	374 Lexington Avenue - 42nd St Side	72.5 - 74.6	66.9 - 77.5	73.6 - 79	5.4	46.6 - 52	Yes
R12	374 Lexington Avenue - Lex Ave North	73.3 - 75.2	62.14 - 70.1	73.8 - 75.6	1.4	46.8 - 48.6	No
R13	374 Lexington Avenue - Lex Ave South	72.4 - 74.8	61.24 - 67.1	72.7 - 75.1	0.9	45.7 - 48.1	No
R14	150 East 42nd Street - Lex Ave South	72.8 - 74.7	63.57 - 68.4	73.3 - 75.1	1.2	46.3 - 48.1	No
R15	150 East 42nd Street - Lex Ave North	72.1 - 75.1	66.67 - 73.6	73.4 - 76.8	2.8	46.4 - 49.8	No
R16	150 East 42nd Street - West	73.2 - 75.2	66.5 - 72.65	74 - 76.4	2.43	47 - 49.4	No
R17	150 East 42nd Street - Mid	72.8 - 74.7	62.6 - 674 - 66.9	73.4 - 7574.9	0.9	46.4 - 4847.9	No
R18	150 East 42nd Street - East	73.4 - 75.5	59.61 - 63.76	73.7 - 75.6	0.4	46.7 - 48.6	No
R19	666 3rd Avenue - South Side	73.2 - 74.8	56.455.8 - 60.76	73.4 - 74.9	0.2	46.4 - 47.9	No
R20	395 Lexington Avenue - 42nd St Side East	72.3 - 74.5	5857.8 - 64.98	72.5 - 74.6	0.6	45.5 - 47.6	No
R21	395 Lexington Avenue - 42nd St Side West	73.5 - 75.5	6160.9 - 72	73.7 - 76.3	2.0	46.7 - 49.3	No
R22	395 Lexington Avenue - Lex Ave Side South	72.6 - 75.6	63.5 - 79.1	73.1 - 80.4	5.9	46.1 - 53.4	Yes
R23	395 Lexington Avenue - Lex Ave Side North	72 - 75.2	63.5 - 79.5	73.3 - 80.5	6.8	46.3 - 53.5	Yes
R24	395 Lexington Avenue - 43rd St Side West	68.5 - 70.3	57.4 - 66.8	69.5 - 71.1	2.0	42.5 - 44.1	No
R25	395 Lexington Avenue - 43rd St Side East	67.9 - 70.1	54.4 - 61.7	68.5 - 70.3	0.9	41.5 - 43.3	No
R26	666 3rd Avenue - North Side	68.8 - 70	55.2 - 56.9	69 - 70.2	0.2	42 - 43.2	No
R27	425 Lexington Avenue - South Side	67.9 - 68.9	67.8 - 73.4	70.9 - 74.5	6.6	43.9 - 47.5	No
R28	425 Lexington Avenue - Lex Ave South	71.2 - 73.1	68.2 - 74	73 - 76	4.2	46 - 49	No
R29	425 Lexington Avenue - Lex Ave North	69.8 - 72.9	63.7 - 69.3	71.3 - 73.5	2.0	44.3 - 46.5	No
R30	425 Lexington Avenue - North Side	67.9 - 67.9	47.56 - 48.9	67.9 - 68	0.1	40.9 - 41	No
R31	437 Lexington Avenue - South Side	67.9 - 67.9	50 - 60.7	68 - 68.7	0.8	41 - 41.7	No

Table 15-19 Construction Sound Levels: Construction and Mobile Source (1st Shift) – Month 57 – No-Action and With-Action

Receptor	Location	Existing Ambient (dBA, L_{eq})	Construction (dBA, L_{eq})	Future Sound Level (dBA, L_{eq})	Maximum Increase (dBA)	Interior Levels (L_{10}, dBA)	Increase of 3 dBA or More and Exceeds Interior Criterion
R32	437 Lexington Avenue - West Side	72.5 - 74	60.7 - 64.~~3~~4	73.1 - 74.2	0.6	46.1 - 47.2	No
R33	451 Lexington Avenue	72.3 - 74	59.2 - 62.7	72.7 - 74.1	0.4	45.7 - 47.1	No
R34	450 Lexington Avenue - Lex Side North	72.4 - 74.2	59.4 - 62.8	72.7 - 74.3	0.4	45.7 - 47.3	No
R35	450 Lexington Avenue - Lex Side South	71.8 - 73.8	60.~~8~~9 - 64.5	72.2 - 74	0.6	45.2 - 47	No
R36	450 Lexington Avenue - South Side	67.9 - 67.9	44.9 - 48.1	67.9 - 67.9	0.0	40.9 - 40.9	No
R37	420 Lexington Avenue - Lex Side North	72.4 - 74.2	63 - 66.8	72.9 - 74.5	0.9	45.9 - 47.5	No
R38	420 Lexington Avenue - Lex Side Mid	72.1 - 73.9	64.7 - 69.2	72.9 - 74.4	1.5	45.9 - 47.4	No
R39	420 Lexington Avenue - Lex Side South	72.4 - 74.3	66.1 - 72.9	73.3 - 76	2.9	46.3 - 49	No
R40	416 Lexington Avenue - East	73.3 - 74.3	73.3 - 77.2	76.8 - 78.7	5.4	49.8 - 51.7	Yes
R41	420 Lexington Avenue - Alley Side East	67.9 - 67.9	60 - 77.6	68.6 - 78	10.1	41.6 - 51	Yes
R42	420 Lexington Avenue - Alley Side Mid	67.9 - 67.9	63.5 - 77.2	69.2 - 77.7	9.8	42.2 - 50.7	Yes
R43	416 Lexington Avenue - East	67.9 - 67.9	73.8 - 73.8	74.8 - 74.8	6.9	47.8 - 47.8	No
R44	420 Lexington Avenue - Alley Side West	69.1 - 69.1	69.6 - 76	72.4 - 76.8	7.7	45.4 - 49.8	No
R45	420 Lexington Avenue - Park Ave Side South	71.8 - 73.3	55.1 - 65	72.2 - 73.4	0.7	45.2 - 46.4	No
R46	420 Lexington Avenue - Park Ave Side Mid	71.8 - 73	48.2 - 57.1	71.9 - 73	0.1	44.9 - 46	No
R47	420 Lexington Avenue - Park Ave Side North	71.4 - 73.4	46.2 - 53.8	71.5 - 73.4	0.1	44.5 - 46.4	No
R48	416 Lexington Avenue - Park Ave Side South	69.9 - 72.5	44.4 - 51.4	70 - 72.5	0.1	43 - 45.5	No
R49	416 Lexington Avenue - Park Ave Side North	69.6 - 71.2	42.8 - 49.1	69.6 - 71.2	0.0	42.6 - 44.2	No
R50	East 42nd St - North of Metlife	77.4 - 78	50.4 - 56.4	77.4 - 78	0.0	50.4 - 51	No
R51	Metlife - East	72.2 - 73.3	55.7 - 59.8	72.3 - 73.4	0.2	45.3 - 46.4	No
R52	Metlife - South Side - East	69.1 - 70.8	44.8 - 64.7	69.1 - 71.3	1.3	42.1 - 44.3	No
R53	Metlife - South Side - West	69.1 - 69.1	43.7 - 64.8	69.1 - 70.5	1.4	42.1 - 43.5	No
R54	East 42nd St - South of Metlife	72.1 - 73.4	47.4 - 63.1	72.6 - 73.4	0.5	45.6 - 46.4	No
R55	Grand Central Station - Park Ave Side North	72.1 - 73.4	50.8 - 72.8	73.4 - 75.5	3.4	46.4 - 48.5	No
R56	Grand Central Station - Park Ave Side South	72.1 - 73.3	53.3 - 74.3	73.3 - 76.3	4.2	46.3 - 49.3	No
R57	Grand Central Station - 42nd St Side East	75 - 75.1	54.6 - 70.7	75 - 76.4	1.3	48 - 49.4	No
R58	Grand Central Station - 42nd St Side West	74.8 - 75.3	54.8 - 67.3	74.8 - 75.9	0.6	47.8 - 48.9	No
R59	One Vanderbilt - Vand Side North	69.1 - 69.1	44.1 - 47.1	69.1 - 69.1	0.0	42.1 - 42.1	No
R60	One Vanderbilt - Vand Side South	69.1 - 69.1	44.6 - 48.8	69.1 - 69.1	0.0	42.1 - 42.1	No

Source: VHB, 2021

Table 15-20 Construction Sound Levels: Construction and Mobile Source (1st Shift) – Month 70 – No-Action

Receptor	Location	Existing Ambient (dBA, L_{eq})	Construction (dBA, L_{eq})	Future Sound Level (dBA, L_{eq})	Maximum Increase (dBA)	Interior Levels (L_{10}, dBA)	Increase of 3 dBA or More and Exceeds Interior Criterion
R1	118 Park Avenue - 42nd St Side	73.6 - 74.8	~~47.2 - 60.9~~49.3 -	73.8 - 74.8	0.2	46.8 - 47.8	No
R2	118 Park Avenue - Park Ave North	69.5 - 70.4	49.~~2~~4 - 63.3	69.5 - 71	0.8	42.5 - 44	No
R3	118 Park Avenue - Park Ave South	68.6 - 69.4	44.~~6~~8 - 57.4	68.6 - 69.6	0.3	41.6 - 42.6	No
R4	125 Park Avenue - Park Ave South	68 - 69.3	44.~~8~~9 - 47.~~1~~4	68 - 69.3	0.0	41 - 42.3	No
R5	125 Park Avenue - Park Ave North	69.5 - 70.3	48.~~3~~2 - 52.1	69.5 - 70.3	0.1	42.5 - 43.3	No
R6	125 Park Avenue - 42nd St Side	73.2 - 74.5	62.9 - 68.9	73.8 - 75	1.2	46.8 - 48	No
R7	110 East 42nd Street	73.1 - 74	66 - 71.1	74.3 - 75.2	2.1	47.3 - 48.2	No
R8	110 East 42nd Street - Alley Side	67.9 - 70.4	61.1 - 67.7	68.7 - 72.1	1.9	41.7 - 45.1	No
R9	110 East 42nd Street - Alley Building	73.4 - 74.3	66.4 - 71.1	75 - 75.4	2	48 - 48.4	No
R10	374 Lexington Avenue - Alley Side	69.3 - 70.4	60.7 - 67.9	70.2 - 72	2.2	43.2 - 45	No
R11	374 Lexington Avenue - 42nd St Side	72.5 - 74.6	62.2 - 71.5	72.9 - 75.7	2.1	45.9 - 48.7	No
R12	374 Lexington Avenue - Lex Ave North	73.3 - 75.2	~~57.4~~58.1 - 64.~~5~~7	73.~~4~~5 - 75.3	0.~~4~~5	46.~~4~~5 - 48.3	No
R13	374 Lexington Avenue - Lex Ave South	72.4 - 74.8	~~56~~57 - 62.1~~–~~	72.5 - 74.9	0.3	45.5 - 47.9	No
R14	150 East 42nd Street - Lex Ave South	72.8 - 74.7	~~58.9~~59.6 - 64.~~2~~3	73 - 74.8	0.5	46 - 47.8	No
R15	150 East 42nd Street - Lex Ave North	72.1 - 75.1	62.2 - 68.2	72.6 - 75.4	1	45.6 - 48.4	No
R16	150 East 42nd Street - West	73.2 - 75.2	62.~~2~~ - 68.~~3~~2	73.5 - 75.~~5~~4	1	46.5 - 48.~~5~~4	No
R17	150 East 42nd Street - Mid	72.8 - 74.7	~~58.5 - 62~~57.9 -	73 - 74.8	0.3	46 - 47.8	No
R18	150 East 42nd Street - East	73.4 - 75.5	~~55.6~~54.8 - 57.~~6~~	73.5 - 75.5	0.1	46.5 - 48.5	No
R19	666 3rd Avenue - South Side	73.2 - 74.8	52.7 - 53.4~~ – 54.2~~	73.2 - 74.8	0.~~1~~0	46.2 - 47.8	No
R20	395 Lexington Avenue - 42nd St Side East	72.3 - 74.5	~~53.2~~52.5 - 56.~~4~~	72.~~4~~3 - 74.5	0.1	45.~~4~~3 - 47.5	No
R21	395 Lexington Avenue - 42nd St Side West	73.5 - 75.5	56.~~6~~4 - 64.~~5~~4	73.6 - 75.6	0.4	46.6 - 48.6	No
R22	395 Lexington Avenue - Lex Ave Side South	72.6 - 75.6	59.2 - 73.4	72.8 - 77	2.5	45.8 - 50	No
R23	395 Lexington Avenue - Lex Ave Side North	72 - 75.2	59.3 - 73.9	72.5 - 76.8	3.1	45.5 - 49.8	No
R24	395 Lexington Avenue - 43rd St Side West	68.5 - 70.3	55.~~2~~1 - 65	69.2 - 70.7	1.4	42.2 - 43.7	No
R25	395 Lexington Avenue - 43rd St Side East	67.9 - 70.1	52.7 - 60.2	68.3 - 70.4	0.6	41.3 - 43.4	No
R26	666 3rd Avenue - North Side	68.8 - 70	54.~~4~~3 - 56.4	69 - 70.2	0.2	42 - 43.2	No
R27	425 Lexington Avenue - South Side	67.9 - 68.9	63.5 - 68.3	69.2 - 71.1	3.2	42.2 - 44.1	No
R28	425 Lexington Avenue - Lex Ave South	71.2 - 73.1	62.9 - 67.7	71.8 - 73.5	1.4	44.8 - 46.5	No
R29	425 Lexington Avenue - Lex Ave North	69.8 - 72.9	~~59~~58.9 - 62.6	70.2 - 73.1	0.6	43.2 - 46.1	No
R30	425 Lexington Avenue - North Side	67.9 - 67.9	45.~~3~~4 - 46.3	67.9 - 67.9	0.0	40.9 - 40.9	No
R31	437 Lexington Avenue - South Side	67.9 - 67.9	48.2 - 54.7	67.9 - 68.1	0.2	40.9 - 41.1	No

Table 15-20 Construction Sound Levels: Construction and Mobile Source (1st Shift) – Month 70 – No-Action

Receptor	Location	Existing Ambient (dBA, L_{eq})	Construction (dBA, L_{eq})	Future Sound Level (dBA, L_{eq})	Maximum Increase (dBA)	Interior Levels (L_{10}, dBA)	Increase of 3 dBA or More and Exceeds Interior Criterion
R32	437 Lexington Avenue - West Side	72.5 - 74	~~56.9~~57 - 59.3	72.7 - 74.1	0.2	45.7 - 47.1	No
R33	451 Lexington Avenue	72.3 - 74	~~55.9~~56 - 57.~~8~~9	72.4 - 74.1	0.1	45.4 - 47.1	No
R34	450 Lexington Avenue - Lex Side North	72.4 - 74.2	56.~~1~~2 - 58.~~1~~2	72.5 - 74.3	0.1	45.5 - 47.3	No
R35	450 Lexington Avenue - Lex Side South	71.8 - 73.8	56.6 - 59.4	71.9 - 73.9	0.2	44.9 - 46.9	No
R36	450 Lexington Avenue - South Side	67.9 - 67.9	40.9 - 44.3	67.9 - 67.9	0.0	40.9 - 40.9	No
R37	420 Lexington Avenue - Lex Side North	72.4 - 74.2	58.8 - 61.2	72.6 - 74.3	0.3	45.6 - 47.3	No
R38	420 Lexington Avenue - Lex Side Mid	72.1 - 73.9	59.6 - 63.3	72.4 - 74.1	0.5	45.4 - 47.1	No
R39	420 Lexington Avenue - Lex Side South	72.4 - 74.3	60.7 - 66.7	72.7 - 74.6	0.9	45.7 - 47.6	No
R40	416 Lexington Avenue - East	73.3 - 74.3	67.9 - 70.4	75.1 - 75.2	1.8	48.1 - 48.2	No
R41	420 Lexington Avenue - Alley Side East	67.9 - 67.9	56.1 - 72.8	68.2 - 74	6.1	41.2 - 47	No
R42	420 Lexington Avenue - Alley Side Mid	67.9 - 67.9	59.8 - 72.6	68.5 - 73.9	6.0	41.5 - 46.9	No
R43	416 Lexington Avenue - East	67.9 - 67.9	70.3 - 70.3	72.3 - 72.3	4.4	45.3 - 45.3	No
R44	420 Lexington Avenue - Alley Side West	69.1 - 69.1	65.2 - 71.7	70.6 - 73.6	4.5	43.6 - 46.6	No
R45	420 Lexington Avenue - Park Ave Side South	71.8 - 73.3	48.2 - 60.8	72 - 73.3	0.3	45 - 46.3	No
R46	420 Lexington Avenue - Park Ave Side Mid	71.8 - 73	44.8 - 53.4	71.8 - 73	0.1	44.8 - 46	No
R47	420 Lexington Avenue - Park Ave Side North	71.4 - 73.4	42.4 - 49.9	71.4 - 73.4	0.0	44.4 - 46.4	No
R48	416 Lexington Avenue - Park Ave Side South	69.9 - 72.5	40.4 - 47.5	69.9 - 72.5	0.0	42.9 - 45.5	No
R49	416 Lexington Avenue - Park Ave Side North	69.6 - 71.2	38.7 - 45.1	69.6 - 71.2	0.0	42.6 - 44.2	No
R50	East 42nd St - North of Metlife	77.4 - 78	39.3 - 50.5	77.4 - 78	0.0	50.4 - 51	No
R51	Metlife - East	72.2 - 73.3	51.8 - 55.3	72.3 - 73.4	0.1	45.3 - 46.4	No
R52	Metlife - South Side - East	69.1 - 70.8	40.7 - 60.6	69.1 - 71	0.6	42.1 - 44	No
R53	Metlife - South Side - West	69.1 - 69.1	39.6 - 59.6	69.1 - 69.6	0.5	42.1 - 42.6	No
R54	East 42nd St - South of Metlife	72.1 - 73.4	43.8 - 58.5	72.3 - 73.4	0.2	45.3 - 46.4	No
R55	Grand Central Station - Park Ave Side North	72.1 - 73.4	46.8 - 68.9	73.4 - 73.8	1.7	46.4 - 46.8	No
R56	Grand Central Station - Park Ave Side South	72.1 - 73.3	49.2 - 70	73.3 - 74.2	2.1	46.3 - 47.2	No
R57	Grand Central Station - 42nd St Side East	75 - 75.1	49.6 - 63.2	75 - 75.4	0.3	48 - 48.4	No
R58	Grand Central Station - 42nd St Side West	74.8 - 75.3	46.5 - 56.3	74.8 - 75.4	0.1	47.8 - 48.4	No
R59	One Vanderbilt - Vand Side North	69.1 - 69.1	42.3 - 43.8	69.1 - 69.1	0.0	42.1 - 42.1	No
R60	One Vanderbilt - Vand Side South	69.1 - 69.1	43.5 - 46.~~5~~4	69.1 - 69.1	0.0	42.1 - 42.1	No

Source: VHB, 2021

Table 15-21 Construction Sound Levels: Construction and Mobile Source (1st Shift) – Month 70 – With-Action

Receptor	Location	Existing Ambient (dBA, L_{eq})	Construction (dBA, L_{eq})	Future Sound Level (dBA, L_{eq})	Maximum Increase (dBA)	Interior Levels (L_{10}, dBA)	Increase of 3 dBA or More and Exceeds Interior Criterion
R1	118 Park Avenue - 42nd St Side	73.6 - 74.8	59.57 - 67.7	74.3 - 74.9	1	47.3 - 47.9	No
R2	118 Park Avenue - Park Ave North	69.5 - 70.4	55.7 - 67.8	69.7 - 72.2	2	42.7 - 45.2	No
R3	118 Park Avenue - Park Ave South	68.6 - 69.4	46.78 - 59.5	68.6 - 69.8	0.4	41.6 - 42.8	No
R4	125 Park Avenue - Park Ave South	68 - 69.3	47.5 - 50.23	68 - 69.3	0.1	41 - 42.3	No
R5	125 Park Avenue - Park Ave North	69.5 - 70.3	50.1 - 55	69.5 - 70.4	0.1	42.5 - 43.4	No
R6	125 Park Avenue - 42nd St Side	73.2 - 74.5	68.3 - 73.8	74.7 - 76.8	3	47.7 - 49.8	No
R7	110 East 42nd Street	73.1 - 74	71.7 - 76.5	76 - 78.1	5	49 - 51.1	Yes
R8	110 East 42nd Street - Alley Side	67.9 - 70.4	65 - 73.3	69.7 - 75	4.8	42.7 - 48	No
R9	110 East 42nd Street - Alley Building	73.4 - 74.3	72.9 - 76.6	76.7 - 78.3	4.9	49.7 - 51.3	Yes
R10	374 Lexington Avenue - Alley Side	69.3 - 70.4	65.3 - 73.4	71 - 74.9	5.3	44 - 47.9	No
R11	374 Lexington Avenue - 42nd St Side	72.5 - 74.6	66.9 - 77.4	73.6 - 78.9	5.3	46.6 - 51.9	Yes
R12	374 Lexington Avenue - Lex Ave North	73.3 - 75.2	62.14 - 70.1	73.8 - 75.6	1.4	46.8 - 48.6	No
R13	374 Lexington Avenue - Lex Ave South	72.4 - 74.8	61.24 - 67.45	72.7 - 75.1	0.9	45.7 - 48.1	No
R14	150 East 42nd Street - Lex Ave South	72.8 - 74.7	63.68 - 68.6	73.3 - 75.1	1.3	46.3 - 48.1	No
R15	150 East 42nd Street - Lex Ave North	72.1 - 75.1	66.67 - 73.5	73.4 - 76.8	2.8	46.4 - 49.8	No
R16	150 East 42nd Street - West	73.2 - 75.2	66.5 - 72.65	74 - 76.4	2.43	47 - 49.4	No
R17	150 East 42nd Street - Mid	72.8 - 74.7	62.41 - 66.8	73.4 - 74.9	0.9	46.4 - 47.9	No
R18	150 East 42nd Street - East	73.4 - 75.5	59.73 - 63.76	73.7 - 75.6	0.4	46.7 - 48.6	No
R19	666 3rd Avenue - South Side	73.2 - 74.8	56.455.8 - 60.76	73.4 - 74.9	0.2	46.4 - 47.9	No
R20	395 Lexington Avenue - 42nd St Side East	72.3 - 74.5	5857.8 - 64.98	72.5 - 74.6	0.6	45.5 - 47.6	No
R21	395 Lexington Avenue - 42nd St Side West	73.5 - 75.5	6160.9 - 71.8	73.7 - 76.2	1.9	46.7 - 49.2	No
R22	395 Lexington Avenue - Lex Ave Side South	72.6 - 75.6	63.5 - 79.1	73.1 - 80.4	5.9	46.1 - 53.4	Yes
R23	395 Lexington Avenue - Lex Ave Side North	72 - 75.2	63.5 - 79.5	73.3 - 80.5	6.8	46.3 - 53.5	Yes
R24	395 Lexington Avenue - 43rd St Side West	68.5 - 70.3	57.4 - 66.8	69.5 - 71.1	2.0	42.5 - 44.1	No
R25	395 Lexington Avenue - 43rd St Side East	67.9 - 70.1	54.4 - 61.7	68.5 - 70.3	0.9	41.5 - 43.3	No
R26	666 3rd Avenue - North Side	68.8 - 70	55.3 - 56.9	69 - 70.2	0.2	42 - 43.2	No
R27	425 Lexington Avenue - South Side	67.9 - 68.9	67.8 - 73.4	70.9 - 74.5	6.6	43.9 - 47.5	No
R28	425 Lexington Avenue - Lex Ave South	71.2 - 73.1	68.21 - 74.2	73 - 76.2	4.4	46 - 49.2	No
R29	425 Lexington Avenue - Lex Ave North	69.8 - 72.9	63.8 - 69.3	71.3 - 73.5	2.0	44.3 - 46.5	No
R30	425 Lexington Avenue - North Side	67.9 - 67.9	47.56 - 48.9	67.9 - 68	0.1	40.9 - 41	No
R31	437 Lexington Avenue - South Side	67.9 - 67.9	50 - 60.7	68 - 68.7	0.8	41 - 41.7	No

Table 15-21 Construction Sound Levels: Construction and Mobile Source (1st Shift) – Month 70 – With-Action

