Seaside Park and Community Arts Center
Chapter 15: Construction

A. INTRODUCTION

This chapter examines the potential construction impacts of the proposed Seaside Park and Community Arts Center project. Construction impacts, although temporary, can include noticeable and disruptive effects from an action that is associated with construction or could induce construction. Construction impacts are usually important when construction activity could affect transportation conditions, hazardous materials, archaeological resources, the integrity of historic resources, community noise patterns, and air quality conditions.

Determination of the significance of construction impacts and need for mitigation is generally based on the duration and magnitude of the impacts. According to the *City Environmental Quality Review (CEQR) Technical Manual*, construction duration is often broken down into short-term (less than two years) and long-term (two or more years). Where the duration of construction is expected to be short-term, any impacts resulting from such short-term construction generally do not require detailed assessment. As described below, it is estimated that construction of the proposed project would occur over an approximate 15-month period, and would therefore be considered short-term.

This chapter summarizes the construction plan for the proposed project, including a description of the anticipated construction stages and activities, followed by a discussion of the types of impacts likely to occur during construction of the proposed project on the development site. The assessment also describes methods that may be employed to minimize construction-related impacts.

B. PRINCIPAL CONCLUSIONS

The proposed project would facilitate the development of publicly accessible open space, including an approximately 5,100-seat seasonal amphitheater, and the restoration and reuse of the landmark (Former) Childs Restaurant Building. Construction activities associated with this development is expected to occur over a~~n~~ 15-month period. Given the small mostly vacant site, short construction period, and minimal construction activity of the project, the proposed project would not result in a significant amount of construction related impacts. Construction-related activities resulting from the proposed project are not expected to have any significant adverse impacts on hazardous materials, transportation, air quality, or noise conditions. In addition, with the implementation of the appropriate construction protection measures mandated by the NYC Department of Buildings (DOB)'s Technical Policy and Procedure Notice (TPPN) #10/88, no construction-related impacts on historic resources would be anticipated as a result of the proposed project. Moreover, the construction process in New York City is highly regulated to ensure that construction period impacts are eliminated or minimized, and construction of the proposed project would be subject to compliance with the New York City Noise Code.

C. REGULATORY FRAMEWORK

Governmental Coordination and Oversight

The governmental oversight of construction in New York City is extensive and involves a number of city, state, and federal agencies. Table 15-1 shows the main agencies involved in construction oversight and each agency's areas of responsibility. The primary responsibilities lie with New York City agencies. The New York City Department of Buildings (DOB) has the primary responsibility for ensuring that the construction meets the requirements of the Building Code and that buildings are structurally, electrically, and mechanically safe. In addition, DOB enforces safety regulations to protect both construction workers and the public. The areas of responsibility include installation and operation of construction equipment, such as cranes and lifts, sidewalk shed, and safety netting and scaffolding. The New York City Department of Environmental Protection (DEP) enforces the Noise Code, approves remedial action plans (RAPs) and Construction Health and Safety Plans (CHASPs), regulates water disposal into the sewer system, and oversees dust control for construction activities. The New York City Fire Department (FDNY) has primary oversight for compliance with the Fire Code and for the installation of tanks containing flammable materials. The New York City Department of Transportation (DOT) reviews and approves any traffic lane and sidewalk closures. New York City Transit (NYCT) is in charge of bus stop relocations, and any subsurface construction within 200 feet of a subway. The Landmarks Preservation Commission (LPC) approves studies and testing to prevent loss of archaeological materials and to prevent damage to fragile historic structures (e.g., the (Former) Childs Restaurant Building).

The New York State Department of Environmental Conservation (NYSDEC) regulates discharge of water into rivers and streams, disposal of hazardous materials, and construction, operation, and removal of bulk petroleum and chemical storage tanks. The New York State Department of Labor (DOL) licenses asbestos workers. On the federal level, the US Environmental Protection Agency (EPA) has wide ranging authority over environmental matters, including air emissions, noise, hazardous materials, and the use of poisons. Much of the responsibility is delegated to the state level. The US Occupational Safety and Health Administration (OSHA) sets standards for work site safety and the construction equipment.

