A. INTRODUCTION

This chapter assesses the potential impacts of the construction of new buildings and infrastructure expected to result from the Proposed Action within and adjacent to the Project Site in College Point, Queens. Construction stages and activities are first described, followed by types of impacts likely to occur during construction, and an assessment of methods that may be employed to minimize those impacts. The following chapter discusses the potential impacts resulting from the construction of the proposed Police Academy on the approximately 35-acre site.

The Proposed Action involves a site selection of a public facility to facilitate the construction of a new Police Academy. A new Academy would allow the NYPD to consolidate their current training facilities, which are currently spread throughout the City, into one central location. .

As discussed in Chapter 1, "Project Description," the proposed Academy consists of approximately 2.4 million gsf, including academic space, physical training facilities, administrative and support components, an indoor pistol range, a field house, a tactical village, a drivers training course, a police museum, and a visiting police/lecturer lodging facility. Additionally, 2,000 parking spaces would be provided on-site, including an accessory-parking garage of approximately 1,800 spaces.

A Build year of 2014 is assumed for the Proposed Action, as it is expected that the entire project would be completed and occupied by then. For analysis purposes, all components of the Proposed Action would be implemented by 2014.

The conclusion of this analysis is that there would be occasional traffic disruption, due principally to the temporary addition of construction vehicles to the existing traffic network and some short-term construction-related noise. Other types of impacts would either be mitigated or restricted to areas within the Project Site boundaries.

B. DESCRIPTION OF CONSTRUCTION ACTIVITIES AND SCHEDULE

Construction of the proposed Police Academy is expected to last approximately three and a half years (60 months).

Proposed Development

This proposed project involves one discretionary action, consisting of site selection for a public facility ("the Proposed Action"). Approximately 2.4 million gsf of total program would be constructed on-site, including academic space, physical training facilities, administrative and support components, an indoor pistol range, a field house, a tactical village, a drivers training course, a police museum, and a visiting police/lecturer lodging facility. Additionally, 2,000 parking spaces will be provided on-site, including an accessory-parking garage of approximately 1,800 spaces.

Landscaping on-site would include an interior courtyard and muster area, landscaped buffers along 28th Avenue, Ulmer Street, and College Point Boulevard. Additionally, the on-site drainage ditch would be landscaped with a variety of native plants, resulting in an on-site open space amenity. As the

project would incorporate a variety of sustainable design components, it is expected that the proposed development would meet or exceed LEED Silver requirements.

Construction would proceed in several stages, some of which would overlap, including: environmental remediation, site preparation, foundations, and below-grade construction (including excavation, grading and infrastructure connections); superstructure construction; and building finishes, parking, and final site finishes and improvements (e.g., sidewalks, landscaping, lighting).

Typical equipment used for excavation and pouring foundation would include cranes, jackhammers, loaders, pneumatic rock excavating rigs, and dump trucks. Equipment that would be used in construction would include excavators, cranes, dump trucks, pumps, exterior hoists, and concrete trucks. Trucks would remain in use for material supply and construction waste removal. It is expected that the construction of the core and shell would employ the greatest number of construction workers, and a wide variety of supplies would have to be delivered to the site.

Construction activities would typically take place Monday through Friday, although the delivery and installation of certain critical pieces of equipment could occur during off-peak hours (i.e., nighttime or weekend hours). Hours of construction are regulated by the New York City Department of Buildings (NYCDOB) and apply in all areas of the City. In accordance with those regulations, almost all work could occur between 7:00 AM and 6:00 PM on weekdays, although some workers would arrive and begin to prepare work areas before 7:00 AM. Typically, work would end at 3:30 PM, but could be extended until 6:00 PM for such tasks as completing the drilling of piles, finishing a concrete pour for a floor deck, or completing the bolting of a steel frame erected that day. Extended workday activities may not include all construction workers on site, but only those involved in the specific task. Extended workdays could potentially occur during foundation and superstructure tasks, and limited extended workdays could occur during other tasks over the course of construction.

Occasionally, Saturday or overtime hours would be required to complete some time-sensitive tasks. Weekend work requires a permit from the NYCDOB and, in certain instances, approval of a noise mitigation plan from the NYCDEP under the City's Noise Code. 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.

Access to the proposed development site would be tightly controlled. The work area would be fenced off, and limited access points for workers and trucks would be provided. Security guards and flaggers would be posted, and all persons and trucks would have to pass through security points. Workers or trucks without a need to be on the site would not be allowed entry. After work hours, the gates would be closed and locked. Unauthorized access would be prevented after work hours and over the weekends. Material deliveries to the site would be highly controlled and scheduled. Unscheduled or haphazard deliveries would not be allowed. To aid in adhering to the delivery schedules, flaggers would be employed at each of the entry and exit gates. The flaggers would control trucks entering and exiting the site, so that they would not interfere with one another and minimize disruptions to local on-street traffic.