Receptor	Location	Existing Ambient (dBA, L_{eq})	Construction (dBA, L_{eq})	Future Sound Level (dBA, L_{eq})	Maximum Increase (dBA)	Interior Levels (L_{10}, dBA)	Increase of 3 dBA or More and Exceeds Interior Criterion
R32	437 Lexington Avenue - West Side	72.5 - 74	60.7 - 64.~~3~~4	73.1 - 74.2	0.6	46.1 - 47.2	No
R33	451 Lexington Avenue	72.3 - 74	59.2 - 62.8	72.7 - 74.1	0.4	45.7 - 47.1	No
R34	450 Lexington Avenue - Lex Side North	72.4 - 74.2	59.4 - 62.8	72.7 - 74.3	0.4	45.7 - 47.3	No
R35	450 Lexington Avenue - Lex Side South	71.8 - 73.8	60.~~8~~9 - 64.8	72.2 - 74	0.7	45.2 - 47	No
R36	450 Lexington Avenue - South Side	67.9 - 67.9	44.9 - 48.1	67.9 - 67.9	0.0	40.9 - 40.9	No
R37	420 Lexington Avenue - Lex Side North	72.4 - 74.2	63 - 66.8	72.9 - 74.5	0.9	45.9 - 47.5	No
R38	420 Lexington Avenue - Lex Side Mid	72.1 - 73.9	64.7 - 69.1	72.9 - 74.4	1.5	45.9 - 47.4	No
R39	420 Lexington Avenue - Lex Side South	72.4 - 74.3	66.1 - 72.9	73.3 - 76	2.9	46.3 - 49	No
R40	416 Lexington Avenue - East	73.3 - 74.3	73.2 - 77.1	76.8 - 78.6	5.3	49.8 - 51.6	Yes
R41	420 Lexington Avenue - Alley Side East	67.9 - 67.9	60 - 77.6	68.6 - 78	10.1	41.6 - 51	Yes
R42	420 Lexington Avenue - Alley Side Mid	67.9 - 67.9	63.5 - 77.2	69.2 - 77.7	9.8	42.2 - 50.7	Yes
R43	416 Lexington Avenue - East	67.9 - 67.9	73.8 - 73.8	74.8 - 74.8	6.9	47.8 - 47.8	No
R44	420 Lexington Avenue - Alley Side West	69.1 - 69.1	69.6 - 76.1	72.4 - 76.9	7.8	45.4 - 49.9	No
R45	420 Lexington Avenue - Park Ave Side South	71.8 - 73.3	57.4 - 65.4	72.3 - 73.4	0.8	45.3 - 46.4	No
R46	420 Lexington Avenue - Park Ave Side Mid	71.8 - 73	48.2 - 57.2	71.9 - 73	0.1	44.9 - 46	No
R47	420 Lexington Avenue - Park Ave Side North	71.4 - 73.4	46.2 - 53.9	71.5 - 73.4	0.1	44.5 - 46.4	No
R48	416 Lexington Avenue - Park Ave Side South	69.9 - 72.5	44.4 - 51.5	70 - 72.5	0.1	43 - 45.5	No
R49	416 Lexington Avenue - Park Ave Side North	69.6 - 71.2	42.8 - 49.2	69.6 - 71.2	0.0	42.6 - 44.2	No
R50	East 42nd St - North of Metlife	77.4 - 78	50.4 - 56.5	77.4 - 78	0.0	50.4 - 51	No
R51	Metlife - East	72.2 - 73.3	55.8 - 59.8	72.3 - 73.4	0.2	45.3 - 46.4	No
R52	Metlife - South Side - East	69.1 - 70.8	44.8 - 64.7	69.1 - 71.3	1.3	42.1 - 44.3	No
R53	Metlife - South Side - West	69.1 - 69.1	43.7 - 64.8	69.1 - 70.5	1.4	42.1 - 43.5	No
R54	East 42nd St - South of Metlife	72.1 - 73.4	47.4 - 63.3	72.6 - 73.4	0.5	45.6 - 46.4	No
R55	Grand Central Station - Park Ave Side North	72.1 - 73.4	50.8 - 72.7	73.4 - 75.4	3.3	46.4 - 48.4	No
R56	Grand Central Station - Park Ave Side South	72.1 - 73.3	53.4 - 74.1	73.3 - 76.2	4.1	46.3 - 49.2	No
R57	Grand Central Station - 42nd St Side East	75 - 75.1	54.6 - 70.7	75 - 76.4	1.3	48 - 49.4	No
R58	Grand Central Station - 42nd St Side West	74.8 - 75.3	54.8 - 67.3	74.8 - 75.9	0.6	47.8 - 48.9	No
R59	One Vanderbilt - Vand Side North	69.1 - 69.1	44.1 - 47.1	69.1 - 69.1	0.0	42.1 - 42.1	No
R60	One Vanderbilt - Vand Side South	69.1 - 69.1	44.6 - 48.8	69.1 - 69.1	0.0	42.1 - 42.1	No

Source: VHB, 2021

Table 15-22 Construction Sound Levels: Construction and Mobile Source (1st Shift) – Month 88 – With-Action

Receptor	Location	Existing Ambient (dBA, L_{eq})	Construction (dBA, L_{eq})	Future Sound Level (dBA, L_{eq})	Maximum Increase (dBA)	Interior Levels (L_{10}, dBA)	Increase of 3 dBA or More and Exceeds Interior Criterion
R1	118 Park Avenue - 42nd St Side	73.6 - 74.8	~~48.1~~49.8 - 62.~~4~~5	73.8 - 74.8	0.3	46.8 - 47.8	No
R2	118 Park Avenue - Park Ave North	69.5 - 70.4	52.1 - 64.8	69.6 - 71.3	1.1	42.6 - 44.3	No
R3	118 Park Avenue - Park Ave South	68.6 - 69.4	45.~~1~~3 - 58.6	68.6 - 69.7	0.3	41.6 - 42.7	No
R4	125 Park Avenue - Park Ave South	68 - 69.3	45.~~2~~3 - 47.~~7~~9	68 - 69.3	0.0	41 - 42.3	No
R5	125 Park Avenue - Park Ave North	69.5 - 70.3	48.5 - 52.8	69.5 - 70.3	0.1	42.5 - 43.3	No
R6	125 Park Avenue - 42nd St Side	73.2 - 74.5	63.8 - 70.2	73.9 - 75.4	1.6	46.9 - 48.4	No
R7	110 East 42nd Street	73.1 - 74	66.8 - 72.4	74.5 - 75.8	2.7	47.5 - 48.8	No
R8	110 East 42nd Street - Alley Side	67.9 - 70.4	62 - 69	68.9 - 72.7	2.5	41.9 - 45.7	No
R9	110 East 42nd Street - Alley Building	73.4 - 74.3	67.7 - 72.1	75.2 - 75.8	2.4	48.2 - 48.8	No
R10	374 Lexington Avenue - Alley Side	69.3 - 70.4	61.4 - 68.6	70.3 - 72.2	2.5	43.3 - 45.2	No
R11	374 Lexington Avenue - 42nd St Side	72.5 - 74.6	63.3 - 72.6	73 - 76.1	2.5	46 - 49.1	No
R12	374 Lexington Avenue - Lex Ave North	73.3 - 75.2	59.~~4~~9 - 66.~~8~~9	73.~~5~~6 - 75.4	0.7	46.~~5~~6 - 48.4	No
R13	374 Lexington Avenue - Lex Ave South	72.4 - 74.8	58.~~4~~9 - 64.~~3~~5	72.6 - ~~74.9~~75	0.5	45.6 - ~~47.9~~48	No
R14	150 East 42nd Street - Lex Ave South	72.8 - 74.7	~~60.6~~61.1 - 65.~~8~~9	73.1 - 74.9	0.7	46.1 - 47.9	No
R15	150 East 42nd Street - Lex Ave North	72.1 - 75.1	63.~~2~~3 - 69.7	72.~~7~~8 - 75.5	1.4	45.~~7~~8 - 48.5	No
R16	150 East 42nd Street - West	73.2 - 75.2	62.~~9~~8 - 69	73.6 - 75.5	1.2	46.6 - 48.5	No
R17	150 East 42nd Street - Mid	72.8 - 74.7	~~59~~58.4 - 62.~~5~~3	73 - 74.8	0.3	46 - 47.8	No
R18	150 East 42nd Street - East	73.4 - 75.5	~~56.2 - 58.2~~55.4 -	73.5 - 75.~~6~~5	0.1	46.5 - 48.~~6~~5	No
R19	666 3rd Avenue - South Side	73.2 - 74.8	52.9 - 53.~~5 -~~	73.2 - 74.8	0.~~1~~0	46.2 - 47.8	No
R20	395 Lexington Avenue - 42nd St Side East	72.3 - 74.5	~~53.4~~52.8 - 56.~~9~~	72.~~4~~3 - 74.5	0.1	45.~~4~~3 - 47.5	No
R21	395 Lexington Avenue - 42nd St Side West	73.5 - 75.5	~~57.1~~56.9 - 65	73.6 - 75.6	0.5	46.6 - 48.6	No
R22	395 Lexington Avenue - Lex Ave Side South	72.6 - 75.6	60.2 - 75.6	72.9 - 78.1	3.6	45.9 - 51.1	Yes
R23	395 Lexington Avenue - Lex Ave Side North	72 - 75.2	60.3 - 76.5	72.7 - 78.3	4.6	45.7 - 51.3	Yes
R24	395 Lexington Avenue - 43rd St Side West	68.5 - 70.3	55.~~6~~5 - 65.2	69.3 - 70.8	1.5	42.3 - 43.8	No
R25	395 Lexington Avenue - 43rd St Side East	67.9 - 70.1	53.~~4~~3 - 61.1	68.4 - 70.3	0.8	41.4 - 43.3	No
R26	666 3rd Avenue - North Side	68.8 - 70	54.5 - 56.6	69 - 70.2	0.2	42 - 43.2	No
R27	425 Lexington Avenue - South Side	67.9 - 68.9	64.2 - 69	69.4 - 71.5	3.6	42.4 - 44.5	No
R28	425 Lexington Avenue - Lex Ave South	71.2 - 73.1	64.6 - 69.9	72.1 - 74	2.2	45.1 - 47	No
R29	425 Lexington Avenue - Lex Ave North	69.8 - 72.9	61.2 - 65.1	70.5 - 73.2	0.9	43.5 - 46.2	No
R30	425 Lexington Avenue - North Side	67.9 - 67.9	46.1 - 47	67.9 - 67.9	0.0	40.9 - 40.9	No
R31	437 Lexington Avenue - South Side	67.9 - 67.9	48.8 - 56.1	68 - 68.2	0.3	41 - 41.2	No

Table 15-22 Construction Sound Levels: Construction and Mobile Source (1st Shift) – Month 88 – With-Action

Receptor	Location	Existing Ambient (dBA, L_{eq})	Construction (dBA, L_{eq})	Future Sound Level (dBA, L_{eq})	Maximum Increase (dBA)	Interior Levels (L_{10}, dBA)	Increase of 3 dBA or More and Exceeds Interior Criterion
R32	437 Lexington Avenue - West Side	72.5 - 74	58.~~5~~6 - 61.8	72.8 - 74.1	0.3	45.8 - 47.1	No
R33	451 Lexington Avenue	72.3 - 74	57.~~3~~4 - 60.1	72.5 - 74.1	0.2	45.5 - 47.1	No
R34	450 Lexington Avenue - Lex Side North	72.4 - 74.2	57.~~5~~6 - 60.~~4~~5	72.6 - 74.3	0.2	45.6 - 47.3	No
R35	450 Lexington Avenue - Lex Side South	71.8 - 73.8	58.6 - 62	72 - 73.9	0.4	45 - 46.9	No
R36	450 Lexington Avenue - South Side	67.9 - 67.9	42.1 - 45.2	67.9 - 67.9	0.0	40.9 - 40.9	No
R37	420 Lexington Avenue - Lex Side North	72.4 - 74.2	60.8 - 63.8	72.7 - 74.4	0.5	45.7 - 47.4	No
R38	420 Lexington Avenue - Lex Side Mid	72.1 - 73.9	62 - 66.1	72.6 - 74.2	0.8	45.6 - 47.2	No
R39	420 Lexington Avenue - Lex Side South	72.4 - 74.3	63.1 - 69.5	72.9 - 74.8	1.6	45.9 - 47.8	No
R40	416 Lexington Avenue - East	73.3 - 74.3	70.1 - 73.1	75.7 - 76.2	2.9	48.7 - 49.2	No
R41	420 Lexington Avenue - Alley Side East	67.9 - 67.9	57.1 - 74.1	68.2 - 75	7.1	41.2 - 48	No
R42	420 Lexington Avenue - Alley Side Mid	67.9 - 67.9	60.8 - 73.5	68.7 - 74.6	6.7	41.7 - 47.6	No
R43	416 Lexington Avenue - East	67.9 - 67.9	70.9 - 70.9	72.7 - 72.7	4.8	45.7 - 45.7	No
R44	420 Lexington Avenue - Alley Side West	69.1 - 69.1	66.2 - 72.5	70.9 - 74.1	5.0	43.9 - 47.1	No
R45	420 Lexington Avenue - Park Ave Side South	71.8 - 73.3	48.7 - 61.2	72 - 73.3	0.3	45 - 46.3	No
R46	420 Lexington Avenue - Park Ave Side Mid	71.8 - 73	45.5 - 53.8	71.8 - 73	0.1	44.8 - 46	No
R47	420 Lexington Avenue - Park Ave Side North	71.4 - 73.4	43.3 - 50.3	71.4 - 73.4	0.0	44.4 - 46.4	No
R48	416 Lexington Avenue - Park Ave Side South	69.9 - 72.5	41.3 - 47.8	69.9 - 72.5	0.0	42.9 - 45.5	No
R49	416 Lexington Avenue - Park Ave Side North	69.6 - 71.2	39.7 - 45.5	69.6 - 71.2	0.0	42.6 - 44.2	No
R50	East 42nd St - North of Metlife	77.4 - 78	40.2 - 50.7	77.4 - 78	0.0	50.4 - 51	No
R51	Metlife - East	72.2 - 73.3	52.1 - 55.5	72.3 - 73.4	0.1	45.3 - 46.4	No
R52	Metlife - South Side - East	69.1 - 70.8	41.6 - 60.8	69.1 - 71	0.6	42.1 - 44	No
R53	Metlife - South Side - West	69.1 - 69.1	40.5 - 60.3	69.1 - 69.6	0.5	42.1 - 42.6	No
R54	East 42nd St - South of Metlife	72.1 - 73.4	44.5 - 59	72.3 - 73.4	0.2	45.3 - 46.4	No
R55	Grand Central Station - Park Ave Side North	72.1 - 73.4	47.7 - 69.7	73.4 - 74.1	2.0	46.4 - 47.1	No
R56	Grand Central Station - Park Ave Side South	72.1 - 73.3	50 - 70.8	73.3 - 74.5	2.4	46.3 - 47.5	No
R57	Grand Central Station - 42nd St Side East	75 - 75.1	~~49.9~~50 - 64.8	75 - 75.5	0.4	48 - 48.5	No
R58	Grand Central Station - 42nd St Side West	74.8 - 75.3	46.~~2~~9 - 59.~~2~~3	74.8 - 75.4	0.1	47.8 - 48.4	No
R59	One Vanderbilt - Vand Side North	69.1 - 69.1	~~38.8 -~~ 43.~~5~~1 -	69.1 - 69.1	0.0	42.1 - 42.1	No
R60	One Vanderbilt - Vand Side South	69.1 - 69.1	~~37.9 -~~ 43.7 - 46.8	69.1 - 69.1	0.0	42.1 - 42.1	No

Source: VHB, 2021

Table 15-23 Construction Sound Levels: Construction and Mobile Source (2nd Shift) – Month 24 – No-Action and With-Action

Receptor	Location	Existing Ambient (dBA, L_{eq})	Construction (dBA, L_{eq})	Future Sound Level (dBA, L_{eq})	Maximum Increase (dBA)	Interior Levels (L_{10}, dBA)	Increase of 3 dBA or More and Exceeds Interior Criterion
R1	118 Park Avenue - 42nd St Side	66.7 - 67.9	57.8 - 67.5	67.3 - 70.2	3.4	40.3 - 43.2	No
R2	118 Park Avenue - Park Ave North	62.2 - 63.1	56.4 - 67.8	63.2 - 69	6.1	36.2 - 42	No
R3	118 Park Avenue - Park Ave South	61 - 61.7	51.4 - 63.5	61.5 - 65.7	4.1	34.5 - 38.7	No
R4	125 Park Avenue - Park Ave South	60.4 - 61.5	51.9 - 61.9	61 - 64.5	3.4	34 - 37.5	No
R5	125 Park Avenue - Park Ave North	62.3 - 63.1	51.4 - 62	62.6 - 65.5	2.6	35.6 - 38.5	No
R6	125 Park Avenue - 42nd St Side	66.4 - 67.6	59.5 - 72.8	67.2 - 73.8	7.0	40.2 - 46.8	No
R7	110 East 42nd Street	68.4 - 69.4	62.4 - 73.3	69.6 - 74.5	6.1	42.6 - 47.5	No
R8	110 East 42nd Street - Alley Side	63 - 65.7	62.~~3~~2 - 69	66.8 - 70.6	5.0	39.8 - 43.6	No
R9	110 East 42nd Street - Alley Building	68.7 - 69.5	66.~~3~~2 - 73.3	71.2 - 74.6	5.9	44.2 - 47.6	No
R10	374 Lexington Avenue - Alley Side	64.7 - 65.7	59.9 - 70	66.2 - 71.2	6.3	39.2 - 44.2	No
R11	374 Lexington Avenue - 42nd St Side	67.5 - 69.7	57.~~2~~1 - 74	67.9 - 75.1	6.4	40.9 - 48.1	No
R12	374 Lexington Avenue - Lex Ave North	66.6 - 68.4	55.~~4~~5 - 67.5	67.1 - 70.5	3.1	40.1 - 43.5	No
R13	374 Lexington Avenue - Lex Ave South	65.6 - 67.8	~~54.8~~55 - 63.~~1~~2	~~65.9~~66 - 68.~~3~~4	1.~~5~~6	~~38.9~~39 - 41.~~3~~4	No
R14	150 East 42nd Street - Lex Ave South	66 - 67.7	57.~~4~~5 - 67.9	66.6 - 70.4	3.7	39.6 - 43.4	No
R15	150 East 42nd Street - Lex Ave North	65.6 - 68.4	56.~~6~~7 - 70.9	66.2 - 72.5	5.2	39.2 - 45.5	No
R16	150 East 42nd Street - West	68.2 - 70.1	~~53.3~~52.7 - 71.7	68.3 - 73.6	4.6	41.3 - 46.6	No
R17	150 East 42nd Street - Mid	67.8 - 69.8	54.~~7~~2 - 67.6	68.1 - 71.1	2.5	41.1 - 44.1	No
R18	150 East 42nd Street - East	68.1 - 70.3	~~51.5~~50.7 - 63.9	68.2 - 70.5	1.2	41.2 - 43.5	No
R19	666 3rd Avenue - South Side	67.9 - 69.7	54.~~7~~3 - 61.8	68.2 - 69.8	0.9	41.2 - 42.8	No
R20	395 Lexington Avenue - 42nd St Side East	67.2 - 69.5	~~48.9~~47.8 - 64.~~8~~7	67.~~3~~2 - 69.9	1.6	40.~~3~~2 - 42.9	No
R21	395 Lexington Avenue - 42nd St Side West	68.3 - 70.2	52.~~7~~2 - 68.7	68.4 - 71.9	2.9	41.4 - 44.9	No
R22	395 Lexington Avenue - Lex Ave Side South	66.4 - 69	52.~~7~~5 - 71.8	66.6 - 73.3	5.4	39.6 - 46.3	No
R23	395 Lexington Avenue - Lex Ave Side North	65.2 - 68.3	52.~~5~~2 - 70.8	65.7 - 72.3	5.4	38.7 - 45.3	No
R24	395 Lexington Avenue - 43rd St Side West	61.9 - 63.5	~~47.1~~46.8 - 61.2	62.4 - 64.9	2.5	35.4 - 37.9	No
R25	395 Lexington Avenue - 43rd St Side East	60.4 - 63.3	45.~~9~~8 - 63.7	60.9 - 65.7	4.2	33.9 - 38.7	No
R26	666 3rd Avenue - North Side	61.9 - 63.3	48.3 - 57.8	62.2 - 64	1.2	35.2 - 37	No
R27	425 Lexington Avenue - South Side	60.3 - 62.1	54.5 - 67.6	61.6 - 68.4	7.5	34.6 - 41.4	No
R28	425 Lexington Avenue - Lex Ave South	64.2 - 66.1	61 - 66.5	66 - 68.7	3.9	39 - 41.7	No
R29	425 Lexington Avenue - Lex Ave North	62.8 - 65.9	57.~~6~~5 - 66.1	65.1 - 68.4	3.9	38.1 - 41.4	No
R30	425 Lexington Avenue - North Side	59.5 - 60.1	50.3 - 58.3	60.5 - 62	2.5	33.5 - 35	No
R31	437 Lexington Avenue - South Side	60 - 61.6	51.~~1~~ - 60.7	62 - 63.6	3.2	35 - 36.6	No

Table 15-23 Construction Sound Levels: Construction and Mobile Source (2nd Shift) – Month 24 – No-Action and With-Action

Receptor	Location	Existing Ambient (dBA, L_{eq})	Construction (dBA, L_{eq})	Future Sound Level (dBA, L_{eq})	Maximum Increase (dBA)	Interior Levels (L_{10}, dBA)	Increase of 3 dBA or More and Exceeds Interior Criterion
R32	437 Lexington Avenue - West Side	65.3 - 66.9	53.~~7~~2 - 62.1	66.6 - 67.4	1.5	39.6 - 40.4	No
R33	451 Lexington Avenue	65.1 - 66.8	51.~~9~~2 - 59.~~5~~4	66 - 66.9	1.0	39 - 39.9	No
R34	450 Lexington Avenue - Lex Side North	65.3 - 67	52.~~7~~ - 56.~~7~~4	65.7 - 67.~~2~~1	0.5	38.7 - 40.~~2~~1	No
R35	450 Lexington Avenue - Lex Side South	64.7 - 66.7	51.~~9~~1 - 59.~~6~~5	65.~~6~~5 - 66.8	1.~~2~~1	38.~~6~~5 - 39.8	No
R36	450 Lexington Avenue - South Side	59.5 - 59.5	45.1 - 57.6	59.7 - 61.7	2.2	32.7 - 34.7	No
R37	420 Lexington Avenue - Lex Side North	65.4 - 67.1	~~53.2~~52.6 - 59.~~6~~5	66.~~3~~2 - 67.3	1.0	39.~~3~~2 - 40.3	No
R38	420 Lexington Avenue - Lex Side Mid	65.1 - 66.9	59.~~6~~5 - 64.3	66.3 - 68.1	2.3	39.3 - 41.1	No
R39	420 Lexington Avenue - Lex Side South	65.5 - 67.3	~~58.1~~57.9 - 65.~~9~~8	67.7 - 69	2.9	40.7 - 42	No
R40	416 Lexington Avenue - East	66.4 - 67.3	62.~~3~~2 - 71.2	68.5 - 72.4	6.0	41.5 - 45.4	No
R41	420 Lexington Avenue - Alley Side East	59.5 - 60.2	55.7 - 68.2	61 - 68.7	9.2	34 - 41.7	No
R42	420 Lexington Avenue - Alley Side Mid	59.5 - 59.5	60.3 - 70.8	62.9 - 71.1	11.6	35.9 - 44.1	No
R43	416 Lexington Avenue - East	59.5 - 59.5	72.5 - 72.5	72.7 - 72.7	13.2	45.7 - 45.7	No
R44	420 Lexington Avenue - Alley Side West	59.5 - 59.5	62 - 70.9	63.9 - 71.2	11.7	36.9 - 44.2	No
R45	420 Lexington Avenue - Park Ave Side South	59.5 - 60.9	60 - 66.6	62.8 - 67.5	7.4	35.8 - 40.5	No
R46	420 Lexington Avenue - Park Ave Side Mid	59.5 - 60.6	55.6 - 62	61.4 - 63.9	4.4	34.4 - 36.9	No
R47	420 Lexington Avenue - Park Ave Side North	59.5 - 61	51.3 - 61.4	61.2 - 63.6	4.1	34.2 - 36.6	No
R48	416 Lexington Avenue - Park Ave Side South	59.5 - 60.1	47.7 - 56.6	60.2 - 61.3	1.8	33.2 - 34.3	No
R49	416 Lexington Avenue - Park Ave Side North	59.5 - 59.5	45.4 - 55	59.7 - 60.8	1.3	32.7 - 33.8	No
R50	East 42nd St - North of Metlife	64.9 - 65.5	49.5 - 56.5	65.5 - 65.6	0.6	38.5 - 38.6	No
R51	Metlife - East	59.8 - 61	55.6 - 61.2	61.6 - 64	3.2	34.6 - 37	No
R52	Metlife - South Side - East	59.5 - 59.5	46.2 - 61.4	59.7 - 63.6	4.1	32.7 - 36.6	No
R53	Metlife - South Side - West	59.5 - 59.5	43.3 - 61.1	59.6 - 63.4	3.9	32.6 - 36.4	No
R54	East 42nd St - South of Metlife	59.6 - 61	57.9 - 63	62.7 - 64.6	5.0	35.7 - 37.6	No
R55	Grand Central Station - Park Ave Side North	59.8 - 61	53.1 - 64.8	61.7 - 66	6.2	34.7 - 39	No
R56	Grand Central Station - Park Ave Side South	60 - 61	56.1 - 66.8	62.2 - 67.6	7.6	35.2 - 40.6	No
R57	Grand Central Station - 42nd St Side East	63.7 - 63.9	61.4 - 66.7	65.7 - 68.5	4.6	38.7 - 41.5	No
R58	Grand Central Station - 42nd St Side West	64.1 - 64.4	61.9 - 65.8	66.1 - 68.2	3.8	39.1 - 41.2	No
R59	One Vanderbilt - Vand Side North	59.5 - 59.5	44.6 - 50.7	59.6 - 60	0.5	32.6 - 33	No
R60	One Vanderbilt - Vand Side South	59.5 - 59.5	45.~~3~~4 - 51	59.7 - 60.1	0.6	32.7 - 33.1	No

Source: VHB, 2021

Table 15-24 Construction Sound Levels: Construction and Mobile Source (2nd Shift) – Month 57 – No-Action and With-Action