TABLE 15-1
Construction Oversight in New York City

Agency	Area(s) of Responsibility
New York City	
Department of Buildings	Primary oversight for Building Code and site safety
Department of Environmental Protection	Noise, hazardous materials, dewatering, dust
Fire Department	Compliance with Fire Code, tank operation
Department of Transportation	Traffic lane and sidewalk closures
New York City Transit	Bus stop relocation; any subsurface construction within 200 feet of a subway
Landmarks Preservation Commission	Archaeological and historic architectural protection
New York State	
Department of Labor	Asbestos workers
Department of Environmental Conservation	Dewatering, hazardous materials, tanks, Stormwater Pollution Prevention Plan, Industrial SPDES, if any discharge into the Hudson River
United States	
Environmental Protection Agency	Air emissions, noise, hazardous materials, toxic substances
Occupational Safety and Health Administration	Worker safety

Hours of Work

The New York City Noise Control Code, as amended December 2005 and effective July 1, 2007 limits construction (absent special circumstances as described below) to weekdays between the hours of 7:00 AM and 6:00 PM, and sets noise limits for certain specific pieces of construction equipment. Construction activities occurring after hours (weekdays between 6:00 PM and 7:00 AM and on weekends) may be permitted only to accommodate: (i) emergency conditions; (ii) public safety; (iii) construction projects by or on behalf of city agencies; (iv) construction activities with minimal noise impacts; and (v) undue hardship resulting from unique site characteristics, unforeseen conditions, scheduling conflicts and/or financial considerations. In such cases, the numbers of workers and pieces of equipment in operation would be limited to those needed to complete the particular authorized task. Therefore, the level of activity for any weekend work would be less than a normal workday. The typical weekend workday would be on Saturday from 7:00 AM with worker arrival and site preparation to 5:00 PM for site cleanup. Weekend work requires a permit from the DOB and, in certain instances, approval of a noise mitigation plan from the DEP under the City's Noise Code.

D. CONSTRUCTION SCHEDULE AND ACTIVITIES

The proposed project includes the construction of a 5,100 seat amphitheater with a fully functional park, and the rehabilitation of an existing 60,000 square foot ~~one-and-a-half~~two-story structure with a full basement (the mezzanine is approximately 7,000 sf). The amphitheater and park would be adjacent to the existing 60,000 square foot structure known as the (Former) Childs Restaurant Building. The construction of the 5,100 seat amphitheater would encompass a 60-foot wide 40-foot deep stage house which would be constructed within the (Former) Childs Restaurant Building. The amphitheater would have a seasonal tensile fabric roof that would be deployed for the entire concert season and removed "off-season," which would cover ~~approximately 3,500~~a majority of the amphitheater's seats. To the west of the amphitheater, a 1.0-acre park would be built which would include landscaping and hardscape such as walkways, benches, and site lighting.

Construction activities are expected to commence in spring of 2014, subsequent to the project design and approvals phase. All construction activities, including rehabilitation of the (Former) Childs Restaurant Building, site work and above-grade work for the amphitheater and open space components, are expected to be completed by late spring/early summer of 2015. As such, construction activities for the proposed project would last for a maximum of approximately 15 months.

The (Former) Childs Restaurant Building would be rehabilitated to accommodate a future restaurant/banquet facility tenant. The rehabilitation would be limited to the building envelope including fenestration, restoration of the masonry façade and replacement of the entire roof system. The interior portion of the building would include demolishing the remaining improvements in the building, the construction of several bathrooms, storage rooms and common corridors at the lower level; the construction of a male and female bathroom at the main level; the construction of several changing rooms and bathrooms at the mezzanine level; installation of a 5,000 square foot roof patio; the construction of the necessary mechanical infrastructure to accommodate heating, cooling and ventilation needs of the restaurant and back of house amphitheater improvements. The leased area of the building (~~22,000~~24,000 out of the 60,000 sf) would be finished as a "white box".

