CITY OF NEW YORK
MANHATTAN COMMUNITY BOARD FOUR
330 West 42nd Street, 26th floor New York, NY 10036
tel: 212-736-4536 fax: 212-947-9512
www.nyc.gov/mcb4

JOHN WEIS
Chair

ROBERT J. BENFATTO, JR., ESQ.
District Manager

Testimony to Subcommittee on Landmarks, Public Siting, and Maritime Use
Pre-considered L.U. No. 20125005 SCM, West 43rd Street High School
By Corey Johnson, Chair
July 25, 2011

Good Morning Mr. Chairman. My name is Corey Johnson. I am the chair for Manhattan Community Board 4 and I am here to comment on the relocation of a Beacon High School, which is currently situated at an existing leased building at 227-243 West 61st Street, into Community District 4.

Our community is pleased to welcome a well respected public high school to our neighborhood but there are few concerns that should be taken in consideration:

Establish a Community Advisory Task Force

West 43rd Street is a dense residential street, with a number of high-rise residences located west of Ninth Avenue including Manhattan Plaza with more than 1,600 units and Riverbank West with 418 units. One block north of the proposed site on West 44th Street between Tenth and Eleventh Avenues, construction is to commence in the next year at PS 51; this project includes constructing a new elementary school and building 1,210 residential units. The community adjacent to the proposed Beacon High School site will be heavily impacted with ongoing construction in the next few years as well as a continued population increase.

The successful development and relocation of Beacon High School will require close coordination with the SCA, DOE, local elected officials, CB4 members, West 43rd and West 44th Street Block Associations, Manhattan Plaza Tenants Association, Beacon High School, and PS 51 administrators. CB4 proposes that an advisory board comprised of all stakeholders be established to resolve neighborhood issues that either may arise from construction of the new facility or increased students in the area. In particular, the principals of both PS 51 and Beacon High School will need to maintain an open dialogue with each other and the community to ensure that the safety and personal welfare of the broad range of students is met without negatively impacting the quality of life of the neighborhood.

Public Transportation Access

The proposed site is almost a half-mile from the nearest subway line (A, C, E) at West 42nd Street and Eighth Avenue. Given an estimated 1,400 additional students to this area every day, CB4 urges the Metropolitan Transit Authority (MTA) to reconsider implementing the proposed 7 line extension stop at Tenth Avenue and 41st Street.

Lack of an Intermediate School in Clinton/Hell's Kitchen

While CB4 supports Beacon High School's outstanding academic programs and nurturing college preparatory environment and understand its need for a larger space, we are disheartened that DOE did not also consider placing an intermediate school at the proposed location. Currently, Clinton/Hell's Kitchen does not have a *stand-alone* intermediate school. PS 111 is the only school in the community to offer grades 6-8.

By 2019, the Clinton/Hell's Kitchen neighborhood could add additional 26 high-rise residential buildings, with more than 11,250 units. Using a conservative estimate, this could mean more than 1,200 additional elementary school children in the neighborhood in the next ten years. These elementary school children will not attend middle school in their community because there is no middle school to accommodate them, as there has not been to accommodate the thousands of children before them. CB4 would like DOE to strongly consider constructing a *stand-alone* middle school in Clinton/Hell's Kitchen so that children who live in our community can also attend school here.

Design of Proposed Facility

SCA has indicated the exterior of the building will remain largely unchanged from the current design. Even so, CB4 would like to be kept informed of all design decisions as they are made and encourages SCA and DOE to attend our Quality of Life meetings when updates are available. In addition, CB4 would like SCA to explore the possibility of providing a green space on the roof of the existing site. Open space is very limited in CB4.

Public Use of School Facilities

Indoor school facilities, such as the proposed gymnasium, must be available to the local community and arts organizations for use during out-of-session hours. CB4 is home to a large number of not-for-profit theaters and arts and cultural organizations that have been impacted by escalating rents and severe space needs; the community must best use its available public resources to support cultural activities.

Thank you.

SCA
School Construction Authority

NYC
Department of Education

STATE ENVIRONMENTAL QUALITY REVIEW
NEGATIVE DECLARATION
NOTICE OF DETERMINATION OF NON-SIGNIFICANCE

DATE: July 20, 2011

SEQR PROJECT NO.: 12-002

LEAD AGENCY: New York City School Construction Authority
30-30 Thomson Avenue
Long Island City, New York 11101-3045

This notice is issued pursuant to Part 617 of the implementing regulations pertaining to Article 8 (State Environmental Quality Review Act) of the Environmental Conservation Law. Pursuant to §1730.2 of the Public Authorities Law, the New York City School Construction Authority (SCA) is SEQR Lead Agency.

The SCA, as Lead Agency, has determined that the proposed action described below will not have a significant effect on the quality of the environment, and a Draft Environmental Impact Statement (DEIS) will not be prepared.

NAME OF ACTION: New, Approximately 1,440-Seat
High School Facility

LOCATION: 521 West 43rd Street, New York, New York
Tax Block 1072, Tax Lot 15

SEQR STATUS: Unlisted

NEGATIVE DECLARATION

Description of Action:

On behalf of the New York City Department of Education (DOE), the New York City School Construction Authority (SCA) proposes the site selection, acquisition, acceptance of construction funding, and construction of a new, approximately 1,440- seat high school facility in Community School District 2. Acquisition, design, and construction of the proposed school facility would be conducted pursuant to DOE's Five-Year Capital Plan for Fiscal Years 2010-2014.

The proposed site is located at 521 West 43rd Street (Block 1072, Lot 15) between Tenth and Eleventh Avenues in the Clinton neighborhood of Manhattan. The project site is an approximately 30,100-square-foot (0.69-acre) lot which is owned by the New York Public Library (NYPL) and which is developed with a six-story, approximately 200,000-square-foot NYPL storage facility.

SCA
School Construction Authority

NYC
Department of Education

The proposed project is intended to provide a permanent replacement facility for Beacon High School, which is currently located at 227 West 61st Street in Manhattan. According to the DOE school utilization profile for 2009-2010, Beacon High School has an enrollment of 1,144 students and operated at 137 percent capacity. Under the proposed project, the SCA would a renovate the existing building at 521 West 43rd Street to support an approximately 1,440-seat high school program that would accommodate students in grades nine through twelve. The renovation would involve the construction of a one-story rooftop addition, resulting in a seven-story building. The proposed school facility would consist of general and special education classrooms, science laboratories, an auditorium, a gymnasium, administrative and support space, a medical suite, a library, a cafeteria and kitchen facilities, common areas, custodial facilities, and storage areas. Construction activities would begin in 2012, with student occupancy of the facility expected to begin in 2015.

Reasons Supporting This Determination:

A comprehensive Environmental Assessment Form (EAF) and Supplemental Environmental Studies for this action were completed and issued on July 20, 2011. Based upon those documents (which are appended hereto), the SCA has determined that the proposed project will have no significant adverse impacts on environmental conditions related to the following areas: land use, zoning, and public policy; socioeconomic conditions; community facilities and services; open space; shadows; historic and archeological resources; urban design and visual resources; natural resources; hazardous materials; water and sewer infrastructure; energy; solid waste and sanitation services; transportation; air quality; greenhouse gas emissions; noise; public health; neighborhood character; and construction impacts.

The key findings related to the analysis of the following two environmental impact areas in the Environmental Assessment are discussed in greater detail below:

Hazardous Materials

A Phase I Environmental Site Assessment (ESA) and a Phase II Environmental Site Investigation (ESI) were completed between September 2010 and July 2011 in order to evaluate the environmental conditions of the proposed project site. The Phase I ESA identified on-site recognized environmental conditions (RECs) associated with the potential presence of fill material from demolition of historic site structures, the site's historic use for varnish and machinery storage, a garage with a gasoline underground storage tank, manufacturing, a printing press, a motor repair shop, and the on-site generation of hazardous wastes. The Phase I ESA also identified RECs associated with the presence of two No. 2 fuel oil above-ground storage tanks (AST) on-site. Evidence of a potential third petroleum storage tank was noted during the site reconnaissance. Staining was also observed on building surfaces, including the basement floor, presumably associated with leaks from building equipment (i.e., potential petroleum products).

Off-site RECs identified by the Phase I ESA include the historic usage of surrounding properties for automobile repair, underground gasoline and fuel oil storage; manufacturing, and storage yards. Currently, surrounding properties are being used as an equipment rental and service facility, dry cleaning facilities, a gasoline station, and automobile repair, rental, and parking facilities. Fill/vent lines, potentially associated with petroleum storage tanks, were noted on nearby properties. Prior investigations of the property located adjacent to the site (northeast) indicated elevated levels of contaminants in soil vapor and groundwater. A review of the regulatory agency database indicated the nearby presence of four New York Spills/Leaking Underground Storage Tanks sites with documented soil and/or groundwater impacts, one registered dry cleaning facility, two properties with "E"-Designations, and three manufactured gas plant sites. A Con Edison sidewalk vault located adjacent to the site, potentially housing oil-filled transformers, is a former Resource Conservation and Recovery Act large quantity generator. The Phase I ESA also revealed environmental concerns associated with suspect asbestos-containing materials (ACM), suspect interior and exterior lead-based paint (LBP), suspect polychlorinated biphenyl (PCB)-containing light ballasts and caulking material, water damage and flooding.

A Phase II ESI was completed in July 2011 to assess whether the RECs identified in the Phase I ESA have affected the suitability of the site for construction of a public school facility. The investigation consisted of a geophysical survey, the advancement of eighteen soil borings, the installation of two permanent monitoring wells, and the collection and analysis of five sub-slab soil vapor, two groundwater, one light non-aqueous phase liquid (LNAPL), and seventeen soil samples.

The results of the geophysical survey did not reveal evidence of buried utilities or structures in the vicinity of the sampling locations. Petroleum contamination (i.e., free product, staining, and odor) was observed in soil samples collected under the basement of the site building and a spill was reported to the New York State Department of Environmental Conservation (Spill Case No. 1103225). The soil samples submitted for laboratory analysis did not exhibit elevated concentrations of petroleum-related compounds and the light non-aqueous phase liquid (LNAPL) observed beneath the basement floor slab appears to be confined to a limited area of the boiler room. The source of the LNAPL is unknown but may be a result of former petroleum bulk storage at the site. The results of the analyses of soil vapor samples indicate levels of petroleum and chlorinated solvents exceeding applicable guidance values or standards.

Perched water above bedrock was encountered in two of the borings advanced in the site basement at approximately three feet below the top of the basement floor slab. Groundwater representative of the bedrock aquifer was encountered at approximately 12 feet below ground surface in the monitoring wells installed in the sidewalks.

School Construction Authority

Department of Education

The proposed project would not result in impacts from contaminated media and building materials. As part of the project, the SCA would pursue remediation of the LNAPL and closure of the spill case. Any dewatering required during construction would be minimized to mitigate potential influx of contaminated water from off-site sources toward the site. Treatment of any dewatering effluent would be conducted as required prior to discharge to the municipal sewer. As a preventative measure, a sub-slab depressurization system (SSDS) would be installed in the existing building. Any suspect ACM, LBP, and PCB-containing materials affected by the preparation of the site for use as a public school would be identified prior to construction and properly managed during construction activities. All soil excavated during building construction would be properly managed in accordance with all applicable local, state and federal regulations. For areas of the site where exposed soil may exist after building construction (i.e., landscaped areas), a two-foot thick layer of environmentally clean fill would be placed over the soil in these areas. In addition, to minimize the potential for exposure by construction workers and the surrounding public, standard industry practices, including appropriate health and safety measures, would be utilized.

Transportation

Transit

Based on City Environmental Quality Review (CEQR) standards, the proposed project has the potential to result in a significant adverse impact with respect to one (1) New York City Transit bus line. The transit analysis indicated that project-generated impacts could be avoided through the addition of capacity on the affected bus line, as described in greater detail below.

The transit analysis indicated that the westbound M42 bus line could experience significant adverse impacts at the peak load point of West 42nd Street and 8th Avenue due to project-generated transit use during the AM peak hour. In the future without the proposed project, the westbound bus line would operate with an hourly available capacity of 226 during the AM peak hour. In the future with the proposed project, the hourly available capacity on the westbound M42 bus line at the peak load point of West 42nd Street and 8th Avenue could deteriorate to -83 during the AM peak hour.

The impact to the westbound M42 bus line could be avoided through the addition of approximately two (2) standard buses or converting the route to articulated bus service during the AM peak hour. These adjustments would avoid the potential for project-generated impacts to the westbound M42 bus line at this peak load point. The ultimate need for additional bus capacity would be determined by the Metropolitan Transportation Authority (MTA).

Pedestrians

Based on City Environmental Quality Review (CEQR) standards, the proposed project has the potential to result in significant adverse impacts with respect to four (4) crosswalks. The pedestrian analysis also indicates that project-generated

SCA
School Construction Authority

NYC
Department of Education

impacts could be avoided through the implementation of standard traffic engineering improvements.

At the intersection of West 42nd Street and 8th Avenue, the west crosswalk would operate at LOS E in the future without the proposed project. In the future with the proposed project, pedestrian conditions on the west crosswalk would deteriorate to LOS F. At the intersection of West 42nd Street and 10th Avenue, the south crosswalk would operate at LOS C in the future without the proposed project. In the future with the proposed project, pedestrian conditions on the south crosswalk would deteriorate to LOS D. At the intersection of West 43rd Street and 10th Avenue, the north and south crosswalks would operate at LOS A in the future without the proposed project. In the future with the proposed project, the north and south crosswalks would deteriorate to LOS D.

The impact to the west crosswalk at West 42nd Street and 8th Avenue could be avoided by widening the crosswalk by one-and-one-half (1 ½) feet. The impact to the south crosswalk at West 42nd Street and 10th Avenue could be avoided by widening the crosswalk by six (6) inches. The impact to the north crosswalk at West 43rd Street and 10th Avenue could be avoided by widening the crosswalk by one-and-one-half (1 ½) feet. The impact to the south crosswalk at West 43rd Street and 10th Avenue could be avoided by widening the crosswalk by two feet. These proposed crosswalk modifications are subject to the review and approval of the New York City Department of Transportation, and their implementation would fully avoid significant pedestrian impacts.

The proposed project would have the beneficial effect of providing a larger facility for Beacon High School that would relieve the overcrowding of Beacon High School's current leased facility.

For further information contact:

Contact:	Ross J. Holden Executive Vice President & General Counsel
Address:	New York City School Construction Authority 30-30 Thomson Avenue Long Island City, New York 11101-3045
Telephone:	(718) 472-8220

Ross J. Holden
Executive Vice President & General Counsel

July 20, 2011
Date

Proposed Replacement High School
521 West 43rd Street, Manhattan

SEQR Environmental Assessment Form and Supplemental Environmental Studies

Lead Agency:

New York City School Construction Authority
30-30 Thomson Avenue
Long Island City, New York 11101

Prepared by:

Parsons Brinckerhoff
One Penn Plaza
New York, NY 10119
(212) 465-5000

July 20, 2011

SEQR Environmental Assessment Form

PARSONS BRINCKERHOFF

617.20
Appendix A
State Environmental Quality Review
FULL ENVIRONMENTAL ASSESSMENT FORM

Purpose: The full EAF is designed to help applicants and agencies determine, in an orderly manner, whether a project or action may be significant. The question of whether an action may be significant is not always easy to answer. Frequently, there are aspects of a project that are subjective or unmeasurable. It is also understood that those who determine significance may have little or no formal knowledge of the environment or may not be technically expert in environmental analysis. In addition, many who have knowledge in one particular area may not be aware of the broader concerns affecting the question of significance.

The full EAF is intended to provide a method whereby applicants and agencies can be assured that the determination process has been orderly, comprehensive in nature, yet flexible enough to allow introduction of information to fit a project or action.

Full EAF Components: The full EAF is comprised of three parts:

Part 1: Provides objective data and information about a given project and its site. By identifying basic project data, it assists a reviewer in the analysis that takes place in Parts 2 and 3.

Part 2: Focuses on identifying the range of possible impacts that may occur from a project or action. It provides guidance as to whether an impact is likely to be considered small to moderate or whether it is a potentially-large impact. The form also identifies whether an impact can be mitigated or reduced.

Part 3: If any impact in Part 2 is identified as potentially-large, then Part 3 is used to evaluate whether or not the impact is actually important.

THIS AREA FOR LEAD AGENCY USE ONLY

DETERMINATION OF SIGNIFICANCE -- Type 1 and Unlisted Actions

Identify the Portions of EAF completed for this project: ☑ Part 1 ☑ Part 2 ☑ Part 3

Upon review of the information recorded on this EAF (Parts 1 and 2 and 3 if appropriate), and any other supporting information, and considering both the magnitude and importance of each impact, it is reasonably determined by the lead agency that:

■ A. The project will not result in any large and important impact(s) and, therefore, is one which **will not** have a significant impact on the environment, therefore **a negative declaration will be prepared.**

☐ B. Although the project could have a significant effect on the environment, there will not be a significant effect for this Unlisted Action because the mitigation measures described in PART 3 have been required, therefore **a CONDITIONED negative declaration will be prepared.***

☐ C. The project may result in one or more large and important impacts that may have a significant impact on the environment, therefore **a positive declaration will be prepared.**

*A Conditioned Negative Declaration is only valid for Unlisted Actions

Proposed Replacement High School, 521 West 43rd Street, Manhattan

Name of Action

New York City School Construction Authority

Name of Lead Agency

Ross J. Holden

Print or Type Name of Responsible Officer in Lead Agency

~~General Counsel, Vice President~~ **Ross J. Holden Executive Vice President & General Counsel**

Title of Responsible Officer

Signature of Responsible Officer in Lead Agency

Esther Schwalb, Parsons Brinckerhoff

Signature of Preparer (If different from responsible officer)

website

July 20, 2011

Date

PART 1--PROJECT INFORMATION
Prepared by Project Sponsor

NOTICE: This document is designed to assist in determining whether the action proposed may have a significant effect on the environment. Please complete the entire form, Parts A through E. Answers to these questions will be considered as part of the application for approval and may be subject to further verification and public review. Provide any additional information you believe will be needed to complete Parts 2 and 3.

It is expected that completion of the full EAF will be dependent on information currently available and will not involve new studies, research or investigation. If information requiring such additional work is unavailable, so indicate and specify each instance.

Name of Action Proposed Replacement High School (M479), 521 West 43rd Street, Manhattan

Location of Action (include Street Address, Municipality and County)

521 West 43rd Street, New York

Name of Applicant/Sponsor New York City School Construction Authority

Address 30-30 Thomson Avenue

City / PO Long Island City State New York Zip Code 11101

Business Telephone (718) 824-0630

Name of Owner (if different) New York Public Library

Address Capital Planning and Construction

City / PO Fifth Avenue and 42nd Street, Room 78 State NY Zip Code 10018

Business Telephone 212-930-0614

Description of Action:

On behalf of the New York City Department of Education (DOE), the New York City School Construction Authority (SCA) proposes to convert an existing (200,000 SF) building currently occupied by the New York Public Library Annex/storage facility into a new home for Beacon High School, which is currently located at 227-243 West 61st Street. The project site is located at 521 West 43rd Street between 10th and 11th Avenues (Block 1072, Lot 15) in the Clinton neighborhood of Manhattan. The proposed high school would be developed in accordance with the DOE Facility Replacement Program from the Five-Year Capital Plan 2010–2014.

The proposed school facility would provide more space to better accommodate the school's current enrollment (1,144 students), and create a larger school facility with additional classrooms and support facilities to serve approximately 1,400 students who reside throughout the city. It is assumed for this environmental review, that there will be a one story addition constructed on the building, which would create a seventh floor. The school is expected to be completed and ready for occupancy for the 2015–16 school year.

Please Complete Each Question--Indicate N.A. if not applicable

A. SITE DESCRIPTION

Physical setting of overall project, both developed and undeveloped areas.

1. Present Land Use: ☑ Urban ☐ Industrial ☐ Commercial ☐ Residential (suburban) ☐ Rural (non-farm) ☐ Forest ☐ Agriculture ☐ Other ______

2. Total acreage of project area: 0.7 acres.

APPROXIMATE ACREAGE	PRESENTLY	AFTER COMPLETION
Meadow or Brushland (Non-agricultural)	____ acres	____ acres
Forested	____ acres	____ acres
Agricultural (Includes orchards, cropland, pasture, etc.)	____ acres	____ acres
Wetland (Freshwater or tidal as per Articles 24,25 of ECL)	____ acres	____ acres
Water Surface Area	____ acres	____ acres
Unvegetated (Rock, earth or fill)	____ acres	____ acres
Roads, buildings and other paved surfaces	0.7 acres	0.7 acres
Other (Indicate type) ______	____ acres	____ acres

3. What is predominant soil type(s) on project site? Urban Land
   a. Soil drainage: ☐ Well drained ____% of site ☑ Moderately well drained 100 % of site. ☐ Poorly drained ____% of site
   b. If any agricultural land is involved, how many acres of soil are classified within soil group 1 through 4 of the NYS Land Classification System? N/A acres (see 1 NYCRR 370).

4. Are there bedrock outcroppings on project site? ☐ Yes ■ No
   a. What is depth to bedrock TBD (in feet)

5. Approximate percentage of proposed project site with slopes:
   ☑ 0-10% 100 % ☐ 10- 15% ____% ☐ 15% or greater ____%

6. Is project substantially contiguous to, or contain a building, site, or district, listed on the State or National Registers of Historic Places? ☐ Yes ■ No

7. Is project substantially contiguous to a site listed on the Register of National Natural Landmarks? ☐ Yes ■ No

8. What is the depth of the water table? TBD (in feet)

9. Is site located over a primary, principal, or sole source aquifer? ☐ Yes ■ No

10. Do hunting, fishing or shell fishing opportunities presently exist in the project area? ☐ Yes ■ No

11. Does project site contain any species of plant or animal life that is identified as threatened or endangered? ☐ Yes ☒ No

According to:

Identify each species:

12. Are there any unique or unusual land forms on the project site? (i.e., cliffs, dunes, other geological formations?

☐ Yes ☒ No

Describe:

13. Is the project site presently used by the community or neighborhood as an open space or recreation area?

☐ Yes ☒ No

If yes, explain:

14. Does the present site include scenic views known to be important to the community? ☐ Yes ☒ No

15. Streams within or contiguous to project area:

N/A

a. Name of Stream and name of River to which it is tributary

N/A

16. Lakes, ponds, wetland areas within or contiguous to project area:

N/A

b. Size (in acres):

N/A

17. Is the site served by existing public utilities? ☒ Yes ☐ No

a. If **YES**, does sufficient capacity exist to allow connection? ☒ Yes ☐ No

b. If **YES**, will improvements be necessary to allow connection? ☐ Yes ☒ No

18. Is the site located in an agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? ☐ Yes ☒ No

19. Is the site located in or substantially contiguous to a Critical Environmental Area designated pursuant to Article 8 of the ECL, and 6 NYCRR 617? ☐ Yes ☒ No

20. Has the site ever been used for the disposal of solid or hazardous wastes? ☐ Yes ☒ No

B. Project Description

1. Physical dimensions and scale of project (fill in dimensions as appropriate).

a. Total contiguous acreage owned or controlled by project sponsor: 0.7 acres.

b. Project acreage to be developed: 0 acres initially; 0 acres ultimately.

c. Project acreage to remain undeveloped: 0 acres.

d. Length of project, in miles: N/A (if appropriate)

e. If the project is an expansion, indicate percent of expansion proposed. N/A %

f. Number of off-street parking spaces existing 0 ; proposed 0

g. Maximum vehicular trips generated per hour: 20 (AM) (upon completion of project)?

h. If residential: Number and type of housing units:

	One Family	Two Family	Multiple Family	Condominium
Initially	N/A			
Ultimately	N/A			

i. Dimensions (in feet) of largest proposed structure: ______ height; ______ width; ______ length.

j. Linear feet of frontage along a public thoroughfare project will occupy is? ______ ft.

2. How much natural material (i.e. rock, earth, etc.) will be removed from the site? 0 tons/cubic yards.

3. Will disturbed areas be reclaimed ☐ Yes ☒ No ☐ N/A

a. If yes, for what intended purpose is the site being reclaimed?

b. Will topsoil be stockpiled for reclamation? ☐ Yes ☐ No

c. Will upper subsoil be stockpiled for reclamation? ☐ Yes ☐ No

4. How many acres of vegetation (trees, shrubs, ground covers) will be removed from site? 0 acres.

5. Will any mature forest (over 100 years old) or other locally-important vegetation be removed by this project?

☐ Yes ☒ No

6. If single phase project: Anticipated period of construction: 36 months, (including demolition)

7. If multi-phased:

   a. Total number of phases anticipated ______ (number)

   b. Anticipated date of commencement phase 1: ______ month ______ year, (including demolition)

   c. Approximate completion date of final phase: ______ month ______ year.

   d. Is phase 1 functionally dependent on subsequent phases? ☐ Yes ☐ No

8. Will blasting occur during construction? ☐ Yes ☒ No

9. Number of jobs generated: during construction TBD ; after project is complete ______

10. Number of jobs eliminated by this project <10 .

11. Will project require relocation of any projects or facilities? ☒ Yes ☐ No

If yes, explain:

Current on-site NYPL archival and storage operations would likely be relocated to another NYPL facility.

12. Is surface liquid waste disposal involved? ☐ Yes ☒ No

   a. If yes, indicate type of waste (sewage, industrial, etc) and amount ______

   b. Name of water body into which effluent will be discharged ______

13. Is subsurface liquid waste disposal involved? ☐ Yes ☒ No Type ______

14. Will surface area of an existing water body increase or decrease by proposal? ☐ Yes ☒ No

If yes, explain:

15. Is project or any portion of project located in a 100 year flood plain? ☐ Yes ☒ No

16. Will the project generate solid waste? ☒ Yes ☐ No

   a. If yes, what is the amount per month? 5.8 tons

   b. If yes, will an existing solid waste facility be used? ☒ Yes ☐ No

   c. If yes, give name DSNY Services ; location New York City

   d. Will any wastes not go into a sewage disposal system or into a sanitary landfill? ☐ Yes ☒ No

e. If yes, explain:

17. Will the project involve the disposal of solid waste? ☐ Yes ☒ No

a. If yes, what is the anticipated rate of disposal? _______ tons/month.

b. If yes, what is the anticipated site life? _______ years.

18. Will project use herbicides or pesticides? ☐ Yes ☒ No

19. Will project routinely produce odors (more than one hour per day)? ☐ Yes ☒ No

20. Will project produce operating noise exceeding the local ambient noise levels? ☐ Yes ☒ No

21. Will project result in an increase in energy use? ☒ Yes ☐ No

If yes, indicate type(s)

Electric and Gas

22. If water supply is from wells, indicate pumping capacity N/A gallons/minute.

23. Total anticipated water usage per day 50,000 gallons/day.

24. Does project involve Local, State or Federal funding? ☒ Yes ☐ No

If yes, explain:

Capital funding from the DOE Facility Replacement Program for the conversion of the existing building into a public high school facility. Operational funding will be provided by DOE.

25. Approvals Required:

			Type	Submittal Date
City, Town, Village Board	☐ Yes	☒ No		
City, Town, Village Planning Board	☐ Yes	☒ No		
City, Town Zoning Board	☐ Yes	☒ No		
City, County Health Department	☐ Yes	☒ No		
Other Local Agencies	☐ Yes	☒ No		
Other Regional Agencies	☐ Yes	☒ No		
State Agencies	☐ Yes	☒ No		
Federal Agencies	☐ Yes	☒ No		

C. Zoning and Planning Information

1. Does proposed action involve a planning or zoning decision? ☐ Yes ☒ No

If Yes, indicate decision required:

☐ Zoning amendment ☐ Zoning variance ☐ New/revision of master plan ☐ Subdivision

☐ Site plan ☐ Special use permit ☐ Resource management plan ☐ Other

2. What is the zoning classification(s) of the site?

The project site is zoned R9. It is also located within the Special Clinton District.

3. What is the maximum potential development of the site if developed as permitted by the present zoning?

Approximately 300,000 square feet of floor area could be developed on the site for a community facility use (10.0 FAR) in an R9 zoning district.

4. What is the proposed zoning of the site?

N/A

5. What is the maximum potential development of the site if developed as permitted by the proposed zoning?

N/A

6. Is the proposed action consistent with the recommended uses in adopted local land use plans? ☒ Yes ☐ No

School uses are permitted as-of-right in the existing R9 district.

7. What are the predominant land use(s) and zoning classifications within a ¼ mile radius of proposed action?

The predominant land uses in the area include a mix of auto-related, residential, institutional, and transportation uses. South of the project is a C6-4 zoning district, which permits high-bulk commercial uses, and north of the site are R10, R8A, and R8 zoning districts, which permit mid- and high-rise residential buildings. A large M2-4 district stretches roughly from West 43rd Street to West 55th Street, between 11th Ave. and the West Side Highway. There are C2-5 commercial overlays on the eastern side of Eleventh Avenue where the blocks have R8A and R9 designations and also along Tenth Avenue between West 43rd and West 46th Streets. Both the project site and study area are located within the Special Clinton Special District (CL), which is located generally between West 41st and 58th Streets west of Eighth Avenue. The Special CL district was created to preserve and strengthen the residential character of the community, to maintain the mixture of income groups present in the area, and to ensure that the Clinton district is not adversely affected by new development. The block to the north of the project site is currently proposed for rezoning, which would enable medium- and high-density residential uses on the western portion of the block.

8. Is the proposed action compatible with adjoining/surrounding land uses with a ¼ mile? ☒ Yes ☐ No

9. If the proposed action is the subdivision of land, how many lots are proposed? N/A

a. What is the minimum lot size proposed? __________

10. Will proposed action require any authorization(s) for the formation of sewer or water districts? ☐ Yes ☒ No

11. Will the proposed action create a demand for any community provided services (recreation, education, police, fire protection?

☐ Yes ☒ No

a. If yes, is existing capacity sufficient to handle projected demand? ☐ Yes ☐ No

12. Will the proposed action result in the generation of traffic significantly above present levels? ☐ Yes ☒ No

a. If yes, is the existing road network adequate to handle the additional traffic. ☐ Yes ☐ No

D. **Informational Details**

Attach any additional information as may be needed to clarify your project. If there are or may be any adverse impacts associated with your proposal, please discuss such impacts and the measures which you propose to mitigate or avoid them.

E. **Verification**

I certify that the information provided above is true to the best of my knowledge.

Applicant/Sponsor Name Esther Schwalb Date July 20, 2011

Signature Esther Schwalb

Title Senior Supervising Planner

If the action is in the Coastal Area, and you are a state agency, complete the Coastal Assessment Form before proceeding with this assessment.

PART 2 - PROJECT IMPACTS AND THEIR MAGNITUDE

Responsibility of Lead Agency

General Information (Read Carefully)

! In completing the form the reviewer should be guided by the question: Have my responses and determinations been **reasonable?** The reviewer is not expected to be an expert environmental analyst.

! The **Examples** provided are to assist the reviewer by showing types of impacts and wherever possible the threshold of magnitude that would trigger a response in column 2. The examples are generally applicable throughout the State and for most situations. But, for any specific project or site other examples and/or lower thresholds may be appropriate for a Potential Large Impact response, thus requiring evaluation in Part 3.

! The impacts of each project, on each site, in each locality, will vary. Therefore, the examples are illustrative and have been offered as guidance. They do not constitute an exhaustive list of impacts and thresholds to answer each question.

! The number of examples per question does not indicate the importance of each question.

! In identifying impacts, consider long term, short term and cumulative effects.

Instructions (Read carefully)

a. Answer each of the 20 questions in PART 2. Answer **Yes** if there will be **any** impact.

b. **Maybe** answers should be considered as **Yes** answers.

c. If answering **Yes** to a question then check the appropriate box(column 1 or 2)to indicate the potential size of the impact. If impact threshold equals or exceeds any example provided, check column 2. If impact will occur but threshold is lower than example, check column 1.

d. Identifying that an Impact will be potentially large (column 2) does not mean that it is also necessarily **significant**. Any large impact must be evaluated in PART 3 to determine significance. Identifying an impact in column 2 simply asks that it be looked at further.

e. If reviewer has doubt about size of the impact then consider the impact as potentially large and proceed to PART 3.

f. If a potentially large impact checked in column 2 can be mitigated by change(s) in the project to a small to moderate impact, also check the **Yes** box in column 3. A **No** response indicates that such a reduction is not possible. This must be explained in Part 3.