Receptor	Location	Existing Ambient (dBA, L_{eq})	Construction (dBA, L_{eq})	Future Sound Level (dBA, L_{eq})	Maximum Increase (dBA)	Interior Levels (L_{10}, dBA)	Increase of 3 dBA or More and Exceeds Interior Criterion
R1	118 Park Avenue - 42nd St Side	66.7 - 67.9	44.87 - 61.2	67.1 - 68.1	1.0	40.1 - 41.1	No
R2	118 Park Avenue - Park Ave North	62.2 - 63.1	50.7 - 62.4	62.5 - 65.6	2.8	35.5 - 38.6	No
R3	118 Park Avenue - Park Ave South	61 - 61.7	41.53 - 56.9	61.1 - 62.9	1.3	34.1 - 35.9	No
R4	125 Park Avenue - Park Ave South	60.4 - 61.5	41.42 - 45.4	60.5 - 61.6	0.1	33.5 - 34.6	No
R5	125 Park Avenue - Park Ave North	62.3 - 63.1	43.85 - 50.3	62.4 - 63.2	0.3	35.4 - 36.2	No
R6	125 Park Avenue - 42nd St Side	66.4 - 67.6	62.1 - 68.4	68.4 - 70.7	3.9	41.4 - 43.7	No
R7	110 East 42nd Street	68.4 - 69.4	65.87 - 70.8	70.9 - 72.8	4.4	43.9 - 45.8	No
R8	110 East 42nd Street - Alley Side	63 - 65.7	60.2 - 67.7	64.8 - 69.8	4.2	37.8 - 42.8	No
R9	110 East 42nd Street - Alley Building	68.7 - 69.5	66.4 - 70.9	71.2 - 72.9	4.2	44.2 - 45.9	No
R10	374 Lexington Avenue - Alley Side	64.7 - 65.7	60.2 - 67.9	66.2 - 69.7	4.8	39.2 - 42.7	No
R11	374 Lexington Avenue - 42nd St Side	67.5 - 69.7	61.2 - 70.9	68.4 - 72.9	4.2	41.4 - 45.9	No
R12	374 Lexington Avenue - Lex Ave North	66.6 - 68.4	54.56 - 60.9	67 - 68.6	0.9	40 - 41.6	No
R13	374 Lexington Avenue - Lex Ave South	65.6 - 67.8	52.953.1 - 58.1	65.8 - 68	0.5	38.8 - 41	No
R14	150 East 42nd Street - Lex Ave South	66 - 67.7	56.1 - 62.34	66.5 - 68.1	1.4	39.5 - 41.1	No
R15	150 East 42nd Street - Lex Ave North	65.6 - 68.4	61.3 - 67.7	67.3 - 70.5	3.2	40.3 - 43.5	No
R16	150 East 42nd Street - West	68.2 - 70.1	61 - 6760.9 -	6968.9 - 71.1	2.1	4241.9 - 44.1	No
R17	150 East 42nd Street - Mid	67.8 - 69.8	57.356.9 - 61.98	68.4 - 70	0.8	41.4 - 43	No
R18	150 East 42nd Street - East	68.1 - 70.3	5149.5 - 56.63	68.3 - 70.43	0.32	41.3 - 43.43	No
R19	666 3rd Avenue - South Side	67.9 - 69.7	4846.2 - 49.548.4	6867.9 - 69.7	0.10	4140.9 - 42.7	No
R20	395 Lexington Avenue - 42nd St Side East	67.2 - 69.5	49 - 53.247 -	67.3 - 69.5	0.1	40.3 - 42.5	No
R21	395 Lexington Avenue - 42nd St Side West	68.3 - 70.2	50.549.1 - 63.9	68.5 - 70.2	1.2	41.5 - 43.2	No
R22	395 Lexington Avenue - Lex Ave Side South	66.4 - 69	57.98 - 71.6	67 - 73.1	5.2	40 - 46.1	No
R23	395 Lexington Avenue - Lex Ave Side North	65.2 - 68.3	57.98 - 72.8	66.9 - 73.8	6.9	39.9 - 46.8	No
R24	395 Lexington Avenue - 43rd St Side West	61.9 - 63.5	53.21 - 62.7	63.3 - 65.6	3.2	36.3 - 38.6	No
R25	395 Lexington Avenue - 43rd St Side East	60.4 - 63.3	50.6 - 58	61.7 - 63.8	1.7	34.7 - 36.8	No
R26	666 3rd Avenue - North Side	61.9 - 63.3	51.4 - 53.4	62.3 - 63.7	0.5	35.3 - 36.7	No
R27	425 Lexington Avenue - South Side	60.3 - 62.1	63.1 - 68.2	65.1 - 68.9	8.0	38.1 - 41.9	No
R28	425 Lexington Avenue - Lex Ave South	64.2 - 66.1	62.1 - 67.1	66.5 - 69.1	4.3	39.5 - 42.1	No
R29	425 Lexington Avenue - Lex Ave North	62.8 - 65.9	56.31 - 61.6	64.32 - 66.43	1.9	37.32 - 39.43	No
R30	425 Lexington Avenue - North Side	59.5 - 60.1	41.340.6 - 42.61	59.6 - 60.2	0.1	32.6 - 33.2	No
R31	437 Lexington Avenue - South Side	60 - 61.6	4443.3 - 54.5	61.1 - 61.7	1.1	34.1 - 34.7	No

Table 15-24 Construction Sound Levels: Construction and Mobile Source (2nd Shift) – Month 57 – No-Action and With-Action

Receptor	Location	Existing Ambient (dBA, L_{eq})	Construction (dBA, L_{eq})	Future Sound Level (dBA, L_{eq})	Maximum Increase (dBA)	Interior Levels (L_{10}, dBA)	Increase of 3 dBA or More and Exceeds Interior Criterion
R32	437 Lexington Avenue - West Side	65.3 - 66.9	~~53.2~~52.6 - 56.~~3~~1	65.~~8~~7 - 67.1	0.5	38.~~8~~7 - 40.1	No
R33	451 Lexington Avenue	65.1 - 66.8	51.~~8~~1 - 54.~~6~~3	65.4 - 66.9	0.3	38.4 - 39.9	No
R34	450 Lexington Avenue - Lex Side North	65.3 - 67	~~52~~51.2 - 54.~~9~~5	65.5 - 67.1	0.3	38.5 - 40.1	No
R35	450 Lexington Avenue - Lex Side South	64.7 - 66.7	~~53~~52.6 - 56.~~4~~2	65 - 66.9	0.5	38 - 39.9	No
R36	450 Lexington Avenue - South Side	59.5 - 59.5	39.~~4~~3 - 42.7	59.5 - 59.6	0.1	32.5 - 32.6	No
R37	420 Lexington Avenue - Lex Side North	65.4 - 67.1	55.~~6~~4 - 58.~~5~~3	65.8 - 67.5	0.7	38.8 - 40.5	No
R38	420 Lexington Avenue - Lex Side Mid	65.1 - 66.9	56.~~6~~4 - 60.~~9~~8	65.~~8~~7 - 67.3	1.2	38.~~8~~7 - 40.3	No
R39	420 Lexington Avenue - Lex Side South	65.5 - 67.3	58.~~5~~4 - 65.~~1~~	66.3 - 68.6	2.5	39.3 - 41.6	No
R40	416 Lexington Avenue - East	66.4 - 67.3	66.~~1~~ - 69.2	69.~~8~~7 - 71	4.6	42.~~8~~7 - 44	No
R41	420 Lexington Avenue - Alley Side East	59.5 - 60.2	54.9 - 72.3	60.8 - 72.5	13.0	33.8 - 45.5	No
R42	420 Lexington Avenue - Alley Side Mid	59.5 - 59.5	58.4 - 72	62 - 72.2	12.7	35 - 45.2	No
R43	416 Lexington Avenue - East	59.5 - 59.5	70.2 - 70.2	70.6 - 70.6	11.1	43.6 - 43.6	No
R44	420 Lexington Avenue - Alley Side West	59.5 - 59.5	64.6 - 71.6	65.8 - 71.9	12.4	38.8 - 44.9	No
R45	420 Lexington Avenue - Park Ave Side South	59.5 - 60.9	46.7 - 59.7	61.1 - 62.9	2.8	34.1 - 35.9	No
R46	420 Lexington Avenue - Park Ave Side Mid	59.5 - 60.6	43.9 - 51.9	59.9 - 60.7	0.7	32.9 - 33.7	No
R47	420 Lexington Avenue - Park Ave Side North	59.5 - 61	41.6 - 48.3	59.8 - 61	0.3	32.8 - 34	No
R48	416 Lexington Avenue - Park Ave Side South	59.5 - 60.1	39.6 - 45.8	59.6 - 60.1	0.2	32.6 - 33.1	No
R49	416 Lexington Avenue - Park Ave Side North	59.5 - 59.5	37.9 - 43.4	59.5 - 59.6	0.1	32.5 - 32.6	No
R50	East 42nd St - North of Metlife	64.9 - 65.5	38.3 - 46.4	65 - 65.5	0.1	38 - 38.5	No
R51	Metlife - East	59.8 - 61	48.6 - 51.8	60.2 - 61.5	0.5	33.2 - 34.5	No
R52	Metlife - South Side - East	59.5 - 59.5	40 - 61.2	59.5 - 63.4	3.9	32.5 - 36.4	No
R53	Metlife - South Side - West	59.5 - 59.5	39 - 59.8	59.5 - 62.7	3.2	32.5 - 35.7	No
R54	East 42nd St - South of Metlife	59.6 - 61	42.4 - 57.6	61.1 - 61.7	2.1	34.1 - 34.7	No
R55	Grand Central Station - Park Ave Side North	59.8 - 61	46 - 68.2	61.1 - 68.8	9.0	34.1 - 41.8	No
R56	Grand Central Station - Park Ave Side South	60 - 61	48.8 - 69.5	61.3 - 70	10.0	34.3 - 43	No
R57	Grand Central Station - 42nd St Side East	63.7 - 63.9	47 - 63.6	63.8 - 66.8	2.9	36.8 - 39.8	No
R58	Grand Central Station - 42nd St Side West	64.1 - 64.4	44.~~2~~1 - 60.1	64.1 - 65.8	1.4	37.1 - 38.8	No
R59	One Vanderbilt - Vand Side North	59.5 - 59.5	37.~~3~~4 - 42.2	59.5 - 59.6	0.1	32.5 - 32.6	No
R60	One Vanderbilt - Vand Side South	59.5 - 59.5	37.~~9~~8 - 43.1	59.5 - 59.6	0.1	32.5 - 32.6	No

Source: VHB, 2021

Table 15-25 Construction Sound Levels: Construction and Mobile Source (2nd Shift) – Month 70 – No-Action

Receptor	Location	Existing Ambient (dBA, L_{eq})	Construction (dBA, L_{eq})	Future Sound Level (dBA, L_{eq})	Maximum Increase (dBA)	Interior Levels (L_{10}, dBA)	Increase of 3 dBA or More and Exceeds Interior Criterion
R1	118 Park Avenue - 42nd St Side	66.7 - 67.9	~~42.1~~41.9 - 54.8	66.9 - 67.9	0.3	39.9 - 40.9	No
R2	118 Park Avenue - Park Ave North	62.2 - 63.1	~~47~~46.9 - 57.4	62.3 - 64.1	1.1	35.3 - 37.1	No
R3	118 Park Avenue - Park Ave South	61 - 61.7	~~37.4~~36.9 - ~~47.1~~	61.1 - 61.8	0.1	34.1 - 34.8	No
R4	125 Park Avenue - Park Ave South	60.4 - 61.5	38.~~8~~5 - 40.~~3~~2	60.4 - 61.5	0.0	33.4 - 34.5	No
R5	125 Park Avenue - Park Ave North	62.3 - 63.1	41.~~6~~ - 44.~~6~~4	62.3 - 63.2	0.1	35.3 - 36.2	No
R6	125 Park Avenue - 42nd St Side	66.4 - 67.6	57.~~8~~7 - 63.6	~~67~~66.9 - 68.5	1.7	~~40~~39.9 - 41.5	No
R7	110 East 42nd Street	68.4 - 69.4	60.6 - 65.6	69.3 - 70.2	1.8	42.3 - 43.2	No
R8	110 East 42nd Street - Alley Side	63 - 65.7	51.8 - 58.2	63.3 - 66.3	0.7	36.3 - 39.3	No
R9	110 East 42nd Street - Alley Building	68.7 - 69.5	60 - 64.5	70 - 70.1	1.4	43 - 43.1	No
R10	374 Lexington Avenue - Alley Side	64.7 - 65.7	53.~~4~~3 - 61.~~2~~1	65.3 - 66.7	1.5	38.3 - 39.7	No
R11	374 Lexington Avenue - 42nd St Side	67.5 - 69.7	54.~~8~~7 - 64.5	67.7 - 70.1	1.4	40.7 - 43.1	No
R12	374 Lexington Avenue - Lex Ave North	66.6 - 68.4	~~45.5~~46.9 - 53.2	66.7 - 68.4	0.2	39.7 - 41.4	No
R13	374 Lexington Avenue - Lex Ave South	65.6 - 67.8	~~44.1 - 48.1~~46.4 -	65.~~6~~7 - 67.8	0.1	38.~~6~~7 - 40.8	No
R14	150 East 42nd Street - Lex Ave South	66 - 67.7	51.5 - 55.4~~6~~	66.~~1~~2 - 67.8	0.3	39.~~1~~2 - 40.8	No
R15	150 East 42nd Street - Lex Ave North	65.6 - 68.4	~~51.9~~52.2 - 58.6	65.9 - 68.5	0.5	38.9 - 41.5	No
R16	150 East 42nd Street - West	68.2 - 70.1	~~55.1~~54.7 - 60.~~9~~8	68.4 - 70.3	0.6	41.4 - 43.3	No
R17	150 East 42nd Street - Mid	67.8 - 69.8	~~51~~50.9 - ~~56~~55.7	67.9 - 69.9	0.2	40.9 - 42.9	No
R18	150 East 42nd Street - East	68.1 - 70.3	50.~~9 - 54.2~~ - 53.7	68.2 - 70.~~4~~3	0.1	41.2 - 43.~~4~~3	No
R19	666 3rd Avenue - South Side	67.9 - 69.7	~~47.9 - 49.5~~45.7 -	~~68~~67.9 - 69.7	0.~~1~~0	~~41~~40.9 - 42.7	No
R20	395 Lexington Avenue - 42nd St Side East	67.2 - 69.5	~~48.3~~45.8 - 52.~~6~~	67.~~3~~2 - 69.5	0.1	40.~~3~~2 - 42.5	No
R21	395 Lexington Avenue - 42nd St Side West	68.3 - 70.2	~~50.7~~49.9 - 59.~~9~~8	68.4 - 70.3	0.5	41.4 - 43.3	No
R22	395 Lexington Avenue - Lex Ave Side South	66.4 - 69	51.~~9~~7 - 64.6	66.~~6~~5 - 69.6	1.7	39.~~6~~5 - 42.6	No
R23	395 Lexington Avenue - Lex Ave Side North	65.2 - 68.3	~~52.1~~51.8 - 65.~~9~~8	65.6 - 69.4	2.5	38.6 - 42.4	No
R24	395 Lexington Avenue - 43rd St Side West	61.9 - 63.5	46.~~9~~5 - 56.1	62.3 - 63.6	0.9	35.3 - 36.6	No
R25	395 Lexington Avenue - 43rd St Side East	60.4 - 63.3	42.~~7~~5 - 47.8	60.5 - 63.3	0.2	33.5 - 36.3	No
R26	666 3rd Avenue - North Side	61.9 - 63.3	39.~~2~~3 - 42.~~8~~9	~~61.9~~62 - 63.3	0.1	~~34.9~~35 - 36.3	No
R27	425 Lexington Avenue - South Side	60.3 - 62.1	56.~~3~~2 - 62.5	62.1 - 64.8	3.9	35.1 - 37.8	No
R28	425 Lexington Avenue - Lex Ave South	64.2 - 66.1	56.~~7~~5 - 61.3	65 - 66.6	1.7	38 - 39.6	No
R29	425 Lexington Avenue - Lex Ave North	62.8 - 65.9	~~49.3~~48.2 - 56.~~1~~	63.~~3~~2 - 66	0.6	36.~~3~~2 - 39	No
R30	425 Lexington Avenue - North Side	59.5 - 60.1	36.9 - 38.~~2 -~~	59.5 - 60.1	0.0	32.5 - 33.1	No
R31	437 Lexington Avenue - South Side	60 - 61.6	~~40.7 - 50.1~~39 -	60.4 - 61.6	0.4	33.4 - 34.6	No

Table 15-25 Construction Sound Levels: Construction and Mobile Source (2nd Shift) – Month 70 – No-Action

Receptor	Location	Existing Ambient (dBA, L_{eq})	Construction (dBA, L_{eq})	Future Sound Level (dBA, L_{eq})	Maximum Increase (dBA)	Interior Levels (L_{10}, dBA)	Increase of 3 dBA or More and Exceeds Interior Criterion
R32	437 Lexington Avenue - West Side	65.3 - 66.9	45.9 - 47.8	65.4 - 6766.9	0.1	38.4 - 4039.9	No
R33	451 Lexington Avenue	65.1 - 66.8	4745.4 - 46.3	65.21 - 66.98	0.1	38.21 - 39.98	No
R34	450 Lexington Avenue - Lex Side North	65.3 - 67	47.1 - 48.445.3 -	65.43 - 67.1	0.10	38.43 - 40.1	No
R35	450 Lexington Avenue - Lex Side South	64.7 - 66.7	45.1 - 46.9	64.87 - 66.87	0.1	37.87 - 39.87	No
R36	450 Lexington Avenue - South Side	59.5 - 59.5	33.1 - 36.85	59.5 - 59.5	0.0	32.5 - 32.5	No
R37	420 Lexington Avenue - Lex Side North	65.4 - 67.1	48.1 - 4946.3 -	65.5 - 67.21	0.1	38.5 - 40.21	No
R38	420 Lexington Avenue - Lex Side Mid	65.1 - 66.9	47.4 - 48.8	65.2 - 67	0.1	38.2 - 40	No
R39	420 Lexington Avenue - Lex Side South	65.5 - 67.3	51.650.8 - 55.96	65.7 - 67.4	0.4	38.7 - 40.4	No
R40	416 Lexington Avenue - East	66.4 - 67.3	49.948.7 - 58.54	67.1 - 67.4	0.76	40.1 - 40.4	No
R41	420 Lexington Avenue - Alley Side East	59.5 - 60.2	49.9 - 67.9	60 - 68.5	9.0	33 - 41.5	No
R42	420 Lexington Avenue - Alley Side Mid	59.5 - 59.5	51.76 - 66.2	60.2 - 67	7.5	33.2 - 40	No
R43	416 Lexington Avenue - East	59.5 - 59.5	63.3 - 63.3	64.8 - 64.8	5.3	37.8 - 37.8	No
R44	420 Lexington Avenue - Alley Side West	59.5 - 59.5	57.5 - 63.9	61.6 - 65.2	5.7	34.6 - 38.2	No
R45	420 Lexington Avenue - Park Ave Side South	59.5 - 60.9	39.1 - 57.1	60.5 - 61.9	1.8	33.5 - 34.9	No
R46	420 Lexington Avenue - Park Ave Side Mid	59.5 - 60.6	36 - 50.2	59.8 - 60.6	0.5	32.8 - 33.6	No
R47	420 Lexington Avenue - Park Ave Side North	59.5 - 61	34.2 - 46.7	59.7 - 61	0.2	32.7 - 34	No
R48	416 Lexington Avenue - Park Ave Side South	59.5 - 60.1	32.4 - 44.2	59.6 - 60.1	0.1	32.6 - 33.1	No
R49	416 Lexington Avenue - Park Ave Side North	59.5 - 59.5	30.8 - 41.9	59.5 - 59.6	0.1	32.5 - 32.6	No
R50	East 42nd St - North of Metlife	64.9 - 65.5	31.4 - 49.5	65 - 65.5	0.1	38 - 38.5	No
R51	Metlife - East	59.8 - 61	48.4 - 54.1	60.5 - 61.6	0.9	33.5 - 34.6	No
R52	Metlife - South Side - East	59.5 - 59.5	32.7 - 52.8	59.5 - 60.3	0.8	32.5 - 33.3	No
R53	Metlife - South Side - West	59.5 - 59.5	31.7 - 51.5	59.5 - 60.1	0.6	32.5 - 33.1	No
R54	East 42nd St - South of Metlife	59.6 - 61	37.3 - 55.3	61 - 61	1.4	34 - 34	No
R55	Grand Central Station - Park Ave Side North	59.8 - 61	38.7 - 60.8	61 - 63.3	3.5	34 - 36.3	No
R56	Grand Central Station - Park Ave Side South	60 - 61	42.2 - 62.7	61.1 - 64.6	4.6	34.1 - 37.6	No
R57	Grand Central Station - 42nd St Side East	63.7 - 63.9	4443.8 - 60	63.7 - 65.4	1.5	36.7 - 38.4	No
R58	Grand Central Station - 42nd St Side West	64.1 - 64.4	39 - 4838.8 -	64.1 - 64.5	0.1	37.1 - 37.5	No
R59	One Vanderbilt - Vand Side North	59.5 - 59.5	34.9 - 35.71 -	59.5 - 59.5	0.0	32.5 - 32.5	No
R60	One Vanderbilt - Vand Side South	59.5 - 59.5	36.1 - 39.12	59.5 - 59.5	0.0	32.5 - 32.5	No

Source: VHB, 2021

Table 15-26 Construction Sound Levels: Construction and Mobile Source (2nd Shift) – Month 70 – With-Action

Receptor	Location	Existing Ambient (dBA, L_{eq})	Construction (dBA, L_{eq})	Future Sound Level (dBA, L_{eq})	Maximum Increase (dBA)	Interior Levels (L_{10}, dBA)	Increase of 3 dBA or More and Exceeds Interior Criterion
R1	118 Park Avenue - 42nd St Side	66.7 - 67.9	44.~~8~~7 - 61	67.1 - 68.1	1.0	40.1 - 41.1	No
R2	118 Park Avenue - Park Ave North	62.2 - 63.1	51.7 - 62.2	62.6 - 65.5	2.7	35.6 - 38.5	No
R3	118 Park Avenue - Park Ave South	61 - 61.7	41.~~5~~3 - 56.8	61.1 - 62.8	1.2	34.1 - 35.8	No
R4	125 Park Avenue - Park Ave South	60.4 - 61.5	41.~~4~~2 - 45.3	60.5 - 61.6	0.1	33.5 - 34.6	No
R5	125 Park Avenue - Park Ave North	62.3 - 63.1	43.~~8~~5 - 50.3	62.4 - 63.2	0.3	35.4 - 36.2	No
R6	125 Park Avenue - 42nd St Side	66.4 - 67.6	62 - 68.3	68.4 - 70.6	3.8	41.4 - 43.6	No
R7	110 East 42nd Street	68.4 - 69.4	65.~~8~~7 - 70.8	70.9 - 72.8	4.4	43.9 - 45.8	No
R8	110 East 42nd Street - Alley Side	63 - 65.7	60.2 - 67.7	64.8 - 69.8	4.2	37.8 - 42.8	No
R9	110 East 42nd Street - Alley Building	68.7 - 69.5	66.4 - 70.9	71.2 - 72.9	4.2	44.2 - 45.9	No
R10	374 Lexington Avenue - Alley Side	64.7 - 65.7	60.2 - 67.9	66.2 - 69.7	4.8	39.2 - 42.7	No
R11	374 Lexington Avenue - 42nd St Side	67.5 - 69.7	61.2 - 71.1	68.4 - 73.1	4.4	41.4 - 46.1	No
R12	374 Lexington Avenue - Lex Ave North	66.6 - 68.4	54.~~5~~6 - 60.9	67 - 68.6	0.9	40 - 41.6	No
R13	374 Lexington Avenue - Lex Ave South	65.6 - 67.8	~~52.9~~53.1 - 58.1	65.8 - 68	0.5	38.8 - 41	No
R14	150 East 42nd Street - Lex Ave South	66 - 67.7	56.1 - 62.~~3~~4	66.5 - 68.1	1.4	39.5 - 41.1	No
R15	150 East 42nd Street - Lex Ave North	65.6 - 68.4	61.3 - 67.7	67.3 - 70.5	3.2	40.3 - 43.5	No
R16	150 East 42nd Street - West	68.2 - 70.1	~~61~~60.9 - 67.~~1~~	~~69~~68.9 - 71.~~2~~1	2.~~2~~1	~~42~~41.9 - 44.~~2~~1	No
R17	150 East 42nd Street - Mid	67.8 - 69.8	57.~~4 - 62~~ - 61.9	68.4 - 70	0.~~9~~8	41.4 - 43	No
R18	150 East 42nd Street - East	68.1 - 70.3	~~51~~49.5 - 56.~~8~~5	68.3 - 70.~~4~~3	0.~~3~~2	41.3 - 43.~~4~~3	No
R19	666 3rd Avenue - South Side	67.9 - 69.7	~~48~~46.2 - ~~49.5~~48.4	~~68~~67.9 - 69.7	0.~~1~~0	~~41~~40.9 - 42.7	No
R20	395 Lexington Avenue - 42nd St Side East	67.2 - 69.5	~~49 - 53.3~~47 -	67.3 - 69.5	0.1	40.3 - 42.5	No
R21	395 Lexington Avenue - 42nd St Side West	68.3 - 70.2	~~50.5~~49.1 - 63.9	68.5 - 70.2	1.2	41.5 - 43.2	No
R22	395 Lexington Avenue - Lex Ave Side South	66.4 - 69	57.~~9~~8 - 71.5	67 - 73.1	5.2	40 - 46.1	No
R23	395 Lexington Avenue - Lex Ave Side North	65.2 - 68.3	57.~~9~~8 - 72.7	66.9 - 73.7	6.8	39.9 - 46.7	No
R24	395 Lexington Avenue - 43rd St Side West	61.9 - 63.5	53.~~2~~1 - 62.8	63.3 - 65.6	3.2	36.3 - 38.6	No
R25	395 Lexington Avenue - 43rd St Side East	60.4 - 63.3	50.6 - 58.1	61.7 - 63.8	1.7	34.7 - 36.8	No
R26	666 3rd Avenue - North Side	61.9 - 63.3	51.4 - 53.5	62.3 - 63.7	0.5	35.3 - 36.7	No
R27	425 Lexington Avenue - South Side	60.3 - 62.1	63.1 - 68.3	65.1 - 69	8.1	38.1 - 42	No
R28	425 Lexington Avenue - Lex Ave South	64.2 - 66.1	62.3 - 67.1	66.5 - 69.1	4.3	39.5 - 42.1	No
R29	425 Lexington Avenue - Lex Ave North	62.8 - 65.9	56.~~3~~1 - 62.1	64.4 - 66.~~4~~3	2.1	37.4 - 39.~~4~~3	No
R30	425 Lexington Avenue - North Side	59.5 - 60.1	~~41.3~~40.6 - 42.~~6~~1	59.6 - 60.2	0.1	32.6 - 33.2	No
R31	437 Lexington Avenue - South Side	60 - 61.6	~~44.3~~43.6 - 55	61.2 - 61.7	1.2	34.2 - 34.7	No