The construction activities for the Seaside Park and Community Arts Center to the west of the (Former) Childs Restaurant Building would include demolition of existing pavement and small temporary

structures at the southern end of West 22nd Street as most of the area is vacant property. Following demolition, the relocation and termination of underground utilities within the southern end of West 22nd Street would occur. As this site is predominately a fill site, suitable soils would be imported into the site with tandem or tri-axial trucks. The imported fill would be graded and compacted accordingly to form the shape of the new park and amphitheater seating areas. Excavation equipment would be used for utility trench excavation and backfill once all underground utilities such as water piping, sanitary and storm water piping, and electric utilities have been installed. Excavation equipment would also be utilized to install an underground storm water management system, which would capture and treat a percentage of the storm water from the park and amphitheater areas. A deep foundation system would be installed into the ground to carry the load from the amphitheater roof structure arches. The truss foundation system would be below grade. A base plate would be attached via anchor bolts to the foundation pile cap. The truss would be mechanically attached to the base plate. The truss attachment point would be protected and accessible by the appropriate parties for dismantling of the truss. This area would also be planted and replanted on a regular basis. Excavation would occur to install pile caps and other subsurface foundation system that would be needed for the project. Other minor excavation activities would occur for the installation of low voltage lighting conduits, sidewalks, curbs, and stairs, small retaining walls, landscape irrigation, and landscape plantings. Once all subsurface work is completed an exposed aggregate pavement would be installed at the amphitheater area.

Above-ground construction activities would include ~~the erection of several structural steel arches, which would be utilized for the installation of the tensile roof membrane (refer to Figure 1-6 in Chapter 1, "Project Description");~~ the construction of ~~temporary~~ restroom facilities at the southern end of the amphitheater; and the construction of flush mounted subsurface receptors, which would anchor the temporary perimeter fencing around the amphitheater. Final construction activities for the amphitheater would include event and house lighting, audio visual system, temporary point of sales booths, and emergency and life safety devices. At the northern end of the amphitheater, a loading dock drive would be installed (refer to Figure 1-5 in Chapter 1, "Project Description"). Final construction activities at the park area would include installation of lawns, benches, signage, and hardscape.

The (Former) Childs Restaurant Building construction activities would commence with the installation of a temporary construction fence, a sidewalk bridge and protection at the adjacent building to the north. The interior construction activities within the (Former) Childs Restaurant Building would then proceed with demolition of the existing mechanical, plumbing, and electrical infrastructure and equipment, non-bearing masonry partition walls, slabs, concrete columns and footings (where the new stage house would be constructed), windows, roofing system, doors, drywall, stairs, and masonry at the western façade in order to install the stage house. Once demolition occurs, minor excavation and foundation construction activities would occur for the elevator pits and the stage house. Structural and miscellaneous steel would be installed such as metal deck (for slab), stairs and railings, structural steel for the stage house platform, lighting and bulkhead, and dunnage on the roof for mechanical equipment. New concrete slabs, pads, and stair pans would be poured. Carpentry and masonry activities would occur at the interior of the building to form demising walls and other non-bearing partitions for bathroom, storage rooms, and amphitheater back of house areas for artists and other point of sales. Installation of mechanical, plumbing and electric infrastructure, equipment, and finishes would also occur throughout the interior of the building. Finishing activities such as installation of drywall, flooring, doors, millwork, and painting would occur throughout the interior of the building.

The main construction activities at the exterior of the building would include the restoration of masonry. Masonry pointing and repair activities would occur, as well as the repair and replacement of stucco. All windows and exterior doors would be replaced. The existing roofing system would be demolished and

replaced with a new roofing system. All parapet walls would be repaired as needed. The construction of several roof bulkheads would occur for elevator and stair access. A new roof patio would be constructed out of concrete pavers. Other carpentry activities on the roof include the construction of a pergola at the southern end of the building and screen fencing for the mechanical areas. Structural steel erection of trusses and other carpentry activities would be conducted at the roof level for the new stage house. Minor excavation activities would occur on West 21st Street in order to install new utility services such as gas, electric, telecom, sanitary sewer and storm, and (domestic and fire) water services into the building.

Finally, new sidewalks, curbs and pavement would be replaced along the (Former) Childs Restaurant Building at West 21st Street, and at the amphitheater entrance at West 22nd Street.

It is anticipated that ten to 15 construction trucks would be entering and leaving the site every day. It is also anticipated that at complete mobilization there would be 80 to 90 construction workers on site every day, with fewer workers at other times.

E. PRELIMINARY ASSESMENT

In accordance with the guidelines of the *CEQR Technical Manual*, this preliminary assessment evaluates the effects associated with the proposed project's construction related activities including transportation, air quality, noise, historic and cultural resources, and hazardous materials. Construction of the proposed project would result in temporary disruption to the surrounding area, including some noise, and traffic associated with the delivery of materials, construction machinery, and arrival of workers on the site. As discussed below, given the relatively small size, short construction period, and minimal construction activity of the project, it would not result in a significant amount of construction related traffic or mobile source emissions from construction vehicles. Construction of the proposed project would be subject to compliance with the New York City Noise Code.