	1 Small to Moderate Impact	2 Potential Large Impact	3 Can Impact Be Mitigated by Project Change
Impact on Land			
1. Will the Proposed Action result in a physical change to the project site? NO ■ YES ☐			
Examples that would apply to column 2			
• Any construction on slopes of 15% or greater, (15 foot rise per 100 foot of length), or where the general slopes in the project area exceed 10%.	☐	☐	☐ Yes ☐ No
• Construction on land where the depth to the water table is less than 3 feet.	☐	☐	☐ Yes ☐ No
• Construction of paved parking area for 1,000 or more vehicles.	☐	☐	☐ Yes ☐ No
• Construction on land where bedrock is exposed or generally within 3 feet of existing ground surface.	☐	☐	☐ Yes ☐ No
• Construction that will continue for more than 1 year or involve more than one phase or stage.	☐	☐	☐ Yes ☐ No
• Excavation for mining purposes that would remove more than 1,000 tons of natural material (i.e., rock or soil) per year.	☐	☐	☐ Yes ☐ No

	1 Small to Moderate Impact	2 Potential Large Impact	3 Can Impact Be Mitigated by Project Change
• Construction or expansion of a santary landfill.	☐	☐	☐ Yes ☐ No
• Construction in a designated floodway.	☐	☐	☐ Yes ☐ No
• Other impacts:	☐	☐	☐ Yes ☐ No

2. Will there be an effect to any unique or unusual land forms found on the site? (i.e., cliffs, dunes, geological formations, etc.)
   ☒ NO ☐ YES

• Specific land forms:	☐	☐	☐ Yes ☐ No

Impact on Water

3. Will Proposed Action affect any water body designated as protected? (Under Articles 15, 24, 25 of the Environmental Conservation Law, ECL)
   ☒ NO ☐ YES

Examples that would apply to column 2

• Developable area of site contains a protected water body.	☐	☐	☐ Yes ☐ No
• Dredging more than 100 cubic yards of material from channel of a protected stream.	☐	☐	☐ Yes ☐ No
• Extension of utility distribution facilities through a protected water body.	☐	☐	☐ Yes ☐ No
• Construction in a designated freshwater or tidal wetland.	☐	☐	☐ Yes ☐ No
• Other impacts:	☐	☐	☐ Yes ☐ No

4. Will Proposed Action affect any non-protected existing or new body of water?
   ☒ NO ☐ YES

Examples that would apply to column 2

• A 10% increase or decrease in the surface area of any body of water or more than a 10 acre increase or decrease.	☐	☐	☐ Yes ☐ No
• Construction of a body of water that exceeds 10 acres of surface area.	☐	☐	☐ Yes ☐ No
• Other impacts:	☐	☐	☐ Yes ☐ No

	1 Small to Moderate Impact	2 Potential Large Impact	3 Can Impact Be Mitigated by Project Change
5. Will Proposed Action affect surface or groundwater quality or quantity? ☒ NO ☐ YES			
Examples that would apply to column 2 • Proposed Action will require a discharge permit.	☐	☐	☐ Yes ☐ No
• Proposed Action requires use of a source of water that does not have approval to serve proposed (project) action.	☐	☐	☐ Yes ☐ No
• Proposed Action requires water supply from wells with greater than 45 gallons per minute pumping capacity.	☐	☐	☐ Yes ☐ No
• Construction or operation causing any contamination of a water supply system.	☐	☐	☐ Yes ☐ No
• Proposed Action will adversely affect groundwater.	☐	☐	☐ Yes ☐ No
• Liquid effluent will be conveyed off the site to facilities which presently do not exist or have inadequate capacity.	☐	☐	☐ Yes ☐ No
• Proposed Action would use water in excess of 20,000 gallons per day.	☐	☐	☐ Yes ☐ No
• Proposed Action will likely cause siltation or other discharge into an existing body of water to the extent that there will be an obvious visual contrast to natural conditions.	☐	☐	☐ Yes ☐ No
• Proposed Action will require the storage of petroleum or chemical products greater than 1,100 gallons.	☐	☐	☐ Yes ☐ No
• Proposed Action will allow residential uses in areas without water and/or sewer services.	☐	☐	☐ Yes ☐ No
• Proposed Action locates commercial and/or industrial uses which may require new or expansion of existing waste treatment and/or storage facilities.	☐	☐	☐ Yes ☐ No
• Other impacts:	☐	☐	☐ Yes ☐ No

	1 Small to Moderate Impact	2 Potential Large Impact	3 Can Impact Be Mitigated by Project Change

6. Will Proposed Action alter drainage flow or patterns, or surface water runoff?
[■] NO [ ] YES

Examples that would apply to column 2	1	2	3
• Proposed Action would change flood water flows	[ ]	[ ]	[ ] Yes [ ] No
• Proposed Action may cause substantial erosion.	[ ]	[ ]	[ ] Yes [ ] No
• Proposed Action is incompatible with existing drainage patterns.	[ ]	[ ]	[ ] Yes [ ] No
• Proposed Action will allow development in a designated floodway.	[ ]	[ ]	[ ] Yes [ ] No
• Other impacts:	[ ]	[ ]	[ ] Yes [ ] No

IMPACT ON AIR

7. Will Proposed Action affect air quality?
[■] NO [ ] YES

Examples that would apply to column 2	1	2	3
• Proposed Action will induce 1,000 or more vehicle trips in any given hour.	[ ]	[ ]	[ ] Yes [ ] No
• Proposed Action will result in the incineration of more than 1 ton of refuse per hour.	[ ]	[ ]	[ ] Yes [ ] No
• Emission rate of total contaminants will exceed 5 lbs. per hour or a heat source producing more than 10 million BTU's per hour.	[ ]	[ ]	[ ] Yes [ ] No
• Proposed Action will allow an increase in the amount of land committed to industrial use.	[ ]	[ ]	[ ] Yes [ ] No
• Proposed Action will allow an increase in the density of industrial development within existing industrial areas.	[ ]	[ ]	[ ] Yes [ ] No
• Other impacts:	[ ]	[ ]	[ ] Yes [ ] No

IMPACT ON PLANTS AND ANIMALS

8. Will Proposed Action affect any threatened or endangered species?
[■] NO [ ] YES

Examples that would apply to column 2	1	2	3
• Reduction of one or more species listed on the New York or Federal list, using the site, over or near the site, or found on the site.	[ ]	[ ]	[ ] Yes [ ] No

	1 Small to Moderate Impact	2 Potential Large Impact	3 Can Impact Be Mitigated by Project Change
• Removal of any portion of a critical or significant wildlife habitat.	☐	☐	☐ Yes ☐ No
• Application of pesticide or herbicide more than twice a year, other than for agricultural purposes.	☐	☐	☐ Yes ☐ No
• Other impacts:	☐	☐	☐ Yes ☐ No

9. Will Proposed Action substantially affect non-threatened or non-endangered species?
☒ NO ☐ YES

Examples that would apply to column 2

• Proposed Action would substantially interfere with any resident or migratory fish, shellfish or wildlife species.	☐	☐	☐ Yes ☐ No
• Proposed Action requires the removal of more than 10 acres of mature forest (over 100 years of age) or other locally important vegetation.	☐	☐	☐ Yes ☐ No
• Other impacts:	☐	☐	☐ Yes ☐ No

IMPACT ON AGRICULTURAL LAND RESOURCES

10. Will Proposed Action affect agricultural land resources?
☒ NO ☐ YES

Examples that would apply to column 2

• The Proposed Action would sever, cross or limit access to agricultural land (includes cropland, hayfields, pasture, vineyard, orchard, etc.)	☐	☐	☐ Yes ☐ No
• Construction activity would excavate or compact the soil profile of agricultural land.	☐	☐	☐ Yes ☐ No
• The Proposed Action would irreversibly convert more than 10 acres of agricultural land or, if located in an Agricultural District, more than 2.5 acres of agricultural land.	☐	☐	☐ Yes ☐ No

	1 Small to Moderate Impact	2 Potential Large Impact	3 Can Impact Be Mitigated by Project Change
• The Proposed Action would disrupt or prevent installation of agricultural land management systems (e.g., subsurface drain lines, outlet ditches, strip cropping); or create a need for such measures (e.g. cause a farm field to drain poorly due to increased runoff).	☐	☐	☐ Yes ☐ No
• Other impacts:	☐	☐	☐ Yes ☐ No

IMPACT ON AESTHETIC RESOURCES

11. Will Proposed Action affect aesthetic resources? (If necessary, use the Visual EAF Addendum in Section 617.20, Appendix B.)
    ☒ NO ☐ YES

Examples that would apply to column 2

	1	2	3
• Proposed land uses, or project components obviously different from or in sharp contrast to current surrounding land use patterns, whether man-made or natural.	☐	☐	☐ Yes ☐ No
• Proposed land uses, or project components visible to users of aesthetic resources which will eliminate or significantly reduce their enjoyment of the aesthetic qualities of that resource.	☐	☐	☐ Yes ☐ No
• Project components that will result in the elimination or significant screening of scenic views known to be important to the area.	☐	☐	☐ Yes ☐ No
• Other impacts:	☐	☐	☐ Yes ☐ No

IMPACT ON HISTORIC AND ARCHAEOLOGICAL RESOURCES

12. Will Proposed Action impact any site or structure of historic, prehistoric or paleontological importance?
    ☒ NO ☐ YES

Examples that would apply to column 2

	1	2	3
• Proposed Action occurring wholly or partially within or substantially contiguous to any facility or site listed on the State or National Register of historic places.	☐	☐	☐ Yes ☐ No
• Any impact to an archaeological site or fossil bed located within the project site.	☐	☐	☐ Yes ☐ No
• Proposed Action will occur in an area designated as sensitive for archaeological sites on the NYS Site Inventory.	☐	☐	☐ Yes ☐ No

	1 Small to Moderate Impact	2 Potential Large Impact	3 Can Impact Be Mitigated by Project Change
• Other impacts:	☐	☐	☐ Yes ☐ No

IMPACT ON OPEN SPACE AND RECREATION

13. Will proposed Action affect the quantity or quality of existing or future open spaces or recreational opportunities?
    ■ NO ☐ YES

Examples that would apply to column 2

• The permanent foreclosure of a future recreational opportunity.	☐	☐	☐ Yes ☐ No
• A major reduction of an open space important to the community.	☐	☐	☐ Yes ☐ No
• Other impacts:	☐	☐	☐ Yes ☐ No

IMPACT ON CRITICAL ENVIRONMENTAL AREAS

14. Will Proposed Action impact the exceptional or unique characteristics of a critical environmental area (CEA) established pursuant to subdivision 6NYCRR 617.14(g)?
    ■ NO ☐ YES

List the environmental characteristics that caused the designation of the CEA.

Examples that would apply to column 2

• Proposed Action to locate within the CEA?	☐	☐	☐ Yes ☐ No
• Proposed Action will result in a reduction in the quantity of the resource?	☐	☐	☐ Yes ☐ No
• Proposed Action will result in a reduction in the quality of the resource?	☐	☐	☐ Yes ☐ No
• Proposed Action will impact the use, function or enjoyment of the resource?	☐	☐	☐ Yes ☐ No
• Other impacts:	☐	☐	☐ Yes ☐ No

	1 Small to Moderate Impact	2 Potential Large Impact	3 Can Impact Be Mitigated by Project Change

IMPACT ON TRANSPORTATION

15. Will there be an effect to existing transportation systems?

☐ NO ☒ YES

Examples that would apply to column 2			
• Alteration of present patterns of movement of people and/or goods.	☐	☐	☒ Yes ☐ No
• Proposed Action will result in major traffic problems.	☐	☐	☐ Yes ☐ No
• Other impacts:	☐	☐	☐ Yes ☐ No

The proposed action would result in moderate bus and pedestrian impacts which could be fully mitigated by adding buses during the AM peak period and crosswalk widening, respectively.

IMPACT ON ENERGY

16. Will Proposed Action affect the community's sources of fuel or energy supply?

☒ NO ☐ YES

Examples that would apply to column 2			
• Proposed Action will cause a greater than 5% increase in the use of any form of energy in the municipality.	☐	☐	☐ Yes ☐ No
• Proposed Action will require the creation or extension of an energy transmission or supply system to serve more than 50 single or two family residences or to serve a major commercial or industrial use.	☐	☐	☐ Yes ☐ No
• Other impacts:	☐	☐	☐ Yes ☐ No

NOISE AND ODOR IMPACT

17. Will there be objectionable odors, noise, or vibration as a result of the Proposed Action?

☒ NO ☐ YES

Examples that would apply to column 2			
• Blasting within 1,500 feet of a hospital, school or other sensitive facility.	☐	☐	☐ Yes ☐ No
• Odors will occur routinely (more than one hour per day).	☐	☐	☐ Yes ☐ No
• Proposed Action will produce operating noise exceeding the local ambient noise levels for noise outside of structures.	☐	☐	☐ Yes ☐ No
• Proposed Action will remove natural barriers that would act as a noise screen.	☐	☐	☐ Yes ☐ No
• Other impacts:	☐	☐	☐ Yes ☐ No

	1 Small to Moderate Impact	2 Potential Large Impact	3 Can Impact Be Mitigated by Project Change

IMPACT ON PUBLIC HEALTH

18. Will Proposed Action affect public health and safety?
☒ NO ☐ YES

• Proposed Action may cause a risk of explosion or release of hazardous substances (i.e. oil, pesticides, chemicals, radiation, etc.) in the event of accident or upset conditions, or there may be a chronic low level discharge or emission.	☐	☐	☐ Yes ☐ No
• Proposed Action may result in the burial of "hazardous wastes" in any form (i.e. toxic, poisonous, highly reactive, radioactive, irritating, infectious, etc.)	☐	☐	☐ Yes ☐ No
• Storage facilities for one million or more gallons of liquefied natural gas or other flammable liquids.	☐	☐	☐ Yes ☐ No
• Proposed Action may result in the excavation or other disturbance within 2,000 feet of a site used for the disposal of solid or hazardous waste.	☐	☐	☐ Yes ☐ No
• Other impacts:	☐	☐	☐ Yes ☐ No

IMPACT ON GROWTH AND CHARACTER OF COMMUNITY OR NEIGHBORHOOD

19. Will Proposed Action affect the character of the existing community?
☒ NO ☐ YES

Examples that would apply to column 2

• The permanent population of the city, town or village in which the project is located is likely to grow by more than 5%.	☐	☐	☐ Yes ☐ No
• The municipal budget for capital expenditures or operating services will increase by more than 5% per year as a result of this project.	☐	☐	☐ Yes ☐ No
• Proposed Action will conflict with officially adopted plans or goals.	☐	☐	☐ Yes ☐ No
• Proposed Action will cause a change in the density of land use.	☐	☐	☐ Yes ☐ No
• Proposed Action will replace or eliminate existing facilities, structures or areas of historic importance to the community.	☐	☐	☐ Yes ☐ No
• Development will create a demand for additional community services (e.g. schools, police and fire, etc.)	☐	☐	☐ Yes ☐ No

	1 Small to Moderate Impact	2 Potential Large Impact	3 Can Impact Be Mitigated by Project Change
• Proposed Action will set an important precedent for future projects.	☐	☐	☐ Yes ☐ No
• Proposed Action will create or eliminate employment.	☐	☐	☐ Yes ☐ No
• Other impacts:	☐	☐	☐ Yes ☐ No

20. Is there, or is there likely to be, public controversy related to potential adverse environment impacts?
    ■ NO ☐ YES

If Any Action in Part 2 Is Identified as a Potential Large Impact or If you Cannot Determine the Magnitude of Impact, Proceed to Part 3

Supplemental Environmental Studies

PARSONS BRINCKERHOFF

Table of Contents

List of Figures

List of Tables

EXECUTIVE SUMMARY

INTRODUCTION

On behalf of the New York City Department of Education (DOE), the New York City School Construction Authority (SCA) proposes to convert an existing building owned and occupied by the New York Public Library Annex/storage facility into a replacement high school facility in Manhattan's Clinton neighborhood. The school facility would provide approximately 1,440 seats for 9th through 12th grade students at 521 West 43rd Street (Block 1072, Lot 15). The conversion of the proposed school building would be conducted pursuant to the DOE's *Five-Year Capital Plan for Fiscal Years 2010–2014.*

The proposed project is intended to relieve current overcrowding at the existing Beacon High School, which is currently located on 227–243 West 61st Street, and meet its projected capacity needs.

Beacon High School is an alternative public high school that offers an inquiry-based, college-preparatory program open to all New York City resident applicants. Acceptance is based on the school's admissions criteria.

The relocated Beacon High School is expected to be ready for occupancy in the 2015-16 school year.

This action is subject to New York State Environmental Quality Review Act (SEQRA), as mandated in Part 617 6NYCRR, per guidelines established in the CEQR procedures (Executive Order 91 of 1977, amended in 1991). Guidelines described in the 2010 *CEQR Technical Manual* were followed in the impact assessments conducted for this Environmental Assessment (EA).

ENVIRONMENTAL REVIEW FINDINGS

Land Use, Zoning, and Public Policy

The proposed school building would not alter the general land use on the site, which is now occupied by the New York Public Library (NYPL) Annex/storage facility. The proposed school would be generally compatible with the existing mix of residential, commercial, and auto-related uses that surround it, and with the proposed residential uses proposed to be developed on the block to the north. No land use impacts would therefore be expected to occur.

A large portion of West Clinton, including the project site, was recently rezoned to provide new opportunities for residential development, to encourage new manufacturing-district-compatible uses between Eleventh Avenue and the West Side Highway, and to ensure the contextual development within the existing community. The project site is now zoned R9, which permits community facilities such as, schools as-of-right.

In terms of public policy, the proposed school facility would support the initiative of the Facility Replacement Program in the DOE's *Five-Year Capital Plan for Fiscal Years 2010–2014 (Proposed 2010 Amendment)*; therefore, the proposed project would not result in a significant adverse impact to zoning or public policy.

Socioeconomic Conditions

The proposed replacement school facility would better serve Beacon High School students and would result in no substantial change to socioeconomic conditions in the study area. The proposed project would not directly displace any residents, nor would it introduce a new residential population that could indirectly affect socioeconomic conditions in the study area. The proposed school project, however, would displace the NYPL Annex/storage facility that employs fewer than 10 people and itself would introduce approximately 140 faculty and staff members to the area. These staff members would potentially support local retail establishments near the school, and thereby have a marginally positive impact on the local economy. The proposed project would therefore result in no significant adverse impacts to socioeconomic conditions in the study area.

Community Facilities and Services

The proposed project is intended to improve Beacon High School's condition by better accommodating its current and expected future enrollment. As a school project, it would not add residents to the area who could place an additional demand on community services; therefore, the proposed project would not result in significant adverse impacts to community facilities and services.

Open Space

The proposed project would not place any additional demand on the area's open space resources, as it would provide an indoor gymnasium to meet the recreational needs of the students. The students would likely continue to use public ballfields around Manhattan for athletic activities; therefore, the proposed project would have no effect on the study area's publicly accessible open spaces.

Shadows

While the proposed action would primarily entail interior remodeling of the six-story building for school use, it is assumed that one-story would be added on the roof for additional program space, Even with this potentially 15-foot addition, the project would not result in new shadows long enough to reach a sunlight-sensitive resource; therefore, no shadow impacts are expected to occur.

Historic and Archaeological Resources

Historic Resources

Since the existing building does not have historic significance, the one-story addition and interior renovation of the existing building into the proposed school facility would have no adverse effect on historic resources.

Archaeological Resources

Since the existing building would be renovated and no new ground disturbance is proposed, the proposed project would not result in adverse impacts to archaeological resources.

Urban Design and Visual Resources

The one-story addition and interior renovation of the existing six-story building would remain compatible with the existing context of surrounding buildings; therefore, the project would have no significant adverse effect on the area's urban design and visual resources,

Natural Resources

The site is located in a densely developed urban area where land has largely been previously disturbed. The project site is completely developed and devoid of any natural areas; therefore, the project would not result in impacts to natural resources.

Hazardous Materials

A Phase I Environmental Site Assessment (ESA) and a Phase II Environmental Site Investigation (ESI) were completed for the proposed project site between September 2010 and July 2011. The Phase I ESA and Phase II ESI were completed to evaluate the environmental conditions of the site. The Phase I ESA was prepared by TRC Engineers, Inc. (TRC) for the SCA in September 2010. The Phase I ESA identified on-site recognized environmental conditions (RECs) associated with the potential presence of fill material from demolition of historic Site structures, the site's historic use for varnish and machinery storage, a garage with a gasoline underground storage tank, manufacturing, a printing press, a motor repair shop, and the on-Site generation of hazardous wastes. The Phase I ESA also identified RECs associated with the presence of two No. 2 fuel oil aboveground storage tanks (ASTs) on-site. Evidence of a potential third petroleum storage tank was noted during the site reconnaissance. Staining was also observed on building surfaces, including the basement floor, presumably associated with leaks from building equipment (i.e., potential petroleum products).

Off-site RECs identified by the Phase I ESA include the historic usage of surrounding properties for automobile repair, underground gasoline and fuel oil storage, manufacturing, and storage yards. Currently, surrounding properties are being used as an equipment rental and service facility, dry cleaning facilities, a gasoline station, and automobile repair, rental, and parking facilities. Fill/vent lines, potentially associated with petroleum storage tanks, were noted on nearby properties. Prior investigations of the property located adjacent to the site (northeast) indicated elevated levels of contaminants in soil vapor and groundwater. A review of the regulatory agency database indicated the nearby presence of four New York Spills/Leaking Underground Storage Tanks sites with documented soil and/or groundwater impacts, one registered dry cleaning facility, two properties with "E"-Designations, and three manufactured gas plant sites. A Con Edison sidewalk vault located adjacent to the site, potentially housing oil-filled transformers, is a former Resource Conservation and Recovery Act large quantity generator. The Phase I ESA also revealed environmental concerns associated with suspect asbestos-containing materials (ACM), suspect interior and exterior lead-based paint (LBP), suspect polychlorinated biphenyl (PCB)-containing light ballasts and caulking material, water damage and flooding.

A Phase II ESI was completed by TRC on behalf of the SCA in July 2011 to assess whether the RECs identified in the Phase I ESA have affected the suitability of the site for construction of a public school facility. The investigation consisted of a geophysical survey, the advancement of eighteen soil borings, the installation of two permanent monitoring wells, and the collection and analysis of five sub-slab soil vapor, two groundwater, one light non-aqueous phase liquid (LNAPL), and seventeen soil samples.

The results of the geophysical survey did not reveal evidence of buried utilities or structures in the vicinity of the sampling locations. Petroleum contamination (i.e., free product, staining, and odor) was observed in soil samples collected under the basement of the site building and a spill was reported to the New York State Department of Environmental Conservation (Spill Case No.

1103225). The soil samples submitted for laboratory analysis did not exhibit elevated concentrations of petroleum related compounds and the light non-aqueous phase liquid (LNAPL) observed beneath the basement floor slab appears to be confined to a limited area of the boiler room. The source of the LNAPL is unknown but may be a result of former petroleum bulk storage at the site. The results of the analyses of soil vapor samples indicate elevated levels of petroleum and chlorinated solvents above applicable guidance values or standards.

Perched water above bedrock was encountered in two of the borings advanced in the site basement at approximately 3 feet below the top of the basement floor slab. Groundwater representative of the bedrock aquifer was encountered at approximately 12 feet below ground surface (bgs) in the monitoring wells installed in the sidewalks.

The proposed project would not result in impacts from contaminated media and building materials. Remediation of the LNAPL and spill case closure would be pursued with the NYSDEC. Any dewatering required during construction would be minimized to mitigate potential influx of contaminated water from off-site sources toward the site. Treatment of any dewatering effluent would be conducted as required prior to discharge to the municipal sewer. As a preventative measure, a sub-slab depressurization system (SSDS) would be installed in the existing building. Any suspect ACM, LBP, and PCB-containing materials affected by the preparation of the site for use as a public school would be identified prior to construction and properly managed during construction activities. All soil excavated during building construction would be properly managed in accordance with all applicable local, State and Federal regulations. For areas of the site where exposed soil may exist after building construction (i.e., landscaped areas), a 2-foot-thick layer of environmentally clean fill would be placed over the soil in these areas. In addition, to minimize the potential for exposure by construction workers and the surrounding public, standard industry practices, including appropriate health and safety measures, would be utilized.

Water and Sewer Infrastructure

The proposed 1,440-seat school building would result in domestic water usage of approximately 14,400 gallons per day and approximately 35,000 gallons per day for air conditioning. The site is currently served by water and sewer lines. The proposed project would therefore have no significant effects on the City's water supply system or wastewater treatment facilities.

Energy

According to the 2010 *CEQR Technical Manual*, new construction or substantial renovation of buildings do not require a detailed energy assessment, as they are subject to the New York State Energy Conservation Code, which is reflective of state and city energy policy. Those actions that would result in new construction or substantial renovation of buildings therefore would not create adverse energy impacts, and no further evaluation is required.

Solid Waste and Sanitation Services

The proposed 1,440-seat school facility would likely generate approximately 2,800 pounds per week or 5.8 tons/month of solid waste, based on the rate of 2 pounds per week for each public high school pupil. According to the 2010 *CEQR Technical Manual*, a generation rate of less than 100,000 pounds per week is not considered large; therefore, the proposed project would not be expected to affect the delivery of sanitation services, or place a significant burden on the city's solid waste management system.

Transportation

The proposed project would generate, at most, 20 vehicular peak-hour trip ends (in the AM peak hour), which would not cause a significant impact on traffic conditions, and would not require further analysis. The nominal parking demand generated from the proposed project would be accommodated by existing on-street parking within a 1/4-mile radius, and there would be no significant parking impacts. While the project would generate greater than 200 transit trips during a peak hour, an analysis of the station elements at the 42nd Street/8th Avenue subway station found that no significant impacts would occur.

Significant impacts are predicted, however, for bus operations and pedestrian conditions. A significant impact is predicted because of the school's additional demand on cross-town (M42) buses, which could be mitigated with addition of two buses in the AM peak hour. (The MTA makes these types of operational adjustments routinely.)

The project would also create pedestrian impacts in three locations, and all of these could be mitigated, as described below:

- **West 43rd Street and Tenth Avenue Intersection (north and south crosswalks):** Impacts could be mitigated by widening each crosswalk by 2 feet.
- **West 42nd and Eighth Avenue Intersection (west crosswalk):** Impact could be mitigated by widening the west crosswalk by 2 feet.
- **West 42nd and Tenth Avenue Intersection (south crosswalk):** Impact could be mitigated by widening the south crosswalk by 1 foot.

Air Quality

The number of vehicles generated by the project would not result in significant mobile-source impacts. Stationary-source and air-toxic analyses indicate that the school's heating plant would have no adverse effect on surrounding land uses, and existing emission sources would not adversely impact the school; therefore, the project would not directly or indirectly result in exceedances of applicable standards and no significant adverse impacts to air quality would occur.

Greenhouse Gas Emissions

Since the proposed school project would result in development below the 350,000 SF threshold, it would not contribute significantly to greenhouse gas emissions, and no further analysis is warranted.

Noise

There would be no significant mobile source impacts based on the nominal number of vehicles generated by the project and no stationary source impacts since no outdoor playground is proposed as part of the proposed action.

Public Health

The proposed project would not generate any public health concerns provided the measures described in Section B.16 to avoid adverse health and safety impacts from on-site soil contamination are incorporated into the design and renovation of the proposed school building. No impacts related to hazardous materials, air quality or sanitation services are anticipated as a result of the proposed project; therefore, the proposed project would not be expected to result in significant adverse public health impacts.

Neighborhood Character

The proposed high school facility would be generally consistent with the changing (more residential) character of the immediate neighborhood. Overall, the proposed project would not result in significant adverse impacts to any of the various elements that contribute to neighborhood character, including land use, urban design, visual resources, historic resources, socioeconomic conditions, traffic, and noise levels.

Construction Impacts

Building renovation/construction is expected to begin in 2011. The school is expected to be completed and ready for student occupancy by the start of the 2015-16 school year.

Given the mostly interior nature of the construction, the proposed project would not result in significant adverse construction impacts.

A. PROJECT DESCRIPTION

A.1. INTRODUCTION

On behalf of the New York City Department of Education (DOE), the New York City School Construction Authority (SCA) proposes to convert an existing building owned and occupied by the New York Public Library (NYPL) into a high school facility in the Clinton section of Midtown Manhattan. The renovated building at 521 West 43rd Street (Block 1072, Lot 15) would provide approximately 1,440 seats for Beacon High School, which would relocate from West 61st Street when the project is completed.

The proposed project would entail the interior renovation of the existing six-story Annex/storage building and construction of a one-story rooftop addition into a high school facility that would contain classrooms, science labs, an auditorium, and a gymnasium to accommodate the projected future enrollment of Beacon High School. Renovation of the proposed building would be conducted pursuant to the Facility Replacement Program defined in the DOE's *Five-Year Capital Plan for Fiscal Years 2010–2014 (Proposed 2010 Amendment).*

The following sections offer descriptions of the project purpose and need, project site, and proposed project. The ensuing chapters present the findings of environmental analyses conducted, using the *New York City Environmental Quality Review (CEQR) Technical Manual* methodologies. These subjects include Land Use, Zoning and Public Policy, Socioeconomic Conditions, Community Facilities and Services, Open Space, Shadows, Historic and Archaeological Resources, Urban Design and Visual Resources, Natural Resources, Hazardous Materials, Water and Sewer Infrastructure, Energy, Solid Waste and Sanitation Services, Transportation, Air Quality, Greenhouse Gas Emissions, Noise, Public Health, Neighborhood Character, and Construction Impacts.

A.2. PURPOSE AND NEED

The proposed project is intended to relieve overcrowded conditions at the existing Beacon High School, which is currently located on 227–243 West 61st Street in the Lincoln Square section of Manhattan. During the 2009–2010 school year, the school operated at 137 percent of its capacity with an enrollment of 1,144 students and a capacity of 837 seats. Enrollment at Beacon High School increased by 14 students from its previous enrollment of 1,130 students in the 2008–2009 school year and is expected to increase more in the years to come. As such, the proposed school facility replacement would create a larger school facility to accommodate the projected enrollment of 1,440 students.

The proposed project would provide classrooms and support facilities to serve the school's students and would be constructed in accordance with the SCA's current design standards and program requirements.

A.3. PROJECT SITE

The project site is a through lot located at 521 West 43rd Street (Block 1072, Lot 15), on a block bounded by Tenth and Eleventh Avenues to the east and west and West 44th and West 43rd Streets to the north and south (Figures 1 and 2). As noted previously, the site currently contains a six-story NYPL Annex/storage facility (approximately 200,000 SF), which was constructed circa 1940. It fully occupies its 30,100 SF lot.

A.4. PROPOSED PROJECT

The proposed project entails the interior renovation of the existing six-story building, construction of a one-story rooftop addition, and conversion into a 1,440-seat high school facility. The new school would include general-instruction classrooms, as well as specialty classrooms for science, art, and music. It would also feature a cafeteria, a library, a gymnasium for physical education, and an auditorium.

The school is expected to be completed and ready for occupancy for the 2015–16 school year.

A.5. PROJECT STATUS

The action is subject to New York State Environmental Quality Review Act (SEQRA), as mandated in Part 617 6NYCRR, per guidelines established in the CEQR procedures (Executive Order 91 of 1977, amended in 1991). Guidelines described in the 2010 *CEQR Technical Manual* were followed in the impact assessments conducted for this Environmental Assessment (EA).

FIGURE 1: PROJECT LOCATION

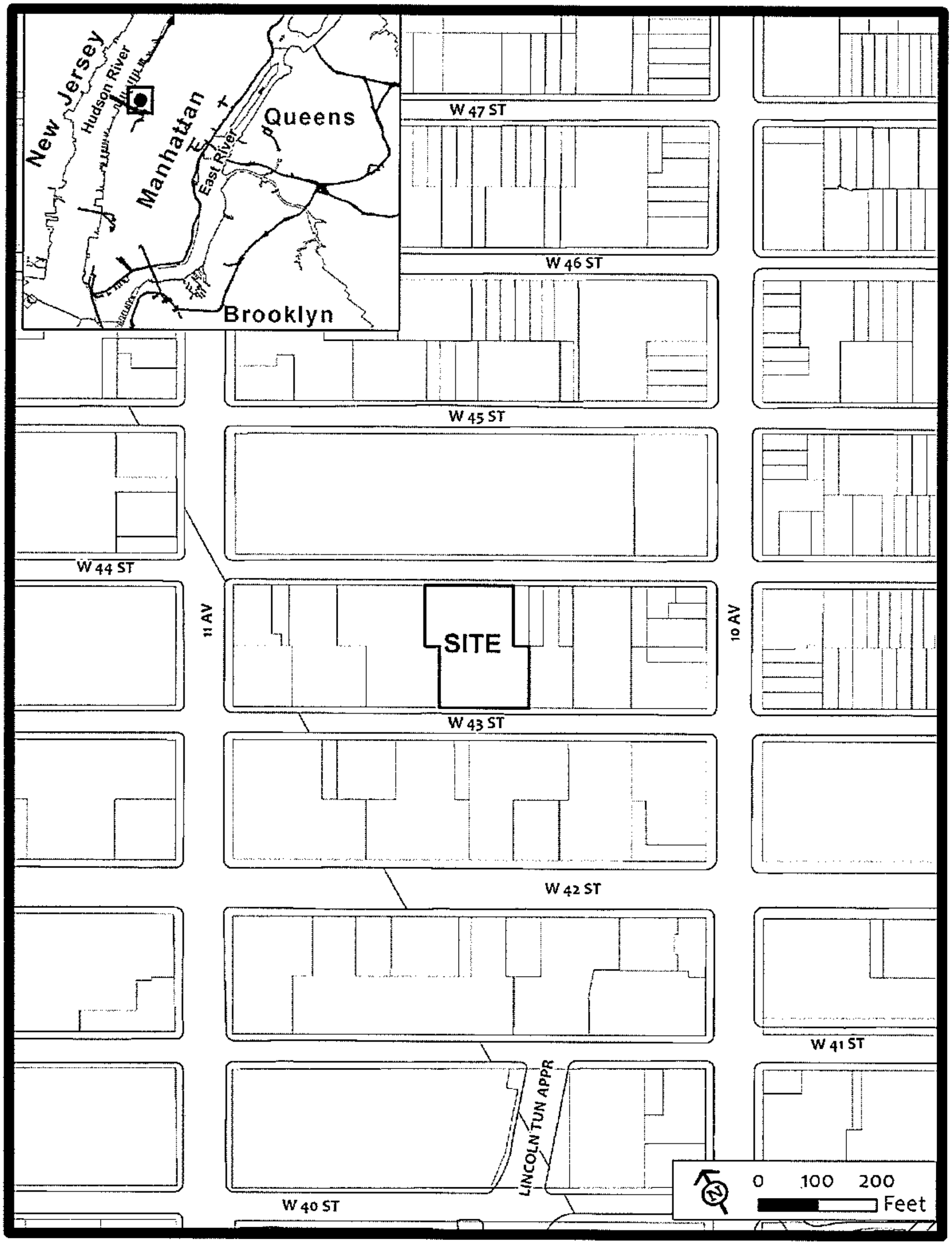
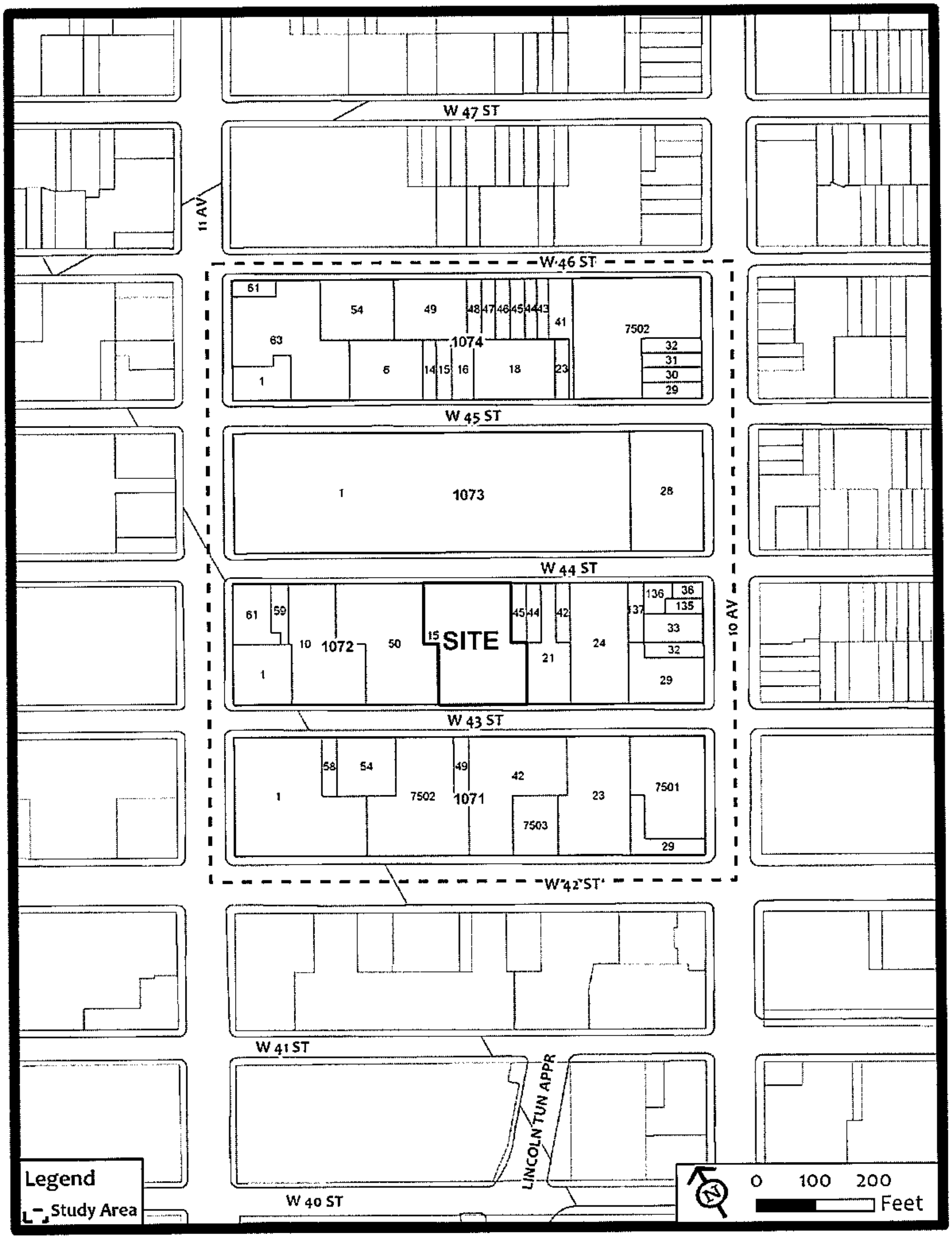


FIGURE 2: TAX MAP



PARSONS BRINCKERHOFF

B. EXISTING CONDITIONS AND POTENTIAL IMPACTS

B.1. LAND USE, ZONING AND PUBLIC POLICY

The 2010 *CEQR Technical Manual* requires that a detailed land use and zoning analysis be prepared if actions would include the following conditions:

- Result in significant changes in land use or zoning, or would substantially affect regulations or policies governing land use, or
- If an analysis requiring land use or zoning information is being performed in any other technical area.

B.1.1. Existing Land Use in the Project Area

Project Site

The project site is located on 521 West 43rd Street between Tenth and Eleventh Avenues in the Clinton section of Midtown Manhattan in Community District 4. As described in Chapter A: Project Description, the 30,100 SF project site is currently occupied by the NYPL Annex/storage facility. The existing six-story building was constructed circa 1940 and contains approximately 200,000 SF, which the NYPL uses to process archival collections for both storage and display.

The remainder of the project block contains residential, commercial, institutional, and transportation-related uses, all ranging in height from 1–7 stories, including the Chelsea Garden Center, Market Diner, Manhattan Mini Storage, United Rentals, and AVIS. East of the site is a rail cut used by Amtrak and owned by Penn Central Railroad (see Photos 1–4).

Three large-scale residential developments are located in close proximity to the project site, including Riverbank West, a 44-story, 418-unit luxury apartment complex southwest of the site on West 43rd Street at Eleventh Avenue; The New Gotham, a 34-story, 375-unit apartment building directly south of the project site; and The Strand, a 42-story, 311-unit condominium building, located southeast of the site on the corner of West 43rd Street and Tenth Avenue.

Study Area

The land-use study area was delineated 400 feet around the project site to include the area most likely to be particularly affected by the proposed project. This study area is described in detail regarding land-use patterns and development activity (see Figure 3).

Areas north of the project site are characterized by institutional, and transportation and utility uses, in addition to open parking lots. Residential buildings (with ground-floor retail) are located primarily along Tenth Avenue while the majority of transportation-related uses and light-industrial uses are located mid-block and closer to Eleventh Avenue.

The Travel Inn and the large, new residential developments all have frontages on West 42nd Street, between Tenth and Eleventh Avenues. Additionally, The Riverbank West has ground-floor retail uses on the southwestern end of West 42nd and West 43rd Streets, and The Strand has ground-floor retail uses located on Tenth Avenue between West 42nd and West 43rd Streets.