Table 15-26 Construction Sound Levels: Construction and Mobile Source (2nd Shift) – Month 70 – With-Action

Receptor	Location	Existing Ambient (dBA, L_{eq})	Construction (dBA, L_{eq})	Future Sound Level (dBA, L_{eq})	Maximum Increase (dBA)	Interior Levels (L_{10}, dBA)	Increase of 3 dBA or More and Exceeds Interior Criterion
R32	437 Lexington Avenue - West Side	65.3 - 66.9	~~53.2~~52.7 - 56.~~4~~2	65.~~8~~7 - 67.1	0.5	38.~~8~~7 - 40.1	No
R33	451 Lexington Avenue	65.1 - 66.8	52.~~5~~ - 54.~~7~~4	65.4 - ~~67~~66.9	0.3	38.4 - ~~40~~39.9	No
R34	450 Lexington Avenue - Lex Side North	65.3 - 67	~~52~~51.2 - 54.~~9~~5	65.5 - 67.1	0.3	38.5 - 40.1	No
R35	450 Lexington Avenue - Lex Side South	64.7 - 66.7	~~53~~52.6 - 56.~~5~~3	65 - 66.9	0.5	38 - 39.9	No
R36	450 Lexington Avenue - South Side	59.5 - 59.5	39.43 - 42.7	59.5 - 59.6	0.1	32.5 - 32.6	No
R37	420 Lexington Avenue - Lex Side North	65.4 - 67.1	55.~~7~~4 - 58.~~6~~4	65.8 - 67.5	0.7	38.8 - 40.5	No
R38	420 Lexington Avenue - Lex Side Mid	65.1 - 66.9	56.~~6 - 61~~4 - 60.9	65.~~8~~7 - 67.~~7~~6	1.2	38.~~8~~7 - 40.~~7~~6	No
R39	420 Lexington Avenue - Lex Side South	65.5 - 67.3	58.~~6~~5 - 65.~~3~~2	66.3 - 68.8	2.6	39.3 - 41.8	No
R40	416 Lexington Avenue - East	66.4 - 67.3	~~67~~66.9 - 69.4	70.~~2~~1 - 71.2	4.8	43.~~2~~1 - 44.2	No
R41	420 Lexington Avenue - Alley Side East	59.5 - 60.2	55 - 72.4	60.8 - 72.6	13.1	33.8 - 45.6	No
R42	420 Lexington Avenue - Alley Side Mid	59.5 - 59.5	58.4 - 71.9	62 - 72.1	12.6	35 - 45.1	No
R43	416 Lexington Avenue - East	59.5 - 59.5	70.4 - 70.4	70.7 - 70.7	11.2	43.7 - 43.7	No
R44	420 Lexington Avenue - Alley Side West	59.5 - 59.5	64.6 - 71.6	65.8 - 71.9	12.4	38.8 - 44.9	No
R45	420 Lexington Avenue - Park Ave Side South	59.5 - 60.9	46.7 - 59.8	61.1 - 63	2.9	34.1 - 36	No
R46	420 Lexington Avenue - Park Ave Side Mid	59.5 - 60.6	43.9 - 52	60 - 60.7	0.7	33 - 33.7	No
R47	420 Lexington Avenue - Park Ave Side North	59.5 - 61	41.6 - 48.4	59.8 - 61	0.3	32.8 - 34	No
R48	416 Lexington Avenue - Park Ave Side South	59.5 - 60.1	39.6 - 45.9	59.6 - 60.1	0.2	32.6 - 33.1	No
R49	416 Lexington Avenue - Park Ave Side North	59.5 - 59.5	37.9 - 43.5	59.5 - 59.6	0.1	32.5 - 32.6	No
R50	East 42nd St - North of Metlife	64.9 - 65.5	38.3 - 46.5	65 - 65.5	0.1	38 - 38.5	No
R51	Metlife - East	59.8 - 61	48.5 - 51.8	60.2 - 61.5	0.5	33.2 - 34.5	No
R52	Metlife - South Side - East	59.5 - 59.5	40 - 61	59.5 - 63.3	3.8	32.5 - 36.3	No
R53	Metlife - South Side - West	59.5 - 59.5	39 - 59.8	59.5 - 62.7	3.2	32.5 - 35.7	No
R54	East 42nd St - South of Metlife	59.6 - 61	42.4 - 57.7	61.1 - 61.8	2.2	34.1 - 34.8	No
R55	Grand Central Station - Park Ave Side North	59.8 - 61	46 - 68.2	61.1 - 68.8	9.0	34.1 - 41.8	No
R56	Grand Central Station - Park Ave Side South	60 - 61	48.9 - 69.5	61.3 - 70	10.0	34.3 - 43	No
R57	Grand Central Station - 42nd St Side East	63.7 - 63.9	47 - 63.6	63.8 - 66.8	2.9	36.8 - 39.8	No
R58	Grand Central Station - 42nd St Side West	64.1 - 64.4	44.~~2~~1 - 60.1	64.1 - 65.8	1.4	37.1 - 38.8	No
R59	One Vanderbilt - Vand Side North	59.5 - 59.5	37.~~3~~4 - 42.2	59.5 - 59.6	0.1	32.5 - 32.6	No
R60	One Vanderbilt - Vand Side South	59.5 - 59.5	37.~~9~~8 - 43.1	59.5 - 59.6	0.1	32.5 - 32.6	No

Source: VHB, 2021

Table 15-27 Construction Sound Levels: Construction and Mobile Source (2nd Shift) – Month 88 – With-Action

Receptor	Location	Existing Ambient (dBA, L_{eq})	Construction (dBA, L_{eq})	Future Sound Level (dBA, L_{eq})	Maximum Increase (dBA)	Interior Levels (L_{10}, dBA)	Increase of 3 dBA or More and Exceeds Interior Criterion
R1	118 Park Avenue - 42nd St Side	66.7 - 67.9	~~44~~43.9 - 60	67.1 - 67.9	0.8	40.1 - 40.9	No
R2	118 Park Avenue - Park Ave North	62.2 - 63.1	52.1 - 62.3	62.6 - 65.6	2.7	35.6 - 38.6	No
R3	118 Park Avenue - Park Ave South	61 - 61.7	40.~~2~~ - 54.6	61.1 - 62.4	0.8	34.1 - 35.4	No
R4	125 Park Avenue - Park Ave South	60.4 - 61.5	40.9~~7~~ - 44.4	60.4 - 61.6	0.1	33.4 - 34.6	No
R5	125 Park Avenue - Park Ave North	62.3 - 63.1	43.5~~1~~ - 49.2	62.4 - 63.2	0.2	35.4 - 36.2	No
R6	125 Park Avenue - 42nd St Side	66.4 - 67.6	61.9 - 68.1	68.1 - 70.5	3.7	41.1 - 43.5	No
R7	110 East 42nd Street	68.4 - 69.4	65.3 - 70.5	70.6 - 72.6	4.2	43.6 - 45.6	No
R8	110 East 42nd Street - Alley Side	63 - 65.7	59.8 - 66.6	64.7 - 69.1	3.5	37.7 - 42.1	No
R9	110 East 42nd Street - Alley Building	68.7 - 69.5	65.6 - 70.3	71 - 72.6	3.9	44 - 45.6	No
R10	374 Lexington Avenue - Alley Side	64.7 - 65.7	59.2 - 67.2	66 - 69.2	4.3	39 - 42.2	No
R11	374 Lexington Avenue - 42nd St Side	67.5 - 69.7	60.~~3~~2 - 70.1	68.~~3~~2 - 72.5	3.8	41.~~3~~2 - 45.5	No
R12	374 Lexington Avenue - Lex Ave North	66.6 - 68.4	54.~~1~~3 - 60.~~6~~7	66.9 - 68.6	0.8	39.9 - 41.6	No
R13	374 Lexington Avenue - Lex Ave South	65.6 - 67.8	52.~~7~~9 - 57.~~8~~9	65.8 - 68	0.5	38.8 - 41	No
R14	150 East 42nd Street - Lex Ave South	66 - 67.7	~~55.9~~56.1 - 61.6	66.4 - 68	1.2	39.4 - 41	No
R15	150 East 42nd Street - Lex Ave North	65.6 - 68.4	60 - 66.3	66.9 - 69.8	2.5	39.9 - 42.8	No
R16	150 East 42nd Street - West	68.2 - 70.1	~~60 - 66~~59.8 -	68.8 - 70.~~8~~7	1.~~8~~7	41.8 - 43.~~8~~7	No
R17	150 East 42nd Street - Mid	67.8 - 69.8	56.~~5~~ - 60.~~7~~6	68.2 - 70	0.~~7~~6	41.2 - 43	No
R18	150 East 42nd Street - East	68.1 - 70.3	~~51.8~~50.6 - 57.~~4~~2	68.3 - 70.~~4~~3	0.3	41.3 - 43.~~4~~3	No
R19	666 3rd Avenue - South Side	67.9 - 69.7	~~48.2 - 50.6~~46.1 -	68 - 69.7	0.1	41 - 42.7	No
R20	395 Lexington Avenue - 42nd St Side East	67.2 - 69.5	~~48.9~~46.7 - 54.~~5~~2	67.3 - 69.5	0.2	40.3 - 42.5	No
R21	395 Lexington Avenue - 42nd St Side West	68.3 - 70.2	~~54.1~~53.8 - 64	68.5 - 70.~~4~~3	1.2	41.5 - 43.~~4~~3	No
R22	395 Lexington Avenue - Lex Ave Side South	66.4 - 69	~~57~~56.9 - 70.7	66.9 - 72.5	4.6	39.9 - 45.5	No
R23	395 Lexington Avenue - Lex Ave Side North	65.2 - 68.3	~~57~~56.9 - 72.1	66.6 - 73.2	6.3	39.6 - 46.2	No
R24	395 Lexington Avenue - 43rd St Side West	61.9 - 63.5	52.~~2~~ - 61.9	63.2 - 65.2	2.8	36.2 - 38.2	No
R25	395 Lexington Avenue - 43rd St Side East	60.4 - 63.3	49.~~9~~8 - 57.5	61.5 - 63.7	1.5	34.5 - 36.7	No
R26	666 3rd Avenue - North Side	61.9 - 63.3	50.9 - 53.2	62.3 - 63.7	0.4	35.3 - 36.7	No
R27	425 Lexington Avenue - South Side	60.3 - 62.1	62.1 - 67.4	64.5 - 68.3	7.4	37.5 - 41.3	No
R28	425 Lexington Avenue - Lex Ave South	64.2 - 66.1	61.6 - 66.5	66.2 - 68.7	3.9	39.2 - 41.7	No
R29	425 Lexington Avenue - Lex Ave North	62.8 - 65.9	56.~~3~~1 - 60.8	64 - 66.~~4~~3	1.6	37 - 39.~~4~~3	No
R30	425 Lexington Avenue - North Side	59.5 - 60.1	~~40.8 - 42.1~~ - 41.6	59.~~6~~5 - 60.2	0.1	32.~~6~~5 - 33.2	No
R31	437 Lexington Avenue - South Side	60 - 61.6	~~43.7~~42.9 - 53.~~3~~2	60.8 - 61.7	0.8	33.8 - 34.7	No

Table 15-27 Construction Sound Levels: Construction and Mobile Source (2nd Shift) – Month 88 – With-Action

Receptor	Location	Existing Ambient (dBA, L_{eq})	Construction (dBA, L_{eq})	Future Sound Level (dBA, L_{eq})	Maximum Increase (dBA)	Interior Levels (L_{10}, dBA)	Increase of 3 dBA or More and Exceeds Interior Criterion
R32	437 Lexington Avenue - West Side	65.3 - 66.9	~~53.2~~52.6 - 56.~~3~~1	65.~~8~~7 - 67.1	0.5	38.~~8~~7 - 40.1	No
R33	451 Lexington Avenue	65.1 - 66.8	51.~~7~~ - 54.52	65.4 - 66.9	0.3	38.4 - 39.9	No
R34	450 Lexington Avenue - Lex Side North	65.3 - 67	51.~~9~~2 - 54.~~9~~5	65.5 - 67.1	0.3	38.5 - 40.1	No
R35	450 Lexington Avenue - Lex Side South	64.7 - 66.7	52.~~9~~5 - 56.53	65 - 66.9	0.5	38 - 39.9	No
R36	450 Lexington Avenue - South Side	59.5 - 59.5	38.~~5~~3 - 41.~~7~~6	59.5 - 59.6	0.1	32.5 - 32.6	No
R37	420 Lexington Avenue - Lex Side North	65.4 - 67.1	55.~~5~~3 - 58.~~6~~4	65.8 - 67.~~5~~4	0.7	38.8 - 40.~~5~~4	No
R38	420 Lexington Avenue - Lex Side Mid	65.1 - 66.9	56.~~5~~3 - 60.~~9~~8	65.7 - 67.3	1.2	38.7 - 40.3	No
R39	420 Lexington Avenue - Lex Side South	65.5 - 67.3	58.~~1 – 65~~ - 64.9	66.2 - 68.6	2.5	39.2 - 41.6	No
R40	416 Lexington Avenue - East	66.4 - 67.3	66.~~1~~ - 69.2	69.~~8~~7 - 71	4.6	42.~~8~~7 - 44	No
R41	420 Lexington Avenue - Alley Side East	59.5 - 60.2	53.9 - 71.4	60.6 - 71.7	12.2	33.6 - 44.7	No
R42	420 Lexington Avenue - Alley Side Mid	59.5 - 59.5	57.4 - 70.5	61.6 - 70.8	11.3	34.6 - 43.8	No
R43	416 Lexington Avenue - East	59.5 - 59.5	68 - 68	68.6 - 68.6	9.1	41.6 - 41.6	No
R44	420 Lexington Avenue - Alley Side West	59.5 - 59.5	63.5 - 69.1	65 - 69.6	10.1	38 - 42.6	No
R45	420 Lexington Avenue - Park Ave Side South	59.5 - 60.9	45.1 - 58.9	61 - 62.6	2.5	34 - 35.6	No
R46	420 Lexington Avenue - Park Ave Side Mid	59.5 - 60.6	42.5 - 51.8	60 - 60.7	0.7	33 - 33.7	No
R47	420 Lexington Avenue - Park Ave Side North	59.5 - 61	40.4 - 48.3	59.8 - 61	0.3	32.8 - 34	No
R48	416 Lexington Avenue - Park Ave Side South	59.5 - 60.1	38.4 - 45.9	59.6 - 60.1	0.2	32.6 - 33.1	No
R49	416 Lexington Avenue - Park Ave Side North	59.5 - 59.5	36.8 - 43.6	59.5 - 59.6	0.1	32.5 - 32.6	No
R50	East 42nd St - North of Metlife	64.9 - 65.5	37.2 - 49.7	65 - 65.5	0.1	38 - 38.5	No
R51	Metlife - East	59.8 - 61	50.7 - 54.7	60.6 - 61.8	1.0	33.6 - 34.8	No
R52	Metlife - South Side - East	59.5 - 59.5	38.8 - 59.6	59.5 - 62.6	3.1	32.5 - 35.6	No
R53	Metlife - South Side - West	59.5 - 59.5	37.7 - 58.1	59.5 - 61.9	2.4	32.5 - 34.9	No
R54	East 42nd St - South of Metlife	59.6 - 61	41.9 - 56.7	61.1 - 61.4	1.8	34.1 - 34.4	No
R55	Grand Central Station - Park Ave Side North	59.8 - 61	44.4 - 66.7	61.1 - 67.5	7.7	34.1 - 40.5	No
R56	Grand Central Station - Park Ave Side South	60 - 61	47 - 68.2	61.2 - 68.8	8.8	34.2 - 41.8	No
R57	Grand Central Station - 42nd St Side East	63.7 - 63.9	46.~~9~~8 - 64	63.8 - 67	3.1	36.8 - 40	No
R58	Grand Central Station - 42nd St Side West	64.1 - 64.4	43.1 - 58.9	64.1 - 65.5	1.1	37.1 - 38.5	No
R59	One Vanderbilt - Vanderbilt Side North	59.5 - 59.5	36.~~8~~9 - 41.1	59.5 - 59.6	0.1	32.5 - 32.6	No
R60	One Vanderbilt - Vanderbilt Side South	59.5 - 59.5	37.4 - 42.3	59.5 - 59.6	0.1	32.5 - 32.6	No

Source: VHB, 2021

As shown in **Table 15-17**, noise from construction mobile sources between 6:00 AM and 7:00 AM would be substantially lower than ambient conditions and would result in increases in noise up to 0.3 dBA above ambient conditions. Since noise levels would not increase by 3 dBA or more at any receptor, there would be no significant adverse noise between 6:00 AM and 7:00 AM.

The following summarizes the results of the construction noise assessment, as shown in **Table 15-18** to **Table 15-27**, at the closest receptors surrounding the Proposed Project for the 1st shift and 2nd shift analyses.

118 Park Avenue (R1 to R3)

This 26-story commercial office building is located west of the Proposed Project site. Based on streel-level field observations, is assumed to have insulated glass windows and central air conditioning, which would be expected to provide 30 dBA window/wall attenuation. The 42nd Street façade (R1), Park Avenue North façade (R2), and Park Avenue South façade (R3), were assessed for potential noise impacts.

For the first shift, the results are as follows:

- During the demolition, excavation, and foundation phases of construction for both the No-Action and With-Action conditions (between months 12 and 34), maximum exterior sounds levels be up to 77.6 dBA (Leq) which would be an increase of up to 6.3 dBA over ambient levels. Interior construction noise levels would be up to 50.6 dBA (L10), which would exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 35 and 65) and the With-Action condition (between months 35 and 87), maximum exterior sound levels would be up to 74.9 dBA (Leq) which would be an increase of up to 2.0 dBA over ambient levels. Interior construction noise levels would be up to 47.9 dBA (L10), which would be below the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 66 and 73), maximum exterior sound levels would be up to 74.8 dBA (Leq) which would be an increase of up to 0.8 dBA over ambient levels. Interior construction noise levels would be up to 47.8 dBA (L10), which would be below the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the With-Action condition (between months 88 and 98), maximum exterior sound levels would be up to 74.8 dBA (L_{eq}), which would be an increase of up to 1.1 dBA over ambient levels. Interior construction noise levels would be up to 47.8 dBA (L_{10}), which would be below the interior noise criterion for commercial spaces (50 dBA L_{10}).

Increases in exterior noise of 3 dBA or more and exceedances of the interior noise criterion would occur at one façade (R1) during the demolition, excavation, and foundation phase for a total of 23 months during both the No-Action and With-Action condition. Construction noise levels would not increase by 3 dBA or more and exceed the interior noise criterion during superstructure for either the No-Action or With-Action condition.

Since exterior construction noise levels would not exceed ambient conditions by 3 dBA or more and exceed the interior noise criteria for 24 months or more for either the No-Action

or With-Action conditions, there would not be significant noise impact due to the Proposed Action for first shift construction activities.

For the second shift, the results are as follows:

- During the demolition, excavation, and foundation phases of construction for both the No-Action and With-Action conditions (between months 12 and 34), maximum exterior sounds levels be up to 70.2 dBA (Leq), which would be an increase of up to 6.1 dBA over ambient levels. Interior construction noise levels would be up to 43.2 dBA (L10), which would be below the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 35 and 65) and the With-Action condition (between months 35 and 87), maximum exterior sound levels would be up to 68.1 dBA (Leq), which would be an increase of up to 2.8 dBA over ambient levels. Interior construction noise levels would be up to 41.1 dBA (L10), which would be below the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 66 and 73), maximum exterior sound levels would be up to 67.9 dBA (Leq) which would be an increase of up to 1.1 dBA over ambient levels. Interior construction noise levels would be up to 40.9 dBA (L10), which would be below the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the With-Action condition (between months 88 and 98), maximum exterior sound levels would be up to 67.9 dBA (Leq), which would be an increase of up to 2.7 dBA over ambient levels. Interior construction noise levels would be up to 40.9 dBA (L_{10}), which would be below the interior noise criterion for commercial spaces (50 dBA L_{10}).

Exterior noise levels would not exceed the evening increase criterion (7 dBA) for any phase of construction during the No-Action or the With-Action conditions. Exterior noise levels would not increase by 3 dBA or more for 24 months or longer during the evening or nighttime periods for both the No-Action and With Action conditions. Noise levels would not exceed the interior criterion (50 dBA L_{10}) during any phase of construction for either the No-Action or With Action conditions.

Since noise levels would not exceed the evening or nighttime exterior increase and interior criteria for any phase of construction for the No-Action or With-Action conditions, there would not be significant adverse noise impact for second shift construction activities.

125 Park Avenue (R4 to R6)

This 24-story commercial building is located west of the Proposed Project site. Based on streel-level field observations, this building is assumed to have insulated glass windows and central air conditioning, which would be expected to provide 30 dBA window/wall attenuation. The Park Avenue south façade (R4), Park Avenue north façade (R5), and 42nd Street façade (R6), were assessed for potential noise impacts.

For the first shift, the results are as follows:

- During the demolition, excavation, and foundation phases of construction for both the No-Action and With-Action conditions (between months 12 and 34), maximum exterior

sounds levels be up to 80.2 dBA (Leq), which would be an increase of up to 6.7 dBA over ambient levels. Interior construction noise levels would be up to 53.2 dBA (L10), which would exceed the interior noise criterion for commercial spaces (50 dBA L10).

- During the superstructure phase of construction for the No-Action condition (between months 35 and 65) and the With-Action condition (between months 35 and 87), maximum exterior sound levels would be up to 76.8 dBA (Leq), which would be an increase of up to 3.0 dBA over ambient levels. Interior construction noise levels would be up to 49.8 dBA (L10), which would be below the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 66 and 73), maximum exterior sound levels would be up to 75.0 dBA (Leq), which would be an increase of up to 1.2 dBA over ambient levels. Interior construction noise levels would be up to 48.0 dBA (L10), which would be below the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the With-Action condition (between months 88 and 98), maximum exterior sound levels would be up to 75.4 dBA (L_{eq}), which would be an increase of up to 1.6 dBA over ambient levels. Interior construction noise levels would be up to 48.4 dBA (L_{10}), which would be below the interior noise criterion for commercial spaces (50 dBA L_{10}).

Increases in exterior noise of 3 dBA or more and exceedances of the interior noise criterion would occur at one facade (R6) during the demolition, excavation, and foundation phases for a total of 23 months during both the No-Action and With-Action condition. Construction noise levels would not increase by 3 dBA or more and exceed the interior noise criterion during superstructure for either the No-Action or With-Action condition.

Since exterior construction noise levels would not exceed ambient conditions by 3 dBA or more and exceed the interior noise criteria for 24 months or more for either the No-Action or With-Action conditions, there would not be significant noise impact due to the Proposed Action for first shift construction activities.

For the second shift, the results are as follows:

- During the demolition, excavation, and foundation phases of construction for both the No-Action and With-Action conditions (between months 12 and 34), maximum exterior sounds levels be up to 73.8 dBA (L_{eq}), which would be an increase of up to 7.0 dBA over ambient levels. Interior construction noise levels would be up to 46.8 dBA (L_{10}), which would be below the interior noise criterion for commercial spaces (50 dBA L_{10}).
- During the superstructure phase of construction for the No-Action condition (between months 35 and 65) and the With-Action condition (between months 35 and 87), maximum exterior sound levels would be up to 70.7 dBA (L_{eq}), which would be an increase of up to 3.9 dBA over ambient levels. Interior construction noise levels would be up to 43.7 dBA (L_{10}), which would be below the interior noise criterion for commercial spaces (50 dBA L_{10}).
- During the superstructure phase of construction for the No-Action condition (between months 66 and 73), maximum exterior sound levels would be up to 68.5 dBA (L_{eq}), which would be an increase of up to 1.7 dBA over ambient levels. Interior construction noise

levels would be up to 41.5 dBA (L_{10}), which would be below the interior noise criterion for commercial spaces (50 dBA L_{10}).