Construction staging would most likely occur within the proposed development site itself. Due to the size of the proposed development site, construction efforts would not be expected to extend into adjacent streets or effect pedestrian circulation. Appropriate measures would be taken to maintain pedestrian access along College Point Boulevard, 28th Avenue, and Ulmer Street at all times.

Environmental Remediation

Construction of the proposed Police Academy would begin with environmental remediation to address hazardous materials currently existing on the site. The environmental remediation would be conducted under a Remedial Work Plan (RWP) and Health and Safety Plan (HASP), which have been reviewed and approved by the NYCDEP. The New York State Department of Environmental Conservation (NYSDEC) must also approve any remedial plans related to spill cleanup.

As described in Chapter 7, "Hazardous Materials" and in Chapter 17, "Mitigation," measures would be taken to avoid potential adverse impacts during construction activities due to the presence of subsurface soil and groundwater contamination resulting from on-and potentially off-site sources. Contaminated site soils, groundwater, and methane gas vapors are anticipated to be encountered during the proposed construction activities, as indicated in Chapter 7. Additionally, potentially contaminated materials such as asbestos containing material (ACM), lead-based paint (LBP), etc. pose hazards during proposed demolition activities, based on the Phase I assessments of the on-site buildings. Therefore, excavation and construction activities could disturb hazardous materials and create new pathways for human exposure. However, impacts would be avoided by performing construction activities in accordance with the following DEP-approved protocols:

- Demolition of existing on-site buildings and other site improvement structures (e.g. sidewalks, curbs, asphalt pavements, concrete slabs, fences, etc.);
- Collection, sorting, and disposal of any scattered concrete and debris (C&D) material on the ground, ACMs and/or LBP present at the Site in accordance with NYCDEP requirements (Title 15, Subchapter G) and all other applicable federal, state, and local regulations;
- USTs removal, if encountered;
- Soil excavation and on-site staging;
- Excavated materials handling, including transportation and off-site disposal;
- Construction dewatering and handling;
- Truck loading and unloading activities;
- Drilling and pile driving activities;
- Application of engineering controls, including the use of an impervious medium (i.e., concrete slab foundation, impermeable bituminous asphalt pavement, concrete sidewalks and curbs) and/or 24-inch soil cover media consisting of clean fill and vegetative top soil to cap the entire Site;
- Installation of a 20-mil vapor barrier beneath the floor slab and underlain by a sub-slab vapor venting system to prevent the migration and intrusion of methane gas and potential VOCs from soils and groundwater at the site and/or the surrounding area into the constructed buildings; and,
- Implementation of Institutional Controls, including a deed restriction to prevent accidental exposure to contaminants.

At the completion of remedial activities at the Site, a RAP, certified by a Professional Engineer or Registered Architect, will be completed to document that the activities identified in the RAP have been completed.

Site-wide Historic Fill

The presence of historic fill containing SVOCs and metals exceeding NYSDEC TAGM RSCOs has been identified throughout the Site. As the historic fill has been identified as the primary source of soil

and groundwater contamination and based on the level of contamination documented at the Site, the Site does not appear to fall into any of NYSDEC's defined spill or environmental restoration program categories. As such, there is no requirement to remove contaminated soil from the Site or to treat soil to any cleanup standard. Any contaminated soil excavated during the course of building construction defined by NYSDEC criteria as a solid waste would not be re-used on-site. The excavated material would be transported off-site for disposal in accordance with applicable regulations. It is anticipated that a significant volume of soils, including historic fill material, would need to be excavated to install the foundation and utilities during construction of the NYPD Academy. Any historic fill remaining on-site would be addressed with either engineering and/or institutional controls. The proposed volume of soils to be excavated would be determined once the proposed redevelopment plans and details become available.

Typically, historic fill material remaining outside of the proposed building's footprint would be covered with an impervious layer (i.e. asphalt, pavement, or concrete). If there were any exposed areas of buried historic fill, a two-foot layer of clean fill, underlain by a geosynthetic membrane of fabric material, would be installed on the exposed ground surface to minimize inhabitants' exposure to contaminants present in the historic fill.

Underground Storage Tanks

No USTs have been identified on-site during the previous investigations. However, in the event that any UST is identified during demolition and construction activities at the Site, proper closure and/or removal methods would be employed in accordance with NYSDEC's UST closure requirements and all applicable local government regulation. If petroleum contaminated soil is encountered during construction activity, it would be segregated, stockpiled, classified, and ultimately taken to an off-site recycling or disposal facility. Under no circumstances would petroleum contaminated solid waste material be used on-site.