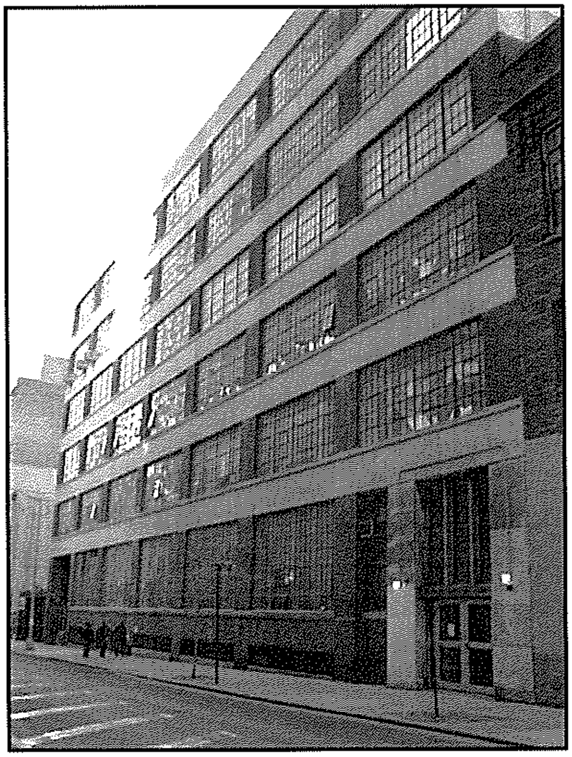


Photo 1 — Project Site - Main Entrance on West 44th Street

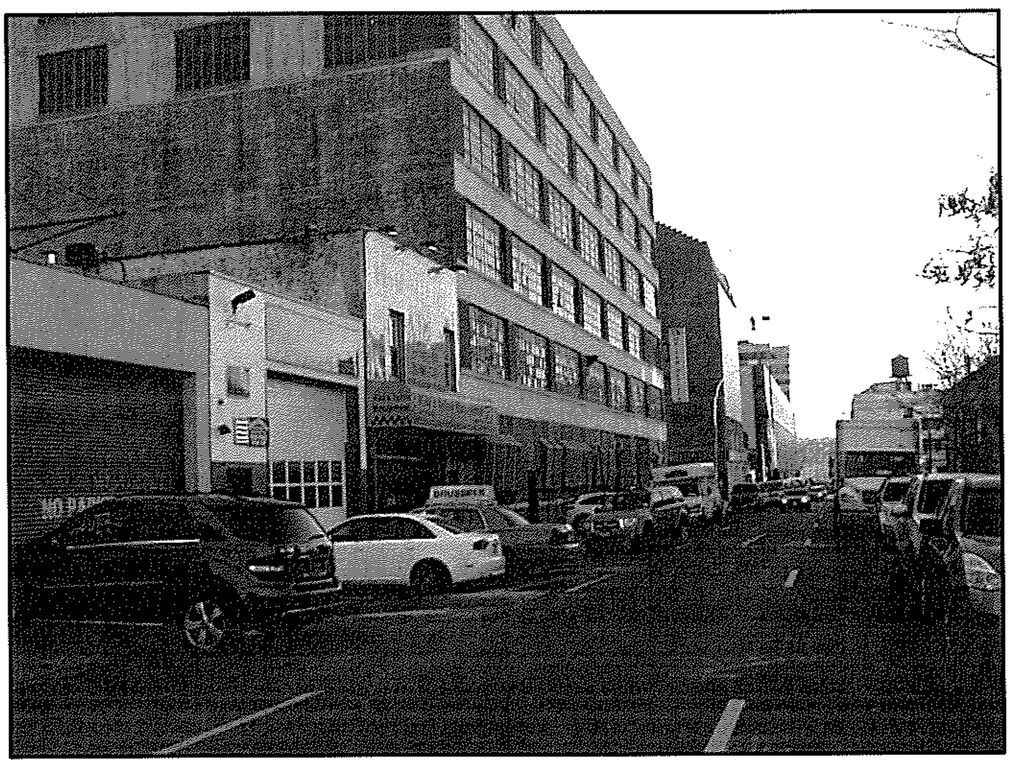
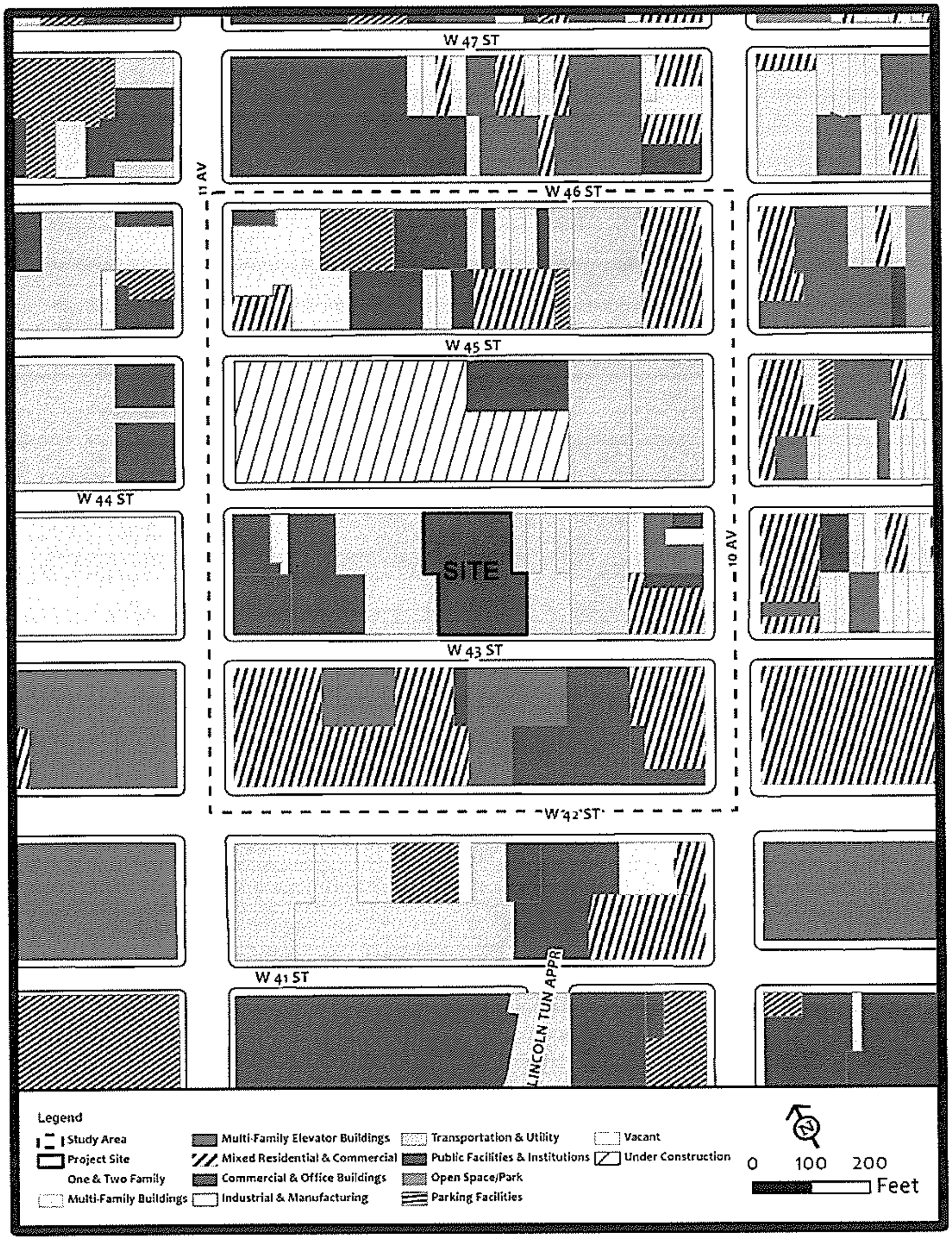


Photo 2 — Looking west toward Eleventh Avenue on West 44th Street

Photo 3 – Looking west toward Eleventh Avenue on West 43rd Street

Photo 4 – Rear View of PS 51 from West 44th Street

FIGURE 3: LAND USE



PARSONS BRINCKERHOFF

Nearby community facilities include Public School 51 (The Elias Howe School), one block north of the project site, at 520 West 45th Street; the Ryan/Chelsea-Clinton Community Health Center, two blocks north of the project site, at 645 Tenth Avenue between West 45th and West 46th Streets; and FDNY Rescue Company 1, across the street from the project site, at 530 West 43rd Street.

Beyond the 400-foot study area, the mix of land uses and building types continue; however, this area of West Clinton is increasingly characterized by high-rise residential towers. These include the 46-story Atelier located at 635 West 42nd Street, the 41-story One River Place located between West 41st and West 42nd Streets along Twelfth Avenue, and the two 60-story towers of Silver Towers (River Place II) located at 620 West 42nd Street, which are all located west of Eleventh Avenue.

Light industrial uses such as the Federal Express (FedEx) World Service Center, the United Parcel Service (UPS), and the New York City Transit (NYCT) Michael J. Quill Bus Depot are located west and southwest of the study area.

Community facilities located south of the study area include the NYPD Manhattan South Task Force at 524 West 42nd Street; St. Raphael's Roman Catholic Church at 503 West 40th Street; Covenant House at 460 West 41st Street; Matthews-Palmer Playground, two blocks northeast of the project site, on West 45th Street between Ninth and Tenth Avenues; and the Salvation Army Thrift Store Donation Center, three blocks north of the project site, at 536 West 46th Street.

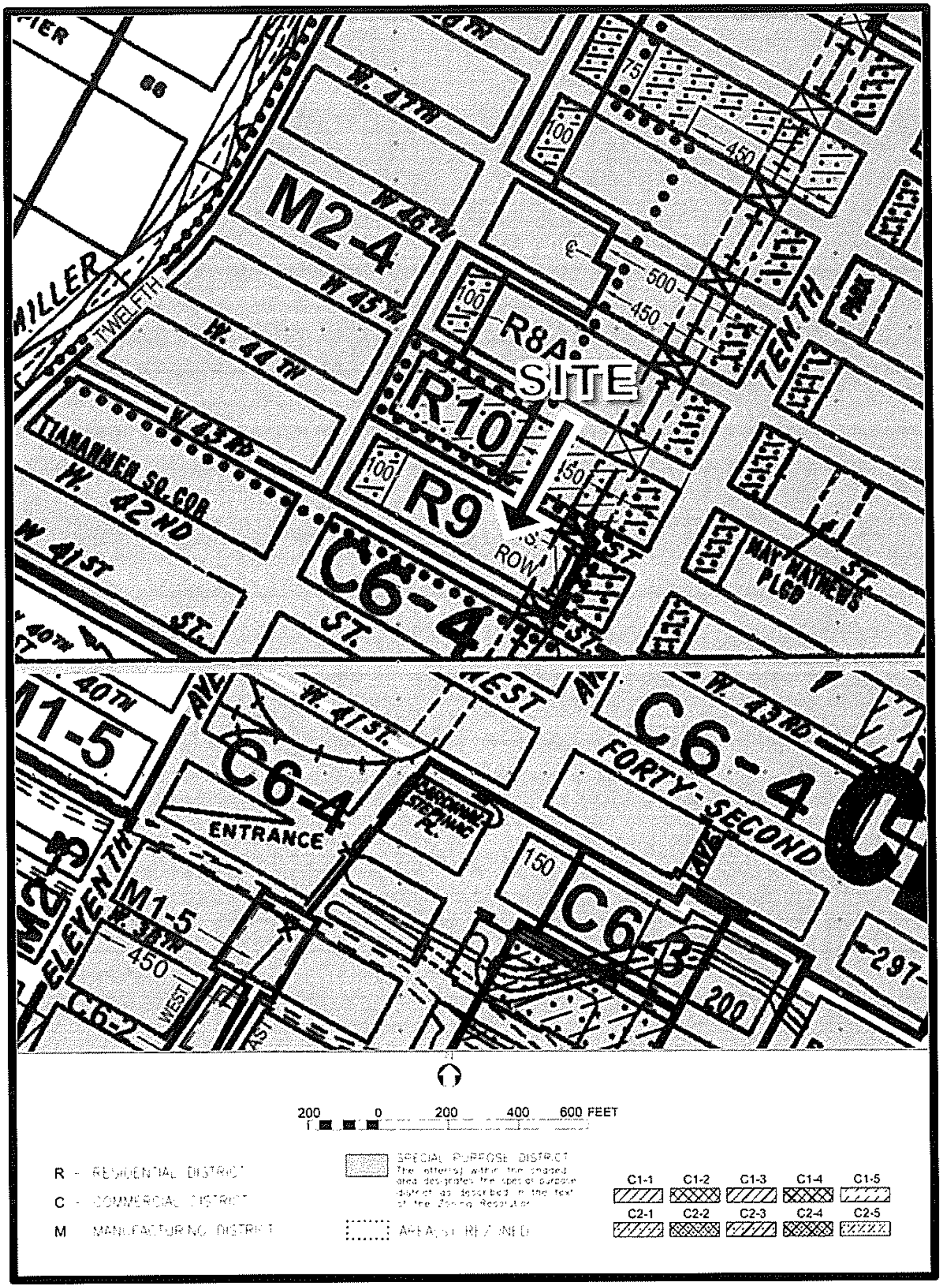
B.1.2. Existing Zoning and Public Policies in the Project Area

The New York City Department of City Planning (DCP) recently approved the West Clinton rezoning for the area bounded by West 55th Street to the north, West 43rd Street to the south, roughly Tenth Avenue to the east, and Route 9A (West Side Highway) to the west (including the project site). This action will provide new opportunities for residential development, to encourage new manufacturing-district-compatible uses between Eleventh Avenue and the West Side Highway, and to ensure the contextual development within the existing community. Areas previously zoned M1-5, M2-3, and M3-2 are now rezoned R8, R8A, R9, and M2-4, and a new C2-5 commercial overlay now exists along the east side of Eleventh Avenue between West 43rd and West 52nd Streets, excluding the block between West 44th and West 45th Streets.

Project Site

As of June 2011, the proposed project site is zoned R9, which permits residential and community facility (including school) uses as-of-right (Figure 4). Inclusionary Housing provisions are available in this area. The maximum base FAR for residential uses is 6.0 (or 8.0 if affordable housing is provided on or off-site) and 10.0 for community facilities. Maximum base height is 95 feet and maximum building height is 135 feet (on a narrow street) such as West 43rd Street.

FIGURE 4: ZONING



Study Area

To the south of the project is a C6-4 zoning district, which permits high-density commercial uses; to the north of the site are R8 and R10 zoning districts, which permit mid- and high-rise residential buildings. There is also a C2-5 commercial overlay one block north of the project site between West 44th and West 45th Streets and along Tenth Avenue between West 43rd Street and West 46th Street.

Both the project site and study area are located within the Special Clinton District (CL), which is generally located between West 41st and 58th Streets west of Eighth Avenue. The district was created to preserve and strengthen the residential character of the community bordering midtown and to provide appropriate transitions between lower-scale side streets, the Special Hudson Yards District (south), and the Special Midtown District (east).

B.1.3. Future No-Action Conditions

Project Site

Under Future No-Action Conditions, the existing NYPL building on the site would remain, and the project site would be unchanged.

Study Area

The New York City Department of Housing Preservation & Development (HPD) designated the block immediately north of the project site as an Urban Development Action Area Project (UDAAP) and redevelopment is currently under construction. The UDAAP site spans nearly the entire block area between West 44th and West 45th Streets and Tenth and Eleventh Avenues (excluding the gas station on the eastern end). It is proposed to be developed into four residential buildings: a 7-story base with 31-story tower, a 7- to 9-story base with 14-story tower, and two 14-story buildings to be built over the existing Amtrak rail cut. Additionally, an interior landscaped open space will be located between two of the buildings in the western portion of the block. The historic PS 51, located on the northeastern portion of the block, would be converted into a residential building, and the school would be relocated to a new building on the West 44th Street side of the block (across from the proposed Beacon High School site). The relocated school facility would stand 5 stories tall and contain approximately 630 seats. A new playground would occupy an area north and west of the new school.

While a large portion of West Clinton, including the site block was recently rezoned, resulting new development is projected to occur in 2020, which is beyond the build year of this environmental review and therefore no related developments are included in the Future No-Action Condition.

Just outside of the 400-foot study area, there are three known developments that would be built under Future No-Action Conditions:

- **500 West 42nd Street** is a Clinton Housing Development Corporation (CHDC) project (near Tenth Avenue) that entails renovation of four tenement buildings into two wings. Phase I, already completed, created 25 units of affordable housing. Phase II, under construction, will create 25 units for homeless singles, including the mentally ill. Based on a December 18, 2010 field visit, the CHDC project appeared to be near completion.

- **510 West 42nd Street**, the Out NYC Urban Resort is currently under development. The project site is located on a through-lot between West 41st and 42nd Streets, and will be developed into a 90,000 SF, 127-room hotel. Construction is expected to be complete by summer 2012.
- **605 West 42nd Street**, located on Eleventh Avenue, is the future site of the Atelier II. Previously, the site was planned to be a 45-story, 764-unit residential tower; however, construction activities have stalled. The project site is now expected to contain 100,000 square feet of retail space in a three-story building.

B.1.4. Potential Impacts of the Project

Potential Land Use Impacts of the Project

The proposed project would result in the conversion of the existing NYPL building into a school facility. The proposed school would not alter the land use on the site that is now occupied by an existing institutional use and would generally be compatible with the existing and proposed mix of land uses surrounding the project site.

Potential Zoning and Public Policy Impacts of the Project

The proposed school use is permitted as-of-right under the site's current R9 zoning therefore no zoning actions are required to advance the project. The school development is compatible with the prevailing zoning and public policies, therefore there would the project would result in no adverse impacts.

B.2. SOCIOECONOMIC CONDITIONS

The 2010 CEQR Technical Manual indicates that a detailed socioeconomic analysis is appropriate if the proposed action is expected to result in substantial socioeconomic changes within the impact area. Such changes would occur if the action had any one of the following results:

- A direct displacement of residential population changing the socioeconomic profile of a neighborhood (more than 500 residents);
- Directly displace a substantial number of businesses or employees (more than 100 employees);
- Create substantial new development (200 units residential, 200,000 SF commercial space);
- Affect real estate market over a large area; or
- Adversely affect economic conditions of a specific industry.

B.2.1. Screening Assessment

According to the *CEQR Technical Manual* screening criteria, the proposed project would not result in any conditions that would be expected to result in substantial socioeconomic changes; therefore, no analysis is warranted. The proposed new school would better serve neighborhood students and not result in substantial socioeconomic changes in the study area. The school would not directly displace any residents nor would it introduce a new residential population that could indirectly affect socioeconomic conditions in the study area. The proposed project would introduce approximately 140 faculty and staff to the area, and these employees would potentially support local retail establishments near the school and thereby have a marginally positive impact on the local economy. The proposed project would therefore result in no significant adverse impacts to socioeconomic conditions in the study area.

B.3. COMMUNITY FACILITIES AND SERVICES

The *CEQR Technical Manual* requires that an analysis be performed if actions would:

- Increase service demands by adding more than 100 residents; or
- Physically alter a community facility

Community facilities and services are defined as public or publicly funded schools, health care facilities, libraries, child care centers, and police and fire services. A community facilities analysis evaluates a proposed action's effect on the provision of services by those community facilities. Direct effects occur when an action results in the physical alteration or displacement of a community facility; indirect effects result from increases in population, which create additional demand on service delivery.

- Analysis of potential impacts on health care facilities and police and fire protection services is required for actions that would have only a direct effect, such as if it would affect the physical operations of, or access to and from, a police precinct or fire station.

B.3.1. Existing Conditions

Police Services. The site is located within the 18th Police Precinct, whose precinct house is situated at 306 West 54th Street, approximately 0.64 miles north of the site (see Figure 5).

Fire Services. The unit serving the site is Rescue Company 1, located across the street, at 530 West 43rd Street. The proposed action would not require an increase in personnel or equipment at the engine or ladder company.

Health Care Services. The nearest health-care facility to the site is the Ryan/Chelsea-Clinton Community Health Center, located at 645 Tenth Avenue between West 45th and West 46th Streets, two blocks north of the project site.

Public Schools. Nearby public elementary schools include PS 51 (The Elias Howe School), which is located one block north of the project site, fronting on West 45th Street.

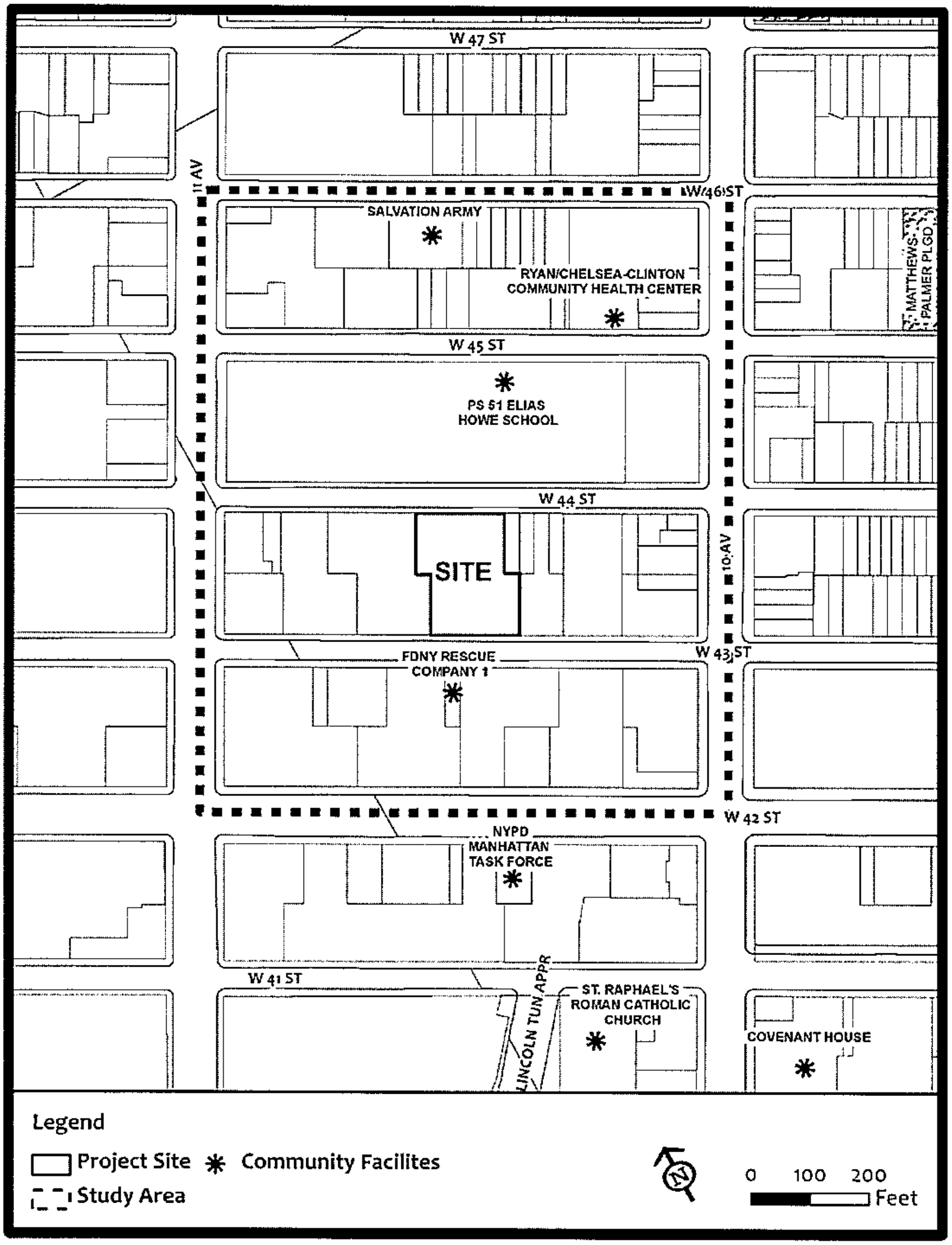
B.3.2. Future No-Action Conditions

Under Future No-Action Conditions, the existing NYPL Annex/storage facility building would remain unchanged. Other than the relocation of PS 51 to West 44th Street (directly across the street from the project site, no changes to other community facilities in the study area are proposed.

B.3.3. Potential Impacts of the Project

The proposed replacement school project would relieve current overcrowding at the existing Beacon High School, located on West 61st Street, and would provide a permanent capacity for approximately 1,440 students. The proposed project would not add residents or a significant number of employees to the area who could place an additional demand on community services; therefore, the proposed project would not have a significant adverse impact on community facilities and services.

FIGURE 5: COMMUNITY FACILITIES



B.4. OPEN SPACE

The 2010 *CEQR Technical Manual* requires that an open space analysis be performed if a proposed action would:

- Displace or result in a physical change to a public open space or reduce its utilization or aesthetic value; or
- Increase demands on area open space by adding a new user population sufficiently large to noticeably diminish the ability of an area's open space to serve the future population (more than 50 residents or 125 workers if the project is within an underserved area; more than 350 residents or 750 workers if the project is within a well-served area; or more than 200 residents or 500 workers if the project is not within either an underserved or well-served area.)

B.4.1. Existing Conditions

Within the 400-mile study area there are no open space resources. Just outside of the study area, there is one open space located two blocks northeast of the project site: Matthews-Palmer Playground (formerly May Matthews Playground) is 0.47 acres and includes a basketball court, handball court, playground, and restroom facilities.

B.4.2. Future No-Action Conditions

In the future without the proposed project, there are no known park or open space development projects within the study area besides redevelopment of the relocated school yard associated with PS 51.

B.4.3. Potential Impacts of the Project

The proposed project would not place any additional demand on the area's open space resources as it would provide a gymnasium to meet the recreational needs of the students. The students would also be expected to continue their current practice of utilizing public fields for organized athletic activities. The proposed project therefore would have no effect on the study area's publicly accessible open spaces and would not result in a significant adverse impact.

B.5. SHADOWS

If a building is greater than 50 feet tall and may cast a shadow on a park, historic resource with sunlight-dependent features, or important natural feature, then there is a potential for a significant shadow impact and a shadow analysis is required.

B.5.1. Potential Impacts of the Project

The shadow assessment considers projects that result in new shadows long enough to reach a sunlight-sensitive resource; therefore, a shadow assessment is required only if the project would either result in new structures (or additions to existing structures including the addition of rooftop mechanical equipment) of 50 feet or more in height or be located adjacent to, or across the street from, a sunlight-sensitive resource.

Since the proposed project, even with a one-story rooftop addition, would not result in either of these conditions, a shadow assessment is not necessary, and no shadow impact would be expected to occur.

B.6. HISTORIC AND ARCHAEOLOGICAL RESOURCES

Historic resources include historically important buildings, structures, objects, sites, and districts. They also may include bridges, canals, piers, wharves, and railroad transfer bridges that may be wholly or partially visible above ground. Archaeological resources are physical remains, usually subsurface, of the prehistoric and historic periods such as burials, foundations, artifacts, wells, and privies. An assessment of both historic and archaeological resources requires consultation with the appropriate city, state, and federal agencies.

The 2010 *CEQR Technical Manual* requires an evaluation of a project's potential effect on archaeological resources if it would potentially result in an in-ground disturbance to an area not previously excavated. It further requires an assessment of historical resources if a proposed action would result in a direct or indirect adverse effect on historic buildings, structures, objects, sites, or districts.

B.6.1. Existing Conditions

Historic and Archaeological Resources

The project site is located is not located within a historic district. The existing NYPL Annex/storage facility building on the project site was built circa 1940 and is not architecturally significant nor does it contribute to a historic district or archaeological resource (see SHPO correspondence).

PS 51 (The Elias Howe School) on West 45th Street, has been determined eligible for listing on the State and National Registers of Historic Places. It is located approximately 150 feet north of the project site.

B.6.2. Future No-Action Condition

Under Future No-Action Conditions, the site and existing building would remain unchanged. PS 51 is proposed to be renovated and converted to a residential building as part of the HPD UDAAP/West 44th and Eleventh Avenue Rezoning project. It would be replaced by a new school building on West 44th Street, across from the project site.

B.6.3. Potential Impacts on the Project

Historic and Archaeological Resources

As the proposed project entails interior renovation of an existing building and construction of a one-story rooftop addition, it would have no significant adverse impact on standing historic and subterranean archaeological resources on the site or in the area. The new five-story PS 51 building will stand between the renovated high school building and the historic PS 51 building on West 45th Street and would therefore experience no change in setting or views as a result of the proposed action. Similarly, the proposed action requires no new ground disturbance and consequently would not result in impacts to any potential archaeological resources on the site.

B.7. URBAN DESIGN AND VISUAL RESOURCES

The 2010 *CEQR Technical Manual* requires an assessment of urban design when a project may have effects on one or more of the elements that contribute to the pedestrian experience, including streets, buildings, visual resources, open spaces, and natural features. There is no need to conduct an urban design analysis if a proposed project would be constructed within existing zoning envelopes, and would not result in physical changes beyond the bulk and form permitted "as-of-right."

B.7.1. Screening Assessment

The proposed project entails interior renovation of an existing six-story building and the construction of a one-story rooftop addition. The expanded seven-story building would be compatible with the existing diverse context of surrounding buildings, which range in height from 1 to 35 stories. Therefore, the project would have no significant adverse effect on the area's urban design and visual resources, and further study is not warranted.

B.8. NATURAL RESOURCES

The 2010 *CEQR Technical Manual* requires a detailed evaluation of natural resources when there is either a direct or indirect disturbance of significant, sensitive, or designated natural resources.

B.8.1. Screening Assessment

According to the *CEQR Technical Manual*, a natural resources assessment may be appropriate if a natural resource is present on or near the site of the project and the project would cause a disturbance of the resource. If the site of the project and the immediate adjacent area is substantially devoid of natural resources, then no natural resources assessment is necessary.

The project site is located in a densely developed area of midtown Manhattan, which is substantially devoid of natural resources, and neither the project site nor adjacent area contain any natural resources that could be adversely affected by the proposed project; therefore, the proposed project would not result in a significant adverse impact to natural resources.

B.9. HAZARDOUS MATERIALS

The 2010 *CEQR Technical Manual* requires that a detailed hazardous materials assessment be prepared when:

- Hazardous materials exist on site, and a Proposed Action would increase the potential for exposure
- A Proposed Action would introduce new activities or processes that use hazardous materials

This section addresses environmental conditions at the location of the proposed public school located at 521 West 43rd Street, New York, New York, hereafter referred to as the proposed project site. A Phase I Environmental Site Assessment (ESA) of the proposed project site was completed by TRC Engineers, Inc. (TRC) on behalf of the SCA in September 2010. The main objective of the Phase I ESA was to identify the presence or likely presence, use, or release of hazardous substances or petroleum products, which are defined in American Society for Testing and Materials (ASTM) Standard Practice E 1527-05 as recognized environmental conditions (RECs). In addition, other environmental issues or conditions such as radon, asbestos-containing materials (ACM), lead-based paint (LBP), and polychlorinated biphenyl (PCB)-containing equipment were evaluated. The Phase I ESA included a site inspection, a review of the existing data on geology and hydrology of the area, and a review of historical maps, federal, state, and local agency records, and other documents to assess past and current uses of the site and adjacent areas.

The Phase I ESA identified on-site RECs associated with the potential presence of fill material from demolition of historic site structures, the site's historic use for varnish and machinery storage, a garage with a gasoline underground storage tank, manufacturing, a printing press, a motor repair shop, and the on-Site generation of hazardous wastes. The Phase I ESA also identified RECs associated with the presence of two No. 2 fuel oil aboveground storage tanks (ASTs) on-site. Evidence of a potential third petroleum storage tank was noted during the site reconnaissance. Staining was also observed on building surfaces, including the basement floor, presumably associated with leaks from building equipment (i.e., potential petroleum products).

Off-site RECs identified by the Phase I ESA include the historic usage of surrounding properties for automobile repair, underground gasoline and fuel oil storage, manufacturing, and storage yards. Currently, surrounding properties are being used as an equipment rental and service facility, dry cleaning facilities, a gasoline station, and automobile repair, rental, and parking facilities. Fill/vent lines, potentially associated with petroleum storage tanks, were noted on nearby properties. Prior investigations of the property located adjacent to the site (northeast) indicated contaminants in soil vapor and groundwater. A review of the regulatory agency database indicated the nearby presence of four New York Spills/Leaking Underground Storage Tanks sites with documented soil and/or groundwater impacts, one registered dry cleaning facility, two properties with "E"-Designations, and three manufactured gas plant sites. A Con Edison sidewalk vault located adjacent to the site, potentially housing oil-filled transformers, is a former Resource Conservation and Recovery Act large quantity generator. The Phase I ESA also revealed environmental concerns associated with suspect asbestos-containing materials (ACM), suspect interior and exterior lead-based paint (LBP), suspect polychlorinated biphenyl (PCB)-containing light ballasts and caulking material, water damage, and flooding.

A Phase II Environmental Site Investigation (ESI) was completed by TRC on behalf of the SCA in July 2011 to assess the RECs identified in the Phase I ESA.

B.9.1. Existing Conditions

The site is located at 521 West 43rd Street in Manhattan, New York. The legal description for the site is New York City Tax Block 1072, Lot 1. The site consists of an approximately 30,100-square-foot (approximately 0.69 acre), irregularly shaped lot, developed with a six-story building, with a basement, owned by the New York Public Library. The site building was constructed in 1931. Prior to 1931, the site was developed with low-rise residential and commercial structures. The New York Public Library has occupied the site for approximately 35 years and currently uses the site for document storage.

A Phase II ESI was conducted to determine whether the RECs identified in the Phase I ESA have affected the suitability of the site for construction of a public school facility. The investigation included a geophysical survey and the completion of eighteen soil borings, two permanent monitoring wells, and five sub-slab soil vapor sampling points. Five sub-slab soil vapor samples, seventeen soil samples, two groundwater samples, and one light non-aqueous phase liquid (LNAPL) sample were collected for laboratory analysis.

In general, weathered bedrock with some sand and red brick were encountered in the soil borings advanced in the basement of the site building and sand with silt, gravel, clay and weathered bedrock were encountered in the soil borings advanced off-site. Bedrock was encountered at depths ranging between 1.5 and 5 feet below the top of the floor slab in the soil borings advanced in the site building basement and bedrock was encountered at 6 and 9 feet below ground surface (bgs) in the borings advanced on the sidewalk. Perched water above bedrock was encountered in two of the borings advanced in the site basement at approximately 3 feet below the top of the basement floor slab. Groundwater representative of the bedrock aquifer was encountered at approximately 12 feet bgs in the monitoring wells installed in the sidewalks. Based on topography in the area and nearby surface water bodies, groundwater is anticipated to flow in the bedrock aquifer in a westerly direction towards the Hudson River.

The results of the geophysical survey revealed evidence of minor scattered anomalies throughout the site. Based on a review of the geophysical survey figure and reports, the scattered anomalies are likely representative of unconsolidated soils located throughout the site or former building remnants and utilities. None of the anomalies were indicative of the presence of an underground storage tank (UST). There was no evidence of utilities or subsurface structures, which would interfere with the boring locations, identified during the geophysical survey.

Seven discrete soil samples were selected for laboratory analysis from eight soil borings and were analyzed for Target Compound List (TCL) and NYSDEC STARS list volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs), Resource Conservation and Recovery Act (RCRA) metals, cyanide, PCBs, and TCL pesticides. Additionally, in support of pre-design waste classification objectives, two samples were selected for analysis and analyzed for hexavalent chromium and total petroleum hydrocarbons–diesel range organics (TPH-DRO) and gasoline range organics (TPH-GRO). Due to the elevated concentrations of chromium and lead detected in two soil samples, these samples were additionally analyzed for Toxicity Characteristic Leaching Procedure (TCLP) lead and chromium. Finally, to delineate petroleum impacts noted in certain soil borings, 10 discrete soil samples were selected for laboratory analysis from 10 soil borings and were analyzed for STARS listed VOCs and SVOCs.

Two groundwater samples were analyzed for TCL/STARS VOCs +10, TCL/STARS SVOCs +15, RCRA metals (filtered and unfiltered), cyanide, PCBs, and TCL pesticides. Additionally, one (1) trip blank sample was also submitted for analysis of TCL VOCs. The five sub-slab soil vapor samples were analyzed for 26 select VOCs by EPA Method TO-15.

There was no evidence of contamination observed in any of the soil samples with the exception of petroleum impacts observed in certain soil borings advanced in the site basement. Evidence of petroleum impacts included elevated photoionization detector readings, petroleum odors, staining, and LNAPL (in one boring, TRC-SB1, advanced in the basement boiler room). Due to the high viscosity of the LNAPL in the sample collected from this boring, it was not possible to measure the thickness of the LNAPL on the perched water. However, several inches of LNAPL were observed in a bailer after it was placed into and then removed from the borehole. A sample of LNAPL was submitted for fingerprint analysis. The results of the fingerprint analysis exhibit characteristics of an unknown motor oil and a non-calibrated fuel type. The source of the LNAPL is unknown but may be a result of former petroleum bulk storage at the site.