- During the superstructure phase of construction for the With-Action condition (between months 88 and 98), maximum exterior sound levels would be up to 70.5 dBA (L_{eq}), which would be an increase of up to 3.7 dBA over ambient levels. Interior construction noise levels would be up to 43.5 dBA (L_{10}), which would be below the interior noise criterion for commercial spaces (50 dBA L_{10}).

Exterior noise levels would exceed the evening increase criterion (7 dBA) during the demolition, excavation, and foundation phase for 23 months for the No-Action and With-Action conditions. Exterior noise levels would increase by 3 dBA or more during the evening and nighttime periods during the demolition, excavation, and foundation phase and superstructure phase for a total of up to 54 months in the No-Action condition and up to 76 months in the With-Action condition. Noise levels would not exceed the interior criterion (50 dBA L_{10}) during any phase of construction for either the No-Action or With Action conditions.

Since noise levels would not exceed the evening or nighttime exterior increase and interior criteria for any phase of construction for the No-Action or With-Action conditions, there would not be significant adverse noise impact for second shift construction activities.

110 East 42nd Street (R7 to R9)

This 18-story commercial office building is located south of the Proposed Project site. Based on streel-level field observations, is assumed to have insulated glass windows and central air conditioning, which would be expected to provide 30 dBA window/wall attenuation. The 42nd Street façade (R7), 42nd Street alley façade (R8), and 42nd Street alley building façade (R9), were assessed for potential noise impacts.

For the first shift, the results are as follows:

- During the demolition, excavation, and foundation phases of construction for both the No-Action and With-Action conditions (between months 12 and 34), maximum exterior sounds levels be up to 79.9 dBA (Leq), which would be an increase of up to 8.0 dBA over ambient levels. Interior construction noise levels would be up to 52.9 dBA (L10), which would exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 35 and 65) and the With-Action condition (between months 35 and 87), maximum exterior sound levels would be up to 78.4 dBA (Leq), which would be an increase of up to 5.0 dBA over ambient levels. Interior construction noise levels would be up to 51.4 dBA (L10), which would exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 66 and 73), maximum exterior sound levels would be up to 75.4 dBA (Leq), which would be an increase of up to 2.1 dBA over ambient levels. Interior construction noise levels would be up to 48.4 dBA (L10), which would exceed interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the With-Action condition (between months 88 and 98), maximum exterior sound levels would be up to 75.8 dBA (L_{eq}), which

would be an increase of up to 2.7 dBA over ambient levels. Interior construction noise levels would be up to 48.8 dBA (L_{10}), which would exceed the interior noise criterion for commercial spaces (50 dBA L_{10}).

Increases in exterior noise of 3 dBA or more and exceedances of the interior noise criterion would occur during the demolition, excavation, foundation, and superstructure phases for up to 54 months during the No-Action and 76 months during the With-Action condition.

Since exterior construction noise levels would exceed ambient conditions by 3 dBA or more and exceed the interior noise criterion for longer than 24 months for both the No-Action and With-Action conditions, there would not be significant noise impact due to the Proposed Action for first shift construction activities.

For the second shift, the results are as follows:

- During the demolition, excavation, and foundation phases of construction for both the No-Action and With-Action conditions (between months 12 and 34), maximum exterior sounds levels be up to 74.6 dBA (Leq), which would be an increase of up to 6.1 dBA over ambient levels. Interior construction noise levels would be up to 47.6 dBA (L10), which would exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 35 and 65) and the With-Action condition (between months 35 and 87), maximum exterior sound levels would be up to 72.9 dBA (Leq), which would be an increase of up to 4.4 dBA over ambient levels. Interior construction noise levels would be up to 45.9 dBA (L10), which would exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 66 and 73), maximum exterior sound levels would be up to 70.2 dBA (Leq), which would be an increase of up to 1.8 dBA over ambient levels. Interior construction noise levels would be up to 43.2 dBA (L10), which would be below the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the With-Action condition (between months 88 and 98), maximum exterior sound levels would be up to 72.6 dBA (L_{eq}), which would be an increase of up to 4.2 dBA over ambient levels. Interior construction noise levels would be up to 45.6 dBA (L_{10}), which would exceed the interior noise criterion for commercial spaces (50 dBA L_{10}).

Exterior noise levels would not exceed the evening increase criterion (7 dBA) for any phase of construction during the No-Action or the With-Action conditions. Exterior noise levels would increase by 3 dBA or more during the evening or nighttime periods during the demolition, excavation, and foundation phase and superstructure phase for up to 54 months for the No-Action condition and for up to 76 months for the With-Action condition. Noise levels would not exceed the interior criterion (50 dBA L_{10}) during any phase of construction for either the No-Action or With Action conditions.

Since noise levels would not exceed the evening or nighttime exterior increase and interior criteria for any phase of construction for the No-Action or With-Action conditions, there would not be significant adverse noise impact for second shift construction activities.

374 Lexington Avenue (R10 to R13)

This 52-story commercial building is located south of the Proposed Project site. Based on streel-level field observations, is assumed to have insulated glass windows and central air conditioning, which would be expected to provide 30 dBA window/wall attenuation. The alley side façade (R10), 42nd Street façade (R11), Lexington Avenue north façade (R12), and the Lexington Avenue south façade (R13) were assessed for potential noise impacts.

For the first shift, the results are as follows:

- During the demolition, excavation, and foundation phases of construction for both the No-Action and With-Action conditions (between months 12 and 34), maximum exterior sounds levels be up to 80.2 dBA (Leq), which would be an increase of up to 9.0 dBA over ambient levels. Interior construction noise levels would be up to 53.2 dBA (L10), which would exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 35 and 65) and the With-Action condition (between months 35 and 87), maximum exterior sound levels would be up to 79.0 dBA (Leq), which would be an increase of up to 5.4 dBA over ambient levels. Interior construction noise levels would be up to 52.0 dBA (L10), which would exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 66 and 73), maximum exterior sound levels would be up to 75.7 dBA (Leq), which would be an increase of up to 2.2 dBA over ambient levels. Interior construction noise levels would be up to 48.7 dBA (L10), which would not exceed interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the With-Action condition (between months 88 and 98), maximum exterior sound levels would be up to 76.1 dBA (Leq), which would be an increase of up to 2.5 dBA over ambient levels. Interior construction noise levels would be up to 49.1 dBA (L_{10}), which would not exceed the interior noise criterion for commercial spaces (50 dBA L_{10}).

Increases in exterior noise of 3 dBA or more and exceedances of the interior noise criterion would occur at during the demolition, excavation, foundation, and superstructure phases for up to 54 months during the No-Action and up to 76 months during the With-Action condition.

Since exterior construction noise levels would exceed ambient conditions by 3 dBA or more and exceed the interior noise criterion for longer than 24 months for both the No-Action and With-Action conditions, there would not be significant noise impact due to the Proposed Action for first shift construction activities.

For the second shift, the results are as follows:

- During the demolition, excavation, and foundation phases of construction for both the No-Action and With-Action conditions (between months 12 and 34), maximum exterior sounds levels be up to 75.1 dBA (Leq), which would be an increase of up to 6.4 dBA over ambient levels. Interior construction noise levels would be up to 48.1 dBA (L10), which would not exceed the interior noise criterion for commercial spaces (50 dBA L10).

- During the superstructure phase of construction for the No-Action condition (between months 35 and 65) and the With-Action condition (between months 35 and 87), maximum exterior sound levels would be up to 72.9 dBA (Leq), which would be an increase of up to 4.8 dBA over ambient levels. Interior construction noise levels would be up to 45.9 dBA (L10), which would not exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 66 and 73), maximum exterior sound levels would be up to 70.1 dBA (Leq), which would be an increase of up to 1.5 dBA over ambient levels. Interior construction noise levels would be up to 43.1 dBA (L10), which would not exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the With-Action condition (between months 88 and 98), maximum exterior sound levels would be up to 72.5 dBA (L_{eq}), which would be an increase of up to 4.3 dBA over ambient levels. Interior construction noise levels would be up to 45.5 dBA (L_{10}), which would not exceed the interior noise criterion for commercial spaces (50 dBA L_{10}).

  Exterior noise levels would not exceed the evening increase criterion (7 dBA) for any phase of construction during the No-Action or the With-Action conditions. Exterior noise levels would increase by 3 dBA or more during the demolition, excavation, and foundation phase and superstructure phase for up to 54 months during the No-Action condition and up to 76 months for the With-Action condition. Noise levels would not exceed the interior criterion (50 dBA L_{10}) during any phase of construction for either the No-Action or With-Action conditions.

  Since noise levels would not exceed the evening or nighttime exterior increase and interior criteria for any phase of construction for the No-Action or With-Action conditions, there would not be significant adverse noise impact for second shift construction activities.

150 East 42nd Street (R14 to R18)

This 42-story commercial building is located south of the Proposed Project site. Based on streel-level field observations, is assumed to have insulated glass windows and central air conditioning, which would be expected to provide 30 dBA window/wall attenuation. The Lexington Avenue south side façade (R14), Lexington Avenue north side façade (R15), 42nd Street west side façade (R16), 42nd Street mid façade (R17), and the 42nd Street east side façade (R18) were assessed for potential noise impacts.

For the first shift, the results are as follows:

- During the demolition, excavation, and foundation phases of construction for both the No-Action and With-Action conditions (between months 12 and 34), maximum exterior sounds levels be up to 79.5 dBA (Leq) which would be an increase of up to 5.6 dBA over ambient levels. Interior construction noise levels would be up to 52.5 dBA (L10), which would exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 35 and 65) and the With-Action condition (between months 35 and 87), maximum exterior sound levels would be up to 76.8 dBA (Leq), which would be an increase of up to 2.8 dBA over ambient levels. Interior construction noise levels would be

up to 49.8 dBA (L10), which would exceed the interior noise criterion commercial spaces (50 dBA L10).

- During the superstructure phase of construction for the No-Action condition (between months 66 and 73), maximum exterior sound levels would be up to 75.5 dBA (Leq), which would be an increase of up to 1.0 dBA over ambient levels. Interior construction noise levels would be up to 48.5 dBA (L10), which would exceed interior noise criterion commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the With-Action condition (between months 88 and 98), maximum exterior sound levels would be up to 75.~~6~~5 dBA (L_{eq}), which would be an increase of up to 1.4 dBA over ambient levels. Interior construction noise levels would be up to 48.~~6~~5 dBA (L_{10}), which would exceed the interior noise criterion commercial spaces (50 dBA L_{10}).

Increases in exterior noise of 3 dBA or more and exceedances of the interior noise criterion would occur at three facades (R14 to R16) during the demolition, excavation, and foundation phase for a total of 23 months during both the No-Action and With-Action conditions. Construction noise levels would not increase by 3 dBA or more and exceed the interior noise criterion during the superstructure phase for either the No-Action or With-Action condition.

Since exterior construction noise levels would not exceed ambient conditions by 3 dBA or more and exceed the interior noise criteria for 24 months or more for either the No-Action or With-Action, there would not be significant noise impact due to the Proposed Action for first shift construction activities.

For the second shift, the results are as follows:

- During the demolition, excavation, and foundation phases of construction for both the No-Action and With-Action conditions (between months 12 and 34), maximum exterior sounds levels be up to 73.6 dBA (Leq), which would be an increase of up to 5.2 dBA over ambient levels. Interior construction noise levels would be up to 46.6 dBA (L10), which would exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 35 and 65) and the With-Action condition (between months 35 and 87), maximum exterior sound levels would be up to 71.1 dBA (Leq), which would be an increase of up to 3.2 dBA over ambient levels. Interior construction noise levels would be up to 44.1 dBA (L10), which would not exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 66 and 73), maximum exterior sound levels would be up to 70.4~~3~~ dBA (Leq), which would be an increase of up to 0.6 dBA over ambient levels. Interior construction noise levels would be up to 43.4~~3~~ dBA (L10), which would not exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the With-Action condition (between months 88 and 98), maximum exterior sound levels would be up to 70.~~8~~7 dBA (Leq), which would be an increase of up to 2.5 dBA over ambient levels. Interior construction noise levels would be up to 43.~~8~~7 dBA (L10), which would not exceed the interior noise criterion for commercial spaces (50 dBA L_{10}).

Exterior noise levels would not exceed the evening increase criterion (7 dBA) for any phase of construction during the No-Action or the With-Action conditions. Exterior noise levels would increase by 3 dBA or more during the evening or nighttime periods during the demolition, excavation, and foundation phase and superstructure phase for up to 54 months for the No-Action condition and for up to 76 months for the With-Action condition. Noise levels would not exceed the interior criterion (50 dBA L_{10}) during any phase of construction for either the No-Action or With Action conditions.

Since noise levels would not exceed the evening or nighttime exterior increase and interior criteria for any phase of construction for the No-Action or With-Action conditions, there would not be significant adverse noise impact for second shift construction activities.

666 3rd Avenue (R19 and R26)

This 42-story commercial building is located east of the Proposed Project site. Based on streel-level field observations, is assumed to have insulated glass windows and central air conditioning, which would be expected to provide 30 dBA window/wall attenuation. The 3rd Avenue south side façade (R19) and 3rd Avenue north side façade (R26) were assessed for potential noise impacts.

For the first shift, the results are as follows:

- During the demolition, excavation, and foundation phases of construction for both the No-Action and With-Action conditions (between months 12 and 34), maximum exterior sounds levels be up to 75.0 dBA (Leq), which would be an increase of up to 1.1 dBA over ambient levels. Interior construction noise levels would be up to 48.0 dBA (L10), which would not exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 35 and 65) and the With-Action condition (between months 35 and 87), maximum exterior sound levels would be up to 74.9 dBA (Leq), which would be an increase of up to 0.2 dBA over ambient levels. Interior construction noise levels would be up to 47.9 dBA (L10), which would not exceed the interior noise criterion commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 66 and 73), maximum exterior sound levels would be up to 74.8 dBA (Leq), which would be an increase of up to 0.2 dBA over ambient levels. Interior construction noise levels would be up to 47.8 dBA (L10), which would not exceed interior noise criterion commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the With-Action condition (between months 88 and 98), maximum exterior sound levels would be up to 74.8 dBA (Leq), which would be an increase of up to 0.2 dBA over ambient levels. Interior construction noise levels would be up to 47.8 dBA (L_{10}), which would not exceed the interior noise criterion commercial spaces (50 dBA L_{10}).

Increases in exterior noise of 3 dBA or more and exceedances of the interior noise criterion would not occur during any phase of construction during the first shift for either the No-Action or With-Action condition. Therefore, there would not be significant noise impact due to the Proposed Action for first shift construction activities.

For the second shift, the results are as follows:

- During the demolition, excavation, and foundation phases of construction for both the No-Action and With-Action conditions (between months 12 and 34), maximum exterior sounds levels be up to 69.8 dBA (Leq), which would be an increase of up to 1.2 dBA over ambient levels. Interior construction noise levels would be up to 42.8 dBA (L10), which would not exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 35 and 65) and the With-Action condition (between months 35 and 87), maximum exterior sound levels would be up to 69.7 dBA (Leq), which would be an increase of up to 0.5 dBA over ambient levels. Interior construction noise levels would be up to 42.7 dBA (L10), which would not exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 66 and 73), maximum exterior sound levels would be up to 69.7 dBA (Leq), which would be an increase of up to 0.1 dBA over ambient levels. Interior construction noise levels would be up to 42.7 dBA (L10), which would not exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the With-Action condition (between months 88 and 98), maximum exterior sound levels would be up to 69.7 dBA (L_{eq}), which would be an increase of up to 0.4 dBA over ambient levels. Interior construction noise levels would be up to 42.7 dBA (L_{10}), which would not exceed the interior noise criterion for commercial spaces (50 dBA L_{10}).

Exterior noise levels would not exceed the evening increase criterion (7 dBA) for any phase of construction during the No-Action or the With-Action conditions. Exterior noise levels would not increase by 3 dBA or more during the evening or nighttime periods for any phase of construction during the No-Action or the With-Action conditions. Noise levels would not exceed the interior criterion (50 dBA L_{10}) during any phase of construction for either the No-Action or With Action conditions. Therefore, there would be no significant adverse noise impact for second shift construction activities.

395 Lexington Avenue (R20 to R25)

The Chrysler Building is a 68-story commercial building is located east of the Proposed Project site. Based on streel-level field observations, is assumed to have insulated glass windows and central air conditioning, which would be expected to provide 30 dBA window/wall attenuation. The 42nd Street east side façade (R20), 42nd Street west side façade (R21), Lexington Avenue south side façade (R22), Lexington Avenue north side façade (R23), 43rd Street west side façade (R24), and the 43rd Street east side façade (R25) were assessed for potential noise impacts.

For the first shift, the results are as follows.

- During the demolition, excavation, and foundation phases of construction for both the No-Action and With-Action conditions (between months 12 and 34), maximum exterior sounds levels be up to 82.8 dBA (Leq), which would be an increase of up to 9.1 dBA over ambient levels. Interior construction noise levels would be up to 55.8 dBA (L10), which would exceed the interior noise criterion for commercial spaces (50 dBA L10).

- During the superstructure phase of construction for the No-Action condition (between months 35 and 65) and the With-Action condition (between months 35 and 87), maximum exterior sound levels would be up to 80.5 dBA (Leq), which would be an increase of up to 6.8 dBA over ambient levels. Interior construction noise levels would be up to 53.5 dBA (L10), which would exceed the interior noise criterion commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 66 and 73), maximum exterior sound levels would be up to 77.0 dBA (Leq), which would be an increase of up to 3.1 dBA over ambient levels. Interior construction noise levels would be up to 50.0 dBA (L10), which would not exceed the interior noise criterion commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the With-Action condition (between months 88 and 98), maximum exterior sound levels would be up to 78.3 dBA (Leq), which would be an increase of up to 4.6 dBA over ambient levels. Interior construction noise levels would be up to 51.3 dBA (L_{10}), which would exceed the interior noise criterion commercial spaces (50 dBA L_{10}).

Increases in exterior noise of 3 dBA or more and exceedances of the interior noise criterion would occur at three facades (R21 to R23) during the demolition, excavation, foundation, and superstructure phases for up to 54 months during the No-Action and up to 87 months during the With-Action condition.

Since exterior construction noise levels would exceed ambient conditions by 3 dBA or more and exceed the interior noise criterion for longer than 24 months for both the No-Action and With-Action conditions, there would not be significant noise impact due to the Proposed Action for first shift construction activities.

For the second shift, the results are as follows:

- During the demolition, excavation, and foundation phases of construction for both the No-Action and With-Action conditions (between months 12 and 34), maximum exterior sounds levels be up to 73.3 dBA (Leq), which would be an increase of up to 5.4 dBA over ambient levels. Interior construction noise levels would be up to 46.3 dBA (L10), which would not exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 35 and 65) and the With-Action condition (between months 35 and 87), maximum exterior sound levels would be up to 73.8 dBA (Leq), which would be an increase of up to 6.9 dBA over ambient levels. Interior construction noise levels would be up to 46.8 dBA (L10), which would not exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 66 and 73), maximum exterior sound levels would be up to 70.3 dBA (Leq), which would be an increase of up to 2.5 dBA over ambient levels. Interior construction noise levels would be up to 43.3 dBA (L10), which would not exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the With-Action condition (between months 88 and 98), maximum exterior sound levels would be up to 73.2 dBA (L_{eq}), which would be an increase of up to 6.3 dBA over ambient levels. Interior construction noise

levels would be up to 46.2 dBA (L_{10}), which would not exceed the interior noise criterion for commercial spaces (50 dBA L_{10}).).

Exterior noise levels would not exceed the evening increase criterion (7 dBA) for any phase of construction during the No-Action or the With-Action conditions. Exterior noise levels would increase by 3 dBA or more during the evening or nighttime periods at two façades (R22 and R23) during the demolition, excavation, foundation, and superstructure phases of construction for up to 54 months during the No-Action condition and for up to 76 months for the With-Action condition. Noise levels would not exceed the interior criterion (50 dBA L_{10}) during any phase of construction for either the No-Action or With-Action conditions.

Since noise levels would not exceed the exterior increase criteria during the evening or nighttime periods and exceed the interior noise criterion during the No-Action or With-Action conditions for any phase of construction, there would not be significant adverse noise impact for second shift construction activities.

425 Lexington Avenue (R27 to R30)

This 31-story commercial building is located east of the Proposed Project site. Based on streel-level field observations, is assumed to have insulated glass windows and central air conditioning, which would be expected to provide 30 dBA window/wall attenuation. The 43rd Street north side façade (R27), Lexington Avenue west side façade south (R28), Lexington Avenue west side façade north (R29), and 44th Street north side façade (R30), were assessed for potential noise impacts.

For the first shift, the results are as follows.

- During the demolition, excavation, and foundation phases of construction for both the No-Action and With-Action conditions (between months 12 and 34), maximum exterior sounds levels be up to 78.4 dBA (Leq), which would be an increase of up to 9.3 dBA over ambient levels. Interior construction noise levels would be up to 51.4 dBA (L10), which would exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 35 and 65) and the With-Action condition (between months 35 and 87), maximum exterior sound levels would be up to 76.0 dBA (Leq), which would be an increase of up to 6.6 dBA over ambient levels. Interior construction noise levels would be up to 49.0 dBA (L10), which would not exceed the interior noise criterion commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 66 and 73), maximum exterior sound levels would be up to 73.5 dBA (Leq), which would be an increase of up to 3.2 dBA over ambient levels. Interior construction noise levels would be up to 46.5 dBA (L10), which would not exceed the interior noise criterion commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the With-Action condition (between months 88 and 98), maximum exterior sound levels would be up to 74.0 dBA (Leq), which would be an increase of up to 3.6 dBA over ambient levels. Interior construction noise levels would be up to 47.0 dBA (L_{10}), which would not exceed the interior noise criterion commercial spaces (50 dBA L_{10}).

Increases in exterior noise of 3 dBA or more and exceedances of the interior noise criterion would occur at two facades (R27 and R28) during the demolition, excavation, foundation phase for 23 months during the No-Action and With-Action condition.

Since exterior construction noise levels would exceed ambient conditions by 3 dBA or more and exceed the interior noise criterion for longer than 24 months for both the No-Action and With-Action conditions, there would not be significant noise impact due to the Proposed Action for first shift construction activities.

For the second shift, the results are as follows:

- During the demolition, excavation, and foundation phases of construction for both the No-Action and With-Action conditions (between months 12 and 34), maximum exterior sounds levels be up to 68.7 dBA (Leq), which would be an increase of up to 7.5 dBA over ambient levels. Interior construction noise levels would be up to 41.7 dBA (L10), which would not exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 35 and 65) and the With-Action condition (between months 35 and 87), maximum exterior sound levels would be up to 69.1 dBA (Leq), which would be an increase of up to 8.0 dBA over ambient levels. Interior construction noise levels would be up to 42.1 dBA (L10), which would not exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 66 and 73), maximum exterior sound levels would be up to 66.6 dBA (Leq), which would be an increase of up to 3.9 dBA over ambient levels. Interior construction noise levels would be up to 39.6 dBA (L10), which would not exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the With-Action condition (between months 88 and 98), maximum exterior sound levels would be up to 68.7 dBA (L_{eq}), which would be an increase of up to 7.4 dBA over ambient levels. Interior construction noise levels would be up to 41.7 dBA (L_{10}), which would not exceed the interior noise criterion for commercial spaces (50 dBA L_{10}).

Exterior noise levels would exceed the evening increase criterion (7 dBA) for the Superstructure phase of construction at one façade (R27) for 54 months for the No-Action Condition and for 76 months during the With-Action Condition. Exterior noise levels would increase by 3 dBA or more during the evening or nighttime periods for up to 62 months for the No-Action condition and for up to 87 months for the With-Action Condition. Noise levels would not exceed the interior criterion (50 dBA L_{10}) during any phase of construction for either the No-Action or With Action conditions.

Since noise levels would not exceed the exterior increase criteria during the evening or nighttime periods and exceed the interior noise criterion during the No-Action or With-Action conditions for any phase of construction, there would not be significant adverse noise impact for second shift construction activities.

437 Lexington Avenue (R31 to R32)

This 18-story commercial building is located north of the Proposed Project site. Based on streel-level field observations, is assumed to have insulated glass windows and central air

conditioning, which would be expected to provide 30 dBA window/wall attenuation. The Lexington Avenue south side façade (R31) and the Lexington Avenue west side façade (R32) were assessed for potential noise impacts.

For the first shift, the results are as follows:

- During the demolition, excavation, and foundation phases of construction for both the No-Action and With-Action conditions (between months 12 and 34), maximum exterior sounds levels be up to 74.8 dBA (L_{eq}), which would be an increase of up to 4.4 dBA over ambient levels. Interior construction noise levels would be up to 47.8 dBA (L10), which would not exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 35 and 65) and the With-Action condition (between months 35 and 87), maximum exterior sound levels would be up to 74.2 dBA (Leq), which would be an increase of up to 0.8 dBA over ambient levels. Interior construction noise levels would be up to 47.2 dBA (L10), which would not exceed the interior noise criterion commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 66 and 73), maximum exterior sound levels would be up to 74.1 dBA (Leq), which would be an increase of up to 0.2 dBA over ambient levels. Interior construction noise levels would be up to 47.1 dBA (L10), which would not exceed the interior noise criterion commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the With-Action condition (between months 88 and 98), maximum exterior sound levels would be up to 74.1 dBA (L_{eq}), which would be an increase of up to 0.3 dBA over ambient levels. Interior construction noise levels would be up to 47.1 dBA (L_{10}), which would not exceed the interior noise criterion commercial spaces (50 dBA L_{10}).