Land Use and Neighborhood Character

According to the *CEQR Technical Manual*, a construction impact analysis of land use and neighborhood character is typically needed if construction would require continuous use of property for an extended duration, thereby having the potential to affect the nature of the land use and character of the neighborhood. A land use and neighborhood character assessment for construction impacts looks at the construction activities that would occur on the site (or portions of the site) and their duration. The analysis determines whether the type and duration of the activities would affect neighborhood land use patterns or neighborhood character. For example, a single property might be used for staging for several years, resulting in a "land use" that would be industrial in nature. Depending on the nature of existing land uses in the surrounding area, this use of a single piece of property for an extended duration and its compatibility with neighboring properties may be assessed to determine whether it would have a significant adverse impact on the surrounding area.

Construction activities would affect land use on the development site but would not alter surrounding land uses. As is typical with construction projects, during periods of peak construction activity there would be some disruption, predominantly noise, to the nearby area. There would be construction trucks and construction workers coming to the construction sites. There would also be noise, sometimes intrusive, from on-site activities as well as trucks and other vehicles backing up, loading, and unloading. These disruptions would be temporary in nature, lasting no more than 15 months, and would have limited effects on land uses within the surrounding area, particularly as most construction activities

would take place within the development site or along the perimeter of the development site within delineated closed-off areas. Construction would be localized and would not alter the character of the larger neighborhoods surrounding the development site. Therefore, no significant construction impacts to land use and neighborhood character are expected.

Socioeconomic Conditions

According to the *CEQR Technical Manual*, construction impacts to socioeconomic conditions are possible if the proposed project would entail construction of a long duration that could affect the access to and therefore viability of a number of businesses, and if the failure of those businesses has the potential to affect neighborhood character.

Construction of the proposed project would not block or restrict access to any facilities in the area, affect the operations of any nearby businesses, or obstruct major thoroughfares used by customers or businesses. Therefore, construction activities associated with the proposed project would not result in any significant adverse impacts on socioeconomic conditions.

Community Facilities

According to the *CEQR Technical Manual*, construction impacts to community facilities are possible if a community facility would be directly affected by construction (e.g., if construction would disrupt services provided at the facility or close the facility temporarily, etc.).

There are no community facilities on the proposed development site, and none of the community facilities in the surrounding area would be directly affected by construction of the proposed project. While construction of the proposed project would result in temporary increases in traffic during the construction period, access to and from any community facilities in the area would not be blocked or restricted during the construction period. It would not be necessary to alter the entrances to any of these facilities, nor would it be necessary to close them at any time during the construction period. As such, there would be no direct or indirect construction effects to any community facilities.

Open Space

According to the *CEQR Technical Manual*, construction impacts to open space are possible if an open space resource would be used for an extended period of time for construction-related activities, such as construction staging, or if access to the open space would be impeded for an extended period during construction activities.

No existing open space resources would be disrupted during the construction of the proposed project, nor would access to any publically accessible open space be impeded during construction within the development site. There are no publicly accessible open spaces within the development site, and no open space resources would be used for staging or other construction activities. Part of the Coney Island Beach and Riegelmann Boardwalk are located adjacent to the development site. Existing access to the Boardwalk from West 21st Street would be maintained for the duration of the construction period, but the West 22nd Street connection would be temporarily closed. At very limited times, activities such as excavation and foundation work on the site may generate noise that could impair the enjoyment of the nearby open space users, but such noise effects would be temporary, and would only affect a small area

of this 399.2 acre resource. Therefore, construction of the proposed project would not result in significant adverse impacts on open space.

Historic Resources – Architectural

The assessment of construction impacts on historic and cultural resources considers the possibility of physical damage to any architectural or archaeological resources identified in the project's historic and cultural resources assessment. According to the *CEQR Technical Manual*, if a project's construction activities are located within 400 feet of a historic or cultural resource, potential hazards should be assessed, such as whether certain character-defining elements of a structure, including but not limited to rooftops or stained glass windows, could be impacted by falling objects from an adjacent construction site.