The results of the analyses of soil samples revealed that one VOC (acetone) and five metals (arsenic, cadmium, total chromium, lead, and mercury) were detected at concentrations above the Unrestricted Use SCOs and/or Soil Cleanup Levels (SCLs) in one or more samples. The concentrations of acetone exceeding regulatory criteria can be attributed to the characteristics of Site soil. The detected metal concentrations exceeding Unrestricted Use SCOs can be attributed to the characteristics of fill material at the site. TCLP lead and chromium concentrations were below levels indicative of a characteristic hazardous waste.

The soil samples submitted for laboratory analysis did not exhibit elevated concentrations of petroleum related compounds. Based on available data, the LNAPL observed beneath the basement floor slab appears to be confined to a limited area of the boiler room.

There were no VOCs, SVOCs, metals, cyanide, PCBs, or pesticides detected above the Class GA Values in groundwater collected from the bedrock aquifer. There was no evidence of groundwater contamination observed during sampling.

The results of the analyses of the sub-slab soil vapor samples indicate that 15 of the 26 petroleum and chlorinated solvent compounds analyzed for were detected in one or more samples. The New York State Department of Health (NYSDOH) has established Air Guideline Values (AGVs) for three of the VOCs analyzed: methylene chloride, PCE, and trichloroethene. PCE was detected in all five sub-slab soil vapor samples at concentrations ranging between

51 μg/m³ and 570 μg/m³. The concentration of PCE in two sub-slab soil vapor samples exceeded the corresponding AGV of 100 μg/m³, at concentrations of 490 μg/m³ and 570 μg/m³, respectively. TCE was detected in all five sub-slab soil vapor samples at concentrations ranging between 0.68 μg/m³ and 400 μg/m³. The concentration of TCE in two (2) sub-slab soil vapor samples exceeded the corresponding AGV of 5 μg/m³ at concentrations of 150 μg/m³ and 400 μg/m³, respectively. Methylene chloride was not detected above its respective AGV. A comparison of contaminant concentrations to the Matrices in the NYSDOH Vapor Intrusion Guidance Document indicates that mitigation is the required action, based on the detected TCE concentrations.

B.9.2. Future No-Action Conditions

In the future without the proposed project, the project site is expected to remain in its current condition and it would not be converted to a New York City school.

B.9.3. Potential Impacts of the Project

The proposed project would not result in impacts from contaminated media and building materials. Remediation of the LNAPL and spill case closure would be pursued with the NYSDEC. Any dewatering required during construction would be minimized to mitigate potential influx of contaminated water from off-site sources toward the site. Treatment of any dewatering effluent would be conducted as required prior to discharge to the municipal sewer. As a preventative measure, a sub-slab depressurization system (SSDS) would be installed in the existing building. Any suspect ACM, LBP, and PCB-containing materials affected by the preparation of the site for use as a public school would be identified prior to construction and properly managed during construction activities. All soil excavated during building construction would be properly managed in accordance with all applicable local, state and federal regulations. For areas of the site where exposed soil may exist after building construction (i.e., landscaped areas), a 2-foot-thick layer of environmentally clean fill would be placed over the soil in these areas. In addition, to minimize the potential for exposure by construction workers and the surrounding public, standard industry practices, including appropriate health and safety measures, would be utilized.

B.10. WATER AND SEWER INFRASTRUCTURE

The *2010 CEQR Technical Manual* requires an assessment of water supply when actions:

- Would have an exceptionally large demand for water (greater than 1 million gallons/day); or
- Are located in a portion of the system that experiences low water pressure

A preliminary analysis of wastewater and stormwater conveyance and treatment would be needed if the project:

- Is located in a combined sewer area and would exceed the following incremental development of residential units or commercial space above the predicted No-Action scenario: 1,000 residential units or 250,000 sq. ft. of commercial space or more in Manhattan; or 400 residential units or 150,000 sq. ft. of commercial space or more in the Bronx, Brooklyn, Staten Island or Queens.

It also requires an assessment of energy when actions would affect transmission or generation of energy, or that may generate substantial indirect consumption of energy.

B.10.1. Screening Assessment

The proposed school would contain approximately 200,000 SF of floor area, which is below the CEQR threshold for an assessment of wastewater and stormwater conveyance and treatment in areas served by a combined sewer system. In addition, based on a capacity of 1,440 school seats, the project would result in water usage of approximately 14,400 gallons per day (domestic use) and approximately 35,000 additional gallons per day for air conditioning. Since the proposed project would not result in significantly large water demands (i.e., over 1 million gallons per day), nor would it generate significant wastewater flows, it would have no significant effects on the city's water supply system or wastewater treatment facilities.

According to the *2010 CEQR Technical Manual*, new construction or substantial renovation of buildings would not require a detailed energy assessment, as it is subject to the New York State Energy Conservation Code, which is reflective of state and city energy policy. Therefore, those actions that would result in new construction or substantial renovation of buildings would not create adverse energy impacts, and no further evaluation would be required.

B.11. SOLID WASTE AND SANITATION SERVICES

The *2010 CEQR Technical Manual* requires a detailed evaluation of the effect of the proposed action on solid waste and sanitation services if solid waste generation is unusually large. This is typically greater than 50 tons/week.

B.11.1. Screening Assessment

The proposed 1,440-seat school would likely generate 2,880 pounds per week or 5.8 tons/ month of solid waste, based on the rate of 2 pounds per week for each public high school pupil. According to the *2010 CEQR Technical Manual*, a generation rate of less than 100,000 pounds per week is not considered large; therefore, the proposed project would not be expected to affect the delivery of sanitation services nor place a significant burden on the city's solid waste management system.

B.12. TRANSPORTATION

The *2010 CEQR Technical Manual* requires detailed assessment of traffic and parking conditions when 50 or more vehicular trips would be generated by the project through one intersection during the peak hour. Similarly, if the project would generate 200 or more transit or pedestrian trips during a peak hour, then a detailed assessment is required because there is a potential for significant impact.

B.12.1. 2010 Existing Conditions

The proposed school would primarily generate new demand by pedestrian and transit trips, and these are analyzed in detail. New traffic and parking demand would be below the *CEQR Technical Manual's* threshold for detailed quantitative analyses; therefore, these subjects have been screened out. A qualitative discussion of study area roadways has been provided for informational purposes.

Vehicular Traffic

The project site occupies part of a block defined by the following streets:

- **West 44th Street** is a one-way eastbound roadway, 35 feet wide, with one travel lane and parking on both sides of the street. The south side of the street abuts the project site and is assumed to serve as the principal drop-off location for the new school. School crossing pavement markings are present at the signalized intersection with Tenth Avenue.
- **West 43rd Street** is typically a one-way westbound roadway, 35 feet wide, with one travel lane and parking on both sides of the street. Adjacent to the project site, however, West 43rd Street operates as a two-lane roadway to provide direct access to both Tenth and Eleventh Avenues to FDNY Rescue Company 1, which operates out of a facility on the same block as the project site. The north side of the street abuts the project site and is assumed to serve as an additional entrance for the new school.
- **Tenth Avenue** is a one-way northbound roadway, 60 feet wide, with six travel lanes during the AM peak period and generally provides parking on both sides of the street during the remainder of the day.
- **Eleventh Avenue** is a one-way southbound roadway, 70 feet wide, with six travel lanes and parking on the east side of the street.

Subway Stations

Public transportation located near the project area is shown in Figure 6.

FIGURE 6: TRANSIT SERVICES

LEGEND :

- Subway Line
- Bus Route
- Project Site

Three subway lines serve the project area. The nearest subway station, 42nd Street-Port Authority Bus Terminal on the A, C, and E lines is located less than a ½ mile away at Eighth Avenue. Subway trips generated by the proposed school would primarily utilize this station. The A line provides express service between Inwood-207th Street in Manhattan and Far Rockaway-Mott Avenue in Queens. From 6 AM until about midnight, additional service is provided to Lefferts Boulevard in Queens. The C line provides local service between 168th Street in Manhattan and Euclid Avenue in Brooklyn. The E line operates between Jamaica Center (Parsons Boulevard/Archer Avenue) in Queens and the World Trade Center in Manhattan at all times. An underground pedestrian corridor connects the subway station to the Times Square-42nd Street subway station at Seventh Avenue and Broadway, providing free transfers to the N, Q, R, S, 1, 2, 3, and 7 trains.

New subway trips generated by the proposed project are expected to total 812 and 707 trips during the AM and PM peak hours, respectively. Due to the extensive amount of subway options in the area, it is assumed that these transit riders will be distributed approximately uniformly among each line and in both directions along each route. The majority of these subway riders would be expected to utilize the 42nd Street-Port Authority Bus Terminal station to access the A, C or E trains or the underground passageway connecting to the other subway lines at Times Square; the number of trips entering and exiting this station would exceed the *CEQR Technical Manual's* threshold of 200 trips per hour for a detailed analysis of subway station elements.

The examination of conditions at the 42nd Street-Port Authority Bus Terminal station focuses on those station elements (street stairways and fare arrays) with the potential to be affected in the future with the proposed school. The analyses were prepared using the design capacities for stairs and turnstiles specified in the *CEQR Technical Manual* and NYCT Guidelines. All analyses reflect peak 15-minute conditions in the AM and PM peak hours. The stairway analyses were conducted using CEQR level of service (LOS) methodology, which equates pedestrian flow per foot per minute of stairway width with qualitative measures of pedestrian comfort. Based on the calculated values of pedestrian volumes per foot width of stairway per minute, six levels of service are defined with letters A through F, as shown in Table 1. LOS A represents free-flow conditions without pedestrian conflicts, and LOS F depicts significant capacity limitations and inconvenience. The same LOS ratings used for stairs are applied to v/c ratios for low turnstiles and high entry/exit turnstiles (HEETs).

TABLE 1: STAIRWAY AND TURNSTILE LEVEL OF SERVICE (LOS) CRITERIA

Level of Service	Peak 15-minute passenger volume/ Effective foot-width (v/c)	Comments
A	≤ 0.45	Free flow
B	> 0.45-0.70	Fluid flow
C	> 0.70-1.00	Fluid, somewhat restricted
D	> 1.00-1.33	Crowded, walking speed restricted
E	> 1.33-1.67	Congested, some shuffling and queuing
F	> 1.67	Severely congested, queued

Source: 2010 *CEQR Technical Manual*

The 42nd Street-Port Authority Bus Terminal station is reached via street stairs at West 40th, West 42nd, West 43rd, and West 44th Streets along Eighth Avenue. New peak hour subway trips generated by the proposed school are estimated to utilize three of these street stairs: the stairway at the northwest corner of West 42nd Street, the stairway at the southwest corner of West 43rd Street, and the stairway at the southwest corner of West 44th Street. The station's mezzanine is controlled by two unmanned HEETs at both the West 42nd Street and West 43rd Street entrances, and by a fare array with five turnstiles at the West 42nd Street entrances. Counts at these key station elements were conducted during the weekday AM and PM peak periods in November 2010.

The results of the analyses of existing conditions at each analyzed station element during the weekday 7:30–8:30 AM and 2:45–3:45 PM peak hours are shown in Table 2. As shown, all of the analyzed street stairs and fare arrays at this station currently operate at LOS A in both peak hours.

Bus Service

There are six bus lines providing service within a ½-mile radius of the project site—all of which are operated by New York City Transit (NYCT). The following provides a brief description of the four routes within the study area that are most likely to attract demand from the proposed project:

- **M11** operates along the Ninth Avenue/Columbus Avenue and Tenth Avenue/Amsterdam Avenue corridors and provides service between Abingdon Square and West 135th Street/Broadway at a frequency of approximately 15 minutes during the AM peak hour and 11 minutes during the PM peak hour. From 8:00 AM to 9:00 PM, service is extended to Riverbank State Park at West 145th Street/Riverside Drive.
- **M16** operates between West 43rd Street/Ninth Avenue and FDR Drive/Waterside Plaza. Service is provided at a frequency of approximately 8–10 minutes during the AM and PM peak hours, respectively.
- **M42** serves the 42nd Street corridor and operates between West 42nd Street/Twelfth Avenue and East 42nd Street/First Avenue. Service is provided at a frequency of approximately 9–10 minutes during both the AM and PM peak hours.
- **M50** operates along the 49th Street and 50th Street corridors and provides service between West 42nd Street/Twelfth Avenue and East 42nd Street/First Avenue. Service is provided at a frequency of approximately 12 minutes during both the AM and PM peak hours.

Projected bus transit trips generated as a result of the new school are estimated to be distributed approximately uniformly among the four bus lines within a reasonable walking distance to the project site and in both directions along each route. This would result in a total transit demand below the *CEQR Technical Manual's* threshold of 200 bus trips per hour to require a detailed analysis of bus conditions.

TABLE 2: 2010 EXISTING SUBWAY STATION ELEMENT CONDITIONS

2010 (Weekday AM/PM)
42nd Street Port Authority Bus Terminal Subway Station (A, C, E)

SUBWAY STATION ELEMENTS			15-MINUTE PEDESTRIAN VOLUME				FRICTION FACTOR	15-MINUTE CAPACITY		V/C RATIO		LEVEL OF SERVICE	
			AM		PM		AM/PM	AM/PM	AM/PM	AM	PM	AM	PM
Control Area	NUMBERS	TWO-WAY?	IN	OUT	IN	OUT		ENTRY	EXIT				
Eighth Avenue and West 42nd Street													
HEETs (Unmanned)	2	Y	93	141	97	106	0.9	510	1080	0.35	0.32	A	A
Eighth Avenue and West 43rd Street													
HEETs (Unmanned)	2	Y	94	144	78	134	0.9	510	1080	0.35	0.31	A	A
Eighth Avenue and West 44th Street													
Low Turnstiles - Booth N60	5	Y	111	372	219	219	0.9	2100	3225	0.19	0.19	A	A
Street Stairs	WIDTH (ft)	EFFECTIVE WIDTH (ft)	DOWN	UP	DOWN	UP		DOWN	UP				
Eighth Avenue and West 42nd Street													
Northwest (S8) - West 42nd Street	6.0	5.0	93	141	97	106	0.9	750	750	0.35	0.30	A	A
Eighth Avenue and West 43rd Street													
Southwest (S10) - West 43rd Street	5.0	4.0	94	144	78	134	0.9	600	600	0.44	0.39	A	A
Eighth Avenue and West 44th Street													
Southwest (S11) - West 44th Street	9.6	8.4	22	52	28	60	0.9	1253	1253	0.07	0.08	A	A

Sources:
1. New York City Transit, Station Planning and Design Guidelines
2. 2010 *CEQR Technical Manual*

However, the site can also be accessed by the 42nd Street-Port Authority Bus Terminal station via a subway-to-bus transfer. It is anticipated that this will result in more than 200 peak hour bus transit trips on the M42 bus line; therefore, a detailed analysis is required for this route. Data on local bus ridership at the maximum load point along the M42 route was obtained from NYCT and is presented in Table 3.

TABLE 3: 2010 EXISTING BUS CONDITIONS

Bus Line	Peak Hour	Direction	Peak Load Point	Buses per Hour	Hourly Capacity[1]	Hourly Volume[2]	Average Volume per Bus	Hourly Available Capacity
M42	AM	EB	West 42nd Street @ 8th Avenue	22	1430	782	36	648
		WB	West 42nd Street @ 8th Avenue	9	585	310	34	275
	PM	EB	West 42nd Street @ 8th Avenue	10	650	287	29	363
		WB	West 42nd Street @ 8th Avenue	9	585	229	25	356

Notes:
1. Capacities are based on a maximum of 65 passengers for a standard 40-seat bus as per DCP.
2. Volumes are based on 2008 MTA-New York City Transit ridership surveys and adjusted to reflect 2010 conditions.

Pedestrians

The analysis of pedestrian flow conditions focuses on those sidewalks in the immediate vicinity of the site that are expected to be used by concentrations of students and staff as they enter and exit the proposed school. The primary pedestrian facilities most affected by project demand would be the sidewalks immediately adjacent to the site. For a school site, the *CEQR Technical Manual* further indicates that the pedestrian study area should include all pedestrian facilities that are expected to have 200 or more new trips in the peak hour. In addition, an assessment of pedestrian safety conditions on principal pedestrian access paths to/from the project site is also required for a new or expanded school.

Data on the existing pedestrian conditions in the study area were developed based on field counts conducted in November 2010 during the weekday AM (7:00 AM–9:00 AM) and PM (2:00–4:00 PM) periods. The analysis concentrates on the weekday AM (7:15–8:15 AM) and PM (2:45–3:45 PM) peak hours. To address pedestrian safety conditions, accident summary data were obtained from the New York City Department of Transportation (NYCDOT) for eight intersections located along principal pedestrian access paths to/from the school.

Pedestrian flow conditions were analyzed using the *Highway Capacity Manual (HCM 2000)* methodology, and considered conditions during the peak 15-minute period of the AM and PM peak hours. For sidewalks, conditions are measured in terms of pedestrian flow rate per foot of width per minute (PFM) for that portion of the sidewalk that can be effectively used for pedestrian flow. The sidewalk analyses determine both the average flow rate's LOS as well as the platoon-adjusted LOS, which more accurately estimate the dynamics of walking. "Platooning" is the tendency of pedestrians to move in groups or "platoons" once they cross a street where traffic conditions required them to wait.

The evaluation of crosswalks is more complicated than sidewalks. Crosswalks cannot be treated as sidewalks because they involve pedestrians crossing the street and others queued waiting for the signal to change. To effectively evaluate crosswalks, the analysis compares available time and space with pedestrian demand, measured in terms of square feet of circulation space per pedestrian, with LOS A equating to 60 or more square feet per pedestrian (SF/ped), LOS B ranging from 40-60 SF/ped, LOS C from 24-40 SF/ped, LOS D from 15-24 SF/ped, LOS E from 8-15 SF/ped, and LOS F less than 8 SF/ped. Similar to the methodology used for sidewalks with the representation of "platooning," the evaluation of crosswalks also considers the effect of maximum surge conditions. This is the point in which the maximum number of pedestrians is in the crosswalk and usually occurs when the lead pedestrians reach the opposite corner of the street. Table 4 shows the flow rate/LOS relationships using the HCM methodology for all analyzed pedestrian elements.

TABLE 4: SIDEWALK LEVEL OF SERVICE (LOS) CRITERIA

Level of Service	Sidewalk Pedestrians/Foot/Minutes (PFM)		Corner/Crosswalk Square Feet/ Pedestrian (ft^2/p)	Comments
	Average Flow	Platoon-Adjusted		
A	≤ 5	≤ 0.5	> 60	Unrestricted flow
B	> 5-7	> 0.5-3	> 40-60	Slightly restricted flow
C	> 7-10	> 3-6	> 24-40	Restricted, but fluid flow
D	> 10-15	> 6-11	> 15-24	Restricted flow that requires continuous alteration of walking stride and direction
E	> 15-23	> 11-18	> 8-15	Severely restricted flow
F	> 23	> 18	≤ 8	Flows that exceed capacity where shuffling and queuing are evident, no reverse movement is possible

Source: *2010 CEQR Technical Manual*

The proposed entrances to the school are assumed to be located on West 44th and West 43rd Streets. Pedestrian demand would therefore be expected to distribute from the south sidewalk of West 44th Street and the north sidewalk of West 43rd Street to the areas served by the school. Table 5 shows existing LOS at sidewalks. All of the analyzed pedestrian elements currently operate under LOS C conditions or better with one exception—at the intersection of Eighth Avenue and West 42nd Street, the west crosswalk operates at LOS E during both the AM and PM peak hours.

Accident summary data within the study area were obtained from NYCDOT for the most recent three-year period available (January 1, 2007 to December 31, 2009). Eight intersections along pedestrian access paths to/from the school were examined to identify potential safety problems. Table 6 provides a summary of the accidents reported at these locations. Seven of these intersections had accidents involving pedestrians/bicyclists.

TABLE 5: 2010 EXISTING PEDESTRIAN CONDITIONS

SIDEWALK ANALYSIS

Blockface	Side of Street	Effective Sidewalk Width[1]	Peak 15 Minute Volume		Persons per Foot per Minute (PFM)		Average Level of Service		Platoon Conditions Level of Service	
			AM	PM	AM	PM	AM	PM	AM	PM
43rd Street (west of 8th Avenue)	South	3.7	253	258	4.6	4.6	A	A	C	C
44th Street (west of 8th Avenue)	South	4.8	91	211	1.3	2.9	A	A	B	B
43rd Street (east of 9th Avenue)	South	3.7	153	124	2.8	2.2	A	A	B	B
43rd Street (west of 9th Avenue)	North	3.9	86	105	1.5	1.8	A	A	B	B
	South	8	262	242	2.2	2.0	A	A	B	B
44th Street (east of 9th Avenue)	South	4.8	74	109	1.0	1.5	A	A	B	B
44th Street (west of 9th Avenue)	South	5.5	67	88	0.8	1.1	A	A	B	B
10th Avenue (north of 42nd Street)	East	13	102	139	0.5	0.7	A	A	B	B
	West	12.3	127	124	0.7	0.7	A	A	B	B
43rd Street (east of 10th Avenue)	North	3.9	85	102	1.5	1.7	A	A	B	B
	South	8	133	178	1.1	1.5	A	A	B	B
43rd Street (west of 10th Avenue)	North	7	73	60	0.7	0.6	A	A	B	B
10th Avenue (north of 43rd Street)	West	10	143	161	1.0	1.1	A	A	B	B
10th Avenue (south of 43rd Street)	East	13	84	128	0.4	0.7	A	A	A	B
	West	12.3	86	99	0.5	0.5	A	A	A	B
44th Street (east of 10th Avenue)	South	5.5	53	58	0.6	0.7	A	A	B	B
44th Street (west of 10th Avenue)	South	6.6	29	39	0.3	0.4	A	A	A	A
10th Avenue (south of 44th Street)	West	10	176	202	1.2	1.3	A	A	B	B
43rd Street (east of 11th Avenue)	North	7	60	59	0.6	0.6	A	A	B	B
11th Avenue (north of 43rd Street)	East	11.7	66	56	0.4	0.3	A	A	A	A
44th Street (east of 11th Avenue)	South	11.7	18	19	0.1	0.1	A	A	A	A
11th Avenue (south of 44th Street)	East	11.7	52	59	0.3	0.3	A	A	A	A

STREET CORNER ANALYSIS

Intersection	Corner	Sidewalk Dimensions. (ft)	Curb Radii (ft)	Average Pedestrian Space (SF/ped)		Level of Service	
				AM	PM	AM	PM
43rd Street (E-W) @ 10th Avenue (N-S)	NW	18.8 x 13	13	233	178	A	A
44th Street (E-W) @ 10th Avenue (N-S)	SW	18.8 x 12.6	13	694	424	A	A
43rd Street (E-W) @ 11th Avenue (N-S)	NE	15.3 x 13	13	405	605	A	A
44th Street (E-W) @ 11th Avenue (N-S)	SE	13 x 15.3	13	651	646	A	A

CROSSWALK ANALYSIS

Intersection	Crosswalk	Length (ft)	Width (ft)	Average Pedestrian Space (SF/ped)		Level of Service	
				AM	PM	AM	PM
42nd Street (E-W) @ 8th Avenue (N-S)	West	61	15.2	10	9	E	E
43rd Street (E-W) @ 9th Avenue (N-S)	East	35	15.9	61	40	A	B
	West	35	14.6	52	52	B	B
	North	71	12.0	111	84	A	A
	South	71	14.3	55	70	B	A
44th Street (E-W) @ 9th Avenue (N-S)	South	71	12.7	87	67	A	A
42nd Street (E-W) @ 10th Avenue (N-S)	East	61	15.9	223	226	A	A
	West	71	14.3	134	92	A	A
	North	60	14.8	45	41	B	B
	South	72	14.0	86	71	A	A
43rd Street (E-W) @ 10th Avenue (N-S)	East	35	18.5	114	115	A	A
	West	36	18.5	184	115	A	A
	North	61	15.3	156	108	A	A
	South	62	13.3	68	65	A	A
44th Street (E-W) @ 10th Avenue (N-S)	South	61	14.5	153	100	A	A
43rd Street (E-W) @ 11th Avenue (N-S)	East	35	14.3	216	348	A	A
44th Street (E-W) @ 11th Avenue (N-S)	East	35	12.4	243	240	A	A

Note:

1. Total sidewalk width minus the sum of widths and shy distances from obstructions.

TABLE 6: SUMMARY OF ACCIDENT DATA

Intersection	Signalized	Total Accidents	Pedestrian Fatalities	Involving Pedestrians/ Bicyclists 2007	2008	2009
West 42nd Street @ 8th Avenue	Yes	77	-	17	13	16
West 43rd Street @ 9th Avenue	Yes	26	-	5	3	5
West 44th Street @ 9th Avenue	Yes	27	-	4	4	2
West 42nd Street @ 10th Avenue	Yes	61	-	6	11	3
West 43rd Street @ 10th Avenue	Yes	18	-	2	1	1
West 44th Street @ 10th Avenue	Yes	16	-	2	-	2
West 43rd Street @ 11th Avenue	Yes	21	-	1	-	-
West 44th Street @ 11th Avenue	Yes	19	-	-	-	-

Source: NYSDOT Accident Data Files for the three-year period between January 1, 2007 and December 31, 2009

According to the *CEQR Technical Manual*, a high accident location is one where there were five or more pedestrian accidents in any year in the most recent 3-year period. Of the eight intersections analyzed, three are high-accident locations based on the CEQR definition. At the intersection of West 42nd Street and Eighth Avenue, 46 pedestrian/bicycle-related accidents were reported over the 3-year period. At the intersection of West 43rd Street and Ninth Avenue, 13 pedestrian/bicycle-related accidents were reported over the 3-year period, with five occurring both in 2007 and 2009. Both these locations have high volumes of pedestrians due to their proximity to the Port Authority Bus Terminal and commercial corridors. The intersections are signalized and contain pedestrian signal heads, school crosswalks, and good sight lines. At the signalized intersection of West 42nd Street and Tenth Avenue, 20 pedestrian/bicycle-related accidents were reported over the 3-year period, with six occurring in 2007 and 11 occurring in 2008.

B.12.2. 2015 Future No-Action Conditions

Future transportation conditions were analyzed for 2015, the year in which the proposed project is scheduled for completion. Between 2010 and 2015, it is expected that background growth would increase existing pedestrian and transit volumes in the study area by 0.5 percent per year, as recommended for Manhattan by the *CEQR Technical Manual*.

Discussions with the Manhattan office of the New York City Department of City Planning indicated that four known development projects are anticipated to be built in the surrounding area by 2015. Two of these are not anticipated to generate considerable pedestrian traffic or transit usage and were assumed to be included as part of the background growth rate. They include a 25-unit residential building for homeless singles at 500 West 42nd Street and a 127-room hotel at 510 West 42nd Street. However, traffic volumes associated with the other two development projects described below were added to arrive at 2015 No-Action pedestrian and transit volumes:

- HPD UDAAP/West 44th Street and Eleventh Avenue Rezoning HPD project comprises nearly a full block bounded by West 44th and West 45th Streets between Tenth and Eleventh Avenues. The development will include four new residential buildings and conversion of PS 51, located on the northeastern portion of the block, into a residential building. A new PS 51 school facility would be constructed on the southern portion of the block on West 44th Street and would accommodate 630 students.
- 605 West 42nd Street (at Eleventh Avenue) was formerly planned to be a 45-story, 764-unit residential tower (Atelier II). It is now expected to contain 100,000 SF of retail space in a three-story building.

Subway Stations

Under 2015 No-Action conditions, subway demand will grow as a result of background growth. No physical changes are anticipated at any of the analyzed station elements. Table 7 shows the results of the analyses of 2015 No-Action conditions for the analyzed subway station elements. All station elements will operate at LOS B or better.

Bus Service

In 2015 No-Action conditions, demand on the M42 NYCT Bus route serving the project area is expected to increase as a result of general background growth. Table 8 shows the estimated peak hour, peak direction ridership at the maximum load point in the 2015 future without the proposed project. Under No-Action conditions, the M42 bus route is expected to operate with available capacity.

Pedestrians

Table 9 shows the 2015 No-Action LOS at the analyzed sidewalks. In the future without the proposed project, the west crosswalk at the intersection of Eighth Avenue and West 42nd Street will continue to operate at LOS E during both the AM and PM peak hours. All other pedestrian elements will operate at LOS D or better.

B.12.3. Potential Impacts of the Project

The proposed building is projected to accommodate the approximately 1,440 students as well as 144 faculty and staff currently attending the Beacon School currently located on West 61st Street in Manhattan. The college-preparatory public school attracts students from all parts of New York City.

Trip Generation

Table 10 presents the transportation planning assumptions utilized in the travel-demand analysis. The modal split percentages were developed from forecasts for similar high schools in Manhattan and data from the 2000 U.S. Census.

TABLE 7: 2015 NO-ACTION SUBWAY STATION ELEMENT CONDITIONS

2015 (Weekday AM/PM)
42nd Street Port Authority Bus Terminal Subway Station (A, C, E)

SUBWAY STATION ELEMENTS			15-MINUTE PEDESTRIAN VOLUME				FRICTION FACTOR	15-MINUTE CAPACITY		V/C RATIO		LEVEL OF SERVICE	
			AM		PM		AM/PM	AM/PM	AM/PM	AM	PM	AM	PM
Control Area	NUMBERS	TWO-WAY?	IN	OUT	IN	OUT		ENTRY	EXIT				
Eighth Avenue and West 42nd Street													
HEETs (Unmanned)	2	Y	95	145	99	109	0.9	510	1080	0.36	0.33	A	A
Eighth Avenue and West 43rd Street													
HEETs (Unmanned)	2	Y	96	148	80	137	0.9	510	1080	0.36	0.32	A	A
Eighth Avenue and West 44th Street													
Low Turnstiles - Booth N60	7	Y	160	392	246	271	0.9	2940	4515	0.16	0.16	A	A
Street Stairs	WIDTH (ft)	EFFECTIVE WIDTH (ft)	DOWN	UP	DOWN	UP		DOWN	UP				
Eighth Avenue and West 42nd Street													
Northwest (S8) - West 42nd Street	6.0	5.0	95	145	99	109	0.9	750	750	0.36	0.31	A	A
Eighth Avenue and West 43rd Street													
Southwest (S10) - West 43rd Street	5.0	4.0	96	148	80	137	0.9	600	600	0.45	0.40	B	A
Eighth Avenue and West 44th Street													
Southwest (S11) - West 44th Street	9.6	8.4	36	56	35	75	0.9	1253	1253	0.08	0.10	A	A

Sources:
1. New York City Transit, Station Planning and Design Guidelines
2. 2010 *CEQR Technical Manual*

TABLE 8: 2015 NO-ACTION BUS CONDITIONS

Bus Line	Peak Hour	Direction	Peak Load Point	Buses per Hour	Hourly Capacity[1]	No-Action Volumes[2]	Average Volume per Bus	Hourly Available Capacity
M42	AM	EB	West 42nd Street @ 8th Avenue	22	1430	813	37	617
		WB	West 42nd Street @ 8th Avenue	9	585	359	40	226
	PM	EB	West 42nd Street @ 8th Avenue	10	650	336	34	314
		WB	West 42nd Street @ 8th Avenue	9	585	254	28	331

Notes:

1. Capacities are based on a maximum of 65 passengers for a standard 40-seat bus as per DCP.
2. Volumes assume a 0.5% annual background growth and account for No-Action projects.

TABLE 9: 2015 NO-ACTION PEDESTRIAN CONDITIONS

SIDEWALK ANALYSIS

Blockface	Side of Street	Effective Sidewalk Width[1]	Peak 15 Minute Volume AM	Peak 15 Minute Volume PM	Persons per Foot per Minute (PFM) AM	Persons per Foot per Minute (PFM) PM	Average Level of Service AM	Average Level of Service PM	Platoon Conditions Level of Service AM	Platoon Conditions Level of Service PM
43rd Street (west of 8th Avenue)	South	3.7	259	265	4.7	4.8	A	A	C	C
44th Street (west of 8th Avenue)	South	4.8	109	235	1.5	3.3	A	A	B	C
43rd Street (east of 9th Avenue)	South	3.7	157	127	2.8	2.3	A	A	B	B
43rd Street (west of 9th Avenue)	North	3.9	88	108	1.5	1.8	A	A	B	B
	South	8	269	248	2.2	2.1	A	A	B	B
44th Street (east of 9th Avenue)	South	4.8	92	131	1.3	1.8	A	A	B	B
44th Street (west of 9th Avenue)	South	5.5	69	90	0.8	1.1	A	A	B	B
10th Avenue (north of 42nd Street)	East	13	105	143	0.5	0.7	A	A	B	B
	West	12.3	247	189	1.3	1.0	A	A	B	B
43rd Street (east of 10th Avenue)	North	3.9	87	105	1.5	1.8	A	A	B	B
	South	8	136	182	1.1	1.5	A	A	B	B
43rd Street (west of 10th Avenue)	North	7	75	62	0.7	0.6	A	A	B	B
10th Avenue (north of 43rd Street)	West	10	264	227	1.8	1.5	A	A	B	B
10th Avenue (south of 43rd Street)	East	13	86	131	0.4	0.7	A	A	A	B
	West	12.3	205	163	1.1	0.9	A	A	B	B
44th Street (east of 10th Avenue)	South	5.5	54	59	0.7	0.7	A	A	B	B
44th Street (west of 10th Avenue)	South	6.6	30	40	0.3	0.4	A	A	A	A
10th Avenue (south of 44th Street)	West	10	297	269	2.0	1.8	A	A	B	B
43rd Street (east of 11th Avenue)	North	7	62	60	0.6	0.6	A	A	B	B
11th Avenue (north of 43rd Street)	East	11.7	149	159	0.8	0.9	A	A	B	B
44th Street (east of 11th Avenue)	South	11.7	18	19	0.1	0.1	A	A	A	A
11th Avenue (south of 44th Street)	East	11.7	134	162	0.8	0.9	A	A	B	B

STREET CORNER ANALYSIS

Intersection	Corner	Sidewalk Dimen-sions. (ft)	Curb Radii (ft)	Average Pedestrian Space (SF/ped) AM	Average Pedestrian Space (SF/ped) PM	Level of Service AM	Level of Service PM
43rd Street (E-W) @ 10th Avenue (N-S)	NW	18.8 x 13	13	141	139	A	A
44th Street (E-W) @ 10th Avenue (N-S)	SW	18.8 x 12.6	13	676	414	A	A
43rd Street (E-W) @ 11th Avenue (N-S)	NE	15.3 x 13	13	208	219	A	A
44th Street (E-W) @ 11th Avenue (N-S)	SE	13 x 15.3	13	260	224	A	A

CROSSWALK ANALYSIS

Intersection	Crosswalk	Length (ft)	Width (ft)	Average Pedestrian Space (SF/ped) AM	Average Pedestrian Space (SF/ped) PM	Level of Service AM	Level of Service PM
42nd Street (E-W) @ 8th Avenue (N-S)	West	61	15.2	10	9	E	E
43rd Street (E-W) @ 9th Avenue (N-S)	East	35	15.9	59	39	B	C
	West	35	14.6	35	46	C	B
	North	71	12.0	108	82	A	A
	South	71	14.3	53	68	B	A
44th Street (E-W) @ 9th Avenue (N-S)	South	71	12.7	71	55	A	B
42nd Street (E-W) @ 10th Avenue (N-S)	East	61	15.9	213	218	A	A
	West	71	14.3	57	61	B	A
	North	60	14.8	33	23	C	D
	South	72	14.0	54	27	B	C
43rd Street (E-W) @ 10th Avenue (N-S)	East	35	18.5	111	112	A	A
	West	36	18.5	76	78	A	A
	North	61	15.3	152	104	A	A
	South	62	13.3	66	63	A	A
44th Street (E-W) @ 10th Avenue (N-S)	South	61	14.5	149	98	A	A
43rd Street (E-W) @ 11th Avenue (N-S)	East	35	14.3	99	103	A	A
44th Street (E-W) @ 11th Avenue (N-S)	East	35	12.4	96	82	A	A

Note:

1. Total sidewalk width minus the sum of widths and shy distances from obstructions.

TABLE 10: TRANSPORTATION PLANNING ASSUMPTIONS

	(Grades 9-12) Students		Faculty/Staff	
Project Components:	1440		144	
Attendance Rate:	(1) 100%		-	
Daily Trip Generation:	2.0 per student		2.0 per employee	
Temporal Distribution:	(2, 3)		(2)	
AM	50%		50%	
PM	43%		48%	
In/Out Splits:	**In**	**Out**	**In**	**Out**
AM	100%	0%	100%	0%
PM	0%	100%	0%	100%
	(2)		(2)	
Modal Splits:	**AM**	**PM**	**AM/PM**	
Auto	0%	0%	10%	
Dropoff/Pickup	0%	0%	2%	
Walk	15%	15%	7%	
Subway	50%	50%	64%	
Bus (Transit)	35%	35%	17%	
School Bus/Van	0%	0%	0%	
	100%	100%	100%	
Vehicle Occupancy:	(2)		(2)	
Auto	1.7		1.2	
Dropoff/Pickup	1.4		1.4	
School Bus/Van	30		-	
Daily Truck Trip Generation:	(2) 0.03 per student			
	(2)			
AM	9.6%			
PM	0.0%			
	In	**Out**		
	50%	50%		

Sources/Notes:
1. The worst-case scenario for trip generation does not consider absentees.
2. Western Rail Yard FEIS, 2009.
3. Beacon High School 2011.