Increases in exterior noise of 3 dBA or more and exceedances of the interior noise criterion would not occur during any phase of construction during the first shift for either the No-Action or With-Action condition. Therefore, there would not be significant noise impact due to the Proposed Action for first shift construction activities.

For the second shift, the results are as follows:

- During the demolition, excavation, and foundation phases of construction for both the No-Action and With-Action conditions (between months 12 and 34), maximum exterior sounds levels be up to 67.4 dBA (Leq), which would be an increase of up to 3.2 dBA over ambient levels. Interior construction noise levels would be up to 40.4 dBA (L10), which would not exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 35 and 65) and the With-Action condition (between months 35 and 87), maximum exterior sound levels would be up to 67.1 dBA (Leq), which would be an increase of up to 1.1 dBA over ambient levels. Interior construction noise levels would be up to 40.1 dBA (L10), which would not exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 66 and 73), maximum exterior sound levels would be up to ~~67.0~~66.9 dBA (Leq), which would be an increase of up to 0.4 dBA over ambient levels. Interior construction

noise levels would be up to ~~40.0~~39.9 dBA (L10), which would not exceed the interior noise criterion for commercial spaces (50 dBA L10).

- During the superstructure phase of construction for the With-Action condition (between months 88 and 98), maximum exterior sound levels would be up to 67.1 dBA (L_{eq}), which would be an increase of up to 0.8 dBA over ambient levels. Interior construction noise levels would be up to 40.1 dBA (L_{10}), which would not exceed the interior noise criterion for commercial spaces (50 dBA L_{10}).

Exterior noise levels would not exceed the evening or increase criterion (7 dBA) for any phase of construction during the No-Action or the With-Action conditions. Exterior noise levels would increase by 3 dBA or more during the evening or nighttime periods for 23 months for the No-Action and With-Action conditions. Noise levels would not exceed the interior criterion (50 dBA L_{10}) during any phase of construction for either the No-Action or With Action conditions.

Since noise levels would not exceed the exterior increase criteria during the evening or nighttime periods and exceed the interior noise criterion during the No-Action or With-Action conditions for any phase of construction, there would not be significant adverse noise impact for second shift construction activities.

451 Lexington Avenue (R33)

This 27-story building has hotel and commercial spaces and is located north of the Proposed Project site. The building is home to Hotel Boutique at Grand Central and the Club Quarters Hotel. Based on streel-level field observations, is assumed to have insulated glass windows and central air conditioning, which would be expected to provide 30 dBA window/wall attenuation. The Lexington Avenue west side façade (R33) was assessed for potential noise impacts.

For the first shift, the results are as follows.

- During the demolition, excavation, and foundation phases of construction for both the No-Action and With-Action conditions (between months 12 and 34), maximum exterior sounds levels be up to 74.5 dBA (Leq), which would be an increase of up to 1.4 dBA over ambient levels. Interior construction noise levels would be up to 47.5 dBA (L10), which would not exceed the interior noise criterion for residential spaces (45 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 35 and 65) and the With-Action condition (between months 35 and 87), maximum exterior sound levels would be up to 74.1 dBA (Leq), which would be an increase of up to 0.4 dBA over ambient levels. Interior construction noise levels would be up to 47.1 dBA (L10), which would not exceed the interior noise criterion residential spaces (45 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 66 and 73), maximum exterior sound levels would be up to 74.1 dBA (Leq), which would be an increase of up to 0.1 dBA over ambient levels. Interior construction noise levels would be up to 47.1 dBA (L10), which would not exceed interior noise criterion residential spaces (45 dBA L10).
- During the superstructure phase of construction for the With-Action condition (between months 74 and 98), maximum exterior sound levels would be up to 74.1 dBA (L_{eq}), which

would be an increase of up to 0.2 dBA over ambient levels. Interior construction noise levels would be up to 47.1 dBA (L_{10}), which would not exceed the interior noise criterion residential spaces (45 dBA L_{10}).

Increases in exterior noise of 3 dBA or more and exceedances of the interior noise criterion would not occur during any phase of construction during the first shift for either the No-Action or With-Action condition. Therefore, there would not be significant noise impact due to the Proposed Action for first shift construction activities.

For the second shift, the results are as follows.

- During the demolition, excavation, and foundation phases of construction for both the No-Action and With-Action conditions (between months 12 and 34), maximum exterior sounds levels be up to 66.9 dBA (Leq), which would be an increase of up to 1.0 dBA over ambient levels. Interior construction noise levels would be up to 39.9 dBA (L10), which would not exceed the interior noise criterion for residential spaces (45 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 35 and 65) and the With-Action condition (between months 35 and 87), maximum exterior sound levels would be up to 66.9 dBA (Leq), which would be an increase of up to 0.3 dBA over ambient levels. Interior construction noise levels would be up to 39.9 dBA (L10), which would not exceed the interior noise criterion for residential spaces (45 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 66 and 73), maximum exterior sound levels would be up to 66.~~9~~8 dBA (Leq), which would be an increase of up to 0.1 dBA over ambient levels. Interior construction noise levels would be up to 39.~~9~~8 dBA (L10), which would not exceed the interior noise criterion for residential spaces (45 dBA L10).
- During the superstructure phase of construction for the With-Action condition (between months 88 and 98), maximum exterior sound levels would be up to 66.9 dBA (L_{eq}), which would be an increase of up to 0.3 dBA over ambient levels. Interior construction noise levels would be up to 39.9 dBA (L_{10}), which would not exceed the interior noise criterion for residential spaces (45 dBA L_{10}).

Exterior noise levels would not exceed the evening increase criterion (7 dBA) for any phase of construction during the No-Action or the With-Action conditions. Exterior noise levels would not increase by 3 dBA or more during the nighttime or evening periods for any phase of construction for both the No-Action and the With-Action conditions. Noise levels would not exceed the interior criterion (45 dBA L_{10}) during any phase of construction for either the No-Action or With Action conditions.

Since noise levels would not exceed the exterior increase criteria during the evening or nighttime periods and exceed the interior noise criterion during the No-Action or With-Action conditions for any phase of construction, there would not be significant adverse noise impact for second shift construction activities.

450 Lexington Avenue (R34 to R36)

This 38-story commercial building is located north of the Proposed Project site. Based on streel-level field observations, is assumed to have insulated glass windows and central air conditioning, which would be expected to provide 30 dBA window/wall attenuation. The

Lexington Avenue side north façade (R34), Lexington Avenue side south façade (R35), and the Lexington Avenue building south side façade (R36) were assessed for potential noise impacts.

For the first shift, the results are as follows:

- During the demolition, excavation, and foundation phases of construction for both the No-Action and With-Action conditions (between months 12 and 34), maximum exterior sounds levels be up to 74.6 dBA (L_{eq}), which would be an increase of up to 1.8 dBA over ambient levels. Interior construction noise levels would be up to 47.6 dBA (L10), which would not exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 35 and 65) and the With-Action condition (between months 35 and 87), maximum exterior sound levels would be up to 74.3 dBA (Leq), which would be an increase of up to 0.6 dBA over ambient levels. Interior construction noise levels would be up to 47.3 dBA (L10), which would not exceed the interior noise criterion commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 66 and 73), maximum exterior sound levels would be up to 74.3 dBA (Leq), which would be an increase of up to 0.2 dBA over ambient levels. Interior construction noise levels would be up to 47.3 dBA (L10), which would not exceed the interior noise criterion commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the With-Action condition (between months 88 and 98), maximum exterior sound levels would be up to 74.3 dBA (L_{eq}), which would be an increase of up to 0.4 dBA over ambient levels. Interior construction noise levels would be up to 47.3 dBA (L_{10}), which would not exceed the interior noise criterion commercial spaces (50 dBA L_{10}).

Increases in exterior noise of 3 dBA or more and exceedances of the interior noise criterion would not occur during any phase of construction during the first shift for either the No-Action or With-Action condition. Therefore, there would not be significant noise impact due to the Proposed Action for first shift construction activities.

For the second shift, the results are as follows:

- During the demolition, excavation, and foundation phases of construction for both the No-Action and With-Action conditions (between months 12 and 34), maximum exterior sounds levels be up to 67.~~2~~1 dBA (Leq), which would be an increase of up to 2.2 dBA over ambient levels. Interior construction noise levels would be up to 40.~~2~~1 dBA (L10), which would not exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 35 and 65) and the With-Action condition (between months 35 and 87), maximum exterior sound levels would be up to 67.1 dBA (Leq), which would be an increase of up to 0.5 dBA over ambient levels. Interior construction noise levels would be up to 40.1 dBA (L10), which would not exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 66 and 73), maximum exterior sound levels would be up to 67.~~1~~0 dBA (Leq), which would be an increase of up to 0.1 dBA over ambient levels. Interior construction

noise levels would be up to 40.~~1~~0 dBA (L10), which would not exceed the interior noise criterion for commercial spaces (50 dBA L10).

- During the superstructure phase of construction for the With-Action condition (between months 88 and 98), maximum exterior sound levels would be up to 67.1 dBA (L_{eq}), which would be an increase of up to 0.5 dBA over ambient levels. Interior construction noise levels would be up to 40.1 dBA (L_{10}), which would not exceed the interior noise criterion for commercial spaces (50 dBA L_{10}).

Exterior noise levels would not exceed the evening increase criterion (7 dBA) for any phase of construction during the No-Action or the With-Action conditions. Exterior noise levels would not increase 3 dBA or more during the evening or nighttime periods during any phase of construction for both the No-Action and the With-Action conditions. Noise levels would not exceed the interior criterion (50 dBA L_{10}) during any phase of construction for either the No-Action or With Action conditions.

Since noise levels would not exceed the exterior increase criteria during the evening or nighttime periods and exceed the interior noise criterion during the No-Action or With-Action conditions for any phase of construction, there would not be significant adverse noise impact for second shift construction activities.

420 Lexington Avenue (R37 to R39, R41 to R42, and R44 to R47)

This 31-story commercial building is located north of the Proposed Project site. Based on streel-level field observations, is assumed to have insulated glass windows and central air conditioning, which would be expected to provide 30 dBA window/wall attenuation. The Lexington Avenue north side façade (R37), Lexington Avenue side middle façade (R38), Lexington Avenue side south façade (R39), Lexington Avenue alley side east façade (R41), Lexington Avenue alley side middle façade (R42), Lexington Avenue alley side west façade (R44), Park Avenue south side (R45), Park Avenue middle side façade (R46), and Park Avenue north side façade (R47) were assessed for potential noise impacts.

For the first shift, the results are as follows:

- During the demolition, excavation, and foundation phases of construction for both the No-Action and With-Action conditions (between months 12 and 34), maximum exterior sounds levels be up to 83.8 dBA (Leq), which would be an increase of up to 15.9 dBA over ambient levels. Interior construction noise levels would be up to 56.8 dBA (L10), which would exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 35 and 65) and the With-Action condition (between months 35 and 87), maximum exterior sound levels would be up to 78.0 dBA (Leq), which would be an increase of up to 10.1 dBA over ambient levels. Interior construction noise levels would be up to 51.0 dBA (L10), which would exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 66 and 73), maximum exterior sound levels would be up to 74.6 dBA (Leq), which would be an increase of up to 6.1 dBA over ambient levels. Interior construction noise levels would be up to 47.6 dBA (L10), which would not exceed the interior noise criterion for commercial spaces (50 dBA L10).

- During the superstructure phase of construction for the With-Action condition (between months 74 and 98), maximum exterior sound levels would be up to 75.0 dBA (Leq), which would be an increase of up to 7.1 dBA over ambient levels. Interior construction noise levels would be up to 48.0 dBA (L_{10}), which would not exceed the interior noise criterion for commercial spaces (50 dBA L_{10}).

Construction noise levels would increase by more than 15 dBA at one façade (R42) during the demolition, excavation, and foundation phase for 23 months for both the No-Action and With-Action condition. Increases in exterior noise of 3 dBA or more and exceedances of the interior noise criterion would occur at four facades (R41, R42, R44, and R45) during the demolition, excavation, foundation, and superstructure phases for up to 54 months for the No-Action condition and up to 76 months for the With-Action condition.

Since exterior construction noise levels would exceed ambient conditions by 12 dBA for more than 12 months~~,~~ and exceed ambient conditions by 3 dBA or more for longer than 12 months~~,~~ and exceed the interior noise criterion for both the No-Action and With-Action conditions, there would not be significant noise impact due to the Proposed Action for first shift construction activities.

For the second shift, the results are as follows:

- During the demolition, excavation, and foundation phases of construction for both the No-Action and With-Action conditions (between months 12 and 34), maximum exterior sounds levels be up to 71.2 dBA (Leq), which would be an increase of up to 11.7 dBA over ambient levels. Interior construction noise levels would be up to 44.2 dBA (L10), which would be below the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 35 and 65) and the With-Action condition (between months 35 and 87), maximum exterior sound levels would be up to 72.5 dBA (Leq), which would be an increase of up to 13.0 dBA over ambient levels. Interior construction noise levels would be up to 45.5 dBA (L10), which would not exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 66 and 73), maximum exterior sound levels would be up to 68.5 dBA (Leq), which would be an increase of up to 9.0 dBA over ambient levels. Interior construction noise levels would be up to 41.5 dBA (L10), which would be below the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the With-Action condition (between months 88 and 98), maximum exterior sound levels would be up to 71.76 dBA (Leq), which would be an increase of up to 12.2 dBA over ambient levels. Interior construction noise levels would be up to 44.7 dBA (L_{10}), which would be below the interior noise criterion for commercial spaces (50 dBA L_{10}).

Exterior noise levels would exceed the evening increase criterion (7 dBA) during the excavation, demolition, foundation, and superstructure phases of construction at three façades (R41, R42, and R44) for up to 62 months for the No-Action Condition and for up to 87 months during the With-Action Condition. Exterior noise levels would increase by 3 dBA or more during the evening or nighttime periods at six façades (R41, R42, R44, R45, R46 and R47) during the excavation, demolition, foundation, and superstructure phases of

construction for up to 62 months during the No-Action Condition and for up to 87 months during the With-Action Condition. Noise levels would not exceed the interior criterion (50 dBA L_{10}) during any phase of construction for either the No-Action or With Action conditions.

Since noise levels would not exceed the exterior increase criteria during the evening or nighttime periods and exceed the interior noise criterion during the No-Action or With-Action conditions for any phase of construction, there would not be significant adverse noise impact for second shift construction activities.

416 Lexington Avenue (R40, R43, R48, and R49)

This 38-story commercial building is located north of the Proposed Project site. Based on streel-level field observations, is assumed to have insulated glass windows and central air conditioning, which would be expected to provide 30 dBA window/wall attenuation. The Lexington Avenue east side façade (R40), Lexington Avenue west side façade (R43), Park Avenue side south façade (R48), and Park Avenue side north façade (R49) were assessed for potential noise impacts.

For the first shift, the results are as follows:

- During the demolition, excavation, and foundation phase of construction for both the No-Action and With-Action conditions (between months 12 and 34), maximum exterior sounds levels be up to 78.7 dBA (Leq), which would be an increase of up to 9.1 dBA over ambient levels. Interior construction noise levels would be up to 51.7 dBA (L10), which would exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 35 and 65) and the With-Action condition (between months 35 and 87), maximum exterior sound levels would be up to 78.7 dBA (Leq), which would be an increase of up to 6.9 dBA over ambient levels. Interior construction noise levels would be up to 51.7 dBA (L10), which would exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 66 and 73), maximum exterior sound levels would be up to 75.2 dBA (Leq), which would be an increase of up to 4.4 dBA over ambient levels. Interior construction noise levels would be up to 48.2 dBA (L10), which would not exceed the interior noise criterion for residential spaces (50 dBA L10).
- During the superstructure phase of construction for the With-Action condition (between months 88 and 98), maximum exterior sound levels would be up to 76.2 dBA (Leq), which would be an increase of up to 4.8 dBA over ambient levels. Interior construction noise levels would be up to 49.2 dBA (L_{10}), which would not exceed the interior noise criterion for commercial spaces (50 dBA L_{10}).

Increases in exterior noise of 3 dBA or more and exceedances of the interior noise criterion would occur at one facade (R40) during the demolition, excavation, foundation, and superstructure phases for up to 54 months for the No-Action condition and up to 76 months for the With-Action condition.

Since exterior construction noise levels would exceed ambient conditions by 3 dBA or more and exceed the interior noise criterion for longer than 24 months for both the No-Action

and With-Action conditions, it is determined there would not be significant noise impact due to the Proposed Action for first shift construction activities.

For the second shift, the results are as follows:

- During the demolition, excavation, and foundation phases of construction for both the No-Action and With-Action conditions (between months 12 and 34), maximum exterior sounds levels be up to 72.7 dBA (Leq), which would be an increase of up to 13.2 dBA over ambient levels. Interior construction noise levels would be up to 45.7 dBA (L10), which would be below the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 35 and 65) and the With-Action condition (between months 35 and 87), maximum exterior sound levels would be up to 71.0 dBA (Leq), which would be an increase of up to 11.2 dBA over ambient levels. Interior construction noise levels would be up to 44.0 dBA (L10), which would be below the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 66 and 73), maximum exterior sound levels would be up to 67.4 dBA (Leq), which would be an increase of up to 5.3 dBA over ambient levels. Interior construction noise levels would be up to 40.4 dBA (L10), which would be below the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the With-Action condition (between months 88 and 98), maximum exterior sound levels would be up to 71.0 dBA (Leq), which would be an increase of up to 9.1 dBA over ambient levels. Interior construction noise levels would be up to 44.0 dBA (L_{10}), which would be below the interior noise criterion for commercial spaces (50 dBA L_{10}).

Exterior noise levels would exceed the evening increase criterion (7 dBA) during the excavation, demolition, foundation, and superstructure phases of construction at one façade (R43) for 54 months for the No-Action condition and for 76 months for the With-Action Condition. Exterior noise levels would increase by 3 dBA or more during the evening or nighttime periods at two façades (R40 and R43) during the excavation, demolition, foundation, and superstructure phases of construction for up to 62 months during the No-Action condition and for up to 87 months during the With-Action Condition. Noise levels would not exceed the interior criterion (50 dBA L_{10}) during any phase of construction for either the No-Action or With-Action conditions.

Since noise levels would not exceed the exterior increase criteria during the evening or nighttime periods and exceed the interior noise criterion during the No-Action or With-Action conditions for any phase of construction, there would not be significant adverse noise impact for second shift construction activities.

East 42nd Street (R50 and R54)

This 7-story commercial/industrial building is located north of the Proposed Project site. The building includes transportation and utility office space and based on streel-level field observations, is assumed to have insulated glass windows and central air conditioning, which would be expected to provide 30 dBA window/wall attenuation. The façade north of Met Life (R50) and the façade south of Met Life (R54) were assessed for potential noise impacts.

For the first shift, the results are as follows:

- During the demolition, excavation, and foundation phase of construction for both the No-Action and With-Action conditions (between months 12 and 34), maximum exterior sounds levels be up to 78.1 dBA (L_{eq}), which would be an increase of up to 3.8 dBA over ambient levels. Interior construction noise levels would be up to 51.1 dBA (L10), which would exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 35 and 65) and the With-Action condition (between months 35 and 87), maximum exterior sound levels would be up to 78.0 dBA (Leq), which would be an increase of up to 0.5 dBA over ambient levels. Interior construction noise levels would be up to 51.0 dBA (L10), which would exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 66 and 73), maximum exterior sound levels would be up to 78.0 dBA (Leq), which would be an increase of up to 0.2 dBA over ambient levels. Interior construction noise levels would be up to 51.0 dBA (L10), which would exceed the interior noise criterion for residential spaces (50 dBA L10).
- During the superstructure phase of construction for the With-Action condition (between months 88 and 98), maximum exterior sound levels would be up to 78.0 dBA (Leq), which would be an increase of up to 0.2 dBA over ambient levels. Interior construction noise levels would be up to 51.0 dBA (L_{10}), which would exceed the interior noise criterion for commercial spaces (50 dBA L_{10}).

Exterior noise levels would not increase by 3 dBA or more and exceed the interior noise criterion (50 dBA L_{10}) on the same façade during any phase of construction during the first shift for either the No-Action or With-Action condition. Therefore, there would not be significant noise impact due to the Proposed Action for first shift construction activities.

For the second shift, the results are as follows:

- During the demolition, excavation, and foundation phases of construction for both the No-Action and With-Action conditions (between months 12 and 34), maximum exterior sounds levels be up to 65.6 dBA (L_{eq}), which would be an increase of up to 5.0 dBA over ambient levels. Interior construction noise levels would be up to 38.6 dBA (L10), which would be below the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 35 and 65) and the With-Action condition (between months 35 and 87), maximum exterior sound levels would be up to 65.5 dBA (Leq), which would be an increase of up to 2.1 dBA over ambient levels. Interior construction noise levels would be up to 38.5 dBA (L10), which would be below the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 66 and 73), maximum exterior sound levels would be up to 65.5 dBA (Leq), which would be an increase of up to 1.4 dBA over ambient levels. Interior construction noise levels would be up to 38.5 dBA (L10), which would be below the interior noise criterion for commercial spaces (50 dBA L10).

- During the superstructure phase of construction for the With-Action condition (between months 74 and 98), maximum exterior sound levels would be up to 65.5 dBA (Leq), which would be an increase of up to 1.8 dBA over ambient levels. Interior construction noise levels would be up to 38.5 dBA (L_{10}), which would be below the interior noise criterion for commercial spaces (50 dBA L_{10}).

Exterior noise levels would not exceed the evening or increase criterion (7 dBA) for any phase of construction during the No-Action or the With-Action conditions. Exterior noise levels would not increase by 3 dBA or more for 24 months or longer during the evening or nighttime periods for the No-Action and With-Action conditions. Noise levels would not exceed the interior criterion (50 dBA L_{10}) during any phase of construction for either the No-Action or With Action conditions.

Since noise levels would not exceed the exterior increase criteria during the evening or nighttime periods and exceed the interior noise criterion during the No-Action or With-Action conditions for any phase of construction, there would not be significant adverse noise impact for second shift construction activities.

Metlife Building (R51 to R53)

This 59-story commercial building is located at 200 Park Avenue, north of the Proposed Project site. Based on streel-level field observations, is assumed to have insulated glass windows and central air conditioning, which would be expected to provide 30 dBA window/wall attenuation. The east façade (R51), the south side east façade (R52), and the south side west façade (R53) were assessed for potential noise impacts.

For the first shift, the results are as follows:

- During the demolition, excavation, and foundation phase of construction for both the No-Action and With-Action conditions (between months 12 and 34), maximum exterior sounds levels be up to 74.9 dBA (Leq), which would be an increase of up to 5.5 dBA over ambient levels. Interior construction noise levels would be up to 47.9 dBA (L10), which would not exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 35 and 65) and the With-Action condition (between months 35 and 87), maximum exterior sound levels would be up to 73.4 dBA (Leq), which would be an increase of up to 1.4 dBA over ambient levels. Interior construction noise levels would be up to 46.4 dBA (L10), which would not exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 66 and 73), maximum exterior sound levels would be up to 73.4 dBA (Leq), which would be an increase of up to 0.6 dBA over ambient levels. Interior construction noise levels would be up to 46.4 dBA (L10), which would not exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the With-Action condition (between months 88 and 98), maximum exterior sound levels would be up to 73.4 dBA (Leq), which would be an increase of up to 0.6 dBA over ambient levels. Interior construction noise levels would be up to 46.4 dBA (L_{10}), which would not exceed the interior noise criterion for commercial spaces (50 dBA L_{10}).

Increases in exterior noise of 3 dBA or more and exceedances of the interior noise criterion would not occur during any phase of construction during the first shift for either the No-Action or With-Action condition. Therefore, there would not be significant noise impact due to the Proposed Action for first shift construction activities. .

For the second shift, the results are as follows:

- During the demolition, excavation, and foundation phases of construction for both the No-Action and With-Action conditions (between months 12 and 34), maximum exterior sounds levels be up to 64.0 dBA (Leq), which would be an increase of up to 4.1 dBA over ambient levels. Interior construction noise levels would be up to 37.0 dBA (L10), which would be below the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 35 and 65) and the With-Action condition (between months 35 and 87), maximum exterior sound levels would be up to 63.4 dBA (Leq), which would be an increase of up to 3.9 dBA over ambient levels. Interior construction noise levels would be up to 36.4 dBA (L10), which would be below the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 66 and 73), maximum exterior sound levels would be up to 61.6 dBA (Leq), which would be an increase of up to 0.9 dBA over ambient levels. Interior construction noise levels would be up to 34.6 dBA (L10), which would be below the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the With-Action condition (between months 88 and 98), maximum exterior sound levels would be up to 62.6 dBA (L_{eq}), which would be an increase of up to 3.1 dBA over ambient levels. Interior construction noise levels would be up to 35.6 dBA (L_{10}) which would be below the interior noise criterion for commercial spaces (50 dBA L_{10}).