Dewatering

Based on previous investigations, the groundwater table has been noted to be approximately 11 to 14 feet bgs. As such, groundwater is not anticipated to be encountered during construction of the proposed Academy. However, in the unlikely event that groundwater is encountered during construction and dewatering is necessary, it would be pumped out, discharged onto the surface of on-site soils, and allowed to re-infiltrate to groundwater since there is no indication of gross groundwater contamination at the Site from previous sampling investigations. However, if visible contamination were to be observed, them groundwater shall be containerized, characterized and disposed of in accordance with all applicable regulations. If the volume of water that is pumped is too great to re-infiltrate into Site soils, then the water will be containerized, characterized and disposed of properly. No discharges shall reach any storm or sanitary sewer.

Site Restoration

The proposed construction of the Police Academy and associated utility structures, parking areas, curbs and sidewalks would serve as restoration for the majority of the Site. Upon completion of Site work activities, the entire project area would be capped with either an impervious medium (i.e., concrete slab foundation, impermeable bituminous asphalt pavement, concrete sidewalks and curbs) or a two-foot soil cover media consisting of clean fill and vegetative topsoil. A 20-mil vapor barrier will also be installed under the floor slab and underlain by a sub-slab vapor venting system to prevent the migration and intrusion of potential groundwater contaminants from the surrounding area into the constructed buildings.

Construction and Demolition Debris (Disposal of ACMS and LBP Material)

In order to construct the proposed Academy, any existing buildings or structures within the project boundaries would need to be demolished. Based on the results of the Phase I ESA reports, possible interior hazardous materials (i.e., ACM, LBP, etc.) may be encountered during the demolition phase.

All scattered C & D material would be collected, segregated, and sent to an authorized disposal or recycling facility. Should any suspect ACM and/or LBP be identified prior to pre-demolition construction and following a comprehensive building survey, it would be properly handled and disposed of in accordance with NYCDEP requirements (Title 15, Subchapter G) and all other applicable federal, state, and local regulations.

Engineering Controls

Since contaminated soil (i.e., soil containing SVOCs and metals exceeding NYSDEC TAGM RSCOs) would remain on the Site, engineering controls would be required to prevent unnecessary direct contact with the soil. In addition, since methane has been detected in the subsurface at the Site, engineering controls to prevent potential exposure to methane for future occupied structures would be necessary.

One or more of the following engineering controls would be used to cap the entire site during construction of the Police Academy:

- Building Foundation System – A minimum of eight inches of ¾-inch clean stone and eight inches of concrete;
- Sub-slab Venting System and Vapor Barrier – A 20-mil vapor barrier would also be installed underneath the floor slab and underlain by a sub-slab vapor venting system to prevent the migration and intrusion of potential groundwater contaminants from the surrounding area into the constructed buildings;
- Pavement – Four to six inches of ¾-inch quarry process stone and 1.5 to 2 inches of impermeable bituminous asphalt paving;
- Concrete Sidewalks and Curbs – Four inches of ¾-inch clean stone and four inches of concrete;
- Fill Cap – to feet of "TAGM-Certified Clean" fill cap (i.e., composition of fill below TAGM 4046 guidance values) be placed over landscaped, non-paved areas for the entire Site; and
- Grass Area (if applicable) – A visible barrier (landscape fabric / geosynthetic membrane), 18-inches of clean fill, and 6-inches of a vegetative topsoil medium.

The topsoil cover at the Site would consist of imported "clean fill" material with prior approval of the off-Site borrow area and would be devoid of any C & D material. The designated off-site borrow area would be subject to pre-construction characterization sampling as required by NYCDEP before any such material could be used on-site as backfill. Representative samples would be collected by qualified environmental personnel at a frequency of one sample for every 250 cubic yards of cover material sent to a NYSDOH Environmental Laboratory Approval Program (ELAP)-certified laboratory for analysis. Samples would be analyzed for TCL VOCs, TCL SVOCs, TAL Metals, PCBs and Pesticides and then compared to TAGM RSCOs. Results would be submitted to NYCDEP for approval prior to transporting cover material on-site. The location of the various types of engineering controls would conform to the proposed building development plans.

Institutional Controls

Since it is anticipated that a certain volume of soils exceeding the NYSDEC TAGM RSCOs would remain at the Site after completion of remedial and/or redevelopment activities, institutional controls may be required.

Memorandum of Understanding

In order to ensure that future remedial actions/construction work for this project are conducted in a controlled manner, a Memorandum of Understanding (MOU) will be implemented with NYCDEP before construction begins.

With the implementation of these measures, no significant adverse impacts related to hazardous materials would result from demolition and/or construction activities on the Project Site.

Site Preparation, Foundations, and Below-Grade Construction

Typically, soil excavation and foundation construction for a development of this size takes approximately seven to nine months to complete, and can be carried out concurrently with hazardous materials sampling, and, as required, remediation and disposal. Excavation and foundation work includes the use of bobcats, rockbreakers, loaders, pumps, motorized concrete buggies, concrete pumps, jackhammers, pneumatic compressors, and a variety of small, mostly handheld tools, as well as dump trucks and concrete trucks.