As a worst-case trip generation scenario, it was assumed that all 1,440 students would be present during the school day. Based on the current Beacon High School schedule, it was assumed that 100 percent of the students would arrive during the AM peak hour and 86 percent would leave during the PM peak hour. Similarly for faculty and staff, it was assumed that 100 percent would arrive during the AM peak hour and 96 percent would leave during the PM peak hour.

Since the school is expected to generate students from all parts of the city, the principal travel mode by students would be by mass transit. For students, during both peak hours it was estimated that 50 percent of the students would take the subway, 35 percent would take NYCT buses, and 15 percent would walk.

It was estimated that the majority of trips (approximately 64 percent) generated by the faculty and staff would travel by subway. It is expected that 17 percent would use NYCT buses, 10 percent would drive, 7 percent would walk, and 2 percent would be dropped off and picked up by private autos during the AM and PM peak hours. Based on these assumptions, Table 11 shows the weekday peak-hour person-trip and vehicle-trip forecasts for each component of the proposed project.

The *CEQR Technical Manual* indicates that when a proposed action would generate fewer than 50 peak hour vehicular trip ends, there is no need for further detailed traffic analysis, as traffic impacts are unlikely. Since the proposed expansion would generate at most 20 vehicular peak hour trip ends (in the AM peak hour), it would not cause a significant impact on traffic conditions in the area during the morning and afternoon peak hours, and would not require further analysis.

Parking

The proposed project would not include the creation or elimination of any accessory or on-site parking spaces. Based on the planning assumptions in Table 10, the new school is expected to generate a maximum peak hour demand of 12 parking spaces. As the proposed school expansion is anticipated to generate a very low parking demand, faculty/staff would be expected to utilize existing curbside parking and off-street parking facilities in the surrounding area.

Subway Stations

The results of the LOS analysis of the station elements for the future build conditions during the weekday AM and PM peak 15 minutes are provided in Table 12. With the project in place, all of the analyzed station elements would continue to operate at or below capacity. As all of the analyzed elements would continue to operate with v/c ratios of below 1.00, there would be no significant impacts.

TABLE 11: TRIP GENERATION

	(Grades 9-12) Students		Faculty/Staff			
Project Components:	1440		144			
Peak Hour Trips:						
Weekday AM	1,440		144			
Weekday PM	1,238		138			
In/Out Splits:	In	Out	In	Out		
Weekday AM	1,440	0	144	0		
Weekday PM	0	1,238	0	138		
Peak Hour					Net	
Person Trips:	In	Out	In	Out	In	Out
AM Auto	0	0	14	0	14	0
Dropoff/Pickup	0	0	3	0	3	0
Walk	216	0	10	0	226	0
Subway	720	0	92	0	812	0
Bus (Transit)	504	0	24	0	528	0
School Bus/Van	0	0	0	0	0	0
Total	1,440	0	144	0	1,583	0
PM Auto	0	0	0	14	0	14
Dropoff/Pickup	0	0	0	3	0	3
Walk	0	186	0	10	0	196
Subway	0	619	0	88	0	707
Bus (Transit)	0	433	0	23	0	456
School Bus/Van	0	0	0	0	0	0
Total	0	1,238	0	138	0	1,376
Peak Hour					Net	
Vehicle Trips:	In	Out	In	Out	In	Out
AM Auto	0	0	12	0	12	0
Dropoff/Pickup	0	0	2	2	2	2
School Bus/Van	0	0	-	-	0	0
Truck	2	2	-	-	2	2
					16	4
PM Auto	0	0	0	11	0	11
Dropoff/Pickup	0	0	2	2	2	2
School Bus/Van	0	0	-	-	0	0
Truck	0	0	-	-	0	0
					2	13
Peak 15-Minute					Net	
Person Trips:	In	Out	In	Out	In	Out
AM Auto	0	0	0	0	0	0
Dropoff	0	0	-	-	0	0
Walk	86	0	0	0	86	0
Subway	288	0	0	0	288	0
Bus (Transit)	202	0	0	0	202	0
School Bus/Van	0	0	-	-	0	0
Total	576	0	0	0	576	0
PM Auto	0	0	0	0	0	0
Dropoff	0	0	-	-	0	0
Walk	0	149	0	0	0	149
Subway	0	495	0	0	0	495
Bus (Transit)	0	347	0	0	0	347
School Bus/Van	0	0	-	-	0	0
Total	0	991	0	0	0	991

TABLE 12: 2015 BUILD SUBWAY STATION ELEMENT CONDITIONS

2015 (Weekday AM/PM)
42nd Street Port Authority Bus Terminal Subway Station (A, C, E)

SUBWAY STATION ELEMENTS			15-MINUTE PEDESTRIAN VOLUME				FRICTION FACTOR	15-MINUTE CAPACITY		V/C RATIO		LEVEL OF SERVICE	
			AM		PM		AM/PM	AM/PM	AM/PM	AM	PM	AM	PM
Control Area	NUMBERS	TWO-WAY?	IN	OUT	IN	OUT		ENTRY	EXIT				
Eighth Avenue and West 42nd Street													
HEETs (Unmanned)	2	Y	95	278	327	109	0.9	510	1080	0.49	0.82	B	C
Eighth Avenue and West 43rd Street													
HEETs (Unmanned)	2	Y	96	243	243	137	0.9	510	1080	0.46	0.67	B	B
Eighth Avenue and West 44th Street													
Low Turnstiles - Booth N60	7	Y	160	452	359	271	0.9	2940	4515	0.17	0.20	A	A
Street Stairs	WIDTH (ft)	EFFECTIVE WIDTH (ft)	DOWN	UP	DOWN	UP		DOWN	UP				
Eighth Avenue and West 42nd Street													
Northwest (S8) - West 42nd Street	6.0	5.0	95	278	327	109	0.9	750	750	0.55	0.65	B	B
Eighth Avenue and West 43rd Street													
Southwest (S10) - West 43rd Street	5.0	4.0	96	243	243	137	0.9	600	600	0.63	0.70	B	C
Eighth Avenue and West 44th Street													
Southwest (S11) - West 44th Street	9.6	8.4	36	116	148	75	0.9	1253	1253	0.13	0.20	A	A

Sources:

1. New York City Transit, Station Planning and Design Guidelines
2. 2010 CEQR Technical Manual

Bus Service

Demand for bus service in the future with the proposed action in place is projected to increase. As presented in Table 13, existing levels of bus service would not be sufficient to provide adequate supply to meet the projected demand in the 2015 build condition for the M42 bus line during the AM peak hour. According to the *CEQR Technical Manual*, this would indicate a significant impact; therefore, with the school in place, the M42 route would require additional capacity.

TABLE 13: 2015 BUILD BUS CONDITIONS

Bus Line	Peak Hour	Direction	Peak Load Point	Buses per Hour	Hourly Capacity[1]	No-Action Volumes	Project-Generated Volumes	Average Volume per Bus	Build Available Capacity
M42	AM	EB	West 42nd Street @ 8th Avenue	22	1430	813	0	37	617
		WB	West 42nd Street @ 8th Avenue	9	585	359	309	74	(83)
	PM	EB	West 42nd Street @ 8th Avenue	10	650	336	268	60	46
		WB	West 42nd Street @ 8th Avenue	9	585	254	0	28	331

1. Capacities are based on a maximum of 65 passengers for a standard 40-seat bus as per DCP.

Pedestrians

The proposed project would add a total of 576 and 991 pedestrian trips during the AM and PM peak hours, respectively. This includes walk-only trips as well as trips to or from subway stations and NYCT bus stops, and parking locations. Table 14 shows the levels of service at the analyzed sidewalks in the future with the proposed project.

The determination of significant pedestrian impacts is generally based on comfort and convenience characteristics of pedestrian flow and safety considerations. According to the *CEQR Technical Manual*, CBD areas have a substantially higher level of pedestrian activity. Pedestrians here are therefore more tolerant of restricted LOS conditions that might not be considered acceptable in non-CBD areas. As a result, acceptable LOS for CBD areas is generally taken to be mid-LOS D or better. If the LOS deteriorates to mid-LOS D or worse in the future with the proposed action, significant pedestrian impacts may occur.

Pedestrian volumes are anticipated to increase in 2015 in the future with the proposed action and result in significant adverse impacts throughout the study area. Table 14 highlights the pedestrian elements that are projected to have significant adverse impacts in 2015 based on the criteria defied in the *CEQR Technical Manual*. Of the 22 sidewalk locations, 4 corners, and 17 crosswalks analyzed, a total of four significant adverse impacts would occur during the PM peak hour:

- At the intersection of West 42nd Street and Eighth Avenue, the west crosswalk would operate at LOS F compared to LOS E in the No-Action condition.
- At the intersection of West 42nd Street and Tenth Avenue, the south crosswalk would operate at LOS D compared to LOS C in the No-Action condition.
- At the intersection of West 43rd Street and Tenth Avenue, the north crosswalk would operate at LOS D compared to LOS A in the No-Action condition. The south crosswalk would also operate at LOS D compared to LOS A in the No-Action condition.

TABLE 14: 2015 BUILD PEDESTRIAN CONDITIONS

SIDEWALK ANALYSIS

Blockface	Side of Street	Effective Sidewalk Width[1]	Peak 15 Minute Volume AM	Peak 15 Minute Volume PM	Persons per Foot per Minute (PFM) AM	Persons per Foot per Minute (PFM) PM	Average Level of Service AM	Average Level of Service PM	Platoon Conditions Level of Service AM	Platoon Conditions Level of Service PM
43rd Street (west of 8th Avenue)	South	3.7	320	349	5.8	6.3	B	B	C	D
44th Street (west of 8th Avenue)	South	4.8	222	428	3.1	6.0	A	B	B	C
43rd Street (east of 9th Avenue)	South	3.7	217	211	3.9	3.8	A	A	C	C
43rd Street (west of 9th Avenue)	North	3.9	201	282	3.4	4.8	A	A	C	C
	South	8	299	290	2.5	2.4	A	A	B	B
44th Street (east of 9th Avenue)	South	4.8	204	324	2.8	4.5	A	A	B	C
44th Street (west of 9th Avenue)	South	5.5	221	353	2.7	4.3	A	A	B	C
10th Avenue (north of 42nd Street)	East	13	115	277	0.6	1.4	A	A	B	B
	West	12.3	392	351	2.1	1.9	A	A	B	B
43rd Street (east of 10th Avenue)	North	3.9	200	279	3.4	4.8	A	A	C	C
	South	8	167	225	1.4	1.9	A	A	B	B
43rd Street (west of 10th Avenue)	North	7	413	643	3.9	6.1	A	B	C	D
10th Avenue (north of 43rd Street)	West	10	264	227	1.8	1.5	A	A	B	B
10th Avenue (south of 43rd Street)	East	13	137	335	0.7	1.7	A	A	B	B
	West	12.3	350	325	1.9	1.8	A	A	B	B
44th Street (east of 10th Avenue)	South	5.5	207	322	2.5	3.9	A	A	B	C
44th Street (west of 10th Avenue)	South	6.6	227	380	2.3	3.8	A	A	B	C
10th Avenue (south of 44th Street)	West	10	297	269	2.0	1.8	A	A	B	B
43rd Street (east of 11th Avenue)	North	7	62	60	0.6	0.6	A	A	B	B
11th Avenue (north of 43rd Street)	East	11.7	149	159	0.8	0.9	A	A	B	B
44th Street (east of 11th Avenue)	South	11.7	59	89	0.3	0.5	A	A	A	A
11th Avenue (south of 44th Street)	East	11.7	134	162	0.8	0.9	A	A	B	B

STREET CORNER ANALYSIS

Intersection	Corner	Sidewalk Dimensions (ft)	Curb Radii (ft)	Average Pedestrian Space (SF/ped) AM	Average Pedestrian Space (SF/ped) PM	Level of Service AM	Level of Service PM
43rd Street (E-W) @ 10th Avenue (N-S)	NW	18.8 x 13	13	68	37	A	C
44th Street (E-W) @ 10th Avenue (N-S)	SW	18.8 x 12.6	13	188	92	A	A
43rd Street (E-W) @ 11th Avenue (N-S)	NE	15.3 x 13	13	208	219	A	A
44th Street (E-W) @ 11th Avenue (N-S)	SE	13 x 15.3	13	260	224	A	A

CROSSWALK ANALYSIS

Intersection	Crosswalk	Length (ft)	Width (ft)	Average Pedestrian Space (SF/ped) AM	Average Pedestrian Space (SF/ped) PM	Level of Service AM	Level of Service PM
42nd Street (E-W) @ 8th Avenue (N-S)	West	61	15.2	10	7	E	F
43rd Street (E-W) @ 9th Avenue (N-S)	East	35	15.9	46	29	B	C
	West	35	14.6	35	46	C	B
	North	71	12.0	45	29	B	C
	South	71	14.3	46	53	B	B
44th Street (E-W) @ 9th Avenue (N-S)	South	71	12.7	33	20	C	D
42nd Street (E-W) @ 10th Avenue (N-S)	East	61	15.9	183	66	A	A
	West	71	14.3	57	37	B	C
	North	60	14.8	29	20	C	D
	South	72	14.0	54	19	B	D
43rd Street (E-W) @ 10th Avenue (N-S)	East	35	18.5	92	47	A	B
	West	36	18.5	39	32	C	C
	North	61	15.3	45	18	B	D
	South	62	13.3	47	38	B	C
44th Street (E-W) @ 10th Avenue (N-S)	South	61	14.5	33	17	C	D
43rd Street (E-W) @ 11th Avenue (N-S)	East	35	14.3	99	103	A	A
44th Street (E-W) @ 11th Avenue (N-S)	East	35	12.4	96	82	A	A

Note:
1. Total sidewalk width minus the sum of widths and shy distances from obstructions.

B.12.4. Mitigation

Bus Service

As described above in the "Potential Impacts of the Project" section, there would be a significant impact to bus service during the AM peak hours. This could be mitigated by either increasing the number of standard buses (approximately two) or, where feasible, converting the route to articulated bus service.

The general policy of NYCT is to provide additional bus service where demand warrants, taking into account financial and operational constraints. Based on NYCT's ongoing passenger monitoring program and as new development occurs throughout the study area, a comprehensive service plan would be generated to respond to specific, known needs with capital and/or operational improvements where fiscally feasible and operationally practicable. Through this program, expanded bus services would be provided as needs are determined.

Pedestrians

Most pedestrian impacts on the local street network can be mitigated by standard traffic engineering improvements such as sidewalk widening, crosswalk widening, and lane restriping. These measures are consistent with the range of pedestrian capacity improvements that have been proposed and implemented for other projects in the city.

At the intersection of West 42nd Street and Eighth Avenue, the proposed action would result in an impact on the west crosswalk. To address this impact, it is proposed to widen the crosswalk by 1.5 feet. At the intersection of West 42nd Street and Tenth Avenue, the south crosswalk would be impacted by the proposed action. To address this impact, it is proposed to widen the south crosswalk by .5 foot. At the intersection of West 43rd Street and Tenth Avenue, the impact on the north crosswalk can be mitigated by widening it by 1.5 feet. At the intersection of West 44th Street and Tenth Avenue, the impact on the south crosswalk can be mitigated by widening it by 2 feet.

TABLE 15: 2015 MITIGATED PEDESTRIAN CONDITIONS

CROSSWALK ANALYSIS

Intersection	Crosswalk	Length (ft)	Width (ft)	Average Pedestrian Space (SF/ped) AM	PM	Level of Service AM	PM
42nd Street (E-W) @ 8th Avenue (N-S)	West	61	16.7	10	8	E	E
42nd Street (E-W) @ 10th Avenue (N-S)	East	61	15.9	183	66	A	A
	West	71	14.3	57	37	B	C
	North	60	14.8	29	20	C	D
	South	72	14.5	54	20	B	D
43rd Street (E-W) @ 10th Avenue (N-S)	East	35	18.5	92	48	A	B
	West	36	18.5	39	32	C	C
	North	61	16.8	45	20	B	D
	South	62	13.3	47	38	B	C
44th Street (E-W) @ 10th Avenue (N-S)	South	61	16.5	33	20	C	D

Note:
1. Total sidewalk width minus the sum of widths and shy distances from obstructions.

B.13. AIR QUALITY

The 2010 *CEQR Technical Manual* requires an assessment of air quality for actions that would increase traffic volumes or emit noxious fumes, especially where they affect residential or other sensitive uses (such as a school). In this area of the City, a detailed mobile source analysis is required if 170 or more project-generated vehicles pass through a signalized intersection in any given peak period. In addition, the NYCDEP has established a similar screening threshold limit for particulate matter, where detailed analysis is required if more than 23 project-generated diesel trucks or buses pass through a signalized intersection in any given peak period. Analyses are also required if new sensitive land are to be permitted within 400 feet of existing industrial facilities and if a project's heating plant may affect nearby sensitive land uses (or the heating system of nearby buildings may affect a new sensitive land use).

B.13.1. Introduction

The proposed action would entail the interior renovation of an existing six-story building and construction of a one-story rooftop addition to accommodate a replacement high school facility.

Air quality issues associated with the proposed project relate to the potential for:

- Changes in vehicular travel associated with proposed development activities to result in significant mobile source (vehicular related) air quality impacts;
- Emissions from the heating, ventilation and air conditioning (HVAC) system of the proposed school to significantly affect existing or planned nearby sensitive land uses (i.e., windows of nearby residential units);
- HVAC emissions of the "major" nearby emissions sources to significantly affect the proposed school;
- Air toxic emissions generated by existing nearby industrial sources to significantly affect the school; and
- Exhaust from the proposed school's chemistry laboratory hood to significantly affect nearby sensitive land uses.

Air quality analyses were conducted, following the procedures outlined in the 2010 *CEQR Technical Manual*, to determine whether the proposed action would result in exceedances of ambient air quality standards or health-related guideline values. The methodologies and procedures utilized in these analyses are described below.

B.13.2. Pollutants of Concern

The following air pollutants, known as criteria pollutants, have been identified by the U.S. Environmental Protection Agency (EPA) as being of concern nationwide: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone, particulate matter (PM_{10} and $PM_{2.5}$), sulfur dioxide (SO_2), and lead. National Ambient Air Quality Standards (NAAQS) are set for each of the criteria pollutants specified by the EPA to protect human health and welfare. New York has adopted the NAAQS as state ambient air quality standards.

In addition to criteria pollutants, small quantities of a wide range of the non-criteria air pollutants, known as air toxic pollutants, emitted from nearby industrial and commercial facilities, are also of concern. These pollutants can be grouped into two categories—carcinogenic air pollutants and non-carcinogenic air pollutants—and include hundreds of pollutants, ranging from high to low toxicity. While no federal standards have been promulgated for toxic air pollutants, the EPA and NYSDEC have issued guidelines that establish acceptable ambient levels for these pollutants based on human exposure criteria. The procedures to estimate inhalation exposure concentration, hazard index, and cancer risk of toxic pollutants are outlined in the EPA Human Health Risk Assessment Protocol (HHRAP) (EPA 520-R-05-006) and described in the health risk section of this chapter.

B.13.3. Mobile Source Analysis

Localized increases in CO levels may result from increased vehicular traffic volumes and changed traffic patterns in the study area because of the proposed action. According to the *CEQR Technical Manual* screening threshold criteria for this area of the city, if 170 or more project-generated vehicles pass through a signalized intersection in any given peak period, there is a potential for mobile air quality impacts and a detailed analysis is required.

The trip generation analysis conducted for the proposed school indicates that the number of project-generated vehicles would be below the CEQR screening threshold during both the AM and PM peak periods at any affected intersection. Therefore, no detailed air quality analysis is required and no significant mobile source air quality impacts are expected as a result of the project.

B.13.4. Analysis of School's HVAC Emissions on Nearby Land Uses

Identification of Sensitive Land Uses

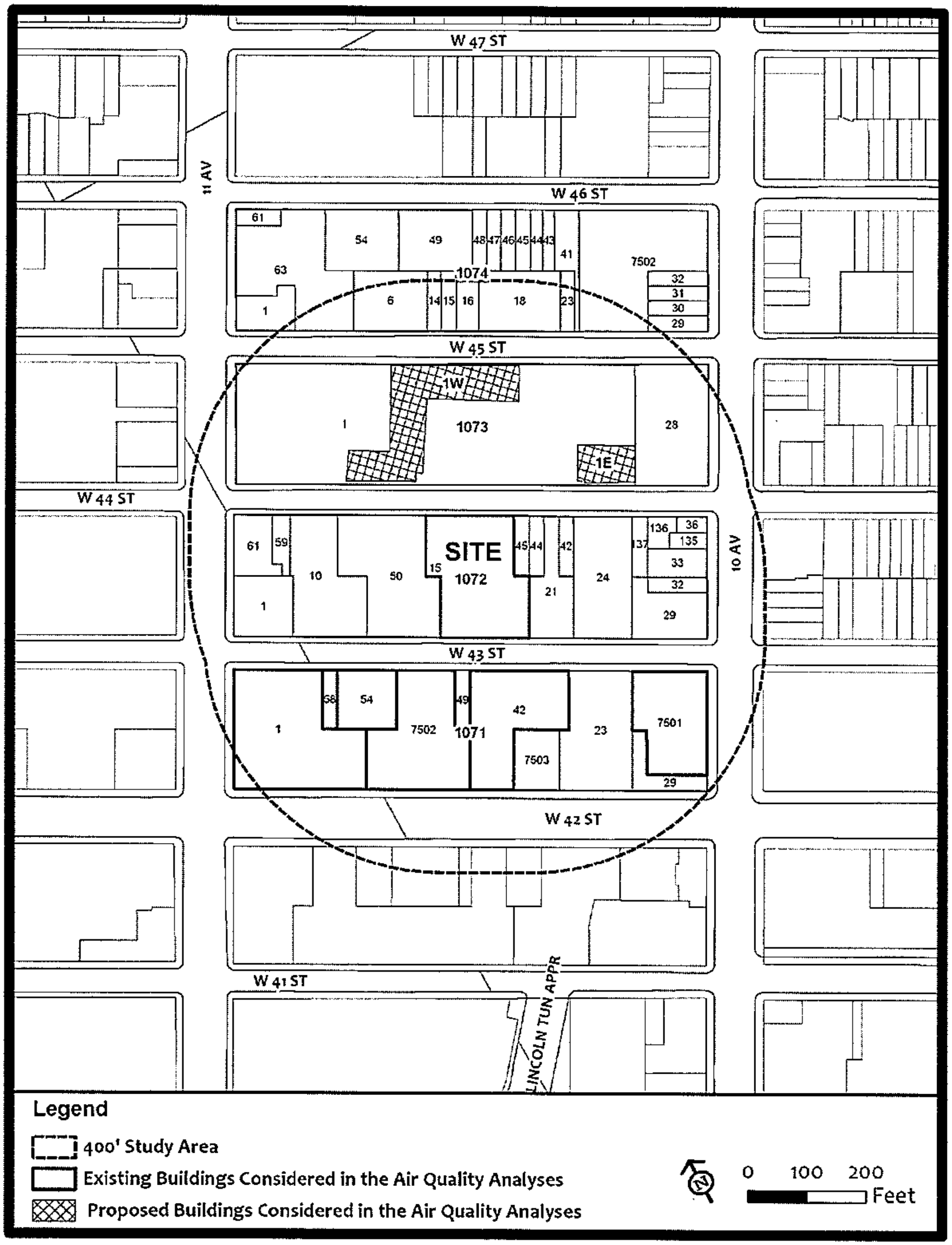
A survey of existing land uses within 400 feet of the proposed development sites was conducted using the New York City OASIS mapping network system and geographical information system (GIS) shape files to identify residential land uses and other sensitive receptor sites and determine the size and location of each existing building. The survey identified existing and future planned residential buildings within and near the proposed school that can be affected by the HVAC emissions from the school.

Screening Analysis

The *CEQR Technical Manual* includes a screening methodology to estimate the potential impacts of HVAC system emissions from a single building that is at least 30 feet from the nearest building of similar or greater height. A detailed dispersion analysis is required for buildings that are less than 30 feet from a taller building.

The windows, terraces, and air intake ducts of nearby existing and future planned developments of similar or greater height than the proposed school are considered potential sensitive receptor sites. As shown on Figure 7, six existing residential buildings to the south and two future 14-story residential buildings (located on the block directly north of the school site) were identified.

FIGURE 7: DEVELOPMENT SITE, EXISTING BUILDINGS, AND BLOCK AND LOT NUMBERS



When a distance from the school to the nearest development of similar or greater height is less than the CEQR nomograph threshold distance, a detailed dispersion modeling analysis should be conducted to determine whether there is a potential for significant air quality impacts. If the distance is greater than the threshold distance, the school would pass the screening analysis, and no further analysis is required.

Potential impacts of the school's HVAC emissions is a function of fuel type, stack height, and location of the emission source(s) relative to nearby buildings. According to the boiler permit for the current facility (i.e., the NYPL Annex/storage facility), its HVAC system utilizes No. 2 fuel oil (primary fuel) and natural gas (secondary fuel). With the one floor addition, the floor area of the proposed school was assumed to change from 200,000 to 233,333 square feet, and this larger value was used as an input for the screening analysis. Based on boiler permit information for the existing boiler, the exhaust stack is 103 feet tall. It was assumed that the HVAC system of the proposed school would utilize the same stack.

Analyses were conducted using both No. 2 and No.4 fuel oil, and natural gas. For the screening analysis, the threshold distances presented in Table 16 are given for No. 4 fuel oil (based on CEQR nomograph Figure 17-3) as these are more conservative values. For the detailed analysis, because the emission rates for either No. 2 or No. 4 fuels are the same (EPA AP-42, Table 1.3-1), the results obtained for the No. 2 fuel also apply to the No. 4 fuel.

The results of the screening analyses, which are presented in Table 16, are that of the eight existing or future residential buildings. One building (on Block 1071, Lot 1) passed the screening analysis for both fuel oil and natural gas (because the distance between the building and the proposed school is greater than the CEQR screening threshold), but seven buildings failed the screening analysis for either fuel oil or natural gas (because distances between these buildings and the proposed school are less than the estimated screening threshold distance).

TABLE 16: POTENTIAL SCHOOL HVAC IMPACTS ON EXISTING LAND USES

Block & Lot of Nearby Taller Existing Building	Number of Stories of Existing Buildings	Distance from Development Site to Existing Buildings (ft)*	CEQR Threshold Distance for Natural Gas (ft)	Potential NOx Impact	CEQR Threshold Distance for No. 4 Fuel Oil (ft)*	Potential SO_2 Impact
1071:42	34	55	110	Yes	200	Yes
1071:7502	9	55		Yes		Yes
1071:54	22	93		Yes		Yes
1071:58	8	182		No		Yes
1071:1	44	207		No		No
1071:7501	41	183		No		Yes
1073:1 W	14	56		Yes		Yes
1073:1 E	14	126		No		Yes

Source: Parsons Brinckerhoff, 2011

* Based on a school size of 233,333 square feet

Detailed Analysis

Detailed analyses, using the EPA AERMOD model were then conducted to evaluate the project's potential impacts on the buildings that failed the screening analysis. This analysis was conducted for the two buildings located nearest the proposed school: a 34-story building on Block 1071, Lot 42, south of the project site and a 14-story building proposed to be constructed on Block 1073, Lot 1, northwest of the project site. If these buildings would pass the detailed analysis, then the other buildings that failed the screening analysis (which are located further away from the school) would also pass the detailed analysis.

Dispersion Model

AERMOD, a steady-state dispersion model developed by the EPA, was used for all detailed analysis. It is applicable in rural and urban areas, in flat and complex terrain, for surface and elevated releases, and for multiple emission sources (including point, area, and volume sources). Regulatory default options of the AERMOD model were used and the analyses were conducted following *CEQR Technical Manual* guidance. It was conservatively assumed that 100 percent of nitrogen oxides emitted from the HVAC systems would be in form of NO_2 at the receptor sites.

Emission Rates

Pollutant emission rates were estimated using fuel factors presented in the *CEQR Air Quality Appendix* and the emission factors from EPA's AP-42 (Tables 1.3-1 and 1.4-1) for fuel oil and natural gas combustion.

Stack Locations

It was assumed that emissions from school would be released through a single stack located at the edge of the roof closest to the nearest taller building.

Receptors

Source-receptor configurations (stack diameter, plume rise and dispersion, and stack proximity to the receptors) were considered in selecting receptor sites.

Receptors were placed on the façades of the affected existing buildings, directly under the plume centerline at heights where the maximum impacts are expected to occur.

Stack Parameters

The stack parameters for the school were developed using the New York City Department of Environmental Protection (NYCDEP) "CA Permit" database using school boiler heat input of 10.6 MMBtus per hour, as per boiler permit information.

Meteorological Data

Analyses were conducted using the latest five consecutive years of meteorological data (2004-2008). Surface data were obtained from La Guardia Airport and upper air data were obtained from Brookhaven Station, New York. These meteorological data provide hour-by-hour wind speeds and directions, stability states, and temperature inversion elevations over the five-year period. Data were developed using the EPA AERMET processor. The land uses around the site were classified using defined categories to determine surface parameters for the AERMET program.

Background Concentrations

In estimating the total impact of the proposed action, it is necessary to include consideration of the background pollutant levels for the study area. Applicable background concentrations were added to the modeling results to obtain total pollutant concentrations. Background concentrations, obtained from the NYCDEP, incorporated the recently available 2009 monitoring data from NYSDEC PS 59 monitoring station in Manhattan. The first highest 24-hr SO_2 background concentration of 110 μg/m³ was added to the first highest AERMOD-predicted SO_2 impact, and the resulting total 24-hr SO_2 concentrations were compared with appropriate 24-hr SO_2 NAAQS of 365 μg/m³. An annual NO_2 background concentration of 68 μg/m³ from the same monitoring station was used as well.

Results

As shown in Table 17 and Table 18, the result of detailed dispersion analyses found that there would be no exceedances of either the 24-hour SO_2 or annual NO_2 NAAQS, and therefore the project's HVAC emissions would result in no significant impacts on surrounding buildings.

TABLE 17: IMPACTS ON RECEPTOR BUILDINGS WITH FUEL OIL

HVAC Emission Source	Total School Building Floor Area (SF)	School Building (No. Floors)	Receptor Building (Block/Lot)	24-hr SO_2 Emission Rate (gm/sec)	Total Estimated 24-hr SO_2 Conc. (μg/m³)*	24-hr SO_2 NAAQ Standard (μg/m³)
School	233,333	7-stories	1071/42	0.132	213	365
			1073/1		208	

Source: Parsons Brinckerhoff, 2011

* Total estimated 24-hr SO_2 concentrations include a background value of 110 μg/m³

TABLE 18: IMPACTS ON RECEPTOR BUILDINGS WITH NATURAL GAS

HVAC Emission Source	Total School Building Floor Area (SF)	School Building (No. Floors)	Receptor Building (Block/Lot)	Annual NO_2 Emission Rate (gm/sec)	Total Estimated Annual NO_2 Conc. (μg/m³)*	Annual NO_2 NAAQ Standard (μg/m³)
School	233,333 SF	7-stories	1071/42	0.0177	70.4	100
			1073/1		70.6	

Source: Parsons Brinckerhoff, 2011

* Total estimated Annual NO_2 concentrations include a background value of 68 μg/m³.

B.13.5. Impacts of "Major" Existing Emission Sources on the School

Following *CEQR Technical Manual* guidance, a survey of land uses and building heights was conducted to determine whether there are any existing "major" sources of boiler emissions (i.e., emissions from boiler facilities with heat inputs 20 MMBtu per hour or greater) located within 1,000 feet of the proposed residential development sites.

This survey identified four buildings that met these criteria: Block 1090, Lot 23 (57-story building), Block 1090, Lot 29 (57-story building), Block 1089, Lot 3 (59-story building), and Block 1052, Lot 1

(46-story building). All of these emission sources, however, are taller than the proposed school; therefore no further analysis is required.

An additional survey was conducted to determine whether there are any "large" combustion emission source (e.g., power plant, co-generation facility, etc.) located within and beyond 1,000 feet of the proposed school site.

No "large" combustion emission sources were identified; therefore, no further analysis is required. Based on these results, potential impacts from "major" or "large" combustion emission sources on the proposed school are not considered to be significant and further analysis is not required.

B.13.6. Assessment of Toxic Air Emissions from Existing Industrial Sources

Emissions of toxic pollutants from the operation of nearby existing industrial emission sources could affect the proposed school facility. An analysis was therefore conducted to determine whether the potential impacts of these emissions would be significant.

Data necessary to perform this analysis, which include facility type, source identification and location, pollutant emission rates, and exhaust stack parameters, were obtained from regulatory agencies (e.g., from existing air permits) and/or developed using information for prototypical facilities.

Emissions from all existing industrial facilities located within 400 feet of the project site that are permitted to exhaust toxic pollutants, together with non-permitted facilities that currently operate within 400 feet of the project site, were considered in this analysis.

Data Sources

Information regarding emissions of toxic air pollutants from existing industrial sources was developed using the following procedure:

- A study area was developed that includes all air toxic emission sources located within 400 feet of the school site.
- A search was performed to identify NYSDEC Title V permits and permits listed in the EPA Envirofacts database in this study area.
- The OASIS mapping and data analysis application was used to identify existing residential and/or industrial uses within the study area and develop building parameters for the emission sources;
- Air permits for active permitted industrial facilities within the study area that are included in the NYCDEP Clean Air Tracking System database or permit applications were acquired and reviewed to obtain the necessary information to conduct toxic air analysis.[1]
- Field observations were conducted to identify and validate the existence of the permitted facilities and determine if there are any non-permitted facilities currently operating within the study area.

[1] The data on these permits or permit applications, which include facility source type and locations, stack parameters, pollutant type and its emission rates, etc., are considered the most current and served as the primary source of data for this analysis.

- Emission rates and stack parameters for the non-permitted emission sources were developed based on prototypical facility types, and emission data contained in NYSDEC's database and the DAR-1 software.

Health Risk Assessment Methodology

Toxic air pollutants can be grouped into two categories: carcinogenic air pollutants and non-carcinogenic air pollutants. These include hundreds of pollutants, ranging from high to low toxicity. While no federal standards have been promulgated for toxic air pollutants, the EPA and NYSDEC have issued guidelines that establish acceptable ambient levels for these pollutants based on human exposure criteria.

The EPA developed short-term acute (1-hour) and long-term (annual) inhalation exposure thresholds for toxic pollutants that are defined as acute inhalation exposure concentrations (AIECs) and reference dose concentrations (RfCs) for the non-carcinogenic pollutants, and cancer risk thresholds based on compound-specific inhalation unit risk factors (URFs) for carcinogenic pollutants. These data are contained in the EPA Integrated Risk Information System (IRIS) database.

In order to evaluate short-term and annual impacts of non-carcinogenic and carcinogenic toxic air pollutants, the NYSDEC, following EPA guidelines, has also established short-term guideline concentrations (SGCs) and annual guideline concentrations (AGCs) for exposure limits. AGCs for the carcinogenic pollutants is based on cancer risk threshold of one per million. These are total allowable guideline concentrations that are considered acceptable concentrations, below which there should be no adverse effects on the health of the public.

Once the hazard index of each non-carcinogenic compound is established, the results for all of applicable toxic pollutants are summed together. If the total hazard index is less than or equal to one, then the non-carcinogenic risk is considered to be insignificant. Once the incremental risk of each carcinogenic compound is estimated, they are summed together. If the total risk is less than or equal to one in one million (1.0 E-06), the carcinogenic risk due to all pollutant releases is considered to be insignificant.

The procedures to estimate inhalation exposure concentration, hazard index, and cancer risk of toxic pollutants are outlined in the EPA Human Health Risk Assessment Protocol (HHRAP). The HHRAP is a guideline that can be used to perform health risk assessment for individual compounds with known health effects to determine the level of health risk posed by an increased ambient concentration of that compound at a potentially sensitive receptor. The derived health risk values from the HHRAP are used in this analysis to determine the total risk posed by the release of multiple air toxic contaminants.