Exterior noise levels would not exceed the evening or increase criterion (7 dBA) for any phase of construction during the No-Action or the With-Action conditions. Exterior noise levels would increase 3 dBA or more during the evening or nighttime periods for up to 54 months for the No-Action and up to 76 months for the With-Action condition. Noise levels would not exceed the interior criterion (50 dBA L_{10}) during any phase of construction for either the No-Action or With Action conditions.

Since noise levels would not exceed the exterior increase criteria during the evening or nighttime periods and exceed the interior noise criterion during the No-Action or With-Action conditions for any phase of construction, there would not be significant adverse noise impact for second shift construction activities.

Grand Central Terminal (R55 to R58)

This 7-story commercial/industrial building is located at 89 East 42nd Street, east of the Proposed Project site. The building includes commercial transportation and utility office space, retail stores and restaurants, as well as museum space. Based on streel-level field observations, is assumed to have insulated glass windows and central air conditioning, which would be expected to provide 30 dBA window/wall attenuation. The Park Avenue side north

façade (R55), Park Avenue side south façade (R56), 42nd Avenue side east façade (R57), and 42nd Avenue side west façade (R58) were assessed for potential noise impacts.

For the first shift, the results are as follows:

- During the demolition, excavation, and foundation phase of construction for both the No-Action and With-Action conditions (between months 12 and 34), maximum exterior sounds levels be up to 80.7 dBA (Leq), which would be an increase of up to 8.6 dBA over ambient levels. Interior construction noise levels would be up to 53.7 dBA (L10), which would exceed the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 35 and 65) and the With-Action condition (between months 35 and 87), maximum exterior sound levels would be up to 76.4 dBA (Leq), which would be an increase of up to 4.2 dBA over ambient levels. Interior construction noise levels would be up to 49.4 dBA (L10), which would be below the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 66 and 73), maximum exterior sound levels would be up to 75.4 dBA (Leq), which would be an increase of up to 2.1 dBA over ambient levels. Interior construction noise levels would be up to 48.4 dBA (L10), which would be below the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the With-Action condition (between months 88 and 98), maximum exterior sound levels would be up to 75.5 dBA (L_{eq}), which would be an increase of up to 2.4 dBA over ambient levels. Interior construction noise levels would be up to 48.5 dBA (L_{10}), which would be below the interior noise criterion for commercial spaces (50 dBA L_{10}).

Increases in exterior noise of 3 dBA or more and exceedances of the interior noise criterion would occur at three facades (R55 to R57) during the demolition, excavation, foundation for 23 months during the No-Action and With-Action conditions.

Since exterior construction noise levels would not exceed ambient conditions by 3 dBA or more and exceed the interior noise criterion for longer than 24 months for both the No-Action and With-Action conditions, there would not be significant noise impact due to the Proposed Action for first shift construction activities.

For the second shift, the results are as follows:

- During the demolition, excavation, and foundation phases of construction for both the No-Action and With-Action conditions (between months 12 and 34), maximum exterior sounds levels be up to 68.5 dBA (Leq), which would be an increase of up to 7.6 dBA over ambient levels. Interior construction noise levels would be up to 41.5 dBA (L10), which would be below the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 35 and 65) and the With-Action condition (between months 35 and 87), maximum exterior sound levels would be up to 70.0 dBA (Leq), which would be an increase of up to10.0 dBA over ambient levels. Interior construction noise levels would be up to 43.0 dBA (L10), which would be below the interior noise criterion for commercial spaces (50 dBA L10).

- During the superstructure phase of construction for the No-Action condition (between months 66 and 73), maximum exterior sound levels would be up to 65.4 dBA (Leq), which would be an increase of up to 4.6 dBA over ambient levels. Interior construction noise levels would be up to 38.4 dBA (L10), which would be below the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the With-Action condition (between months 88 and 98), maximum exterior sound levels would be up to 68.8 dBA (L_{eq}), which would be an increase of up to 8.8 dBA over ambient levels. Interior construction noise levels would be up to 41.8 dBA (L_{10}), which would be below the interior noise criterion for commercial spaces (50 dBA L_{10}).

Exterior noise levels would exceed the evening increase criterion (7 dBA) during the superstructure phase of construction at two façade (R55 and R56) for 54 months for the No-Action Condition and for 76 months for the With-Action condition. Exterior noise levels would increase 3 dBA or more during evening or nighttime periods during the excavation, demolition, foundation, and superstructure phases of construction for up to 62 months for the No-Action Condition and for up to 87 months for the With-Action Condition. Noise levels would not exceed the interior criterion (50 dBA L_{10}) during any phase of construction for either the No-Action or With Action conditions.

Since noise levels would not exceed the exterior increase criteria during the evening or nighttime periods and exceed the interior noise criterion during the No-Action or With-Action conditions for any phase of construction, there would not be significant adverse noise impact for second shift construction activities.

One Vanderbilt (R59 and R60)

This 65-story commercial building west of the Proposed Project site. Based on streel-level field observations, is assumed to have insulated glass windows and central air conditioning, which would be expected to provide 30 dBA window/wall attenuation. The Vanderbilt Avenue side north façade (R59) and the Vanderbilt Avenue side south façade (R60) were assessed for potential noise impacts.

For the first shift, the results are as follows:

- During the demolition, excavation, and foundation phase of construction for both the No-Action and With-Action conditions (between months 12 and 34), maximum exterior sounds levels be up to 69.2 dBA (Leq), which would be an increase of up to 0.1 dBA over ambient levels. Interior construction noise levels would be up to 42.2 dBA (L10), which would be below the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 35 and 65) and the With-Action condition (between months 35 and 87), maximum exterior sound levels would be up to 69.1 dBA (Leq), which would be an increase of up to 0.0 dBA over ambient levels. Interior construction noise levels would be up to 42.1 dBA (L10), which would be below the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 66 and 73), maximum exterior sound levels would be up to 69.1 dBA (Leq), which would be an increase of up to 0.0 dBA over ambient levels. Interior construction

noise levels would be up to 42.1 dBA (L10), which would be below the interior noise criterion for commercial spaces (50 dBA L10).

- During the superstructure phase of construction for the With-Action condition (between months 88 and 98), maximum exterior sound levels would be up to 69.1 dBA (L_{eq}), which would be an increase of up to 0.0 dBA over ambient levels. Interior construction noise levels would be up to 42.1 dBA (L_{10}), which would be below the interior noise criterion for commercial spaces (50 dBA L_{10}).

Increases in exterior noise of 3 dBA or more and exceedances of the interior noise criterion would not occur during any phase of construction during the first shift for either the No-Action or With-Action condition. Therefore, there would not be significant noise impact due to the Proposed Action for first shift construction activities.

For the second shift, the results are as follows:

- During the demolition, excavation, and foundation phases of construction for both the No-Action and With-Action conditions (between months 12 and 34), maximum exterior sounds levels be up to 60.1 dBA (Leq), which would be an increase of up to 0.6 dBA over ambient levels. Interior construction noise levels would be up to 33.1 dBA (L10), which would be below the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 35 and 65) and the With-Action condition (between months 35 and 87), maximum exterior sound levels would be up to 59.6 dBA (Leq), which would not be an increase over ambient levels. Interior construction noise levels would be up to 32.6 dBA (L10), which would be below the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the No-Action condition (between months 66 and 73), maximum exterior sound levels would be up to 59.5 dBA (Leq), which would not be an increase over ambient levels. Interior construction noise levels would be up to 32.5 dBA (L10), which would be below the interior noise criterion for commercial spaces (50 dBA L10).
- During the superstructure phase of construction for the With-Action condition (between months 88 and 98), maximum exterior sound levels would be up to 59.6 dBA (L_{eq}), which would not be an increase over ambient levels. Interior construction noise levels would be up to 32.6 dBA (L_{10}), which would be below the interior noise criterion for commercial spaces (50 dBA L_{10}).

Exterior noise levels would not exceed the evening increase criteria (7 dBA) for any phase of construction during the No-Action or the With Action conditions. Exterior noise levels would not increase by 3 dBA or more during the evening or nighttime periods for any phase of construction for the No-Action or the With-Action conditions. Noise levels would not exceed the interior criterion (50 dBA L_{10}) during any phase of construction for either the No-Action or With Action conditions.

Since noise levels would not exceed the exterior increase criteria during the evening or nighttime periods and exceed the interior noise criterion during the No-Action or With-Action conditions for any phase of construction, there would not be significant adverse noise impact for second shift construction activities.

During the first shift, exterior construction noise levels would exceed 3 dBA or more above ambient levels and exceed interior criteria for more than 24 months at five nearby buildings including 110 East 42nd Street, 374 Lexington Avenue, 395 Lexington Avenue, 420 Lexington Avenue, and 416 Lexington Avenue for both the No-Action and With-Action conditions. At five other buildings including 118 Park Avenue, 125 Park Avenue, 150 East 42nd Street, 425 Lexington Avenue, and Grand Central Station, construction noise levels would exceed 3 dBA or more above ambient levels and exceed interior criteria for less than 24 months for both the No-Action and With-Action conditions. Therefore, since both the No-Action and With-Action constructions would cause ~~exceednaces~~exceedances of incremental noise and interior noise criteria, there would not be any new significant adverse impacts caused by the Proposed Project during the first shift.

During the second shift, exterior construction noise levels would not exceed the evening increase criterion (7 dBA) or the nighttime increase criterion (3 dBA) and also exceed interior criteria at any receptor location for the No-Action or With-Action condition. Since second shift construction noise levels are substantially lower than first shift levels, noise levels would not exceed the interior impact thresholds and there would not be significant adverse noise impact.

With the adherence to existing construction noise regulations and the implementation of a Construction Noise Mitigation Plan, as required by the New York City Noise Code, as well as the use of an 8-foot-tall perimeter construction noise barrier and a perimeter shed 16 feet in height, construction noise would be below the level of significant adverse noise impact. The perimeter shed will be included as a PCRE and will be included in the Restrictive Declaration. Therefore, construction of the Proposed Project is not anticipated to result in significant adverse construction noise impact at receptors near the Project Site.

Figure 15-5 through **Figure 15-14** show the noise level contour maps at a height of 5 feet above ground for each phase of construction as well as the location of noise receptors.