The Project Site would be excavated for site preparation and utilities. As mentioned above, all material that needs to be disposed of (e.g., excess/unsuitable fill) would be disposed of off-site in accordance with applicable federal, state, and local requirements. In addition, any contaminated soil encountered during excavation would be properly disposed of. The site would be graded so that the foundations could be excavated, and final elevations established. All buildings and structures on the proposed Academy site would be cleared.

Following grading, construction of the proposed accessory parking facility and proposed Academy's foundation and in-ground elements would begin. Foundation work would include pile driving and pouring concrete footings and foundation. Ready-mix concrete trucks would deliver concrete to the site. For structures of this type, the foundations would typically be slab on-grade with supporting piles. Blasting is not anticipated to occur during construction. This phase of work is expected to require approximately 12 to 18 months, depending on project sequencing, and can be carried out concurrently with hazardous materials sampling, and, as required, remediation and disposal. Construction equipment would include pneumatic rock excavating rigs, excavators, cranes, dump trucks, pumps, and concrete trucks.

Superstructure

Following installation of foundations, the construction of the parking facility and Academy's superstructures would commence, including the construction of building shell and core. Construction of the exterior enclosure or "shell" would include construction of the building's framework (installation of beams and columns), floor decks, facades (exterior walls and cladding) and roof construction. These activities would require the use of tower cranes, compressors, personnel and material hoists, front-end loaders, concrete pumps, on-site bending jigs, welding machines, and a variety of handheld tools, in addition to the delivery trucks bringing construction materials to the site.

Construction of the buildings' superstructures is anticipated to last approximately 24 to 36 months, depending on the project sequencing. As the frame is installed, work would commence on interior infrastructure— mechanical, electrical, and plumbing systems—and enclosure. This would include the installation of heating, ventilation, and air conditioning (HVAC) equipment and ductwork, the running of electrical lines within the building, and interior installation of water supply and wastewater pumping. Installation and checking of elevator and life safety systems would also take place at this stage. Interior construction would take approximately 12 to 18 months, depending on project sequencing. This work would be phased to overlap with the completion of the core and shell so that a

significant amount of interior work is performed before the core and shell are completed. Equipment used during interior construction would include exterior hoists, pneumatic equipment, delivery trucks, and a variety of small handheld tools.

Building Finishes and Sidewalks

This phase of building construction consists of exterior and interior finishes. The work would involve final roofing and finishing details on the exterior walls. While this construction is taking place, the sidewalks would be built. This phase would overlap with the superstructure phase and is anticipated to take about 12 to 18 months. Thus, between the superstructure and building finishes, these two phases of construction should take about three to four years. Equipment used during interior construction would include exterior hoists, pneumatic equipment, and delivery trucks.

C. POTENTIAL IMPACTS DURING CONSTRUCTION

Construction of the proposed Police Academy may be disruptive to the surrounding area during the construction period, depending on the project sequencing. In accordance with guidelines presented in the *CEQR Technical Manual*, the technical areas for which the potential for impact is assessed include land use and neighborhood character, socioeconomic conditions, community facilities, open space, historic resources, natural resources, hazardous materials, infrastructure, traffic and parking, transit and pedestrian, air quality, and noise impacts.

Land Use And Neighborhood Character

A construction impact analysis of land use and neighborhood character would typically be needed if construction requires continuous use of property for an extended duration, thereby affecting the nature of the land use and character of the neighborhood. This may occur, for example, if construction activity (such as staging) would occur on a particular site in a neighborhood for an extended period of time.

As is typical with large construction projects, the proposed development would cause some disruptions to activities in the surrounding area, particularly during periods of peak construction activity. These disruptions would be temporary in nature. Construction would not alter surrounding land uses. The adjacent roadways (College Point Boulevard, 28th Avenue and Ulmer Street) generally sever the proposed development site from adjacent uses. Additionally, residential areas are not located within close proximity to the proposed Academy site, and therefore, the area of the proposed construction is largely separated from the community, and such disruptions would not be significant. Other uses on the project block are buffered from the proposed development site by either the drainage ditch or the accessory parking lots that serve the various adjacent uses. The adjacent church would not be adversely affected as construction activities (7 AM to 3 PM) would generally not occur during peak church hours. Additionally, in the latter stages of construction, when work would take place primarily within building shells, effects on surrounding uses would be substantially reduced. Vehicular access on adjacent roadways would be maintained at all times when the proposed street is being built.

An appropriate protective barrier (fence) would be installed on the perimeter of the proposed development site to protect the public. This fencing would reduce potentially undesirable views of the construction site and buffer noise emitted from construction activities. All construction-staging activities, including the storage of materials and equipment would occur within the development site, therefore disruptions to the surrounding area would be minimized and would not alter surrounding land uses or intrude on neighborhood character. The construction of the proposed development would

be similar to construction at any other site in the city, and the NYCDOB would regulate the hours of construction operation.