There are also regulatory mechanisms that address many of the concerns regarding vibrations associated with construction. If the project is located within 90 feet of a New York City Landmark, a National Register-listed property, or within a New York City Historic District, the potential for physical disturbance should be disclosed and the project is required to comply with DOB Technical Policy and Procedure Notice (TPPN) #10/88. TPPN #10/88 supplements the standard building protections afforded by Building Code C26-112.4 by requiring a monitoring program to reduce the likelihood of construction damage to adjacent New York City Landmarks and National Register-listed properties (within 90 feet) and to detect at an early stage the beginnings of damage so that construction procedures may be changed.

As discussed in more detail in Chapter 5, "Historic and Cultural Resources," the development site includes one designated New York City landmark, the (Former) Childs Restaurant Building, which would be fully restored and reused as part of the proposed project. There are no other designated or eligible architectural resources within an approximate 400-foot radius surrounding the development site.

Construction period impacts on designated historic resources would be minimized, and the historic structure~~s~~ would be protected, by ensuring that adjacent development adheres to all applicable construction guidelines and follows the requirements laid out in TPPN #10/88. This would apply to all construction activities on the development site, which encompasses the LPC-designated (Former) Childs Restaurant Building. Under the TPPN, a construction protection plan must be provided to the New York City Landmarks Preservation Commission (LPC) for review and approval prior to any demolition activities and construction ~~on the landmark property~~ of the proposed project. The construction protection plan would take into account the guidance provided in the *CEQR Technical Manual*, Chapter 9, Section 523, "Construction Protection Plan~~.~~," including conforming to LPC's *New York City Landmarks Preservation Commission Guidelines for Construction Adjacent to a Historic Landmark and Protection Programs for Landmark Buildings*. With the implementation of the appropriate construction protection measures mandated by TPPN #10/88, no construction-related impacts on historic resources would be anticipated as a result of the proposed project.

As discussed in Chapter 5, "Historic and Cultural Resources," the development site has no archaeological significance. Therefore, construction of the proposed project on the development site would not result in any significant adverse impacts to archaeological resources.

Hazardous Materials

As described in Chapter 7, "Hazardous Materials," ~~As~~ the (Former) Childs Restaurant Building contains an (E) designation for hazardous materials, which may require special activities coordinated through the New York City Office of Environmental Remediation (OER) to be performed at the time of site redevelopment such as subsurface investigations, preparation of remedial action work plans, site specific health and safety plans, and others. For properties where existing buildings would be converted with no intrusive soil work, a copy of the development plans must be provided to OER, prior to receiving a Notice of No Objection, which would enable the New York City Department of Buildings to issue the conversion permit. The (E) designation would reduce or avoid the potential for an adverse impact to human health and the environment

Development of the open space and amphitheater on the remainder of the site would require a similar level of excavation and subsurface disturbance in both the No-Action and With-Action scenarios. Although the Phase I ESAs discussed in Chapter 7 did not identify any on-site Recognized Environmental Conditions (RECs) on the remainder of the development site at the time they were performed, subsequently the occurrence of Superstorm Sandy caused site flooding at a site that contains aboveground fuel and waste oil storage tanks. ~~The Phase I ESA identified an off-site REC for Lot 142.~~ Therefore, based on the historical on-site and surrounding area land uses, an (E) designation for hazardous materials ~~should be placed on~~has been recommended for the remainder of the development site, requiring additional environmental testing and remediation as necessary. The (E) designation on the remainder of the development site would reduce or avoid the potential for an adverse impact to human health and the environment resulting from the proposed project.

In addition, demolition of interiors, portions of buildings or entire buildings are regulated by the NYC Department of Buildings requiring abatement of asbestos prior to any intrusive construction activities including demolition. The Occupational Safety and Health Administration (OSHA) regulates construction activities to prevent excessive exposure of workers to contaminants in the building materials including lead in paint. New York State Solid Waste regulations control where demolition debris and contaminated materials associated with construction are handled and disposed. Adherence to these existing regulations would prevent impacts from development activities at the development site.

Transportation

Construction of the proposed project would generate trips resulting from arriving and departing construction workers, movement of materials and equipment, and removal of construction waste. As described in the *CEQR Technical Manual*, construction activities may affect several elements of the transportation system, including traffic, transit, pedestrians, and parking. A transportation analysis of construction activities is predicated upon the duration, intensity, complexity and/or location of construction activity.