Figure 15-5 Construction Noise Contours – Month 24 – First Shift

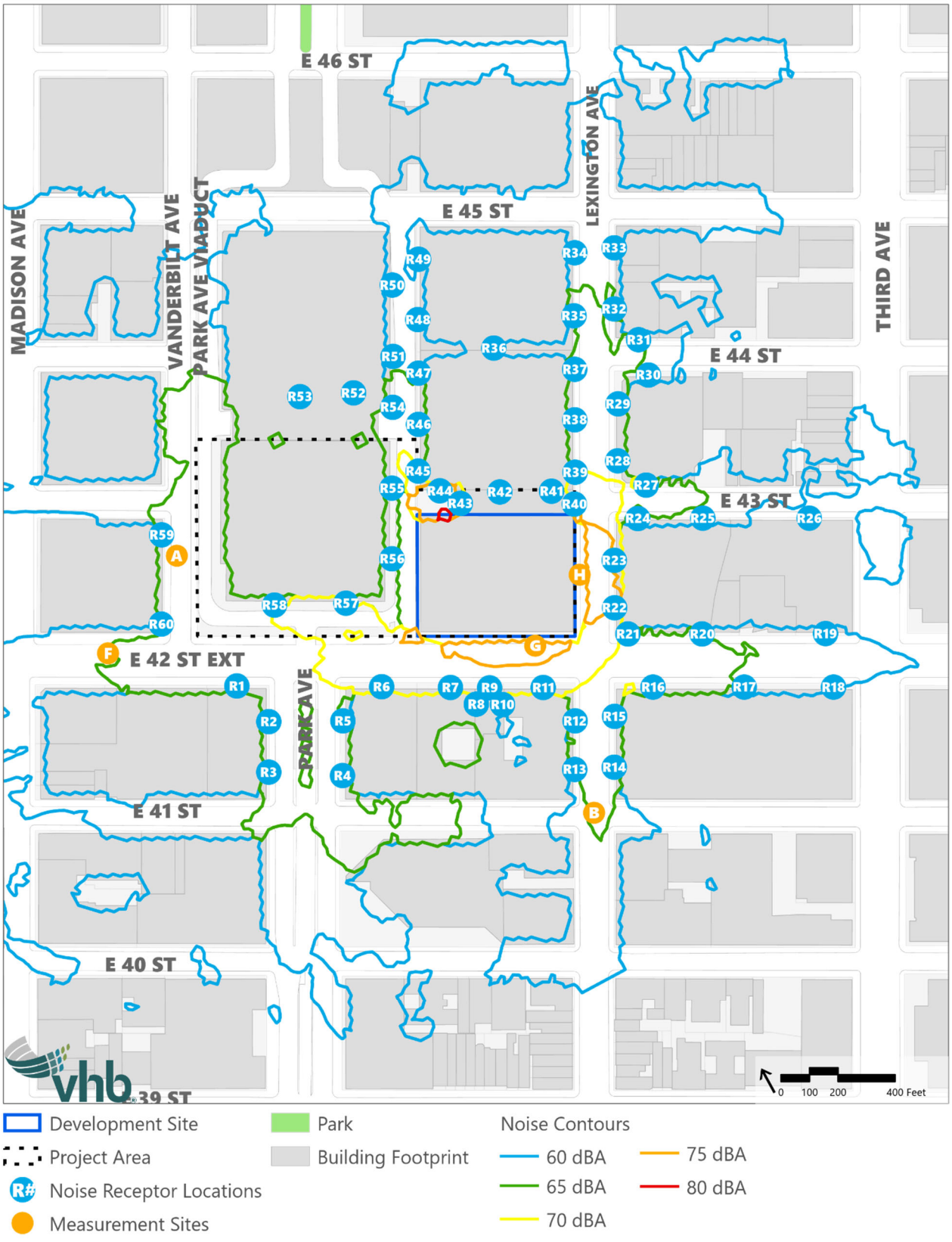


Figure 15-6 Construction Noise Contours – Month 24 – Second Shift

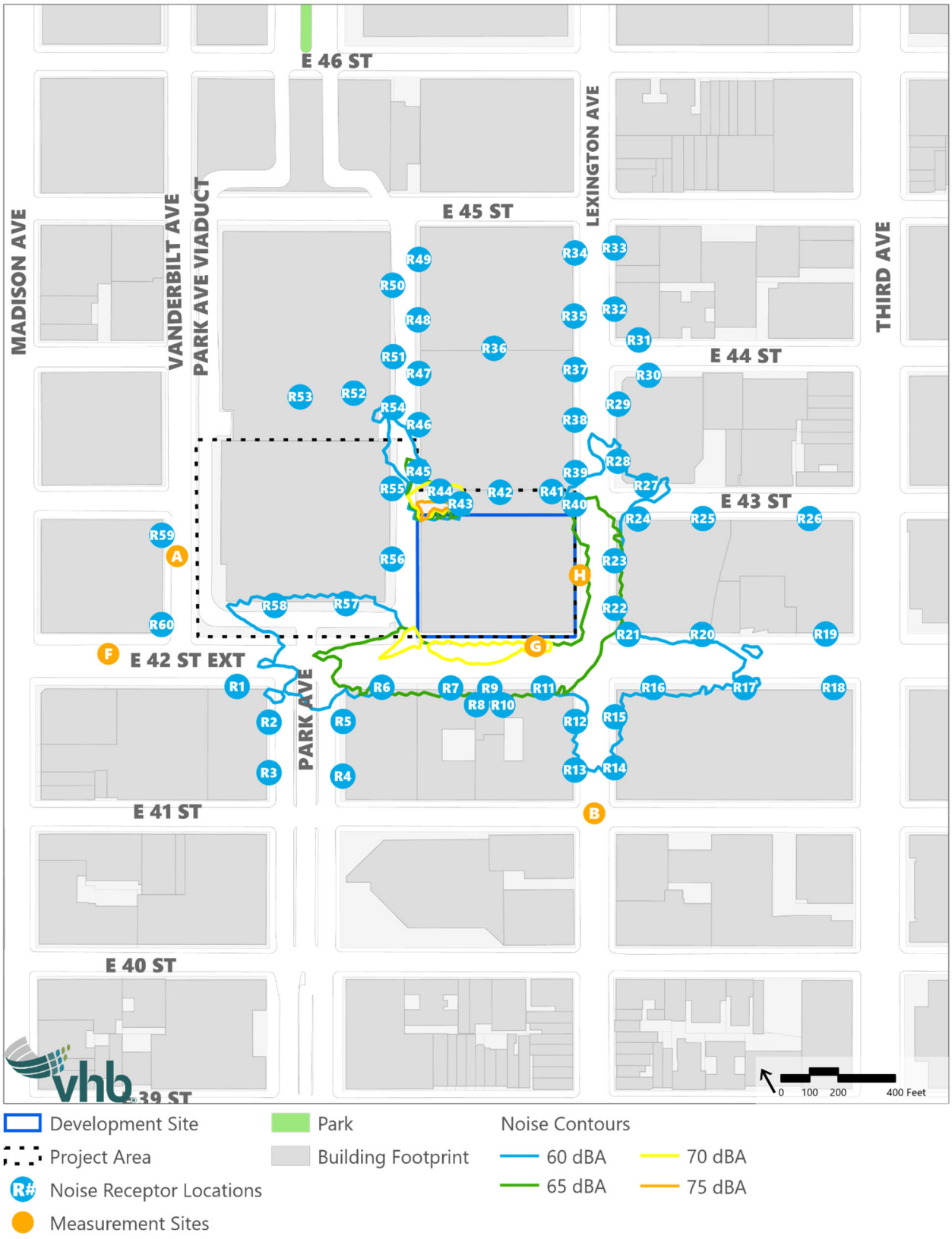


Figure 15-7 Construction Month 57 First Shift Noise Contours

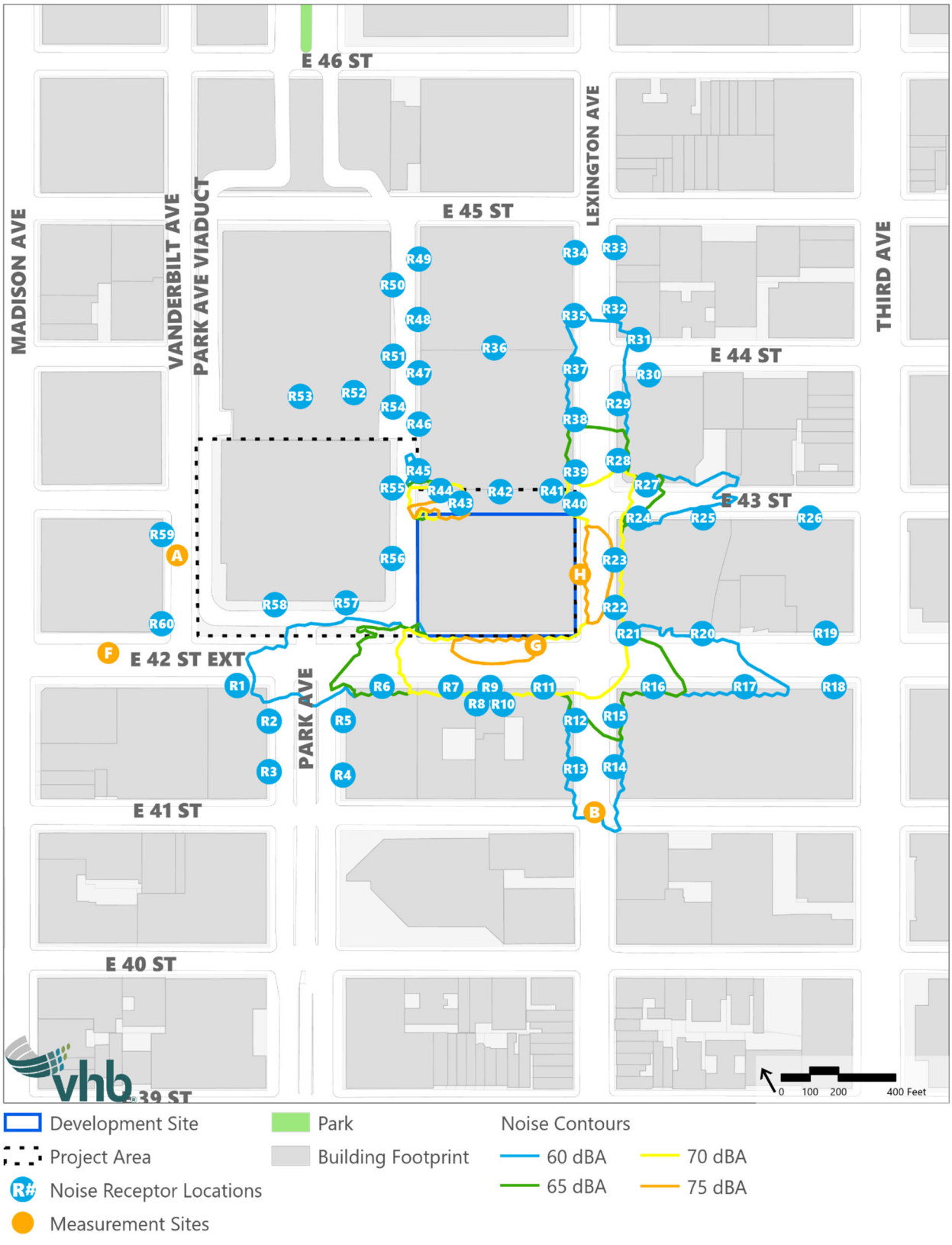


Figure 15-8 Superstructure Month 57 Second Shift Noise Contours

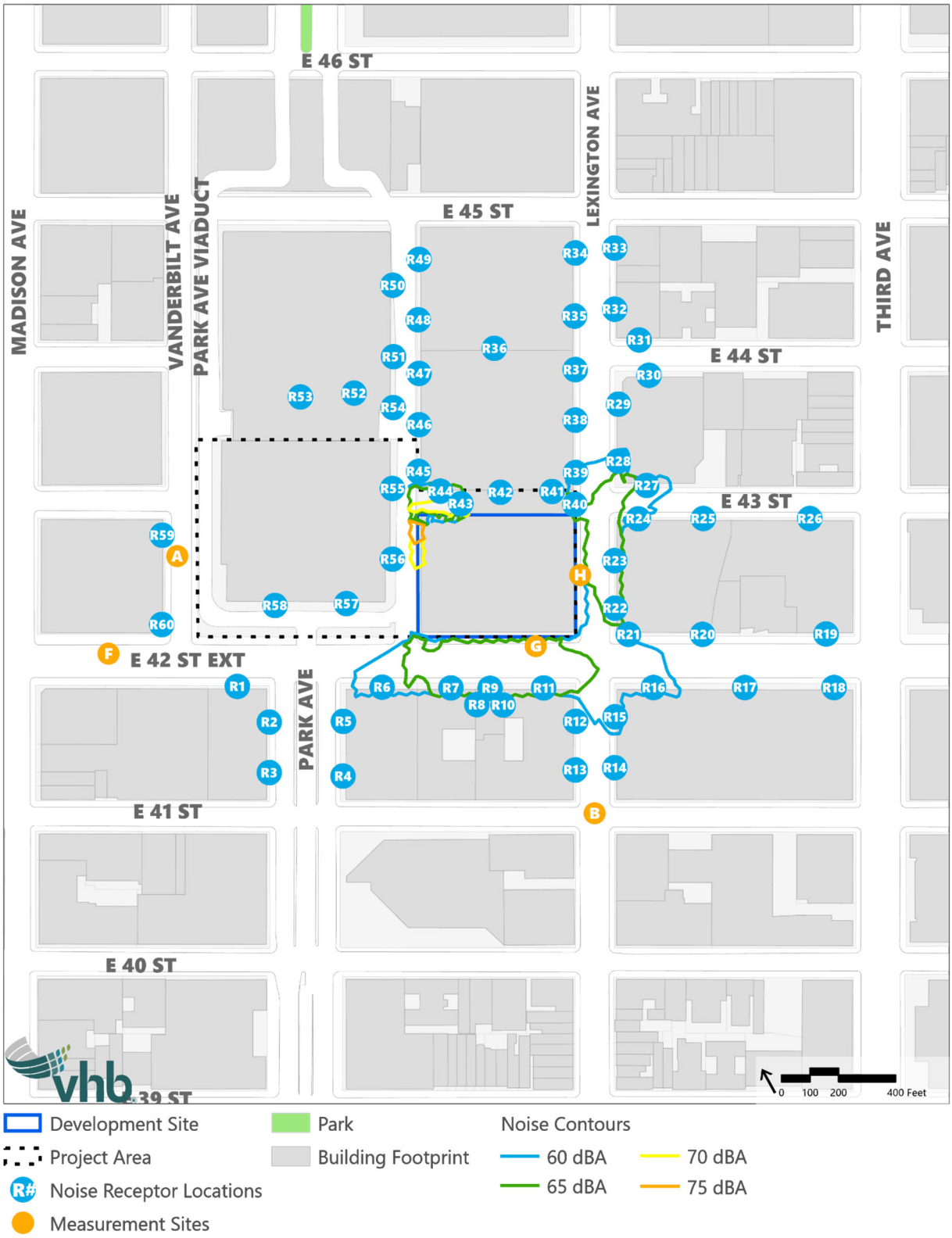


Figure 15-9 Superstructure Month 70 No-Action First Shift Noise Contours

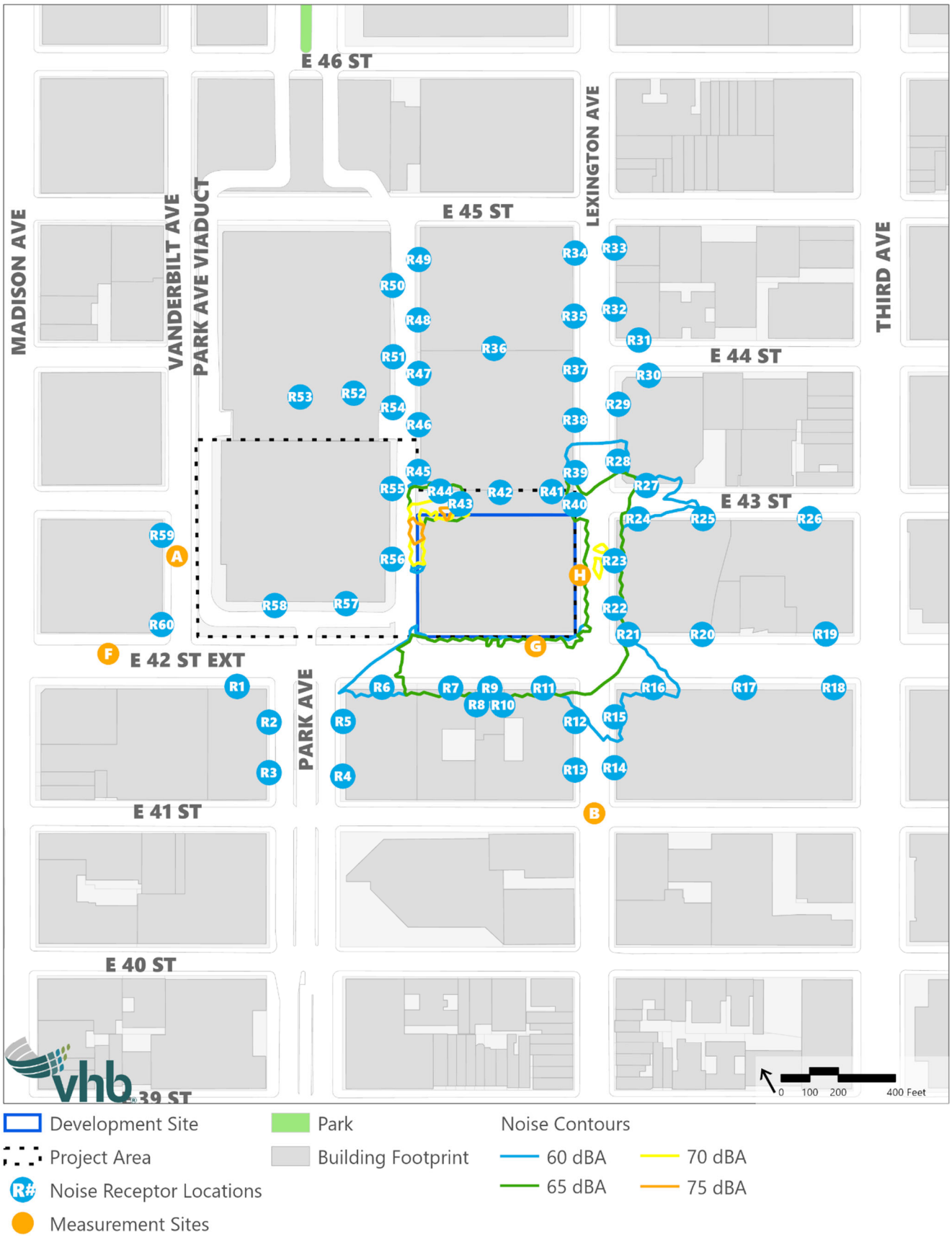


Figure 15-10 Superstructure Month 70 No-Action Second Shift Noise Contours

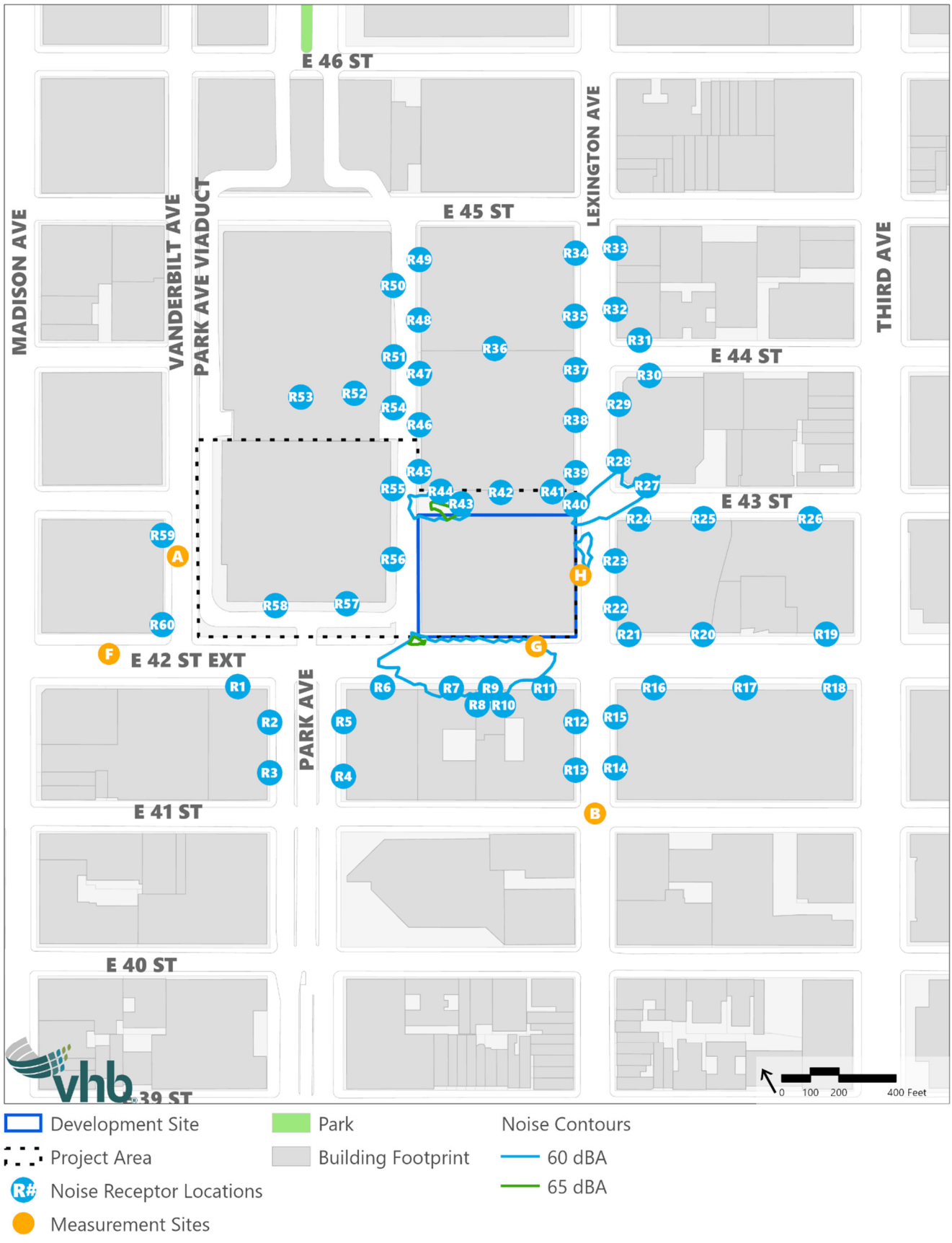


Figure 15-11 Superstructure Month 70 With-Action First Shift Noise Contours

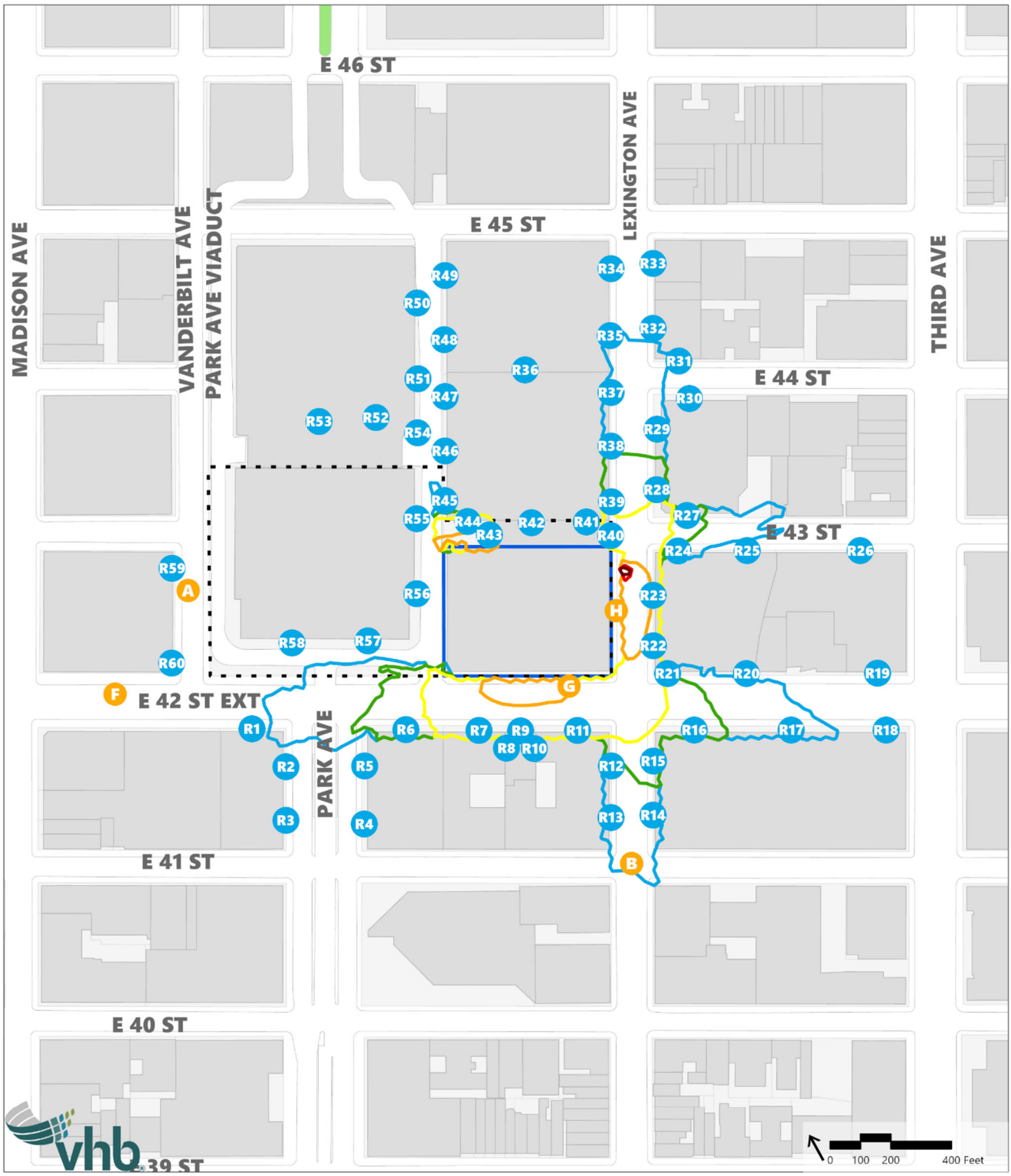


Figure 15-12 Superstructure Month 70 With-Action Second Shift Noise Contours

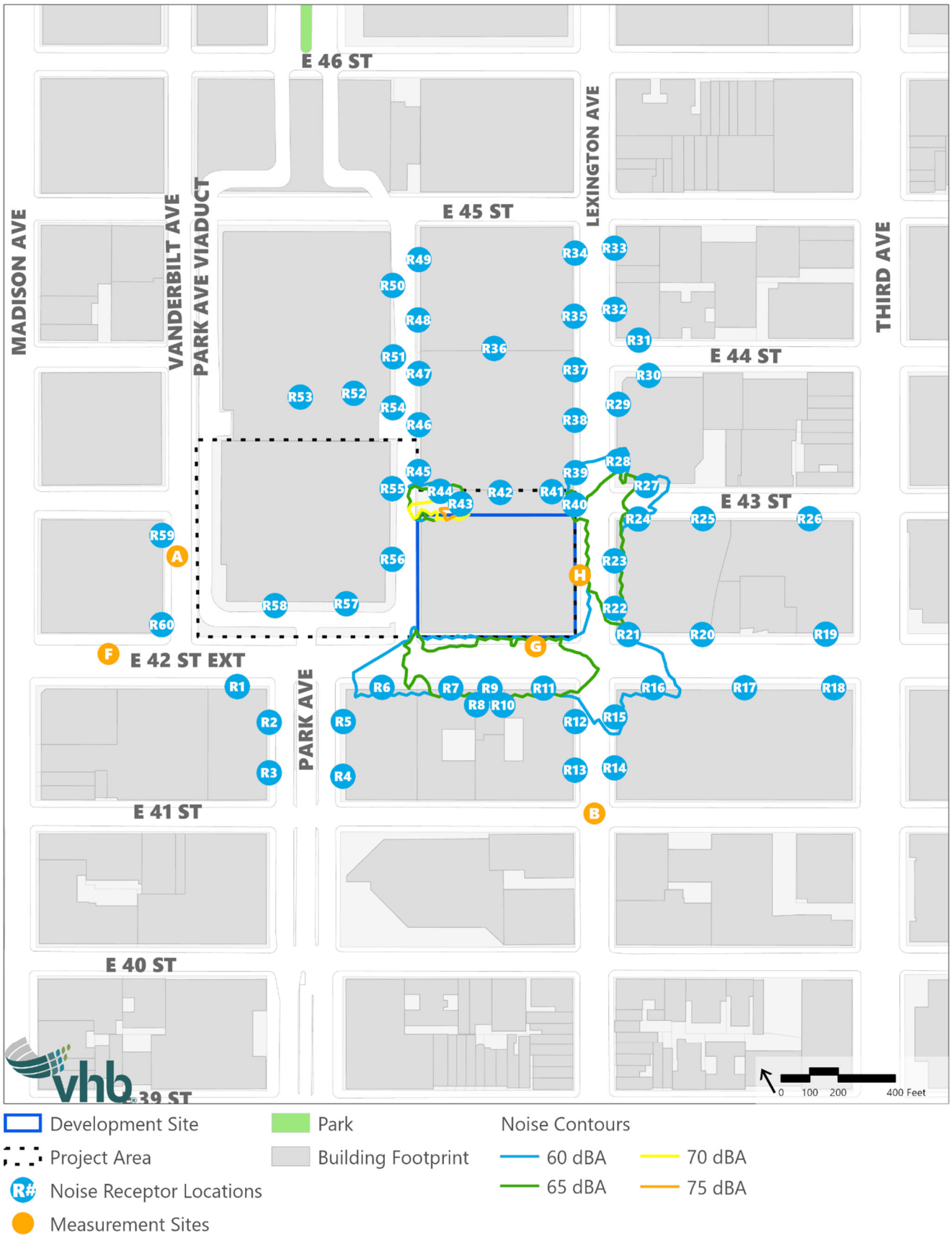


Figure 15-13 Superstructure Month 88 With-Action First Shift Noise Contours

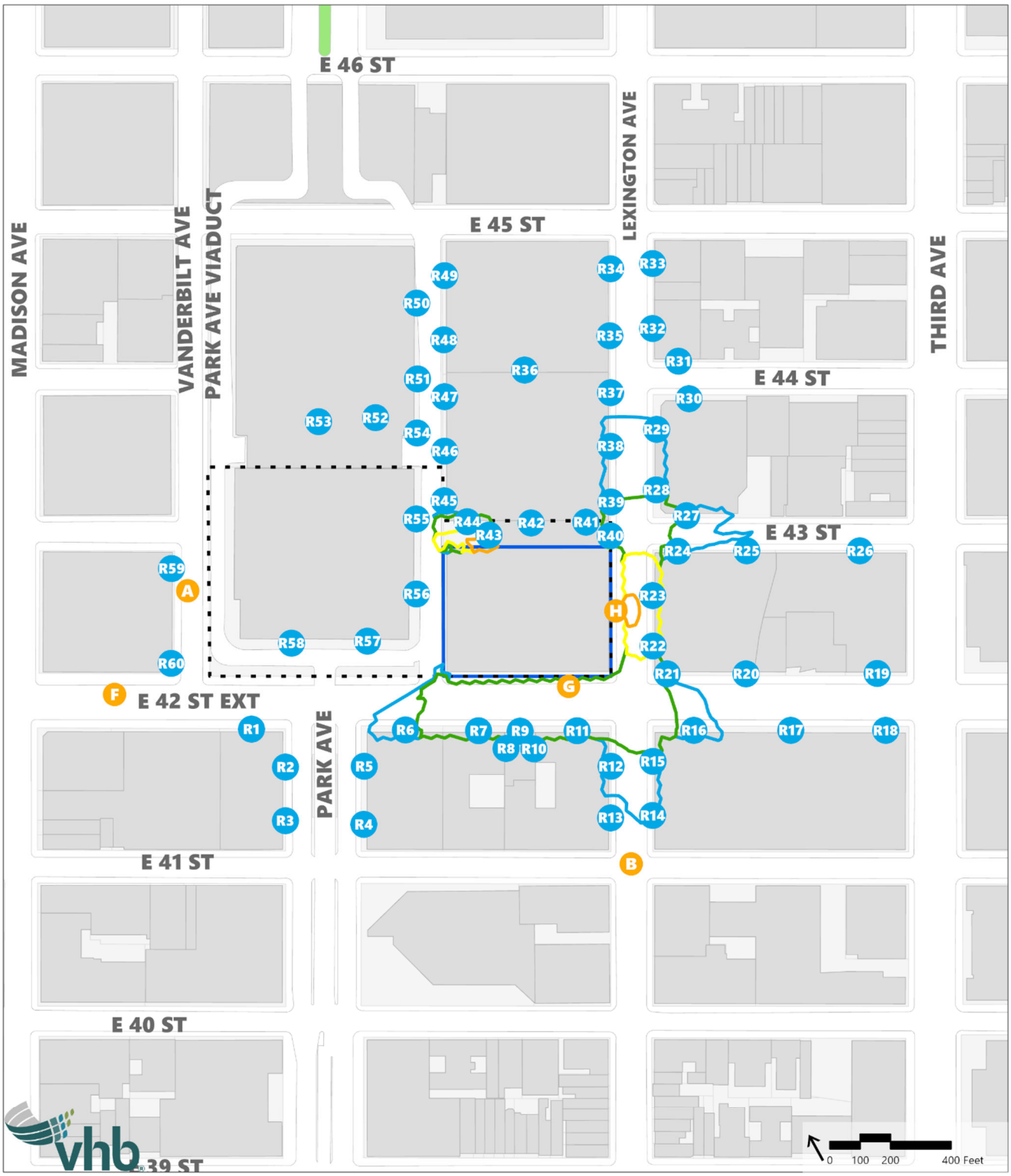
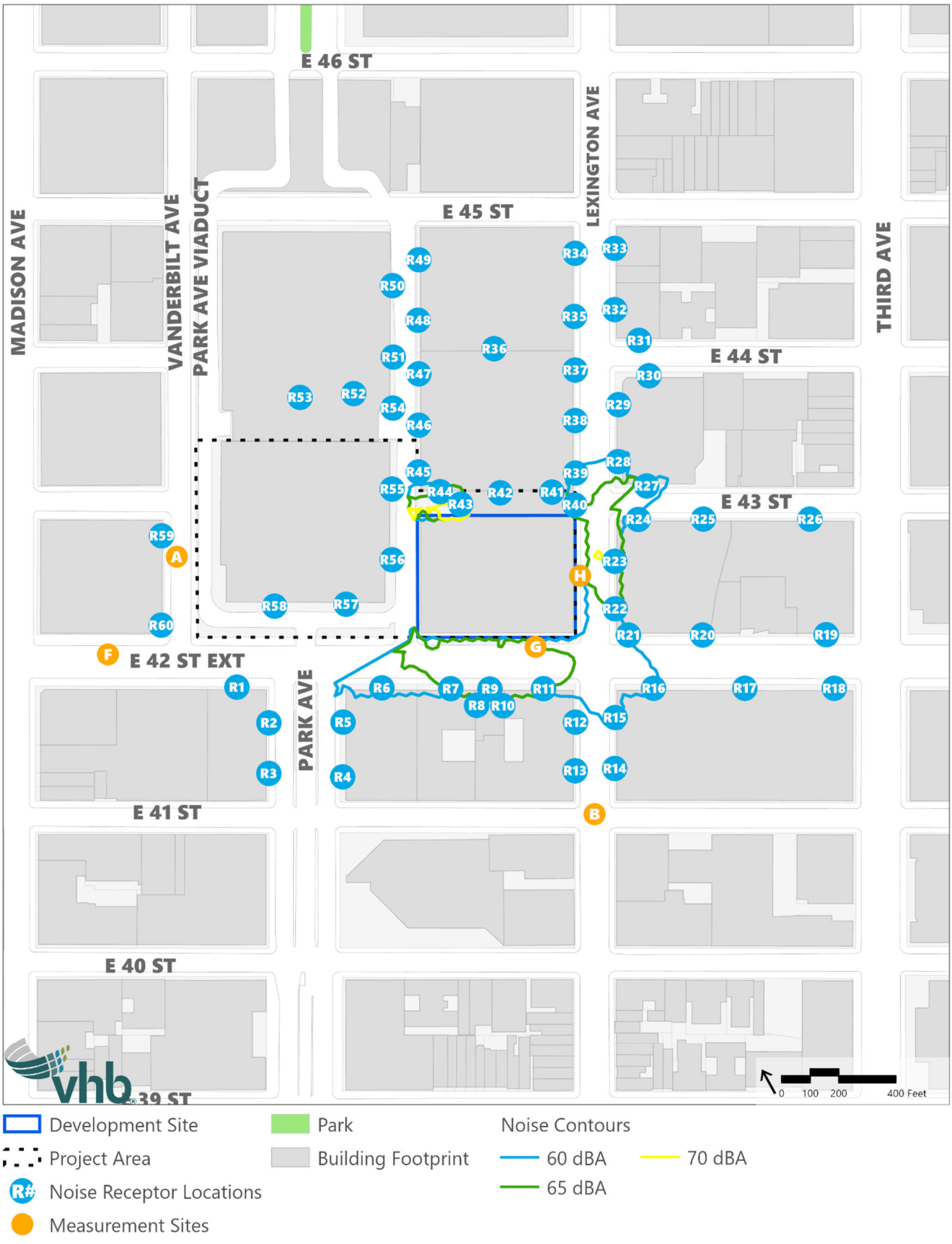


Figure 15-14 Superstructure Month 88 With-Action Second Shift Noise Contours



Vibration

Construction activities have the potential to generate ground-borne vibration that can potentially cause structural or architectural damage or annoy people in nearby vibration-sensitive spaces, such as commercial offices or hotels. The most substantial sources of construction vibration are equipment associated with the excavation and foundation phase, such as drill rigs, bulldozers, and jack hammers. Vehicles such as trucks typically do not exceed the thresholds for potential structural damage even for the most fragile structures susceptible to vibration.

Buildings within 90 feet of the Project Site, where there is the greatest potential for vibration impact, include 420 Lexington Avenue (Graybar Building), 89 East 42nd Street (GCT), 125 Park Avenue (Pershing Square Building), 110 East 42nd Street (Bowery Savings Bank Building), 374 Lexington Avenue (Chanin Building), and 395 Lexington Avenue (Chrysler Building). The GCT building and the Graybar Building are adjacent to the Project Site.

The criteria used by LPC to evaluate potential construction vibration impacts is a peak-particle velocity (PPV) level of 0.5 inches per second or greater. For non-fragile buildings, vibration levels below 0.6 inches per second are not expected to substantially increase the risk of structural damage. **Table 15-28** presents the reference vibration levels from typical equipment at a distance of 25 feet and the distance to potential structural damage for buildings with a criterion of 0.5 inches per second and 0.6 inches per second. This table shows that structural damage may occur from drilling within eight feet. Other sources of vibration, such as bulldozers and jackhammers, may cause potential structural damage when in very close proximity to buildings. Since no construction activities would generate vibration levels in excess of the LPC vibration criteria, there is no potential for significant adverse construction vibration impact.

Due to the buildings listed above being classified as individual landmarks, the NYCDOB Technical Policy and Protection Notice (TPPN) #10/88 would apply, which requires a vibration monitoring program to reduce the likelihood of construction damage to adjacent New York City Landmarks and NR-listed properties within 90 feet. The applicant would employ means/methods that meet acceptable vibration levels as mandated by NYCDOB.

Table 15-28 Vibration Levels and Distances to Potential Effects

Equipment	Vibration Level at 25 feet (PPV, in/s)	Distance to Potential Structural Damage (feet)	
		(0.5 in/s) Criterion	(0.6 in/s) Criterion
Drilling	0.089	8	7
Large Bulldozer	0.089	8	7
Small Bulldozer	0.003	1	1
Jackhammer	0.035	4	4

Source: VHB 2020, Federal Transit Administration, 2018.

In terms of construction vibration causing potential annoyance, the threshold for potential annoyance is 65 VdB inside buildings. Assuming a 10 VdB outdoor to indoor vibration attenuation for large masonry buildings, there is potential for human annoyance within 65 feet of most other equipment, such as drilling, bulldozers, and jackhammers. These construction activities would only occur for limited periods of time at any particular location. Therefore, there would be no significant adverse impacts as a result of construction vibration.