There would be a temporary increase in noise levels in the immediate vicinity of the site due to the operation of the on-site construction equipment and construction trucks and construction workers coming to and from the site, and loading and unloading, but this would not result in a significant change in neighborhood character given the current nature of the manufacturing, commercial, light-industrial/warehousing and transportation uses in the immediate vicinity of the proposed development site.

The Proposed Action would not result in significant or long-term adverse impacts on the local land use patterns or the character of the nearby area, as construction activities would be temporary in nature with external construction lasting approximately three years.

Socioeconomic Conditions

A detailed analysis may be conducted if a proposed action would entail construction of a long duration that could affect the access and therefore viability of a number of businesses, and could cause the failure of those businesses and affect neighborhood character.

Construction of the proposed Academy would not result in any temporary or long-term significant adverse impacts on socioeconomic conditions in the study area. The proposed development site is relatively severed from the surrounding area, bounded by College Point Boulevard, 28th Avenue, and Ulmer Street. Additionally, there are no businesses immediately adjacent to the proposed development site on the project block. As mentioned above, all of the uses located on the project block are offset from the proposed development site by either expansive accessory parking lots or the on-site drainage ditch. As all construction activities and staging would take place within the boundaries of the project site, commercial businesses located in the vicinity of the Project Site would not be disrupted due to such construction activities. As noted above, access to businesses near the Project Site would not be impeded as all staging will occur onsite, and most businesses are not expected to be significantly affected by any temporary reduction in the amount of pedestrian foot traffic that could occur as a result of construction activities.

It should be noted that construction of the proposed development would have direct, positive economic impacts resulting from expenditures on labor, materials, and services as well as generated indirect benefits created by expenditures by material suppliers, construction workers, and others involved in development on the proposed Academy site.

As a result of the direct expenditure associated with the proposed development, the direct employment is estimated at approximately 1,325 people. In addition to direct employment, the total employment resulting from construction expenditures would also include jobs in business establishments providing goods and services to the contractors and resulting indirect and generated employment. The total direct and generated jobs from the construction of proposed Police Academy would help to support a variety of existing businesses in New York City.

Community Facilities

A construction impact analysis may be conducted for any community facility that would be directly affected by construction (e.g., if construction would disrupt services of the facility, change an entrance, or close the facility temporarily, etc.).

As mentioned above, there is a church located on the project block, immediately adjacent to the drainage ditch on 31st Avenue. No construction impacts are anticipated at this facility during its Sunday church services, as construction is typically not expected to occur on Sundays. There are no other community facilities within or immediately adjacent to the Project Site.

Construction of the proposed Academy would not block or restrict access to any facilities in the area, and would not affect emergency response times significantly. NYPD and FDNY emergency services and response times would not be significantly affected due to the geographic distribution of the police and fire facilities and their respective coverage areas. Although community facilities in the area may be affected by construction noise, they would not experience significant adverse impacts.

Open Space

According to the *CEQR Technical Manual*, a construction impacts analysis for open space may be conducted 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 during construction activities.

Construction activities would not displace any existing open spaces, nor would any open space be sued for construction staging. Construction of the proposed Police Academy would occur approximately 650 feet from the nearest mapped open space. As such, no construction impacts are expected. The open space would remain open during the entire construction period, and access to all open spaces in the area would not be compromised at any time.

Construction activities would be conducted with the care mandated by the close proximity of open spaces to the proposed development site. Dust control measures—including watering of exposed areas and dust covers for trucks—would be implemented to ensure compliance with Section 1402.2-9.11 of the New York City Air Pollution Control Code, which regulates construction-related dust emissions.

During heavier periods of construction, construction activities on the site would at times be disruptive or noticeable to users of the College Point Sports Park, which is located approximately 650 feet northeast of the proposed Police Academy. Construction activities are noisy at times (e.g., pile driving, truck traffic), and this noise may be perceptible at the College Point Sports Park (see discussion under "Noise"). However, the impacts associated with the construction of the proposed development would be temporary, and therefore, would not be considered significant adverse impacts to park users.

Historic Resources

Construction impacts may occur on historic resources if in-ground disturbances or vibrations associated with project construction undermines the foundation or structural integrity of nearby historic resources. These impacts are typically assessed for any action involving construction activities within 400 feet of a historic resource. There are no known architectural resources on the proposed Academy site, nor are there any historic structures within a 400-foot radius of the site. Therefore, development on the proposed Academy site would not to have any direct, physical effects on these off-site resources.

The New York City Landmarks Preservation Commission (NYCLPC) has determined that the proposed Academy site is not sensitive for archaeological resources and therefore, construction would not result in any significant adverse impacts on archaeological resources.

Hazardous Materials

The construction-period hazardous materials impacts of the proposed Police Academy are described above in "Environmental Remediation."