Once the individual risk of each compound is established, these values are summed together to estimate the total cancer risk of all carcinogens. If the total risk of all contaminant combined is less than or equal to one in one million (1.0 E-06), the carcinogenic risk is not considered to be significant.

Dispersion Analyses

An analysis of toxic pollutants that may affect the proposed school facility was conducted using the current version of the EPA AERMOD dispersion model. The exposure concentrations produced from the AERMOD model are then used to estimate inhalation non-cancer chronic and acute indexes and cancer risk for each pollutant utilizing guideline values (thresholds).

The dispersion analysis methodology is similar to one used in the detailed HVAC building analysis. Input data for AERMOD (stack parameters, pollutant emission rates, source location and elevation) are contained in the NYCDEP permits or permit applications. Emission sources for the dispersion analysis were located using GIS shape files with the Universal Transverse Mercator coordinate projected system information (Datum NAD83, UTM Zone 18).

A receptor grid that includes both elevated and ground-level receptors was developed for the proposed school. Preliminary tests were conducted for each source-receptor configuration, with receptors placed at multiple elevations on the faces of the school building, to evaluate the locations and elevations where the highest impacts would occur.

Dispersion analyses were conducted with and without building downwash effects on plume dispersion, and the highest resulting concentration values found at any receptors were used in the health risk assessment. Five consecutive years of meteorological data from the LaGuardia Airport (2004–2008) were used.

Emissions from all toxic emission sources were modeled in one modeling run to estimate the cumulative effect on the school of the all toxic pollutants from the existing industrial facilities combined.

Emission Data and Stack Parameters

Emission data and stack parameters for the facilities included in the analysis were obtained and/or developed as follows:

- Directly from the permit for each facility;
- When emission data were not included in a permit listed in the NYCDEP database, the necessary data were obtained from the permit application for this facility on file at NYCDEP; and
- When data were not available from either the permit itself or the permit application, emission rates for each type of facility were conservatively estimated using EPA's "Compilation of Air Pollutant Emission Factors (AP-42)."

Industrial Facilities and Air Toxic Emissions Evaluated

Six permits were identified from the NYCDEP database for facilities located within 400 feet of the proposed school. Of these, three permits (PA033288L, PB045802P, and PA048999J) were eliminated from further consideration because these facilities are no longer operating. Of the remaining permits, one is for a dry cleaning facility and two are for woodworking facilities. A field survey also identified four non-permitted auto body repair facilities that are currently operating within the air toxics study area.

Pollutants and emission rates from the auto repair/body shops were conservatively estimated using averaged data from prototypical auto body repair facilities listed in the NYSDEC DAR-1 database. It was conservatively assumed that all shops have spray booth operations. Based on the type of process, seven pollutants typically associated with spray booth operations (i.e., acetone, butyl and ethyl acetates, isobutyl acetate, toluene, methyl ethyl ketone, and particulate matter) were evaluated.

All dry cleaning facilities, as required by the New York State's Perchloroethylene (PERC) Dry Cleaning Facilities regulation (Part 232), are equipped with third to fourth generation emission control systems, with built-in carbon absorber and refrigeration units. Because these facilities are required to be totally enclosed, they are considered non-vented outside systems with, presumably, no emissions. However, according to the permits for these facilities, control system efficiency is listed as 98 percent, which indicates that 2 percent of the PERC may be released into the atmosphere as fugitive emissions. Therefore, for the conservative purpose of this analysis, 98 percent control efficiency was applied to estimate PERC emissions from the dry cleaning facilities. Dry cleaning facilities emits one carcinogenic pollutant—PERC.

In summary, emissions from three permitted facilities and four non-permitted facilities were included in the analysis and a detailed analysis was conducted to estimate the potential impact of the air toxic emissions of these facilities on the proposed school sensitive receptors. The active permitted facilities are basically engaged in two types of operations that release toxic air pollutants into the ambient air—dry cleaning and wood-working operations. Emission sources of these facilities release multiple pollutants (9), one of which (PERC) is a carcinogen.

Results of the Cancer Risk and Hazard Index Evaluation

Table 19 provides permit information for the existing permitted and non-permitted industrial sources included in the analysis, including type and location of each facility, its permit number, emission point(s), contaminant name, Chemical Abstract Service (CAS) registry number (which is unique to each chemical), and hourly and annual emission rates for each pollutant.

Table 20 provides estimated annual (long-term) exposure concentrations, annual hazard indexes, and cancer risks for each pollutant for each source. Annual hazard indexes are also estimated for the carcinogenic pollutants where they have an appropriate guideline values (e.g., *RfC*). The pollutant concentrations shown in table are the maximum values estimated at any of receptor locations. The full set of concentrations, hazard indexes, and cancer risk values estimated at all receptor locations considered in this analysis for each pollutant and source group are provided in the backup documentation for this analysis. Also provided are the assumptions, parameters, and equations used in estimating these values.

As shown on Table 20, the total individual cancer risk and the total cancer risk caused by the identified facilities (1.89E-09) is below the one-in-million threshold. Therefore, the cancer risk increase under the proposed action is not considered to be significant.

As also shown in Table 20, the total non-cancer chronic hazard index caused by all the non-carcinogenic pollutants emitted from all of sources combined is estimated to be 0.0225. This value is below the level (of 1) that is considered by the EPA to be significant.

Table 21 provides estimated 1-hour (short-term) exposure concentrations and acute non-cancer hazard indexes for each pollutant for each source. As shown in this table, the total non-cancer acute hazard index caused by all the pollutants emitted from all of sources combined is estimated to be 0.020. This value is below the level (1) that is considered by the EPA to be significant.

TABLE 19: ACTIVE INDUSTRIAL SOURCE PERMIT INFORMATION

Facility Name	Block	Lot	Address	Permit #	Facility Type	Pollutant Name	CAS	Hourly Rate (g/s)	Annual Rate (g/s)
Urban LLC	1074	6	545 West 45 Street	PB012205	Woodworking	Particulates	NY075-00-0	1.3E-04	2.3E-06
Baron Upholsterers Inc.	1074	6	545 West 45 Street	Pb012305	Woodworking	Particulates	NY075-00-0	1.3E-04	2.3E-06
Omni Cleaners	1053	7503	608 Tenth Avenue	PA026995	Dry Cleaning	PERC	00127-18-4	2.1E-03	1.5E-04
Style Management Co. Inc.	1072	42	514 West 44 Street	Non-Permitted	Auto Body Shop	Acetone	00067-64-1	7.6E-03	1.1E-03
						MEK	00078-93-3	7.6E-03	1.1E-03
						Toluene	00108-88-3	1.1E-02	1.5E-03
						IBAC	00110-19-0	2.5E-03	1.1E-04
						Butyl Acetate	00123-86-4	5.7E-02	8.1E-03
						Ethyl Acetate	00141-78-6	7.6E-03	1.1E-03
						Xylene	01330-30-7	1.1E-03	1.6E-04
						Particulates	NY075-00-0	1.3E-04	3.1E-04
Mike's Yellow Management	1072	45	520 West 44 Street	Non-Permitted	Auto Body Shop	Acetone	00067-64-1	7.6E-03	1.1E-03
						MEK	00078-93-3	7.6E-03	1.1E-03
						Toluene	00108-88-3	1.1E-02	1.5E-03
						IBAC	00110-19-0	2.5E-03	1.1E-04
						Butyl Acetate	00123-86-4	5.7E-02	8.1E-03
						Ethyl Acetate	00141-78-6	7.6E-03	1.1E-03
						Xylene	01330-30-7	1.1E-03	1.6E-04
						Particulates	NY075-00-0	1.3E-04	3.1E-04

Notes:
PERC= Tetrachloroethylene; MEK= Methyl Ethyl Ketone; and IBAC = Isobutyl Acetate

TABLE 19: ACTIVE INDUSTRIAL SOURCE PERMIT INFORMATION (CONTINUED)

Facility Name	Block	Lot	Address	Permit #	Facility Type	Pollutant Name	CAS	Hourly Rate (g/s)	Annual Rate (g/s)
M & H Auto Repair Inc.	1072	59	558 West 44 Street	Non-Permitted	Auto Body Shop	Acetone	00067-64-1	7.6E-03	1.1E-03
						MEK	00078-93-3	7.6E-03	1.1E-03
						Toluene	00108-88-3	1.1E-02	1.5E-03
						IBAC	00110-19-0	2.5E-03	1.1E-04
						Butyl Acetate	00123-86-4	5.7E-02	8.1E-03
						Ethyl Acetate	00141-78-6	7.6E-03	1.1E-03
						Xylene	01330-30-7	1.1E-03	1.6E-04
						Particulates	NY075-00-0	1.3E-04	3.1E-04
45th St. Auto Repair Inc.	1074	18	517 West 45 Street	Non-Permitted	Auto Body Shop	Acetone	00067-64-1	7.6E-03	1.1E-03
						MEK	00078-93-3	7.6E-03	1.1E-03
						Toluene	00108-88-3	1.1E-02	1.5E-03
						IBAC	00110-19-0	2.5E-03	1.1E-04
						Butyl Acetate	00123-86-4	5.7E-02	8.1E-03
						Ethyl Acetate	00141-78-6	7.6E-03	1.1E-03
						Xylene	01330-30-7	1.1E-03	1.6E-04
						Particulates	NY075-00-0	1.3E-04	3.1E-04

Notes:
PERC= Tetrachloroethylene; MEK= Methyl Ethyl Ketone; and IBAC = Isobutyl Acetate

TABLE 20: CANCER RISK AND NON-CANCER CHRONIC HAZARD INDEXES OF THE TOXIC POLLUTANTS

CAS No	Chemical Name	Maximum Estimated Concentration (μg/m³)	URF $(\mu g/m^3)^{-1}$ (1)	Estimated Cancer Risk	RfC (mg/m^3) (2)	Source	Hazard Indexes
67-64-1	Acetone	8.65E-01			30	DAR-1(5)	2.37E-03
123-86-4	Butyl Acetate	5.19E-02			17	DAR-1(5)	2.93E-06
141-78-6	Ethyl Acetate	6.92E-03			3.4	DAR-1(5)	1.95E-06
110-19-0	Isobutyl Acetate	6.92E-04			17	DAR-1(5)	3.90E-08
78-93-3	Methyl Ethyl Ketone	8.65E-01			5	DAR-1(5)	1.66E-04
75-00-0	Particulate Matter	2.48E-01			0.02	DAR-1(5)	1.59E-02
127-18-4	Tetrachloroethylene	7.69E-04	5.90E-06	1.86E-09	0.3	EPA(3,4)	1.84E-06
108-88-3	Toluene	1.21E+00			5	EPA(4)	2.90E-03
1330-30-7	Xylene	1.27E-01			0.1	EPA(3)	1.22E-03
			Total Cancer Risk	1.86E-09			
						Total Hazard Index	0.0225
			Significance Level	1E-06			1

Source: Parsons Brinckerhoff, 2011

Notes:

1. URF = compound specific inhalation unit risk factor in $(\mu g/m^3)^{-1}$
2. RfC = reference dose concentration, established by the EPA or NYSDEC, mg/m^3
3. EPA IRIS = Integrated Risk Information System
4. EPA = EPA Prioritized Chronic Dose-Response Values
5. DAR-1 = NYSDEC Policy DAR-1 "Guidelines for the Control of Toxic Ambient Air Contaminants"

TABLE 21: ACUTE NON-CANCER HAZARD INDEXES OF THE TOXIC POLLUTANTS

CAS No.	Chemical Name	Maximum Estimated Concentration (μg/m³)	AIEC (mg/m³) (1)	Source	Acute Hazard Indexes
67-64-1	Acetone	7.26E+01	180	DAR-1(3)	0.0002
123-86-4	Butyl Acetate	4.35E+00	95	DAR-1(3)	0.00005
78-93-3	Methyl Ethyl Ketone	7.26E+01	13	DAR-1(3)	0.006
75-00-0	Particulate Matter	1.22E+00	0.16	DAR-1(3)	0.0077
127-18-4	Tetrachloroethylene	1.17E-01	20	EPA(2)	0.00001
108-88-3	Toluene	1.02E+02	37	EPA(2)	0.0028
				Total Non-Cancer Acute Hazard Index	**0.020**
				Significance Level	1

Source: Parsons Brinckerhoff, 2011

Notes:

1. AIEC = Acute Inhalation Exposure Concentrations, mg/m^3
2. EPA's Acute Dose-Response Values were used for screening risk assessment
3. DAR-1 = NYSDEC Policy DAR-1 "Guidelines for the Control of Toxic Ambient Air Contaminants"

Summary of Results

The result of this analysis is that no exceedances of EPA/NYSDEC/NYCDEP guideline thresholds values for both carcinogenic and non-carcinogenic pollutants are predicted under the proposed action.

B.13.7. Analysis of Hood Fume Toxic Chemical Releases

The proposed high school will include a chemistry laboratory, which will require the storage and use of potentially hazardous chemicals. Accordingly, an analysis was conducted to estimate the potential impacts of a spontaneous release of chemical fumes into the atmosphere through exhaust hoods, created by an accidental chemical spill. This analysis, which was conducted for the chemical with the highest combined evaporation rate and the lowest short-term exposure limit, estimated pollutant levels at the nearest residential receptors in the vicinity of the exhaust hood vent, assumed to be located on the school's roof.

Based on vapor pressure and toxicity level, nitric acid was selected to represent the worst-case chemical for this analysis. The following conservative assumptions were made to estimate the evaporation rate of this chemical:

- The nitric acid solution used at the school would be 100 percent nitric acid;
- A full 1 liter (approximately 1,500 grams) container of nitric acid would be spilled under the hood forming a liquid pool; and
- All of the nitric acid (approximately 2.5 grams per second) would be evaporated within a 15 minute period and discharged through the exhaust hood.

Nitric acid gaseous (vapor) emissions released through the exhaust hood were modeled as an instantaneous release using the EPA InPuff Model. The maximum concentration for a 15-minute time period was estimated to be approximately 10 micrograms per cubic meter ($\mu g/m^3$) at nearby receptors. This value is well below the short-term exposure limit for nitric acid of 10,000 $\mu g/m^3$. Therefore, no exceedances of applicable health-related guideline values are predicted.

B.13.8. Summary of Results

The results of all air quality analyses found that the proposed school would not cause a violation of any applicable standard or cause an exceedance of a health-related significance value. Therefore, the proposed school would not result in any significant adverse impacts to air quality or be adversely affected by existing emission sources.

B.14. GREENHOUSE GAS EMISSIONS

> Although the contribution of a proposed project's GHG emissions to global GHG emissions is likely to be considered insignificant when measured against the scale and magnitude of global climate it should still be analyzed to determine consistency with the City's citywide GHG reduction goal " ... of reducing citywide GHG emissions by 30% below 2005 levels by 2030." This is currently the most appropriate standard by which to analyze a project under CEQR. Currently, the GHG consistency assessment focuses on those projects being reviewed in an EIS that would result in development of 350,000 square feet or greater.

Since the proposed project would result in development below this threshold, it would not contribute significantly to GHG emissions, and no further analysis is warranted.

B.15. NOISE

> The 2010 *CEQR Technical Manual* requires a detailed assessment of potential mobile-source noise impacts if a proposed action would double traffic volumes at any location, and a stationary-source noise assessment is required if a substantial generator of noise such as from a playground is proposed to be located near a sensitive receptor. If stationary noise levels increase less than 5 dBA, below the SCA noise impact threshold, no impact is predicted.

The *CEQR Technical Manual* requires a detailed technical assessment of potential mobile noise impacts if a proposed action would double traffic volumes at any location, or if a substantial generator of noise (which includes a playground) would be located near a sensitive receptor. If stationary noise levels increase less than 5 dBA, below the SCA noise impact threshold, no impact is predicted.

The noise assessment considered the following three factors: 1) existing noise levels in the area; 2) the project's noise generation characteristics (principally from project-induced traffic) and their effects on adjacent sensitive receptors; and 3) the inherent sensitivity of the proposed school site to existing and future noise sources in the vicinity.

B.15.1. Noise Descriptors

The A-weighted sound level (dBA) was used in the measurements and analysis of the noise effects in the project area as it correlates well with the human perception of noise. The 1-hour equivalent continuous noise level (L_{eq} in dBA), and the noise level exceeded 10 percent of the time (L_{10} in dBA) were selected as the noise descriptors. The L_{eq} is the equivalent steady state noise level that contains the same amount of acoustic energy as fluctuating noise during the period of measurement. The L_{10} descriptor provides an indication of existing average maximum noise level and permits direct comparison with the CEQR External Noise Exposure Standards provided in Table 22 as required by the NYCDEP, Division of Noise Abatement.

B.15.2. Criteria

Outdoor noise exposure at a noise sensitive property such as schools, residences etc, as indicated in Table 22, are classified into four main categories: "acceptable", "marginally acceptable", "marginally unacceptable", and "clearly unacceptable". Acceptable indoor noise levels in schools are not to exceed 45 dBA or less; therefore, for schools located in areas with "marginally unacceptable" noise levels (70-80 dBA), a minimum 30-35 dBA reduction of outdoor noise would be specified.

TABLE 22: NOISE EXPOSURE STANDARDS FOR USE IN CITY ENVIRONMENTAL IMPACT REVIEWS[1]

Receptor Type	Time Period	Acceptable General External Exposure	Airport[3] Exposure	Marginally Acceptable General External Exposure	Airport[3] Exposure	Marginally Unacceptable General External Exposure	Airport[3] Exposure	Clearly Unacceptable General External Exposure	Airport[3] Exposure
1. Outdoor area requiring serenity and quiet[2]		$L_{10} \le 55$ dBA							
2. Hospital, Nursing Home		$L_{10} \le 55$ dBA	$L_{dn} \le 60$ dBA	$55 < L_{10} \le 65$ dBA	$L_{dn} \le 65$ dBA	$65 < L_{10} \le 80$ dBA	(I) $L_{dn} \le 70$ dBA (II) $L_{dn} \le 75$ dBA	$L_{10} > 80$ dBA	$L_{dn} > 75$ dBA
3. Residence, residential hotel or motel	7 AM–10 PM	$L_{10} \le 65$ dBA		$65 < L_{10} \le 70$ dBA		$70 < L_{10} \le 80$ dBA		$L_{10} > 80$ dBA	
	10 PM–7 AM	$L_{10} \le 55$ dBA		$55 < L_{10} \le 70$ dBA		$70 < L_{10} \le 80$ dBA		$L_{10} > 80$ dBA	
4. School, museum, library, court, house of worship or transient hotel or motel, public meeting room, auditorium, out-patient public health facility		Same as Residential Day (7 AM–10 PM)		Same as Residential Day (7 AM–10 PM)		Same as Residential Day (7 AM–10 PM)		Same as Residential Day (7 AM–10 PM)	
5. Commercial or office		Same as Residential Day (7 AM–10 PM)		Same as Residential Day (7 AM–10 PM)		Same as Residential Day (7 AM–10 PM)		Same as Residential Day (7 AM–10 PM)	
6. Industrial, public areas only[4]	Note[4]	Note[4]		Note[4]		Note[4]		Note[4]	

Source: New York Department of Environmental Protection (adopted policy 1983).

Notes:

(i) In addition, any new activity shall not increase the ambient noise level by 3 dBA or more;

1 Measurements and projections of noise exposures are to be made at appropriate heights above site boundaries as given by American National Standards Institute (ANSI) Standards; all values are for the worst hour in the time period.

2 Tracts of land where serenity and quiet are extraordinarily important and serve an important public need and where the preservation of these qualities is essential for the area to serve its intended purpose. Such areas could include amphitheaters, particular parks or portions of parks or open spaces dedicated or recognized by appropriate local officials for activities requiring special qualities of serenity and quiet. Examples are grounds for ambulatory hospital patients and patients and requiring special qualities of serenity and quiet. Examples are grounds for ambulatory hospital patients and patients and residents of sanitariums and old-age homes.

3 One may use the FAA-approved L_{dn} contours supplied by the Port Authority, or the noise contours may be computed from the federally approved INM Computer Model using data supplied by the Port Authority of New York and New Jersey.

4 External Noise Exposure standards for industrial areas of sounds produced by industrial operations other than operating motor vehicles or other transportation facilities are spelled out in the New York City Zoning Resolution, Sections 42-20 and 42-21. The referenced standards apply to M1, M2, and M3 manufacturing districts and to adjoining residence districts (performance standards are octave band standards).

B.15.3. Existing Noise Measurements

Noise Monitoring Locations

Three representative noise-monitoring sites were selected at sensitive properties near the proposed school facility (Figure 8). Site 1 is a 34-story apartment building located on the south side of West 43rd Street, directly across the street from the proposed school; Site 2 is a three-story multi-family apartment building located on the south side of West 44th Street, across the street from the future location of PS 51; and Site 3 is located on West 44th Street adjacent to the project site.

Existing noise levels were measured at three representative monitoring sites on December 2, 2010 during school hours for durations of 20 minutes per reading. The noise measurements were collected between the time periods of 8:00 to 9:30 AM, 11:30 AM to 1:30 PM, and 2:00 to 3:30 PM. Measured noise levels were used to predict future noise impacts at nearby receptors, potential noise generated from other noise sources on the proposed new school facility and impacts of project-related traffic on nearby sensitive land uses. Noise sources near the proposed school site included automobiles, trucks, commuter buses, school buses, train noise, distant aircraft, PS 51 playground noise, and other intermittent noise sources in the area generated by human activities. Of all these sources, the dominant noise source was road traffic.

Equipment Used in Noise Monitoring

Two sets of calibrated sound level meters with calibrated condenser microphones with attached windscreens. The measurement microphones were mounted on tripods, at approximately 5.5 feet above the ground. At the end of the preset 20 minutes, the L_{10} and the L_{eq} noise levels were read and recorded from the digital display of the sound level meters. Noise measurements were collected during weekdays with favorable weather conditions consisting of precipitation free time periods with dry road surface conditions and wind speeds of 12 mph or less.

Existing Noise Levels

Measured noise levels were typical of ambient noise conditions in urban communities, ranging from a minimum Leq (1-hr) level of 63 dBA to a maximum level of 72 dBA (Table 23). The wide range in measured noise levels was due largely to varying distance (and visual exposure) to street traffic. The higher measured noise levels recorded along West 44th Street is attributable to the greater exposure to truck and bus traffic and train noise experienced along West 44th Street. According to the CEQR external noise exposure standards (presented in Table 22), L_{10} levels recorded along West 43rd Street (Site 1) are within "marginally acceptable" range, whereas existing L_{10} levels noise levels along West 44th Street (77 dBA at Sites 2 and 3) are in the "marginally unacceptable" range.

FIGURE 8: SHORT-TERM NOISE MONITORING LOCATIONS

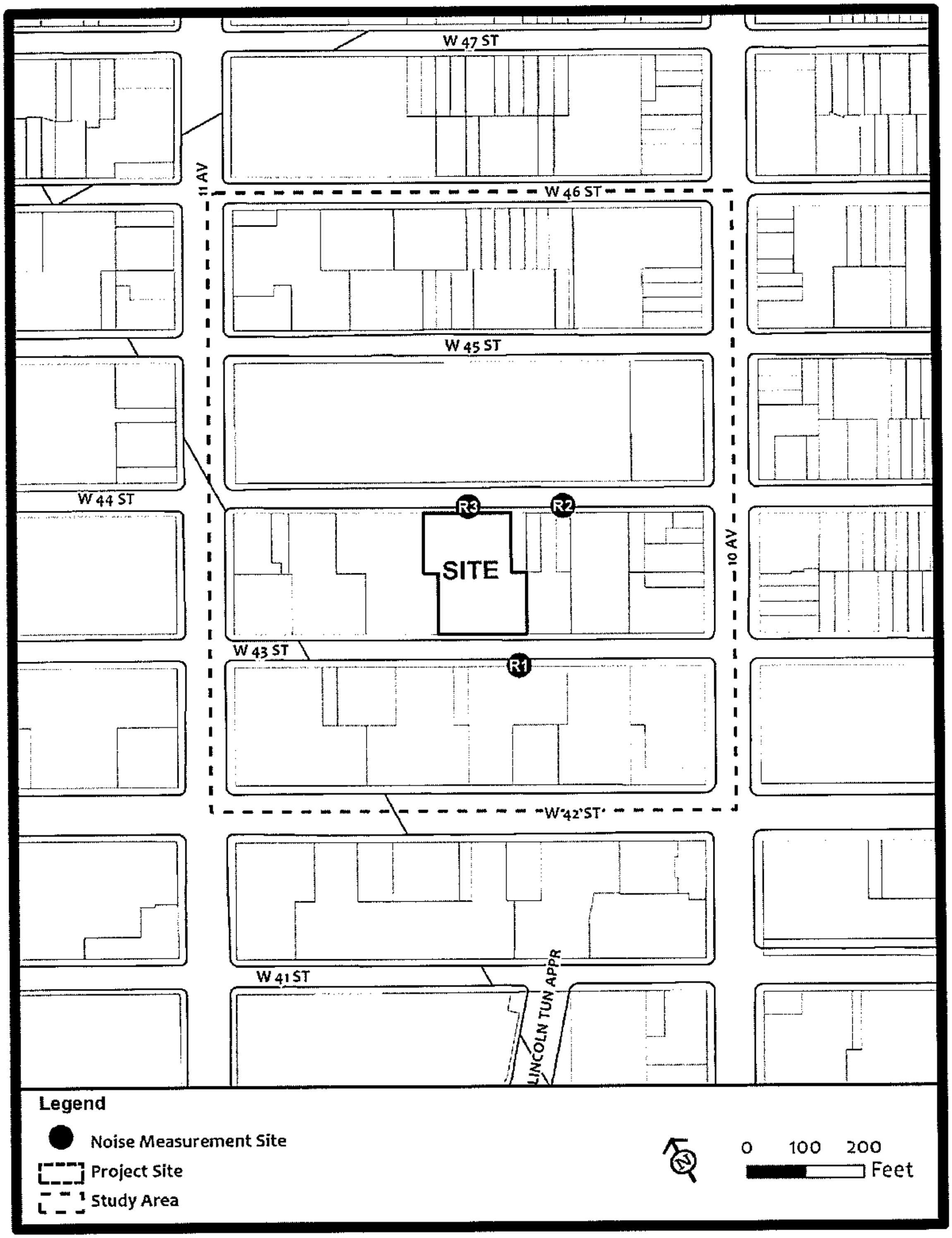


TABLE 23: SHORT-TERM NOISE MONITORING SITE RESULTS*

Site Number	Monitoring Site Location	Hourly Leq (dBA)			Hourly L_{10} (dBA)		
		AM	Midday	PM	AM	Midday	PM
1	520 West 43rd Street	65	63	64	68	66	67
2	502 West 44th Street	71	67	69	74	69	73
3	530 West 44th Street	72	67	67	74	69	69

* Baseline noise monitoring was completed on November 10, 2010 during the time periods 8:00 AM to 9:30 AM, 11:30 AM to 1:30 PM and 2:00 PM to 3:30 PM.

B.15.4. Potential Impacts of the Project

Mobile Sources

Mobile noise sources near the school site include automobiles, trucks, school buses, and aircraft. Of all these sources, the dominant noise source is road traffic. The proposed high school is not expected to increase traffic volumes to any measurable degree. The proposed high school's effect on traffic-generated noise on sensitive land uses in the surrounding community is expected to be minimal and consequently would not result in a perceptible increase in noise levels on the adjacent streets; therefore, no mobile noise impact is expected due to the operations of the proposed high school, and no detailed study is warranted.

Stationary Source

There will be no project-related stationary sources (e.g., outdoor playground); therefore, no impacts would result on nearby sensitive uses and no detailed study is warranted.

B.15.5. Interior Building Noise Levels

The proposed high school building would be designed to provide sufficient window-wall attenuation as shown on Table 24 to ensure that the future interior noise levels in the school classrooms would be 45 dBA or less. Under future build conditions, noise level increases from vehicular movements are not expected to change perceptibly from current measured levels and thus would not create a significant impact on the operation of the high school. Future noise exposure is based on the peak L_{10} level measured in November 2010. The greatest existing noise exposure on the proposed school building is expected to occur along West 44th Street where peak L_{10} levels are projected to reach a maximum level of 74 dBA. Noise generated by the relocated PS 51 playground would be masked by the traffic noise; therefore, the window-wall abatement requirements specified in this section were established in response to existing traffic noise levels measured on West 44th Street,

In order to maintain a quiet environment where speech intelligibility is critical to classroom learning, interior noise levels should not exceed 45 dBA. To satisfy this requirement, a minimum of 30 dBA window-wall attenuation is required on all of the proposed high school building façades facing West 44th Street. A window-wall attenuation of 25 dBA achieved by standard double-pane glass panels along the school facades facing West 43rd Street

TABLE 24: REQUIRED ATTENUATION VALUES TO ACHIEVE ACCEPTABLE INTERIOR NOISE LEVELS

Noise Category	Marginally Acceptable	Marginally Unacceptable		Clearly Unacceptable		
Noise level with proposed action	$65 < L_{10} \leq 70$	$70 < L_{10} \leq 75$	$75 < L_{10} \leq 80$	$80 < L_{10} \leq 85$	$85 < L_{10} \leq 90$	$90 < L_{10} \leq 95$
Required Attenuation	25 dB(A)	(I) 30 dB(A)	(II) 35 dB(A)	(I) 40 dB(A)	(II) 45 dB(A)	(III) 50 dB(A)

Source: New York City Department of Environmental Protection (NYCDEP)

Note: The above composite window-wall attenuation values are for residential dwellings. Commercial office spaces and meeting rooms would be 5 dB(A) less in each category. All the above categories require a closed window situation and hence an alternative means of ventilation.

B.16. PUBLIC HEALTH

Public Health includes the activities that society undertakes to create and maintain conditions in which people can be healthy. An assessment of public health examines potential impacts on health citywide, or in the case of the proposed project, on the health of a community or certain groups of individuals that may be affected.

According to the 2010 *CEQR Technical Manual*, a public health analysis is not necessary for most projects. Where no significant unmitigated adverse impact is found in other CEQR analysis areas, such as air quality, water quality, hazardous materials, or noise, no public health analysis is warranted and no impact is expected. Since no impacts were identified for these subject areas, the proposed project would not be expected to result in significant adverse impacts on public health and no further analysis is warranted.

B.17. NEIGHBORHOOD CHARACTER

Neighborhood character is an amalgam of various elements that give neighborhoods their distinct personality such as the existing—land uses, urban design, visual resources, historic resources, socioeconomic conditions, traffic, and noise levels found there. The 2010 *CEQR Technical Manual* requires an assessment of neighborhood character when a project has the potential to result in significant adverse impacts in any of these other technical areas.

B.17.1. Screening Assessment

The proposed public high school facility would be generally consistent with the changing character of the immediate neighborhood. The project would entail interior renovation of the existing six-story building and construction of a one-story addition on the roof. The project would change the site's use and generate increased pedestrian activity, however, it is not expected to significantly increase vehicular traffic or cause unmitigatable pedestrian impacts. The building would increase in height by one story and the renovation could slightly change its visual character; however, the basic massing and configuration on the site would remain largely unchanged. Overall, the proposed project would not result in significant adverse impacts to any of the various elements that contribute to neighborhood character, including land use, urban design, visual resources, historic resources, socioeconomic conditions, traffic, and noise levels; therefore, the proposed project would not result in significant adverse impacts to neighborhood character.

B.18. CONSTRUCTION IMPACTS

Pursuant to CEQR guidance, a detailed analysis of construction impacts is not required if the construction period is short-term and the intensity of activity is not significant.

The proposed project is expected to take approximately 3 years and be ready for occupancy in 2015. Construction activities would normally take place Monday through Friday, although the delivery or installation of certain critical equipment could occur on weekends. Construction activity would generally be conducted between 8:00 AM and 4:00 PM. Overtime may be required occasionally to complete some time-sensitive tasks.

Construction activities on the project site and construction-related traffic on nearby streets could cause temporary disruptive effects in the immediate environs; however, as a primarily interior renovation project, it would likely have a minimally disruptive effect on the surrounding area. Construction of the proposed project therefore would not result in significant adverse construction impacts.

The disruptive effects of the project's construction activities are described below. Measures will be undertaken to minimize these effects and maintain public safety during the construction period.

B.18.1. Potential Traffic Impacts During Construction

The added construction workers and truck trip generation associated with construction of the new school facility would be expected to temporarily affect street conditions in the immediate area. On-street parking may be partly displaced by construction employee vehicles. Like other construction-related effects, these effects on traffic and parking conditions would be short-term.

B.18.2. Potential Noise Impacts During Construction

Construction activities generally have short-term noise effects on sensitive sites in the immediate vicinity of the construction site. Effects on community noise levels during construction include noise from construction equipment and noise from construction vehicles and delivery vehicles traveling to and from the site. The level of effect of these noise sources depends upon the noise characteristics of the equipment and activities involved, the construction schedule, and the distance from sensitive receptors. At a typical receptor, noise levels would be highest during the early phases of construction when excavation and heavy daily truck traffic would occur. Scheduling the noisiest activities at the least-sensitive times of the day would limit their effect on any sensitive uses nearby.

In addition, short-term noise from school construction activities must comply with the NYCDEP's rules regarding city-wide construction noise mitigation (Chapter 28 of amended Title 15 of the Rules of the City of New York). In accordance with Section 24-219 of the New York City Noise Code, every construction site where construction activities take place shall have, conspicuously posted, a complete and accurate Construction Noise Mitigation Plan to minimize excessive short-term construction noise throughout the city.

B.18.3. Potential Air Quality Impacts During Construction

Construction-related effects of the project on air quality would primarily result from:

- Emissions of on-site operations of heavy-duty diesel-fueled equipment (e.g., cranes, etc.); and
- Emissions generated by construction-related vehicles traveling to and from the construction site.

The project's construction-related effects would be typical of construction activities in New York City in terms of their duration and magnitude. In addition, the construction process in New York City is highly regulated to ensure that construction period impacts are minimized. The construction process requires consultation and coordination with a number of city agencies, including the DOT, the Department of Buildings (NYCDOB), and the NYCDEP, and appropriate construction methods would be employed to minimize the project's construction impacts. Construction activities will comply with Local Law 77, which requires that ultra-low sulfur vehicles be used and best available control technologies be implemented to reduce tailpipe emissions.

With the mandated control measures, the proposed project is not anticipated to cause significant construction-related impacts.

APPENDIX A

Works Cited and Personal Contacts

Clinton Housing Development Company (CHDC) website
http://www.clintonhousing.org/housingdevelopment.html

Curbed NY website
http://ny.curbed.com/archives/2010/03/22/stalled_45story_west_side_tower_downsized.php#reader_comments

Langan Engineering & Environmental Services P.C. Phase I Environmental Site Assessment (ESA), May 1, 2009.

New York City Department of City Planning, Robert Dobruskin, phone communication on November 8, 2010

New York City Department of Parks and Recreation website, http://www.nycgovparks.org/

New York City Department of City Planning website, http://www.nyc.gov/html/dcp/

New York City Department of City Planning. *Zoning Handbook*, January 2006.

New York City Department of City Planning. *Zoning Resolution of the City of New York*, update ongoing.

New York City Department of Education. *Proposed 2010–2104 Five-Year Capital Plan*, (revised) November 2010.

New York City Mayor's Office of Environmental Coordination, *City Environmental Quality Review (CEQR) Technical Manual*, 2010.

SCA
School Construction Authority

NYC
Department of Education

July 21, 2011

The Honorable Christine C. Quinn
Speaker of the Council
City Hall
New York, New York 10007

Dear Speaker Quinn:

The New York City School Construction Authority (SCA) has undertaken its site selection process for the following proposed school:

- I.S. 311, Queens
- New, Approximately 785-Seat Intermediate School Facility
- Block 1628, Lot 21
- North side of 44th Avenue between National Street and 97th Place
- Community School District No. 24
- Queens Community Board No. 4

The proposed site is located on the block bounded by 43rd Avenue to the north, 44th Avenue to the south, National Place to the east and 97th Place to the west in the Corona section of Queens. It contains a total of approximately 40,000 square feet (0.92 acres) of lot area and also contains a one-story building used as a plumbing supplies warehouse. Under the proposed project, the SCA would acquire the site, demolish the existing on-site structure, and construct a new, approximately 785-seat intermediate school facility serving students in Community School District No. 24.

The Notice of Filing of the Site Plan was published in the New York Post and the City Record on January 19, 2010. At that time, the SCA proposed to redevelop the proposed site with a new, approximately 612-seat primary/intermediate school facility. Queens Community Board No. 4 was notified on January 19, 2010, and was asked to hold a public hearing on the proposed Site Plan. Queens Community Board No. 4 held a hearing on the site on February 2, 2010, and submitted written comments recommending against the proposed site. The City Planning Commission was also notified on January 19, 2010 and recommended in favor of the proposed site.