Construction would probably occur between 7 AM and 4 PM on weekdays. Construction workers would typically arrive before the typical AM peak commuter period and depart before the PM peak hour, and would therefore not represent a substantial increment during the area's peak travel periods. Truck movements would typically be spread throughout the day on weekdays, and would generally occur between the hours of 7:00 AM and 4:30 PM. Wherever possible, the scheduling of deliveries and other construction activities would take place during off-peak travel hours.

Construction activities may result in short-term disruption of both traffic and pedestrian movements at the development site. This would occur primarily due to the temporary loss of curbside lanes from the staging of equipment and the movement of materials to and from the site. Additionally, construction could at times result in temporary or partial closings of sidewalks and streets adjacent to the site, including West 21st, West 22nd, and West 23rd Streets. These conditions would be temporary and not result in significant adverse impacts on traffic and transportation conditions. NYCDOT-OCMC issues permits for any street/sidewalk closures after evaluation of traffic and pedestrian conditions.

Construction workers would use both public transportation and private automobile. Parking is expected to occur both on-site and at curbside in the vicinity of the site. Curbside spaces are typically available as area residents use their autos to travel to work and elsewhere, and are vacated by construction workers in the early afternoon before resident demand increases after the typical workday, or a scheduled game at MCU Park.

With an estimate~~s~~d ten to 15 construction trucks daily, and 80 to 90 construction workers on site every day during peak construction activity, it is estimated that peak hour construction volumes would consist of 44 passenger vehicles and 8 trucks (4 in and 4 out).[1] These vehicles, however, would be distributed over the transportation network, and would therefore not be concentrated at any single intersection. It is estimated that construction traffic entering and exiting the development site would be divided between three different intersections: West 21st Street and Surf Avenue (45%), West 22nd Street and Surf Avenue (45%), and West 23rd Street and Surf Avenue (10%), with no single intersection expected to experience more than 4 trucks and 20 autos in the peak (6-7 AM) period. As such, the incremental construction PCEs generated by the proposed project would not exceed the 50 vehicle-trip *CEQR Technical Manual* analysis threshold at any intersection in any peak hour. In addition, construction trip increments would primarily occur outside of the typical commuter peak hours (8:00–9:00 AM and 5:00–6:00 PM). Therefore, construction of the proposed project would not result in any significant adverse traffic impacts.

With an estimated peak of approximately 90 daily construction workers on-site, the incremental transit trips generated by the construction of the proposed project would be negligible and consequently would not exceed the 200 transit-trip *CEQR Technical Manual* analysis threshold. Construction of the proposed project would therefore not result in any significant adverse transit impacts.

Similarly, the incremental pedestrian trips generated by the construction of the proposed project would be negligible and consequently would not exceed the 200 pedestrian-trip *CEQR Technical Manual* analysis threshold. In addition, considering that pedestrian trips would primarily occur outside of peak hours and be distributed among numerous sidewalks and crosswalks in the area, there would not be a potential for significant adverse pedestrian impacts attributable to the projected construction worker pedestrian trips.

[1] Construction auto trips were based on a peak of 90 daily workers on-site. A 70 percent auto share was assumed for construction workers, at an average occupancy of approximately 1.14 persons per vehicle (source: *Coney Island Rezoning FEIS* (2009); Table 20-3). It is assumed that 80% of construction worker arrival and departure trips would take place during the hour before and after each shift. Construction truck trips were based on a peak of 15 daily trucks. 25% of daily trucks were conservatively assumed to occur in the hour before the start of shift. For analysis purposes, each truck delivery was assumed to result in two truck trips during the same hour.

Air Quality

Possible impacts on local air quality during construction of the proposed development include: fugitive dust (particulate) emissions from land clearing operations; and mobile source emissions, including hydrocarbons, nitrogen oxide, and carbon monoxide.

Fugitive dust emissions could occur from land clearing, excavation, hauling, dumping, spreading, grading, compaction, wind erosion, and traffic over unpaved areas. Actual quantities of emissions depend on the extent and nature of the land clearing operations, the type of equipment employed, the physical characteristics of the underlying soil, the speed at which construction vehicles are operated, and the type of fugitive dust control methods employed. Much of the fugitive dust generated by construction activities consists of relatively large-size particles, which are expected to settle within a short distance from the construction site and to not significantly impact nearby buildings or people. All appropriate fugitive dust control measures – including watering of exposed areas and dust covers for trucks – would be employed during construction of the proposed development. Furthermore, as most construction activity would be limited to the eastern portion of the site, fugitive dust is not expected to impact any nearby sensitive receptors, including residential uses on West 22nd Street and nursing home/assisted living facilities on West 23rd Street.