Infrastructure

Infrastructure impacts may occur if project construction would affect or disrupt infrastructure service for extended or intermittent periods over a long period of time—for example, if in-ground construction would disturb a water main causing a long-term interruption in service. Another example for a large project would be the extensive number of construction-related heavy trucks and their effect on pavement conditions. If such disruptions were expected, a more detailed analysis would be warranted.

No disruptions of existing services are expected (except to make connections, typically carried out overnight or during off-periods). All infrastructure improvements would meet the standards and specifications of NYCDEP and would have to be approved by that agency. NYCDEP regularly repairs, relocates, and replaces water and sewer lines without disruption to service. Therefore, no significant adverse impacts to the infrastructure systems or to users are expected.

As with the water and sewer lines, new electrical and telecommunication service lines would have to be connected to the proposed development. Energy and telecommunications suppliers regularly repair, relocate and replace lines without disruption to service. Therefore, no significant adverse impacts to the systems or to its users are expected.

Traffic and Parking

A construction impact analysis of traffic is typically conducted when construction activity is expected to be long term and would generate sufficient traffic from employees and trucks to cause potential traffic impacts, or would result in lane closings or traffic diversions, disrupting area traffic flow. Construction of the proposed development is not expected to create extensive or long-term construction-related impacts on traffic or parking conditions in the surrounding area.

It is anticipated that all construction staging for the proposed development would be accommodated on-site, and no street closures are expected. As described above, vehicular flow would not be disrupted on adjacent streets during the construction of the proposed Academy.

During construction, there would be new vehicle trips to and from the Project Site, including trips generated by construction workers, and truck trips associated with the movement of material and equipment, as well as construction waste. The number of construction workers on-site at any one time, and the number of daily truck trips to and from the site would vary, depending on the stage of construction. Although a detailed construction plan has yet to be finalized, based on preliminary information provided by the construction coordinator, it is estimated that the average number of construction workers on-site would be as follows:

- The below-grade work, including excavation, grading, and foundations, would require up to approximately 175 workers on-site depending on the exact tasks being performed.
- Work required for the superstructure would require up to approximately 225 workers on-site.
- Work required for the construction of the core and shell and interior fit-out work would require up to approximately 475 workers.

- Exterior work would require up to approximately 550 workers.[1]

Constructed-related pedestrian and transit trips would be fewer than the *CEQR Technical Manual* threshold requiring quantitative analysis; therefore, the proposed development would not result in significant adverse transit or pedestrian impacts and no further analysis is necessary. It is expected that on-site parking for construction workers would be provided along the western portion of the site. Prior to the construction of the garage, sufficient parking would be provided on-site to accommodate construction worker vehicles.

Table 15-1 shows the trip generation assumptions for the peak construction period for the Police Academy. Based on 2000 Census reverse journey to work data, approximately 77.1 percent of construction workers in the surrounding area drive to work. Assuming a vehicle occupancy of 1.1 persons per auto it is estimated that construction workers would generate approximately 308 vehicle trips during the weekday 6:00 to 7:00 AM and 3:00 to 4:00 PM hours during periods of peak construction. It should be noted that worker trips during construction are expected to occur during the same peak hours as would trips by the Academy's recruit population once the proposed development is completed.

As noted above, in addition to auto and taxi trips by construction workers, construction of the proposed development would generate truck trips associated with the movement of material and equipment, as well as construction waste. Truck movements would typically be spread throughout the day on weekdays, and would generally occur between the hours of 7:00 AM and 3:00 PM, depending on the period of construction. When possible, the scheduling of deliveries and other construction activities would take place during off-peak travel hours. Truck holding and staging would typically be accommodated on the development site.

Trucks en route to and from the proposed development during construction would use NYCDOT-designated truck routes to access the Project Site, such as College Point Boulevard. Based on data from other construction projects in New York City, it is anticipated that construction of the proposed Police Academy would generate an average of approximately 125 truck trips over the course of a weekday during periods of peak construction activity. Conservatively assuming that roughly 25 percent of these trips occur during each peak hours, approximately 32 peak hour truck trips would occur during periods of peak construction.

Overall, it is anticipated that during periods of peak construction activity, upwards of approximately 200 auto and truck trips would be generated in each peak hour. As discussed in Chapter 11, "Traffic and Parking," under the typical operating conditions, the proposed Police Academy would generate an estimated 514 vehicle trips in the weekday AM peak hour and 573 vehicle trips in the PM peak. As the net increase in vehicle trips at analyzed intersections during construction would be substantially smaller than the net increase resulting from the Proposed Action (about 30 to 35 percent of the proposed Action), it is anticipated that traffic impacts during construction would be fewer in number and of lesser magnitude than with the typical operating condition of the proposed Police Academy. As shown in Chapter 11, "Traffic and Parking," the proposed project would have significant adverse impacts at five different intersections (3 in the AM and 3 in the PM), as shown in Table 11-8. A review of the LOS analysis results of Table 11-7 shows that all five impacted intersections with the built development would also be impacted during construction. Locations where mitigation measures were developed to address the Proposed Action's significant adverse traffic impacts (refer to Chapter 17, "Mitigation") would fully mitigate traffic impacts from vehicle trips at the Project Site during construction of the proposed Police Academy. As such, some or all of these measures need to be

[1] The average number of construction workers for construction phases is based on preliminary data from the construction coordinator for the Police Academy development.