30-30 Thomson Avenue
Long Island City, NY 11101

718 472 8000 T
718 472 8840 F

SCA
School Construction Authority

NYC
Department of Education

After the 45-day public comment period had expired and the SCA had reviewed both the comments that had been received and the latest amendment to the DOE's Five-Year Capital Plan for Fiscal Years 2010-2014, the SCA has revised its proposal for the site. Instead of the approximately 612-seat primary/intermediate school facility that had been proposed, the SCA now proposes to construct a new, approximately 785-seat intermediate school facility on the site. Notwithstanding the proposed change in the development program, the SCA does not propose any modifications to the Site Plan itself.

The SCA has considered all comments received on the proposed project and affirms the Site Plan pursuant to §1731.4 of the Public Authorities Law. In accordance with §1732 of the Public Authorities Law, the SCA is submitting the enclosed Site Plan to the Mayor and the Council for consideration. Enclosed also are copies of the Environmental Assessment and Negative Declaration that have been prepared for this project.

The SCA looks forward to your favorable consideration of the proposed Site Plan. If you have any questions regarding this Site Plan or would like further information, please contact me at (718) 472-8220 at your convenience. Thank you for your attention to this matter.

Sincerely,

Ross J. Holden
Executive Vice President & General Counsel

Encl.

c. Hon. Michael R. Bloomberg (w/o attachments)
Hon. Leroy G. Comrie, Land Use Committee
Hon. Brad Lander, Subcommittee on Landmarks, Public Siting and Maritime Uses
Hon. Julissa Ferreras, District Councilmember
Kathleen Grimm, Deputy Chancellor

SCA

School Construction Authority

NYC

Department of Education

July 21, 2011

The Honorable Michael R. Bloomberg
Mayor
City Hall
New York, New York 10007

Dear Mayor Bloomberg:

The New York City School Construction Authority (SCA) has undertaken its site selection process for the following proposed school:

- I.S. 311, Queens
- New, Approximately 785-Seat Intermediate School Facility
- Block 1628, Lot 21
- North side of 44th Avenue between National Street and 97th Place
- Community School District No. 24
- Queens Community Board No. 4

The proposed site is located on the block bounded by 43rd Avenue to the north, 44th Avenue to the south, National Place to the east and 97th Place to the west in the Corona section of Queens. It contains a total of approximately 40,000 square feet (0.92 acres) of lot area and also contains a one-story building used as a plumbing supplies warehouse. Under the proposed project, the SCA would acquire the site, demolish the existing on-site structure, and construct a new, approximately 785-seat intermediate school facility serving students in Community School District No. 24.

The Notice of Filing of the Site Plan was published in the New York Post and the City Record on January 19, 2010. At that time, the SCA proposed to redevelop the proposed site with a new, approximately 612-seat primary/intermediate school facility. Queens Community Board No. 4 was notified on January 19, 2010, and was asked to hold a public hearing on the proposed Site Plan. Queens Community Board No.4 held a hearing on the site on February 2, 2010, and submitted written comments recommending against the proposed site. The City Planning Commission was also notified on January 19, 2010 and recommended in favor of the proposed site.

30-30 Thomson Avenue
Long Island City, NY 11101

718 472 8000 T
718 472 8840 F

School Construction Authority

Department of Education

After the 45-day public comment period had expired and the SCA had reviewed both the comments that had been received and the latest amendment to the DOE's Five-Year Capital Plan for Fiscal Years 2010-2014, the SCA has revised its proposal for the site. Instead of the approximately 612-seat primary/intermediate school facility that had been proposed, the SCA now proposes to construct a new, approximately 785-seat intermediate school facility on the site. Notwithstanding the proposed change in the development program, the SCA does not propose any modifications to the Site Plan itself.

The SCA has considered all comments received on the proposed project and affirms the Site Plan pursuant to §1731.4 of the Public Authorities Law. In accordance with §1732 of the Public Authorities Law, the SCA is submitting the enclosed Site Plan to your Honor and the Council for consideration. Enclosed also are copies of the Environmental Assessment and Negative Declaration that have been prepared for this project.

The SCA looks forward to your favorable consideration of the proposed Site Plan. If you have any questions regarding this Site Plan or would like further information, please contact me at (718) 472-8220 at your convenience. Thank you for your attention to this matter.

Sincerely,

Ross J. Holden
Executive Vice President & General Counsel

Encl.

c. Hon. Christine C. Quinn (w/o attachments)
Kathleen Grimm, Deputy Chancellor

NOTICE OF FILING

NEW YORK CITY SCHOOL CONSTRUCTION AUTHORITY

Pursuant to §1731 of the New York City School Construction Authority Act, notice has been filed for the proposed site selection of Block 1628, Lot 21, and any other property in the immediate vicinity which may be necessary for the proposed project, located in the Borough of Queens, for the construction of a new, approximately 612-seat primary/intermediate school facility in Community School District No. 24.

The proposed site contains a total of approximately 40,000 square feet (0.92 acres) of lot area and is located at 97-36 43rd Avenue, between National Street and 97th Place. The site is privately owned and is currently being used as a plumbing supplies warehouse. Site plans and a summary thereof for the proposed action are available at:

New York City School Construction Authority
30-30 Thomson Avenue
Long Island City, New York 11101

Attention: Ross J. Holden

Comments on the proposed actions are to be sent to the New York City School Construction Authority at the above address and will be accepted until March 5, 2010.

For publication in the New York Post (5 Borough Edition) and the City Record on Tuesday, January 19, 2010.

SCA
NYC School Construction Authority

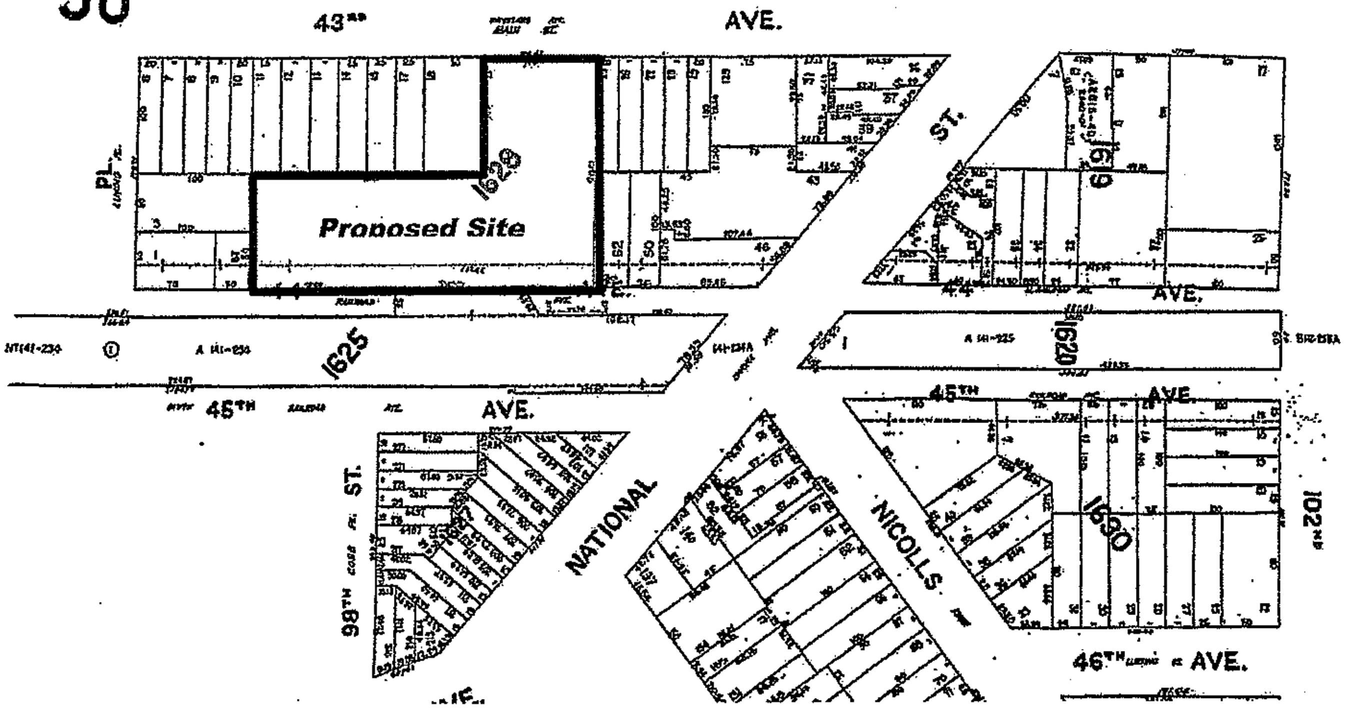
SITE PLAN FOR AN APPROXIMATELY 612 SEAT ELEMENTARY SCHOOL, QUEENS

Queens Block 1728 – Lot 21

Community School District No. 24

§1731: 1/19/2010 – 3/5/2010

38



ALTERNATE SITES ANALYSES

NEW, APPROXIMATELY
612-SEAT PRIMARY SCHOOL/INTERMEDIATE SCHOOL
97-36 43RD AVENUE
BLOCK 1628, LOT 21

The following locations were also considered as potential sites for a school in District 24.

1. **111-02 Astoria Boulevard (Block 1705, Lots 1, 5, 10, 61)** This approximately 33,000 square foot assemblage is on the corner of Astoria Boulevard 111th Street. It is currently used as a warehouse and demolition equipment business. The Department of Education conducted a preliminary review and determined that the site would not be suitable for a school due to the property's proximity to a heavily used intersection as well as the site's industrial context.

2. **47-01 108th Street (Block 2003, Lot 1)** This site consists of approximately 20,000 square feet of lot area improved with an approximately 5,000 square foot garage. The site was dropped for consideration given the narrowness of the adjoining avenue and its heavy use for both cars and large trucks.

3. **79-48 Albion Avenue (Block 1537, Lots 48 and 62)** This property, in an M-1 zoning district, was offered for sale. A preliminary review determined that the site was irregular. It was determined that given its size and shape, this property was not suitable for a school. The site was dropped from further consideration.

The City of New York

COMMUNITY BOARD # 4Q
Serving: Corona, Corona Heights, and Elmhurst
46-11 104th Street
Corona, New York 11368-2882
Telephone: 718-760-3141 Fax: 718-760-5971
e-mail: cb4q@nyc.rr.com

Helen Marshall
Borough President

Barry Grodenchik
Deputy Borough President
Director of Community Boards

Louis Walker
Chairperson

Richard Italiano
District Manager

February 04, 2010

Sharon L. Greenberg
President and CEO
NYC School Construction Authority
30-30 Thomson Avenue
Long Island City, NY 11101

Re: New, Approximately 612-Seat Primary/Intermediate School, Queens Community School District # 24, Located at 97-36 43rd Avenue Corona, NY 11368 Block 1628, Lot 21.

Dear S. L. Greenberg,

In response to your letter dated January 19, 2010 and received at the office of Community Board #4Q via fax and e-mail, following are Community Board #4Q's actions and recommendations.

Upon receipt, Community Board #4Q scheduled a Public Hearing for February 02, 2010. The testimony at the Public Hearing included statements from the surrounding residents, FDNY, NYPD, CEC District 24, and the property owner of the proposed site.

The members of Community Board #4Q realize the need for school seats in the District, however as evidenced by the testimony the site is not suitable for a school for the following reasons:

Engine 289, Ladder 138 of the NYC Fire Department is located adjacent to the proposed site at 97-28 43rd Avenue. Being that this fire house is extremely busy there is a serious safety concern for the students of the proposed school as well as the safety of firemen exiting the firehouse, on 43rd Avenue, in emergency situations.
The firehouse is also a Landmarked building and there is a concern for the integrity of the structure during the construction phase of the proposed project.
Noise generated by the fire trucks would be disruptive to the students located in the proposed school.

The NYPD's 110th Precinct is located at 94-41 43rd Avenue, which is a short distance from the proposed site; the Precinct uses 43rd Avenue and 44th Avenue on a regular basis for emergency calls. The traffic generated by the Precinct will pose a safety issue for students walking to and from the proposed school. The noise generated by police vehicles, responding to emergency calls would be disruptive to the students of the proposed school.

43rd Avenue is a narrow one-lane in each direction two-way street and heavily trafficked not only by the FDNY and NYPD but heavy truck traffic and local vehicular is also present on the street.

44th Avenue is a one-lane one-way street that abuts the Long Island Railroad Port Washington Line. If the entrance to the proposed school is located on 44th Avenue, given the narrow nature of the street it could not safely handle the school bus traffic generated by the proposed school.
Again, the noise generated by the Long Island Railroad would also be disruptive to the students of the proposed school.

The surrounding residents are concerned that the proposed school would impact their quality of life, citing the noise generated from the students and additional pedestrian and vehicle traffic in the area. The residents are also concerned about what the school would do to their property values.

The site of the proposed school is currently occupied by Wal-Rich a plumbing supply business that has been located at this site since 1982 and employs approximately 38 employees.

The proposed site is located within one block of Aniqa Halal Live Poultry (96-18 43rd Avenue) a poultry slaughter house and processing plant. The strong odors emitted by this processing plant are unbearable. Consult with the FDNY, NYPD, or any neighbors in the area regarding the stench that is emitted from the plant. If the proposed school is built the students will probably not be able to sit in their class rooms with out being nauseated by the stench emitted from the plant.

A motion was entered to reject this site as unsuitable for a school for the reasons cited at the Public Hearing and continue to work with the School Construction Authority, Community Leaders, and Elected Officials to identify suitable alternate sites for schools in our District. The motion passed by 33 in support, 0 in opposition, and 2 abstentions.

It was suggested at the meeting by the Community Board members that a possible site would be in the area surrounding IS 61Q, 98-50 50th Avenue. 50th Avenue and 98th Street have sites that are under-utilized and may be excellent candidates for schools. We will be more than happy to setup a meeting to tour this area.

We will continue to search for suitable sites and forward them to your office.

Attached for your reference is a copy of the draft minutes from the CB #4Q 02/02/2010 Public Hearing.

Please contact me if you have any questions or need additional information.

Sincerely,

Richard Italiano
District Manager, CB #4Q

Cc: Helen H. Marshall, QBP
Julissa Ferreras, CD 21
Ross J. Holden, SCA
C. Persheff, SCA
M. Gutierrez, SCA

CITY PLANNING COMMISSION
CITY OF NEW YORK

OFFICE OF THE CHAIR

March 1, 2009

Sharon L. Greenberger
President and CEO
New York City School Construction Authority
30-30 Thomson Avenue
Long Island City, NY 11101-3045

Dear Ms. Greenberger,

This is in response to your letter of January 19, 2010 in which notice was given to the City Planning Commission of the proposed site selection of Block 1628, Lot 21 in the borough of Queens (Community District 4) for the construction of a 612-seat Primary/Intermediate School facility for Community School District 24.

In view of the need for additional primary/intermediate school capacity in this school district, the City Planning Commission recommends in favor of the proposed site for a new school facility in CSD 24.

Very sincerely,

Amanda M. Burden

C: Kathleen Grimm
Ross Holden
Betty Mackintosh
John Young

Amanda M. Burden, FAICP, Chair
22 Reade Street, New York, NY 10007-1216
(212) 720-3200 FAX (212) 720-3219
nyc.gov/planning

SCA
School Construction Authority

NYC
Department of Education

January 19, 2010

Mr. Nick Comaianni
President
Community Education Council No. 24
68-10 Central Avenue
Glendale, New York 11385

Re: New, Approximately 612-Seat Primary/Intermediate School, Queens Community School District No. 24

Dear Mr. Comaianni:

Pursuant to §1731 of the New York City School Construction Authority Act, notice is hereby given of the proposed site selection of Block 1628, Lot 21, located in the Borough of Queens, and any other property in the immediate vicinity which may be necessary for the proposed project, for the construction of a new, approximately 612-seat primary/intermediate school facility in Community School District No. 24. The site is located at 97-36 43rd Avenue, between National Street and 97th Place.

This notification was sent to Queens Community Board No. 4 and the City Planning Commission. We have requested that Queens Community Board No. 4 hold a public hearing on the proposed site selection within thirty (30) days of this notice, and the SCA will continue to accept public comments until March 5, 2010.

I have also attached the Site Plan and Alternate Sites Analyses for your review. If you require any additional information, please do not hesitate to contact Ross J. Holden, Vice President and General Counsel at (718) 472-8220.

Sincerely,

Sharon L. Greenberger
President and CEO

Attachments

c: Kathleen Grimm, Deputy Chancellor

30-30 Thomson Avenue
Long Island City, NY 11101

718 472 8000 T
718 472 8840 F

SCA
School Construction Authority

NYC
Department of Education

January 19, 2010

The Honorable Hiram Monserrate
New York State Senate, 13th District
District Office
32-37 Junction Boulevard
East Elmhurst, New York 11369

Re: New, Approximately 612-Seat Primary/Intermediate School, Queens Community School District No. 24

Dear State Senator Monserrate:

Pursuant to §1731 of the New York City School Construction Authority Act, notice is hereby given of the proposed site selection of Block 1628, Lot 21, located in the Borough of Queens, and any other property in the immediate vicinity which may be necessary for the proposed project, for the construction of a new, approximately 612-seat primary/intermediate school facility in Community School District No. 24. The site is located at 97-36 43rd Avenue, between National Street and 97th Place.

This notification was sent to Queens Community Board No. 4 and the City Planning Commission. The Notice of Filing for this site selection will be published in the New York Post and City Record on January 19, 2010, and the SCA will continue to accept public comments until March 15, 2010.

I have also attached the Site Plan and Alternate Sites Analyses for your review. If you require any additional information, please do not hesitate to contact Ross J. Holden, Vice President and General Counsel at (718) 472-8220.

Sincerely,

Sharon L. Greenberger
President and CEO

Attachments

c: Kathleen Grimm, Deputy Chancellor

30-30 Thomson Avenue
Long Island City, NY 11101

718 472 8000 T
718 472 8840 F

SCA
School Construction Authority

NYC
Department of Education

January 19, 2010

The Honorable José R. Peralta
New York State Assembly, 39th District
District Office
82-11 37th Avenue
Jackson Heights, New York 11372

Re: New, Approximately 612-Seat Primary/Intermediate School, Queens Community School District No. 24

Dear Assemblyman Peralta:

Pursuant to §1731 of the New York City School Construction Authority Act, notice is hereby given of the proposed site selection of Block 1628, Lot 21, located in the Borough of Queens, and any other property in the immediate vicinity which may be necessary for the proposed project, for the construction of a new, approximately 612-seat primary/intermediate school facility in Community School District No. 24. The site is located at 97-36 43rd Avenue, between National Street and 97th Place.

This notification was sent to Queens Community Board No. 4 and the City Planning Commission. The Notice of Filing for this site selection will be published in the New York Post and City Record on January 19, 2010, and the SCA will continue to accept public comments until March 5, 2010.

I have also attached the Site Plan and Alternate Sites Analyses for your review. If you require any additional information, please do not hesitate to contact Ross J. Holden, Vice President and General Counsel at (718) 472-8220.

Sincerely,

Sharon L. Greenberger
President and CEO

Attachments

c: Kathleen Grimm, Deputy Chancellor

30-30 Thomson Avenue
Long Island City, NY 11101

718 472 8000 T
718 472 8840 F

SCA
School Construction Authority

NYC
Department of Education

January 19, 2010

The Honorable Helen Marshall
President, Borough of Queens
120-55 Queens Boulevard
Kew Gardens, New York 11424

Re: New, Approximately 612-Seat Primary/Intermediate School, Queens Community School District No. 24

Dear Borough President Marshall:

Pursuant to §1731 of the New York City School Construction Authority Act, notice is hereby given of the proposed site selection of Block 1628, Lot 21, located in the Borough of Queens, and any other property in the immediate vicinity which may be necessary for the proposed project, for the construction of a new, approximately 612-seat primary/intermediate school facility in Community School District No. 24. The site is located at 97-36 43rd Avenue, between National Street and 97th Place.

This notification was sent to Queens Community Board No. 4 and the City Planning Commission. The Notice of Filing for this site selection will be published in the New York Post and City Record on January 19, 2010, and the SCA will continue to accept public comments until March 15, 2010.

I have also attached the Site Plan and Alternate Sites Analyses for your review. If you require any additional information, please do not hesitate to contact Ross J. Holden, Vice President and General Counsel at (718) 472-8220.

Sincerely,

Sharon L. Greenberger
President and CEO

Attachments

c: Kathleen Grimm, Deputy Chancellor

SCA
School Construction Authority

NYC
Department of Education

January 19, 2010

The Honorable Christine C. Quinn
Speaker of the City Council
City Hall
New York, New York 10007

Re: New, Approximately 612-Seat Primary/Intermediate School, Queens Community School District No. 24

Dear Speaker Quinn:

Pursuant to §1731 of the New York City School Construction Authority Act, notice is hereby given of the proposed site selection of Block 1628, Lot 21, located in the Borough of Queens, and any other property in the immediate vicinity which may be necessary for the proposed project, for the construction of a new, approximately 612-seat primary/intermediate school facility in Community School District No. 24. The site is located at 97-36 43rd Avenue, between National Street and 97th Place.

This notification was sent to Queens Community Board No. 4 and the City Planning Commission. The Notice of Filing for this site selection will be published in the New York Post and City Record on January 19, 2010, and the SCA will continue to accept public comments until March 5, 2010.

I have also attached the Site Plan and Alternate Sites Analyses for your review. If you require any additional information, please do not hesitate to contact Ross J. Holden, Vice President and General Counsel at (718) 472-8220.

Sincerely,

Sharon L. Greenberger
President and CEO

Attachments

c: Kathleen Grimm, Deputy Chancellor
Chairperson, Land Use Committee
Chairperson, Subcommittee on Landmarks,
Public Siting and Maritime Uses
Hon. Julissa Ferreras, District Councilmember
Gail Benjamin, Director, Land Use Division
Alonzo Carr, Land Use Division

30-30 Thomson Avenue
Long Island City, NY 11101

718 472 8000 T
718 472 8840 F

SCA
School Construction Authority

NYC
Department of Education

January 19, 2010

Kathleen Grimm
Deputy Chancellor
New York City Department of Education
52 Chambers Street
New York, New York 10007

Re: New, Approximately 612-Seat Primary/Intermediate School, Queens Community School District No. 24

Dear Kathleen:

Pursuant to §1731 of the New York City School Construction Authority Act, notice is hereby given of the proposed site selection of Block 1628, Lot 21, and any other property in the immediate vicinity which may be necessary for the proposed project, located in the Borough of Queens, for the construction of a new, approximately 612-seat primary/intermediate school facility in Community School District No. 24. The site is located at 97-36 43rd Avenue, between National Street and 97th Place.

By statute, the SCA is required to complete the site selection process before acquiring real property or starting construction of new schools. This process begins with formal notifications to the Department of Education, City Planning Commission, and the affected Community Board. The notification initiates a thirty (30) day period within which the Community Board is required to hold a public hearing, after which it has an additional fifteen (15) days to submit written comments. Following completion of this 45-day period, the SCA can submit the proposed site for approval by the City Council and Mayor. Only after the City Council and Mayor approve the site can the SCA acquire the site.

Attached are copies of the Notice of Filing, the Site Plan, and the Alternate Sites Analyses for the proposed action. The SCA will accept public comments on this proposed action until March 5, 2010. All comments will be taken into consideration in the SCA's final decision regarding this matter. If you require any additional information, please do not hesitate to contact Ross at (718) 472-8220.

Sincerely,

Sharon L. Greenberger
President and CEO

30-30 Thomson Avenue
Long Island City, NY 11101

718 472 8000 T
718 472 8840 F

SCA
School Construction Authority

NYC
Department of Education

January 19, 2010

Amanda M. Burden, FAICP
Chairperson
City Planning Commission
22 Reade Street
New York, New York 10007

Re: New, Approximately 612-Seat Primary/Intermediate School, Queens Community School District No. 24

Dear Ms. Burden:

Pursuant to §1731 of the New York City School Construction Authority Act, notice is hereby given of the proposed site selection of Block 1628, Lot 21, located in the Borough of Queens, and any other property in the immediate vicinity which may be necessary for the proposed project, for the construction of a new, approximately 612-seat primary/intermediate school facility in Community School District No. 24. The site is located at 97-36 43rd Avenue, between National Street and 97th Place.

Attached please find copies of the Notice of Filing, the Site Plan, and the Alternate Sites Analyses for the proposed action. The Authority will accept public comments on this proposed action until March 5, 2010. All comments will be taken into consideration in the Authority's final decision regarding this matter.

If you require any additional information, please do not hesitate to contact Ross J. Holden, Vice President and General Counsel, at (718) 472-8220.

Sincerely,

Sharon L. Greenberger
President and CEO

c: Kathleen Grimm, Deputy Chancellor
Sarah Whitham, NYC Department of City Planning

30-30 Thomson Avenue
Long Island City, NY 11101

718 472 8000 T
718 472 8840 F

SCA
School Construction Authority

NYC
Department of Education

January 19, 2010

Mr. Lou Walker
Chairperson
Queens Community Board No. 4
46-11 104th Street
Corona, New York 11368

Re: New, Approximately 612-Seat Primary/Intermediate School, Queens Community School District No. 24

Dear Mr. Walker:

Pursuant to §1731 of the New York City School Construction Authority Act, notice is hereby given of the proposed site selection of Block 1628, Lot 21, located in the Borough of Queens, and any other property in the immediate vicinity which may be necessary for the proposed project, for the construction of a new, approximately 612-seat primary/intermediate school facility in Community School District No. 24. The site is located at 97-36 43rd Avenue, between National Street and 97th Place.

Section 1731.2 states that within thirty (30) days of this notice, a public hearing with sufficient public notice shall be held by each affected community board on any or all aspects of the Site Plan. You may request the attendance of representatives of the Authority or Department of Education at this hearing.

In addition, §1731.3 states that within forty-five (45) days of this notice, each affected community board shall prepare and submit to the authority written comments on the Site Plan. Attached please find copies of the Notice of Filing, Site Plan, and Alternate Sites Analyses for the proposed action. The Authority will accept public comments on this proposed action until March 5, 2010. All comments will be taken into consideration in the Authority's final decision regarding this matter.

If you require any additional information, please do not hesitate to contact Ross J. Holden, Vice President and General Counsel, at (718) 472-8220.

Sincerely,

Sharon L. Greenberger
President and CEO

Attachments

c: Kathleen Grimm, Deputy Chancellor
Mr. Richard Italiano, District Manager, Queens Community District No. 4

30-30 Thomson Avenue
Long Island City, NY 11101
718 472 8000 T
718 472 8840 F

School Construction Authority

Department of Education

STATE ENVIRONMENTAL QUALITY REVIEW
NEGATIVE DECLARATION
NOTICE OF DETERMINATION OF NON-SIGNIFICANCE

DATE: July 20, 2011

SEQR PROJECT NO.: 12-003

LEAD AGENCY: New York City School Construction Authority
30-30 Thomson Avenue
Long Island City, New York 11101-3045

This notice is issued pursuant to Part 617 of the implementing regulations pertaining to Article 8 (State Environmental Quality Review Act) of the Environmental Conservation Law. Pursuant to §1730.2 of the Public Authorities Law, the New York City School Construction Authority (SCA) is SEQR Lead Agency.

The SCA, as Lead Agency, has determined that the proposed action described below will not have a significant effect on the quality of the environment, and a Draft Environmental Impact Statement (DEIS) will not be prepared.

NAME OF ACTION: **I.S. 311, Queens**
New, Approximately 785-Seat
Intermediate School Facility and Schoolyard

LOCATION: 97-36 43rd Avenue
Tax Block 1628, Lot 21

SEQR STATUS: Type I

NEGATIVE DECLARATION

Description of Action:

On behalf of the New York City Department of Education (DOE), the New York City School Construction Authority (SCA) proposes the site selection, acceptance of construction funding, and construction of a new, approximately 785-seat intermediate school facility and associated schoolyards in the Corona section of Queens. Construction of this proposed facility would be conducted pursuant to DOE's Capital Plan for Fiscal Years 2010-2014.

The project site is an approximately 40,000-square-foot (sf) lot located at 97-36 43rd Avenue, between National Street and 97th Place (Block 1628, Lot 21). The project site is a privately-owned plumbing supplies warehouse that has street

School Construction Authority

Department of Education

frontage on both 43rd and 44th Avenues. The site is adjoined by a three-story multi-family building to the east, and Fire Engine Company 289 / Ladder Company 138 to the west.

The proposed project is intended to address the need for additional public school capacity in the area, as identified in DOE's Five-Year Capital Plan for Fiscal Years 2010-2014. According to the Capital Plan, a total of 4,491 additional seats at the primary and intermediate school levels are required in District No. 24. The new facility is expected to help relieve overcrowded conditions at nearby District No. 24 schools, such as I.S. 61, which is located at 98-50 50th Avenue, approximately one-half mile from the proposed site. I.S. 61's operated at 104 percent of its capacity during the 2009-2010 school year.

Under the proposed project, the SCA would acquire the site, demolish the existing on-site structure and construct a new intermediate school facility. Based on the preliminary design concept, the new school facility would be five stories in height, and would contain approximately 100,000 gross square feet, consisting of general education classrooms, cafeteria and gymnasium/assembly space, library, administrative and support space. An 11,000 square foot play area and a 3,000 square foot passive recreation area are also included in the design. The SCA would move forward with acquisition of the property beginning in 2011, and student occupancy of the completed facilities is expected to begin in Fall of 2015.

Reasons Supporting This Determination:

A comprehensive Environmental Assessment Form (EAF) and Supplemental Environmental Studies for this action were completed and issued on July 20, 2011. Based upon those documents (which are appended hereto), the SCA has determined that the proposed project will have no significant adverse impacts on environmental conditions related to the following areas: land use, zoning and public policy; socioeconomic conditions; community facilities; open space; shadows; historic and cultural resources; urban design and visual resources; community character; natural resources; hazardous materials; infrastructure; solid waste and sanitation services; energy; transportation; air quality; noise; construction-related impacts; and, public health.

The key findings related to the analysis of the following four environmental impact areas in the Environmental Assessment are discussed in greater detail below:

Zoning and Public Policy
The project site contains a portion of a mapped street along 44th Avenue, which is currently being used by the existing warehouse as a driveway and loading area. The SCA has confirmed that the City does not plan to widen the street to its fully mapped width (and such widening would require the acquisition of several

SCA
School Construction Authority

NYC
Department of Education

private properties) and shall coordinate with the New York City Department of Transportation (NYCDOT) and the New York City Department of City Planning (DCP) to modify the official City Map to conform the mapped street width to the width of the existing and built right-of-way. The SCA will undertake this proposed City Map change, which will require review and approval pursuant to the City's Uniform Land Use Review Procedure (ULURP) upon receipt of site plan approval. The demapping of the unbuilt street bed extension would not affect zoning on the project site or in the study area.

Historic and Cultural Resources

The project site is located adjacent to Fire Engine Company 289/Ladder Company 138, which is a designated New York City Landmark and also listed on the State and National Registers of Historic Places. To avoid potential adverse physical effects on this architectural resource, a Construction Protection Plan (CPP) would be developed and implemented prior to the commencement of any demolition or construction activities on the project site. Furthermore, based on consultation between the SCA and the New York State Office of Parks, Recreation and Historic Preservation (OPRHP) and to meet the conditions specified in OPRHP's April 29, 2010 findings letter, that CPP will also be submitted to OPRHP for review. The CPP will follow the New York City Department of Buildings (DOB) *TPPN #10/88,* regarding procedures for the avoidance of damage to historic structures resulting from adjacent construction, and will be prepared in consultation with the New York State Historic Preservation Officer (SHPO) and the New York City Landmarks Preservation Commission (LPC). *TPPN #10/88* requires a monitoring program to reduce the likelihood of construction damage to adjacent NYCLs and S/NR-listed properties (within 90 feet) and to detect at an early stage the beginnings of damage so that construction procedures can be changed.

The new school building would be faced in masonry like many nearby buildings, including Fire Engine Company 289/Ladder Company 138. It would be built in place of a non-historic structure that does not have an important relationship with the historic fire station. As such, the proposed project would not result in adverse contextual impacts. The proposed project would also not obstruct views to the fire station, as the school building would be oriented along 44th Avenue with a playground located adjacent to the fire station on 43rd Avenue. Therefore, the proposed project would not result in significant adverse visual or contextual impacts on Fire Engine Company 289/Ladder Company 138.

Transportation

The SCA is currently pursuing plans to develop a new 1,110-seat primary school (P.S.) at 96-18 43rd Avenue (Q315), one block west of the proposed project. The new P.S. at 96-18 43rd Avenue is currently anticipated to be completed before the proposed project. However, in the event that the new P.S. is not constructed by 2015, the transportation analysis considers two analysis scenarios for the future

SCA
School Construction Authority

NYC
Department of Education

without the proposed project—Scenario One includes construction of the 1,110-seat P.S. by 2015. Scenario Two assumes that the new P.S. is not constructed by 2015.

Scenario One
Under Scenario One, in addition to general background growth of the surrounding neighborhood, both proposed schools in the study area are expected to be completed by the year 2015. Vehicular and pedestrian trips generated by these two planned school projects and their corresponding proposed improvements were incorporated in the 2015 No Build analysis. These include the traffic improvements proposed as part of the new primary school located at 96-18 43rd Avenue involving installation of All-Way-Stop-Controls (AWSCs) at the intersections of 43rd and 44th Avenues at 97th Place to facilitate safe pedestrian crossings at newly installed crosswalks.

For the streets around the site, future intersection volumes would generally represent a moderate increase over the existing traffic volumes. The street capacities at most of the study area intersections would be sufficient to accommodate these increases. However, the proposed project could require traffic improvements at the following intersection approaches/lane-groups during the two peak hours analyzed:

Signalized Intersections
- The northbound and southbound approaches at the intersection of Roosevelt Avenue and Junction Boulevard during the AM and PM peak periods. The impact to this traffic movement at the intersection could be mitigated by shifting three (3) seconds of green time from the eastbound and westbound phase to the northbound and southbound phases.
- The southbound approach at the intersection of 43rd Avenue and Junction Boulevard during the AM and PM peak periods would operate more efficiently if parking was prohibited 100 feet from the southbound approach at this intersection.

Unsignalized Intersections
- The installation of a two-phase signal at the intersection of 44th Avenue and Junction Boulevard
- The installation of a three-phase signal at the intersection of 44th Avenue and National Street.
- The installation of a three-phase signal at the intersection of 45th Avenue and National Street.

With these improvement measures in place, all of the impacted intersection approaches/lane groups would operate at the same or at better service conditions than the No Build conditions.

SCA
School Construction Authority

NYC
Department of Education

Scenario Two
Under Scenario Two, only the school at the I.S. 311 site is constructed by 2015.

For the streets around the site, future intersection volumes would generally represent a moderate increase over the existing traffic volumes. The street capacities at most of the study area intersections would be sufficient to accommodate these increases. However, the proposed project could require traffic improvements at the following intersection approaches/lane-groups during the two peak hours analyzed:

Signalized Intersections

- The northbound and southbound approaches at the intersection of Roosevelt Avenue and Junction Boulevard during the AM and PM peak periods. The impact to this traffic movement at the intersection could be mitigated by shifting three (3) seconds of green time from the eastbound and westbound phase to the northbound and southbound phases.

Unsignalized Intersections

- The installation of a two-phase signal at the intersection of 44th Avenue and Junction Boulevard
- The installation of a three-phase signal at the intersection of 44th Avenue and National Street.
- The installation of a three-phase signal at the intersection of 45th Avenue and National Street.

With these improvement measures in place, all of the impacted intersection approaches/lane groups would operate at the same or at better service conditions than the No Build conditions.

Each of the proposed traffic improvement measures under either Scenario One or Scenario Two are subject to the review and approval by the New York City Department of Transportation (NYCDOT).

Soil and Groundwater conditions
A Phase I Environmental site Assessment (ESA) and a Phase II Environmental Site Investigation (ESI) were completed for the proposed project site in June and December 2009, respectively. The Phase I ESA and Phase II ESI were completed to evaluate the environmental conditions of the site. The site is located on an approximately 40,000-square-foot lot identified as New York City Tax Block 1628, Lot 21. A one-story warehouse building owned is located at the site. The warehouse is used for the storage and distribution of building materials, which include polyvinyl chloride (PVC) pipe, floor tiles, and plumbing fixtures. Prior to construction of the warehouse building in 1969, the site contained a

SCA
School Construction Authority

NYC
Department of Education

lumber yard, a coal storage yard, and a spur of the Long Island Rail Road (LIRR).