Mobile source emissions may result from the operation of construction equipment, trucks delivering materials and removing debris, workers' private vehicles, or occasional disruptions in traffic near the construction site. As noted above, it is estimated that peak hour construction volumes at any given intersection would consist of 20 passenger vehicles and 4 trucks (2 in and 2 out). As these values are less than the applicable *CEQR Technical Manual* threshold values (based on the peak hour heavy duty diesel truck equivalent emissions (PM2.5) screening worksheet referenced on Page 17-11 of the Manual,[2] no significant air quality construction impacts from mobile sources are anticipated at any nearby sensitive receptors, including residential uses on West 22nd Street and nursing home/assisted living facilities on West 23rd Street, and a detailed mobile source analysis is not warranted.

Localized increases in mobile source emissions would be minimized at nearby sensitive receptors by following standard traffic maintenance requirements, such as: construction requiring temporary street closings would be performed during off-peak hours wherever possible; the existing number of traffic lanes would be maintained to the maximum extent possible; and idling of delivery trucks or other equipment would not be permitted during unloading or other inactive times.

Noise

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

Noise levels at a given location depend on the type and quantity of pieces of construction equipment being operated, the acoustical utilization factor of the equipment (i.e., the percentage of time a piece of equipment is operating at full power), the distance from the construction site, and any shielding effects

[2] The streets in the immediate vicinity of the development site are classified as paved roads with less than 5,000 average daily vehicle volumes (based on ATR data for West 21st Street south of Surf Avenue).

(from structures such as buildings, walls, or barriers). Typical noise levels of construction equipment are presented in Table 15-2, which summarizes the maximum noise emission limits of each type of construction equipment as described in DEP's Chapter 28 of the Citywide Construction Noise Mitigation and Subchapter 5 of the New York City Noise Control Code. Noise levels caused by construction activities would vary widely, depending on the stage and location of construction.

Impacts on noise levels during construction of the proposed project would primarily include noise and vibration from the operation of construction equipment. The severity of impacts from these noise sources would depend on the noise characteristics of the equipment and activities involved, the construction schedule, and the distance to potentially sensitive noise receptors. Noise and vibration levels at a given location are dependent on the kind and number of pieces of construction equipment being operated, as well as the distance from the construction site. Noise caused by construction activities would vary widely, depending on the phase of construction – demolition, land clearing and excavation, foundation and capping, erection of structural steel, construction of exterior walls, etc. – and the specific task being undertaken. Increased noise levels caused by construction activities can be expected to be most significant during the early phases of construction before the building is enclosed.

Increases in noise levels caused by delivery trucks and other construction vehicles would not be significant. Small increases in noise levels are expected to be found near a few defined truck routes and the streets in the immediate vicinity of the development site.

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

The *CEQR Technical Manual* states that significant adverse noise impacts due to construction can occur "only at sensitive receptors that would be subjected to high construction noise levels for an extensive period of time." This has been interpreted to mean that such impacts can occur only at sensitive receptors where the activity with the potential to create high noise levels (the "intensity") would occur continuously for approximately two years or longer (the "duration").

In terms of noise levels, construction activities would not include blasting, drilling, or pile driving and the most intense construction activities would be limited to excavation and foundation work, where impact equipment such as excavators with ram hoes and drill rigs would be employed. These activities would be minimal for the proposed project, given that the (Former) Childs Restaurant Building only requires interior construction work with minor excavation and foundation construction activities for the elevator pits and the stage house, and that the amphitheater requires minimal excavation and foundation work. As described earlier, for the open space and amphitheater, excavation equipment would be used for utility trench excavation, as well as for installing an underground storm water management system, which would capture and treat a percentage of the storm water from the park and amphitheater areas. Excavation would also occur to install pile caps and other subsurface foundation system that would be needed for the project, and other minor excavation activities would occur for the installation of low voltage lighting conduits, sidewalks, curbs, and stairs, small retaining walls, landscape irrigation, and landscape plantings. These minimal activities are expected to be short-term (approximately 15 months).