TABLE 15-1:
Trip Generation Planning Demand Assumptions for the Peak Construction Period for the Police Academy

Land Use:	**Construction**	
	(1)	
Size/Units:	550 workers	
Trip Generation:	(1)	
Weekday	2	
	trips per worker	
Temporal Distribution:	(2)	
AM (6:00 - 7:00)	40.0%	
PM (3:00 - 4:00)	40.0%	
	(3)	
Modal Splits:	AM	PM
Auto	77.1%	77.1%
Taxi	1.0%	1.0%
Subway	15.3%	15.3%
Bus	3.5%	3.5%
Walk/Ferry/Other	3.1%	3.1%
	100.0%	100%
	(4)	
In/Out Splits:	In	Out
AM	97.0%	3.0%
PM	5.0%	95.0%
Vehicle Occupancy:	(3)	
Auto	1.10	
Taxi	1.40	
Truck Trip Generation:	(2)	
	125.00	
	trips per day	
	(5)	
AM	25.0%	
PM	25.0%	
	In	Out
AM/PM	50.0%	50.0%

Notes :

(1) Estimate for peak construction period workers provided by project contractor.
(2) Public Saftey Anwsering Center (PSAC II), FEIS
(3) 2000 Census reverse journey to work for project area
(4) Atlantic Yards Arena EIS
(5) Hunters Point South FEIS

TABLE 15-1 (continued)
Trip Generation Planning Demand Assumptions for the Peak Construction Period for the Police Academy

Land Use:		**Construction**		
Size/Units:		550	workers	
Peak Hour Trips:				
	AM	440		
	PM	440		
Person Trips:				
		In	Out	
AM	**Auto**	329	10	
	Taxi	4	0	
	Subway	65	2	
	Bus	15	0	
	Walk/Ferry/Other	13	0	
	Total	426	12	
		In	Out	
PM	**Auto**	10	329	
	Taxi	0	4	
	Subway	2	65	
	Bus	0	15	
	Walk/Ferry/Other	0	13	
	Total	12	426	
Vehicle Trips :				
		In	Out	
AM	**Auto (Total)**	299	9	
	Taxi Balanced	3	3	
	Truck	16	16	
	Total	318	28	
		In	Out	
PM	**Auto (Total)**	9	299	
	Taxi Balanced	3	3	
	Truck	16	16	
	Total	28	318	
	Total Vehicle	In	Out	Total
	AM	318	28	346
	PM	28	318	346

implemented during the proposed development's construction phase. The anticipated volume of vehicle traffic during the AM and PM peak periods would likely warrant mitigation only at 31st Avenue at College Point Boulevard and Ulmer Street at the Whitestone Expressway Southbound Service Road. As such, these intersections may warrant mitigation after the site soil mitigation (in conjunction with NYCDEP) and foundations have been completed (late 2010). Locations that cannot be mitigated for the proposed project would likely remain unmitigable during construction.

Transit and Pedestrians

A construction impact analysis of transit and pedestrian facilities may be conducted when construction activity is expected to result in a long-term closure, relocation or narrowing of a pedestrian facility (sidewalk, walkway or stairway) or transit access (bus stop or subway entrance) to allow for construction related activity.

Construction activity at the proposed Academy site is not expected to impact any existing transit facilities. Appropriate measures would be taken to maintain pedestrian access between the site and 28th Avenue, which the Q25 bus route travels along, and the Q65 bus route which runs along College Point Boulevard during all construction efforts. In all cases, pedestrian access would be maintained, with provisions for pedestrian safety (such as barriers, signage, sidewalk sheds, etc.) implemented as required by City building codes and NYCDOT.

Considering that walk trips generated by construction workers would occur during off-peak hours, primarily along pedestrian routes with low to moderate background pedestrian traffic, no significant adverse impacts associated with the projected increment of construction-related pedestrian trips are anticipated. Appropriate measures for maintaining temporary sidewalks and overhead protections would be provided throughout construction.

Air Quality

Possible impacts on local air quality during construction of the proposed development on the Project Site include:

- Fugitive dust (particles and particulate matter) emissions from land clearing operations, excavation, materials transfer, and vehicle travel on paved and unpaved roads;
- Mobile source emissions, including hydrocarbons, nitrogen oxide, and carbon monoxide.

New York City Local Law 77 was passed in December 2003 in order to reduce air pollutants emitted by non-road construction equipment used on City projects. This law requires the use of ultra-low sulfur diesel (ULSD) and "best available technology" (BAT) for reducing emissions from non-road equipment greater than 50 horsepower. The law applies to "any diesel-powered non-road vehicle that is owned by, operated by or on the behalf of, or leased by a City Agency." Therefore, construction projects undertaken by city agencies, either directly or through contractors, would be required to meet the requirements of Local Law 77. Adherence to Local Law 77 would reduce the level of emissions from the on-site construction equipment and from the trucks transporting material to and from the construction sites.

Fugitive Emissions

Fugitive dust emissions could occur from land clearing, excavation, hauling, dumping, spreading, grading, compaction, wind erosion, and traffic over paved and 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 type of fugitive dust control methods employed. The USEPA has suggested, in

general, an overall emission rate of about 1.2 tons of particulate matter per acre per month of active construction from all phases of land clearing operations with no fugitive dust control measures. However, this is a national estimate and actual emissions would vary widely depending on may factors, including the intensity and type of land clearing operations.

Much of the fugitive dust generated by construction activities consists of relatively large-size particles (greater than 100 microns in diameter), which are expected to settle within a short distance (within 20 to 30 feet) 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 Police Academy on the Project Site. As a result, no significant air quality impacts from fugitive dust emissions would be anticipated during construction.

Mobile Source Emissions

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. Localized increases in mobile source emissions would be minimized by following standard traffic maintenance requirements, such as:

- Construction requiring temporary street closings would be performed during off-peak houses wherever possible;
- The existing number of travel lanes would be maintained to the maximum extent possible;
- Idling of delivery trucks or other equipment would not be permitted during unloading or other inactive times.

While it would be expected that there would be a localized increase in mobile source emissions, these emissions are not expected to significantly impact air quality. Moreover, any such impacts, while minimal, would also be temporary. Therefore, no significant air quality construction impacts from mobile sources are anticipated.

Noise

Impacts on noise levels during construction of the proposed Police Academy include noise and vibration from construction equipment operation, and noise from construction and delivery vehicles traveling to and from the site. The severity of impact 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. Typical noise levels of construction equipment that may be employed during the construction process are listed in Table 15-1. Noise levels caused by construction activities would vary widely, depending on the phase—land clearing and excavations, 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 stages of construction. The most significant noise source associated with the construction equipment would be the use of jackhammers, paving breakers, and pile drivers. This noise would be intrusive and would be heard by the employees at surrounding businesses and the residents that live within several blocks of the Project Site. 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 Project Site.

Construction noise is regulated by the New York City Noise Control Code and by USEPA noise emission standards for construction equipment. These local and federal requirements mandate that certain classifications of construction equipment and motor vehicles meet specified noise emissions standards; that, except under exceptional circumstances, construction activities be limited to weekdays between the hours of 7:00 AM and 6:00 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. Directives to the construction contractor would ensure compliance with noise control measures. Therefore, construction noise at the Project Site would be similar to other development projects in the city, and would not result in significant adverse impacts.

TABLE 15-3: Typical Noise Emission Levels for Construction Equipment

Equipment Item	Noise Level at 50 feet (dBA)
Air Compressor	81
Asphalt Spreader (paver)	89
Asphalt Truck	88
Backhoe	85
Bulldozer	87
Compactor	80
Concrete Plant	83 (1)
Concrete Spreader	89
Concrete Mixer	85
Concrete Vibrator	76
Crane (derrick)	76
Delivery Truck	88
Diamond Saw	90 (2)
Dredge	88
Dump Truck	88
Front End Loader	84
Gas-driven Vibro-compactor	76
Hoist	76
Jack Hammer (Paving Breaker)	88
Line Drill	98
Motor Crane	83
Pile Driver/Extractor	101
Pump	76
Roller	80
Shovel	82
Truck	88
Vibratory Pile Driver/Extractor	89 (3)

Notes:

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

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

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

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

Public Health

During construction of the proposed Police Academy, traffic associated with passenger vehicles, as well as heavy-duty trucks, is expected to increase, potentially contributing to increases in particulate matter (PM) levels in the area. However, these emissions are not expected to significantly affect public health. Most of the increase in vehicle trips associated with the proposed development would be from gasoline vehicles, which emit relatively little PM. The total peak number of heavy-diesel vehicles generated by the proposed development during construction at any intersection is below the threshold

(21 trucks per hour at any intersection) currently being used on projects sponsored by the NYCDEP to determine whether an air quality impact analysis of PM smaller than 2.5 microns is necessary.

D. CONCLUSION

Construction of the proposed Police Academy would create some disruptions and inconveniences on surrounding land uses, but these would be temporary in nature and would be minimized, as the proposed development is required to comply with various regulations. The proposed Police Academy will also coordinate with the NYCDEP to ensure that hazardous materials concerns are addressed and therefore impacts related to hazardous material will be avoided. In addition, effects of the proposed construction on traffic are addressed by implementing the project's mitigation measures midway during the construction period, while air quality is governed by applicable government regulations. Therefore, no impacts related to these areas are expected to occur.

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