TABLE 15-2
Construction Equipment Noise Emission Levels (dBA)

Equipment Description List	Impact Device (Yes/No)	Usage Factor (%)	Spec. 721.560 Lmax @ 50 feet (dBA, slow)	Actual Measured Lmax @ 50 feet (dBA, slow)
All Other Equipment > 5HP	No	50	85	n/a
Auger Drill Rig	No	20	85	84
Backhoe	No	40	80	78
Bar Bender	No	20	80	80
Blasting	Yes	n/a	94	n/a
Boring Jack Power Unit	No	50	80	83
Chain Saw	No	20	85	84
Clam Shovel (dropping)	Yes	20	93	87
Compactor (ground)	No	20	80	83
Compressor (air)	No	40	80	78
Concrete Batch Plant	No	15	83	83
Concrete Mixer Truck	No	40	85	79
Concrete Pump Truck	No	20	82	81
Concrete Saw	No	20	90	90
Crane	No	16	85	81
Dozer	No	40	85	82
Drill Rig Truck	No	20	84	79
Drum Mixer	No	50	80	80
Dump Truck	No	40	84	76
Excavator	No	40	85	81
Flat Bed Truck	No	40	84	74
Front End Loader	No	40	80	79
Generator	No	50	82	81
Generator (<25KVA, VMS signs)	No	50	70	73
Gradall	No	40	85	83
Grader	No	40	85	85
Grapple (on backhoe)	No	40	85	87
Horizontal Boring Hydr. Jack	No	25	80	82
Hydra Break Ram	Yes	10	90	90
Impact Pile Driver	Yes	20	95	101
Jackhammer	Yes	20	85	89
Man Lift	No	20	85	75
Mounted Impact Hammer (hoe ram)	Yes	20	90	90
Pavement Scarafier	No	20	85	90
Paver	No	50	85	77
Pickup Truck	No	40	55	75
Pneumatic Tools	No	50	85	85
Pumps	No	50	77	81
Refrigerator Unit	No	100	82	73
Rivet Buster/chipping gun	Yes	20	85	79
Rock Drill	No	20	85	81
Roller	No	20	85	80
Sand Blasting	No	20	85	96
Scraper	No	40	85	84
Shears (on backhoe)	No	40	85	96
Slurry Plant	No	100	78	78
Slurry Trenching Machine	No	50	82	80

Equipment Description List	Impact Device (Yes/No)	Usage Factor (%)	Spec. 721.560 Lmax @ 50 feet (dBA, slow)	Actual Measured Lmax @ 50 feet (dBA, slow)
Soil Mix Drill Rig	No	50	80	80
Tractor	No	40	84	84
Vacuum Excavator (Vac-truck)	No	40	85	85
Vacuum Street Sweeper	No	10	80	82
Ventilation Fan	No	100	85	79
Vibrating Hopper	No	50	85	87
Vibratory Concrete Mixer	No	20	80	80
Vibratory Pile Driver	No	20	95	101
Warning Horn	No	5	85	83
Water Jet deleading	No	20	85	92
Welder / Torch	No	40	73	74

Sources: Citywide Construction Noise Mitigation, Chapter 28, Department of Environmental Protection of New York City, 2007; Transit Noise and Vibration Impact Assessment, Federal Transit Administration (FTA), May 2006; and Subchapter 5 of the New York City Noise Control Code.

Moreover, the interior phase of construction at the (Former) Childs Restaurant Building would require much less heavy construction equipment, and would be better shielded from the nearby sensitive receptors by the building itself. For the open space and amphitheater, above ground construction activities would be minimal, and would include ~~the erection of several structural steel arches, which would be utilized for the installation of the tensile roof membrane;~~ the construction of ~~temporary~~ restroom facilities at the southern end of the amphitheater; and the construction of flush mounted subsurface receptors, which would anchor the temporary perimeter fencing around the amphitheater.

As such, while the noise level increases during the construction period may be perceptible and intrusive to nearby sensitive receptor locations, given the minimal level of construction activity required for the proposed project, and the fact that incremental noise effects would be short term (approximately 15 months), none of the sensitive receptors identified in Chapter 12, “Noise” would experience significant adverse noise impacts due to construction. Therefore, the proposed project would not result in any significant adverse construction noise impacts.