The Phase I ESA was prepared by Langan Engineering and Environmental Services, P. C. (Langan) on behalf of the SCA. The Phase I identified on-site recognized environmental conditions (RECs) related to a dry well, a suspect underground storage tank (UST), and historic use of the site as a railroad spur with coal storage areas. Several off-site RECs were also identified, including an adjoining New York City Fire Department Station with petroleum storage, an adjoining active auto repair shop, several nearby registered dry cleaners, a nearby gasoline station, several nearby historic auto repair facilities, an historic Corona Town Garage with gasoline tanks, and several historic manufacturing activities (glass making, a foundry, printing, clothing, woodworking and varnishing) near the site. In addition, environmental concerns were identified, including potential asbestos-containing material (ACM), suspect polychlorinated biphenyl (PCB)-containing caulking material and light ballasts, and suspect lead-based paint (LBP).

The Phase II ESI was completed by Langan on behalf of the SCA to assess whether the RECs identified in the Phase I ESA have affected the suitability of the site for use as a public school facility. Phase II ESI field activities consisted of a geophysical survey, the advancement of three (3) sub-slab soil vapor points, five (5) soil vapor points, seven (7) soil borings, eight (8) temporary monitoring wells, and the collection and laboratory analysis of soil, groundwater and soil vapor samples from these locations. In addition, two ambient air samples and a dry well sediment sample were collected for laboratory analysis.

The presence of analytical parameters greater than the corresponding State soil cleanup objectives for unrestricted use was limited to the encountered historic fill material. No volatile organic compounds (VOCs) were detected at concentrations above the corresponding State soil cleanup objectives for unrestricted use. Selected semi-volatile organic compounds (SVOCs), PCBs and metals were detected at concentrations above the corresponding SCOs for unrestricted use from at least one soil sample within the encountered historic fill material. The presence of selected metals, PCBs, and SVOCs in the historic fill material may be related to past use of the site as a railroad spur and/or the inherent characteristics of urban fill.

Groundwater was encountered at depths ranging from approximately 28 to 32.5 feet below grade surface with an anticipated groundwater flow direction to the south-southeast. The VOC trichloroethene (TCE) was detected above the corresponding New York State Groundwater Quality Standard at three (3) of eight (8) sample locations. TCE and a related VOC, tetrachloroethene (PCE), were also detected in soil vapor at concentrations slightly above the New York

State Department of Health Air Guideline Value (AGV). Langan attributed the presence of TCE and PCE in the subsurface to an off-site source.

The proposed project would not result in impacts from contaminated media and building materials. Prior to the construction of the project, a pre-design investigation will be conducted to define the area of PCB-impacted soil in the southern portion of the proposed site. Any encountered PCB-impacted soil and the existing dry well will be removed in accordance with all applicable regulations. As a preventative measure, a sub-slab vapor barrier and sub-slab depressurization system (SSDS) would also be incorporated into the foundation design to prevent potential soil vapor intrusion into the proposed school building. Any suspect ACM, LBP, and PCB-containing materials affected by the proposed development of the site will be identified and properly managed during construction activities. For areas of the site where exposed soils may exist (i.e., landscaped areas), a twenty-four (24) inch thick layer of environmentally clean fill will be placed over the soils. To minimize the potential for construction workers' exposure, standard industry practices, including appropriate health and safety measures, will be utilized.

The proposed project would have the beneficial impact of providing approximately 785 additional seats of permanent public school capacity at the intermediate level in Community School District No. 24.

For further information contact:

Contact:	Ross J. Holden Executive Vice President and General Counsel
Address:	New York City School Construction Authority 30-30 Thomson Avenue Long Island City, New York 11101-3045
Telephone:	(718) 472-8220

Ross J. Holden
Executive Vice President & General Counsel

July 20, 2011
Date

617.20
Appendix A
State Environmental Quality Review

FULL ENVIRONMENTAL ASSESSMENT FORM

Purpose: The full EAF is designed to help applicants and agencies determine, in an orderly manner, whether a project or action may be significant. The question of whether an action may be significant is not always easy to answer. Frequently, there are aspects of a project that are subjective or unmeasurable. It is also understood that those who determine significance may have little or no formal knowledge of the environment or may not be technically expert in environmental analysis. In addition, many who have knowledge in one particular area may not be aware of the broader concerns affecting the question of significance.

The full EAF is intended to provide a method whereby applicants and agencies can be assured that the determination process has been orderly, comprehensive in nature, yet flexible enough to allow introduction of information to fit a project or action.

Full EAF Components: The full EAF is comprised of three parts:

Part 1: Provides objective data and information about a given project and its site. By identifying basic project data, it assists a reviewer in the analysis that takes place in Parts 2 and 3.

Part 2: Focuses on identifying the range of possible impacts that may occur from a project or action. It provides guidance as to whether an impact is likely to be considered small to moderate or whether it is a potentially-large impact. The form also identifies whether an impact can be mitigated or reduced.

Part 3: If any impact in Part 2 is identified as potentially-large, then Part 3 is used to evaluate whether or not the impact is actually important.

DETERMINATION OF SIGNIFICANCE — Type 1 and Unlisted Actions

Identify the Portions of EAF completed for this project: [X] Part 1 [X] Part 2 [ ] Part 3

Upon review of the information recorded on this EAF (Parts 1 and 2 and 3 if appropriate), and any other supporting information, and considering both the magnitude and importance of each impact, it is reasonably determined by the lead agency that:

[X] A. The project will not result in any large and important impact(s) and, therefore, is one which **will not** have a significant impact on the environment, therefore **a negative declaration will be prepared.**

[ ] B. Although the project could have a significant effect on the environment, there will not be a significant effect for this Unlisted Action because the mitigation measures described in PART 3 have been required, therefore **a CONDITIONED negative declaration will be prepared.***

[ ] C. The project may result in one or more large and important impacts that may have a significant impact on the environment, therefore **a positive declaration will be prepared.**

* A Conditioned Negative Declaration is only valid for Unlisted Actions.

I.S. 311 at 97-36 43rd Avenue
Name of Action

New York City School Construction Authority
Name of Lead Agency

KenRuell on
Print or Type Name of Responsible Officer in Lead Agency

Director, Real Estate Services
Title of Responsible Officer

Signature of Responsible Officer in Lead Agency

Signature of Preparer (if different from responsible officer)

July 20, 2011
Date

PART I — PROJECT INFORMATION

Prepared by Project Sponsor

NOTICE: This document is designed to assist in determining whether the action proposed may have a significant effect on the environment. Please complete the entire form, Parts A through E. Answers to these questions will be considered as part of the application for approval and may be subject to further verification and public review. Provide any additional information you believe will be needed to complete Parts 2 and 3.

It is expected that completion of the full EAF will be dependent on information currently available and will not involve new studies, research or investigation. If information requiring such additional work is unavailable, so indicate and specify each instance.

<table>
<tr><td colspan="3">NAME OF ACTION
I.S. at 97-36 43rd Avenue</td></tr>
<tr><td colspan="3">LOCATION OF ACTION (INCLUDE STREET ADDRESS, MUNICIPALITY AND COUNTY)
97-36 43rd Avenue (Block 1628, Lot 21) Corona, Queens</td></tr>
<tr><td>NAME OF APPLICANT/SPONSOR
New York City School Construction Authority</td><td colspan="2">BUSINESS TELEPHONE
(718) 472-8000</td></tr>
<tr><td colspan="3">ADDRESS
30-30 Thomson Avenue</td></tr>
<tr><td>CITY/PO
Long Island City</td><td>STATE
NY</td><td>ZIP CODE
11101</td></tr>
<tr><td>NAME OF OWNER (IF DIFFERENT)
Wal-Rich Corporation</td><td colspan="2">BUSINESS TELEPHONE
(800) 221-1157 (718) 476-7888</td></tr>
<tr><td colspan="3">ADDRESS
97-36 43rd Avenue</td></tr>
<tr><td>CITY/PO
Corona</td><td>STATE
NY</td><td>ZIP CODE
11368</td></tr>
<tr><td colspan="3">DESCRIPTION OF ACTION
The applicant seeks to acquire the site and construct an approximately 785-seat intermediate school facility on Block 1628, Lot 21 in Corona, Queens.</td></tr>
</table>

Please Complete Each Question—Indicate N.A. if not applicable

A. Site Description

Physical setting of overall project, both developed and undeveloped areas.

1. Present Land Use: ☒ Urban ☒ Industrial ☐ Commercial ☐ Residential (suburban) ☐ Rural (non-farm) ☐ Forest ☐ Agriculture ☐ Other ____________

2. Total acreage of project area: 0.92 acres.

APPROXIMATE ACREAGE	PRESENTLY	AFTER COMPLETION
Meadow or Brushland (Non-agricultural)	____ acres	____ acres
Forested	____ acres	____ acres
Agricultural (Includes orchards, cropland, pasture, etc.)	____ acres	____ acres
Wetland (Freshwater or tidal as per Articles 24, 25 of ECL)	____ acres	____ acres
Water Surface Area	____ acres	____ acres
Unvegetated (Rock, earth or fill)	____ acres	____ acres
Roads, buildings and other paved surfaces	0.92 acres	0.92 acres
Other (Indicate type) ____________	____ acres	____ acres

3. What is predominant soil type(s) on the project site? Pavement and buildings with anthropogenic soil and gneissic till soil substratum
   a. Soil drainage: ☒ Well drained 100 % of site ☐ Moderately well drained ____ % of site. ☐ Poorly drained ____ % of site
   b. If any agricultural land is involved, how many acres of soil are classified within soil group 1 through 4 of the NYS Land Classification System? ____ Acres (see 1NYCRR 370)

4. Are there bedrock outcroppings on project site? ☐ Yes ☒ No
   What is the depth to bedrock? (in feet) Anticipated at 300 ft below surface

5. Approximate percentage of proposed project site with slopes: ☒ 0-10% 100 % ☐ 10-15% ____ % ☐ 15% or greater ____ %

6. Is project substantially contiguous to, or contain a building, site, or district, listed on the State or National Registers of Historic Places? ☒ Yes ☐ No

7. Is project substantially contiguous to a site listed on the Register of National Natural Landmarks? ☐ Yes ☒ No

8. What is the depth of the water table? Anticipated at 35-40 feet below surface (in feet)

9. Is site located over a primary, principal, or sole source aquifer? ☒ Yes ☐ No

10. Do hunting, fishing or shell fishing opportunities presently exist in the project area? ☐ Yes ☒ No

11. Does project site contain any species of plant or animal life that is identified as threatened or endangered? ☐ Yes ☒ No

According to: ______

Identify each species: ______

12. Are there any unique or unusual land forms on the project site? (i.e., cliffs, dunes or other geological formations? ☐ Yes ☒ No

Describe: ______

13. Is the project site presently used by the community or neighborhood as an open space or recreation area? ☐ Yes ☒ No

If yes, explain: ______

14. Does the present site include scenic views known to be important to the community? ☐ Yes ☒ No

15. Streams within or contiguous to project area? None.

a. Name of Stream and name of River to which it is tributary: ______

16. Lakes, ponds, wetland areas within or contiguous to project area: None.

a. Name: ______

b. Size (in acres): ______

17. Is the site served by existing public utilities? ☒ Yes ☐ No

a. If YES, does sufficient capacity exist to allow connection? ☒ Yes ☐ No

b. If YES, will improvements be necessary to allow connection? ☐ Yes ☒ No

18. Is the site located in an agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? ☐ Yes ☒ No

19. Is the site located in or substantially contiguous to a Critical Environmental Area designated pursuant to Article 8 of the ECL, and 6 NYCRR 617? ☐ Yes ☒ No

20. Has the site ever been used for the disposal of solid or hazardous waste? ☐ Yes ☒ No

B. Project Description

1. Physical dimensions and scale of project (fill in dimensions as appropriate).

a. Total contiguous acreage owned or controlled by project sponsor 0 acres.

b. Project acreage to be developed: 0.92 acres initially; 0.92 acres ultimately.

c. Project acreage to remain undeveloped 0 acres.

d. Length of project, in miles: N/A (If appropriate)

e. If the project is an expansion, indicate percent of expansion proposed 0 %

f. Number of off-street parking spaces existing None. ; proposed None.

g. Maximum vehicular trips generated per hour 150 (upon completion of project)?

h. If residential: Number and type of housing units? N/A

	One Family	Two Family	Multiple Family	Condominium
Initially				
Ultimately				

i. Dimensions (in feet) of largest proposed structure Approx. 77' [1] height; Approx. 122' width; Approx. 258' length.

[1] Approximately 90 feet to the top of the mechanical space.

j. Linear feet of frontage along a public thoroughfare project will occupy is? 100' on 43rd Ave. and 258' on 44th Ave. ft.

2. How much natural material (i.e., rock, earth, etc.) will be removed from the site? TBD tons/cubic yards.

3. Will disturbed areas be reclaimed? ☒ N/A ☐ Yes ☐ No

   a. If yes, for what intended purpose is the site being reclaimed? ________

   b. Will topsoil be stockpiled for reclamation? ☐ Yes ☒ No

   c. Will upper subsoil be stockpiled for reclamation? ☐ Yes ☒ No

4. How many acres of vegetation (trees, shrubs, ground covers) will be removed from site? 0 acres.

5. Will any mature forest (over 100 years old) or other locally-important vegetation be removed by this project? ☐ Yes ☒ No

6. If single phase project: Anticipated period of construction 36 months, (including demolition)

7. If multi-phased: N/A

   a. Total number of phases anticipated ____ (number)

   b. Anticipated date of commencement phase 1 ____ month ____ year, including (demolition)

   c. Approximate completion date of final phase ____ month ____ year.

   d. Is phase 1 functionally dependent of subsequent phases? ☐ Yes ☐ No

8. Will blasting occur during construction? ☐ Yes ☐ No

9. Number of jobs generated: during construction TBD ; after project is complete Approx. 60

10. Number of jobs eliminated by this project Approx. 30-40

11. Will project require relocation of any projects or facilities? ☐ Yes ☒ No

    If yes, explain: The proposed project would directly displace approximately 30 to 40 employees of the existing plumbing supply business at the project site, Wal-Rich Corp. According to the 2010 *City Environmental Quality Review (CEQR) Technical Manual,* an assessment of direct business displacement is not warranted if fewer than 100 employees would be displaced by a project, and no significant adverse impact with respect to displacement would occur.

12. Is surface liquid waste disposal involved? ☒ Yes ☐ No

    a. If yes, indicate type of waste (sewage, industrial, etc) and amount sewage; 7,850 gallons per day[1]

    b. Name of water body into which effluent will be discharged Sewage would be discharged into the City sewage system.

13. Is subsurface liquid waste disposal involved? Type ________ ☐ Yes ☒ No

14. Will surface area of an existing water body increase or decrease by proposal? ☐ Yes ☒ No

    If yes, explain: ________

15. Is project or any portion of project located in a 100 year flood plain? ☐ Yes ☒ No

16. Will the project generate solid waste? ☒ Yes ☐ No

    a. If yes, what is the amount per month? 6.3[2] tons

    b. If yes, will an existing solid waste facility be used? ☒ Yes ☐ No

    c. If yes, give name TBD ; location All waste is collected and sent to a designated disposal facility by the Department of Sanitation.

    d. Will any wastes not go into a sewage disposal system or into a sanitary landfill? ☒ Yes ☐ No

    e. If yes, explain: Recyclable materials collected at schools would be taken to a recycling facility for processing.

17. Will the project involve the disposal of solid waste? ☐ Yes ☒ No

    a. If yes, what is the anticipated rate of disposal? ____ tons/month

    b. If yes, what is the anticipated site life? ____ years

18. Will project use herbicides or pesticides? ☐ Yes ☒ No

19. Will project routinely produce odors (more than one hour per day)? ☐ Yes ☒ No

---

[1] 785 students x 10 gallons per day (gpd) = 7,850 gallons.

[2] 785 students x 4 pounds per week (ppw) = 3,140 x 4 weeks = 12,560 pounds.

20. Will project produce operating noise exceeding the local ambient noise levels? ☒ Yes ☐ No

21. Will project result in an increase in energy use? ☒ Yes ☐ No

    If yes, indicate type(s): Electric

22. If water supply is from wells, indicate pumping capacity N/A gallons/minute

23. Total anticipated water usage per day 24,850[1] gallons/day

24. Does project involve Local, State, or Federal funding? ☒ Yes ☐ No

    If yes, explain: Construction costs will be funded by the New York City Department of Education's Five Year Capital Plan for Fiscal Years 2010 to 2014.

25. Approvals Required:

	Yes	No	Type	Submittal Date
City, Town, Village Board	☐	☒		
City, Town, Village Planning Board	☐	☒		
City, Town, Village Zoning Board	☐	☒		
City, County Health Department	☐	☒		
Other Local Agencies	☐	☒		
Other Regional Agencies	☐	☒		
State Agencies	☐	☒		
Federal Agencies	☐	☒		

C. Zoning and Planning Information

1. Does proposed action involve a planning or zoning decision? ☒ Yes ☐ No

   If Yes, indicate decision required:

   ☐ Zoning amendment ☐ Zoning variance ☐ New/revision of master plan ☐ Subdivision

   ☐ Site plan ☐ Special use permit ☐ Resource management plan ☒ Other Project would require zoning overrides from the Deputy Mayor for Education and Community Development; project would require demapping of unbuilt portion of 44th Avenue on the project site.

2. What is the zoning classification(s) of the site? M1-1; R5

3. What is the maximum potential development of the site if developed as permitted by the present zoning?

   10,000 sf x 2.0 FAR (R5) = 20,000 sf

   30,000 sf x 2.4 FAR (M1-1) = 72,000 sf

4. What is the proposed zoning of the site? No change to the existing zoning is proposed.

5. What is the maximum potential development of the site if developed as permitted by the proposed zoning?

   N/A

6. Is the proposed action consistent with the recommended uses in adopted local land use plans? ☒ Yes ☐ No

7. What are the predominant land use(s) and zoning classifications within a ¼-mile radius of proposed action?

   Land Use: Residential, institutional, manufacturing, commercial

   Zoning: M1-1, M3-1, R4, R4B, R4-1, R5, R6B, C1-4, C2-2, C2-3, C2-4

8. Is the proposed action compatible with adjoining/surrounding land uses with a ¼ mile? ☒ Yes ☐ No

9. If the proposed action is the subdivision of land, how many lots are proposed? N/A

   a. What is the minimum lot size proposed?

10. Will the proposed action require authorization(s) for the formation of sewer of water districts? ☐ Yes ☒ No

11. Will the proposed action create a demand for any community provided services (recreation, education, police, fire protection)? ☒ Yes ☐ No

    a. If yes, is existing capacity sufficient to handle projected demand? ☒ Yes ☐ No

12. Will the proposed action result in the generation of traffic significantly above present levels? ☒ Yes ☐ No

    a. If yes, is the existing road network adequate to handle the additional traffic? ☐ Yes ☐ No

[1] 785 students x 10 gpd = 7,850 + (0.17 x 100,000 sf for air conditioning) = 24,850 gallons

D. Informational Details

Attach any additional information as may be needed to clarify your project. If there are or may be an adverse impacts associated with your proposal, please discuss such impacts and the measures which you proposed to mitigate or avoid them.

E. Verification

I certify that the information provided above is true to the best of my knowledge.

Applicant/Sponsor Name **Alicia Wolff, AICP** Date 7/19/11

Signature Alicia Wolff Title **Senior Planner, AKRF**

If the action is in the Coastal Area, and you are a state agency, complete the Coastal Assessment Form before proceeding with this assessment.

Part 2 - PROJECT IMPACTS AND THEIR MAGNITUDE

Responsibility of Lead Agency

General Information (Read Carefully)

In completing the form the reviewer should be guided by the question: Have my responses and determinations been **reasonable**? The reviewer is not expected to be an expert environmental analyst.

The **Examples** provided are to assist the reviewer by showing types of impacts and wherever possible the threshold of magnitude that would trigger a response in column 2. The examples are generally applicable throughout the State and for most situations. But, for any specific project or site other examples and/or lower thresholds may be appropriate for a Potential Large Impact response, thus requiring evaluation in Part 3.

The impacts of each project, on each site, in each locality, will vary. Therefore, the examples are illustrative and have been offered as guidance. They do not constitute an exhaustive list of impacts and thresholds to answer each question.

The number of examples per question does not indicate the importance of each question.

In identifying impacts, consider long term, short term and cumulative effects.

Instructions (Read Carefully)

a. Answer each of the 20 questions in PART 2. Answer **Yes** if there will be **any** impact.
b. **Maybe** answers should be considered as **Yes** answers.
c. If answering **Yes** to a question, then check the appropriate box (column 1 or 2) to indicate the potential size of the impact. If impact threshold equals or exceeds any example provided, check column 2. If impact will occur but threshold is lower than example, check column 1.
d. Identifying that an Impact will be potentially large (column 2) does not mean that it is also necessarily **significant**. Any large impact must be evaluated in PART 3 to determine significance. Identifying an impact in column 2 simply asks that it be looked at further.
e. If a reviewer has doubt about size of the impact then consider the impact as potentially large and proceed to PART 3.
f. If a potentially large impact checked in column 2 can be mitigated by change(s) in the project to a small to moderate impact, also check the **Yes** box in column 3. A **No** response indicates that such a reduction is not possible. This must be explained in PART 3.

IMPACT ON LAND	1 Small to Moderate Impact	2 Potential Large Impact	3 Can Impact be Mitigated by Project Change
1. Will the Proposed Action result in a physical change to the project site? ☐ NO ■ YES			
Examples that would apply to column 2			
Any construction on slopes of 15% or greater, (15 foot rise per 100 foot of length), or where the general slopes in the project area exceed 10%.	☐	☐	☐ **YES** ☐ **NO**
Construction on land where the depth to the water table is less than 3 feet.	☐	☐	☐ **YES** ☐ **NO**
Construction of paved parking area for 1,000 or more vehicles.	☐	☐	☐ **YES** ☐ **NO**
Construction on land where bedrock is exposed or generally within 3 feet of existing ground surface.	☐	☐	☐ **YES** ☐ **NO**
Construction that will continue for more than 1 year or involve more than one phase or stage.	■	☐	☐ **YES** ☐ **NO**
Excavation for mining purposes that would remove more than 1,000 tons of natural material (i.e., rock or soil) per year.	☐	☐	☐ **YES** ☐ **NO**
Construction or expansion of a sanitary landfill.	☐	☐	☐ **YES** ☐ **NO**
Construction in a designated floodway.	☐	☐	☐ **YES** ☐ **NO**
Other impacts	☐	☐	☐ **YES** ☐ **NO**
2. Will there be an effect to any unique or unusual land forms found on the site? (i.e., cliffs, dunes, geological) ■ NO ☐ YES			
Other impacts	☐	☐	☐ **YES** ☐ **NO**

IMPACT ON WATER	1 Small to Moderate Impact	2 Potential Large Impact	3 Can Impact be Mitigated by Project Change
3. Will Proposed Action affect any water body designated? (Under Articles 15, 24, 25 of the Environmental Conservation Law, ECL) ■ **NO** ☐ **YES**			
Examples that would apply to column 2			
Developable area of site contains a protected water body.	☐	☐	☐ **YES** ☐ **NO**
Dredging more than 100 cubic yards of material from channel of a protected stream.	☐	☐	☐ **YES** ☐ **NO**
Extension of utility distribution facilities through a protected water body.	☐	☐	☐ **YES** ☐ **NO**
Construction in a designated freshwater or tidal wetland.	☐	☐	☐ **YES** ☐ **NO**
Other impacts ______	☐	☐	☐ **YES** ☐ **NO**
4. Will Proposed Action affect any non-protected existing or new body of water? ■ **NO** ☐ **YES**			
Examples that would apply to column 2			
A 10% increase or decrease in the surface area of any body of water or more than a 10-acre increase or decrease.	☐	☐	☐ **YES** ☐ **NO**
Construction of a body of water that exceeds 10 acres of surface area.	☐	☐	☐ **YES** ☐ **NO**
Other impacts ______	☐	☐	☐ **YES** ☐ **NO**
5. Will Proposed Action affect surface or ground water quality or quantity? ■ **NO** ☐ **YES**			
Examples that would apply to column 2			
Proposed Action will require a discharge permit.	☐	☐	☐ **YES** ☐ **NO**
Proposed Action requires use of a source of water that does not have approval to serve proposed (project) action.	☐	☐	☐ **YES** ☐ **NO**
Proposed Action requires water supply from wells with greater than 45 gallons per minute pumping capacity.	☐	☐	☐ **YES** ☐ **NO**
Construction or operation causing any contamination of a water supply system.	☐	☐	☐ **YES** ☐ **NO**
Proposed Action will adversely affect groundwater.	☐	☐	☐ **YES** ☐ **NO**
Liquid effluent will be conveyed off the site to facilities which presently do not exist or have inadequate capacity.	☐	☐	☐ **YES** ☐ **NO**
Proposed Action would use water in excess of 20,000 gallons per day.	■	☐	☐ **YES** ☐ **NO**
Proposed Action will likely cause siltation or other discharge into an existing body of water to the extent that there will be an obvious visual contrast to natural conditions.	☐	☐	☐ **YES** ☐ **NO**
Proposed Action will require the storage of petroleum or chemical products greater than 1,100 gallons.	☐	☐	☐ **YES** ☐ **NO**
Proposed Action will allow residential uses in areas without water and/or sewer services.	☐	☐	☐ **YES** ☐ **NO**
Proposed Action locates commercial and/or industrial uses which may require new or expansion of existing waste treatment and/or storage facilities.	☐	☐	☐ **YES** ☐ **NO**
Other impacts ______	☐	☐	☐ **YES** ☐ **NO**

	1	2	3
6. Will Proposed Action alter drainage flow or patterns, or surface water runoff? ■ NO ☐ YES	Small to Moderate Impact	Potential Large Impact	Can Impact be Mitigated by Project Change
Examples that would apply to column 2			
Proposed Action would change flood water flows.	☐	☐	☐ YES ☐ NO
Proposed Action may cause substantial erosion.	☐	☐	☐ YES ☐ NO
Proposed Action is incompatible with existing drainage patterns.	☐	☐	☐ YES ☐ NO
Proposed Action will allow development in a designated floodway.	☐	☐	☐ YES ☐ NO
Other impacts ____________________	☐	☐	☐ YES ☐ NO
IMPACT ON AIR			
7. Will Proposed Action affect air quality? **See Chapter 6, "Air Quality."** ■ NO ☐ YES			
Examples that would apply to column 2			
Proposed Action will induce 1,000 or more vehicle trips in any given hour.	☐	☐	☐ YES ☐ NO
Proposed Action will result in the incineration of more than 1 ton of refuse per hour.	☐	☐	☐ YES ☐ NO
Emission rate of total contaminants will exceed 5 lbs. Per hour or a heat source producing more than 10 million BTU's per hour.	☐	☐	☐ YES ☐ NO
Proposed Action will allow an increase in the amount of land committed to industrial use.	☐	☐	☐ YES ☐ NO
Proposed Action will allow an increase in the density of industrial development within existing industrial areas.	☐	☐	☐ YES ☐ NO
Other impacts ____________________	☐	☐	☐ YES ☐ NO
IMPACT ON PLANTS AND ANIMALS			
8. Will Proposed Action affect threatened or endangered species? ■ NO ☐ YES			
Examples that would apply to column 2			
Reduction of one or more species listed on the New York or Federal list, using the site, over or near the site, or found on the site.	☐	☐	☐ YES ☐ NO
Removal or any portion of a critical or significant wildlife habitat.	☐	☐	☐ YES ☐ NO
Application of pesticide or herbicide more than twice a year, other than for agricultural purposes.	☐	☐	☐ YES ☐ NO
Other impacts ____________________	☐	☐	☐ YES ☐ NO
9. Will Proposed Action substantially affect non-threatened or non-endangered species? ■ NO ☐ YES			
Examples that would apply to column 2			
Proposed Action would substantially interfere with any resident or migratory fish, shellfish, or wildlife species.	☐	☐	☐ YES ☐ NO
Proposed Action requires the removal or more than 10 acres of mature forest (over 100 years of age) or other locally important vegetation.	☐	☐	☐ YES ☐ NO
Other impacts ____________________	☐	☐	☐ YES ☐ NO
IMPACT ON AGRICULTURAL LAND RESOURCES			
10. Will Proposed Action affect agricultural land resources? ■ NO ☐ YES			
Examples that would apply to column 2			
The Proposed Action would sever, cross or limit access to agricultural land (includes cropland, hayfields, pasture, vineyard, orchard, etc.)	☐	☐	☐ YES ☐ NO
Construction activity would excavate or compact the soil profile of agricultural land.	☐	☐	☐ YES ☐ NO
The Proposed Action would irreversibly convert more than 10 acres of agricultural land or, if located in an Agricultural District, more than 2.5 acres of agricultural land.	☐	☐	☐ YES ☐ NO
The Proposed Action would disrupt or prevent installation of agricultural land management systems (e.g. subsurface drain lines, outlet ditches, strip cropping) or create a need for such measures (e.g. cause a farm field to drain poorly due to increased runoff).	☐	☐	☐ YES ☐ NO
Other impacts ____________________	☐	☐	☐ YES ☐ NO

IMPACT ON AESTHETIC RESOURCES	1 Small to Moderate Impact	2 Potential Large Impact	3 Can Impact be Mitigated by Project Change
11. Will Proposed Action affect aesthetic resources? (If necessary, use the Visual EAR Addendum Section 617.20, Appendix B.) ■ **NO** ☐ **YES**			
Examples that would apply to column 2			
Proposed land uses, or project components obviously different from or in sharp contrast to current surrounding land use patterns, whether man-made or natural.	☐	☐	☐ **YES** ☐ **NO**
Proposed land uses, project components visible to users of aesthetic resources which will eliminate or significantly reduce their enjoyment of the aesthetic qualities of that resource.	☐	☐	☐ **YES** ☐ **NO**
Project components that will result in the elimination or significant screening of scenic views known to be important to the area.	☐	☐	☐ **YES** ☐ **NO**
Other impacts ___	☐	☐	☐ **YES** ☐ **NO**
IMPACT ON HISTORIC AND ARCHEOLOGICAL RESOURCES			
12. Will Proposed Action impact any site or structure of historic, prehistoric or paleontological importance? ■ **NO** ☐ **YES**			
See Chapter 3, "Historic and Cultural Resources."			
Examples that would apply to column 2			
Proposed Action occurring wholly or partially within or substantially contiguous to any facility or site listed on the State or National Register of Historic places.	■	☐	☐ **YES** ☐ **NO**
Any impact to an archeological site or fossil bed located within the project site.	☐	☐	☐ **YES** ☐ **NO**
Proposed Action will occur in an area designated as sensitive for archeological sites on the NYS Site Inventory.	☐	☐	☐ **YES** ☐ **NO**
Other impacts ___	☐	☐	☐ **YES** ☐ **NO**
IMPACT ON OPEN SPACE AND RECREATION			
13. Will Proposed Action affect the quantity or quality of existing or future open spaces or recreational opportunities? ■ **NO** ☐ **YES**			
Examples that would apply to column 2			
The permanent foreclosure of a future recreational opportunity.	☐	☐	☐ **YES** ☐ **NO**
A major reduction of an open space important to the community.	☐	☐	☐ **YES** ☐ **NO**
Other impacts ___	☐	☐	☐ **YES** ☐ **NO**

IMPACT ON CRITICAL ENVIRONMENTAL AREAS			
14. Will Proposed Action impact the exceptional or unique characteristics of a critical environmental area (CEA) established pursuant to subdivision 6NYCRR 617.14(g)? ■ **NO** ☐ **YES**			
List the environmental characteristics that caused the designation of the CEA			
Examples that would apply to column 2			
Proposed Action to locate within the CEA?	☐	☐	☐ **YES** ☐ **NO**
Proposed Action will result in a reduction in the quantity of the resource?	☐	☐	☐ **YES** ☐ **NO**
Proposed Action will result in a reduction in the quality of the resource?	☐	☐	☐ **YES** ☐ **NO**
Proposed Action will impact the use, function or enjoyment of the resource?	☐	☐	☐ **YES** ☐ **NO**
Other impacts ______	☐	☐	☐ **YES** ☐ **NO**
IMPACT ON TRANSPORTATION			
15. Will there be an effect to existing transportation systems? ■ **NO** ☐ **YES**			
See Chapter 5, "Transportation."			
Examples that would apply to column 2			
Alteration of present patterns of movement of people and/or goods.	☐	☐	☐ **YES** ☐ **NO**
Proposed Action would result in major traffic problems.	☐	☐	☐ **YES** ☐ **NO**
Other impacts ______	☐	☐	☐ **YES** ☐ **NO**
IMPACT ON ENERGY			
16. Will Proposed Action affect the community's sources of fuel or energy supply? ■ **NO** ☐ **YES**			
Examples that would apply to column 2			
Proposed Action will cause a greater than 5% increase in the use of any form of energy in the municipality.	☐	☐	☐ **YES** ☐ **NO**
Proposed Action will require the creation or extension of an energy transmission or supply system to serve more than 50 single or two family residences or to serve a major commercial or industrial use.	☐	☐	☐ **YES** ☐ **NO**
Other impacts ______	☐	☐	☐ **YES** ☐ **NO**
NOISE AND ODOR IMPACT			
17. Will there be objectionable odors, noise, or vibration as a result of the Proposed Action? ☐ NO ■ YES			
See Chapter 7, "Noise."			
Examples that would apply to column 2			
Blasting within 1,500 feet of a hospital, school or other sensitive facility.	☐	☐	☐ **YES** ☐ **NO**
Odors will occur routinely (more than one hour per day).	☐	☐	☐ **YES** ☐ **NO**
Proposed Action will produce operating noise exceeding the local ambient noise levels for noise outside of structures. **Noise would occur during certain hours from an outdoor, at-grade playground on the project site.**	■	☐	☐ **YES** ☐ **NO**
Proposed Action will remove natural barriers that would act as a noise screen.	☐	☐	☐ **YES** ☐ **NO**
Other impacts ______	☐	☐	☐ **YES** ☐ **NO**

IMPACT ON PUBLIC HEALTH			
18. Will Proposed Action affect public health and safety? ■ **NO** ☐ **YES**			
Examples that would apply to column 2			
Proposed Action may cause a risk of explosion or release of hazardous substances (i.e. oil, pesticides, chemicals, radiation, etc.) in the event of accident or upset conditions, or there may be a chronic low level discharge or emission.	☐	☐	☐ **YES** ☐ **NO**
Proposed Action may result in the burial of "hazardous wastes" in any form (i.e. toxic, poisonous, highly reactive, radioactive, irritating, infectious, etc.)	☐	☐	☐ **YES** ☐ **NO**
Storage facilities for one million or more gallons of liquefied natural gas or other flammable liquids.	☐	☐	☐ **YES** ☐ **NO**
Proposed Action may result in the excavation or other disturbance within 2,000 feet of a site used for the disposal of solid or hazardous waste.	☐	☐	☐ **YES** ☐ **NO**
Other impacts			
IMPACT ON GROWTH AND CHARACTER OF COMMUNITY OR NEIGHBORHOOD			
19. Will Proposed Action affect the character of the existing community? ■ **NO** ☐ **YES**			
Examples that would apply to column 2			
The permanent population of the city, town or village in which the project is located is likely to grow by more than 5%.	☐	☐	☐ **YES** ☐ **NO**
The municipal budget for capital expenditures or operating services will increase by more than 5% per year as a result of this project.	☐	☐	☐ **YES** ☐ **NO**
Proposed Action will conflict with officially adopted plans or goals.	☐	☐	☐ **YES** ☐ **NO**
Proposed Action will cause a change in the density of land use.	☐	☐	☐ **YES** ☐ **NO**
Proposed Action will replace or eliminate existing facilities, structures or areas of historic importance to the community.	☐	☐	☐ **YES** ☐ **NO**
Development will create a demand for additional community services (e.g. schools, police and fire, etc.)	☐	☐	☐ **YES** ☐ **NO**
Proposed Action will set an important precedent for future projects.	☐	☐	☐ **YES** ☐ **NO**
Proposed Action will create or eliminate employment. **Approximately 30-40 jobs would be eliminated by the Proposed Action.**	■	☐	☐ **YES** ☐ **NO**
Other impacts ______________________________			

20 Is there, or is there likely to be, public controversy related to potential adverse environmental impacts?
☐NO * ■YES*

***The proposed project may result in the displacement of the plumbing supply business currently on the project site. While this would not constitute an adverse environmental impact under SEQRA, the displacement of this business may result in public controversy.**

If Any Action in Part 2 is identified as a Potential Large Impact or If you Cannot Determine the Magnitude of Impact, Proceed to Part 3

A. INTRODUCTION

The New York City School Construction Authority (SCA) proposes the site selection, acquisition, acceptance of construction funding, and construction of a new Intermediate School (I.S.) facility with the capacity of approximately 785 seats in the Corona section of Queens. The proposed school would serve Community School District (CSD) 24 and would accommodate children in grades six through eight, as well as special education students. The project site, an approximately 40,000-square-foot (sf) lot located at 97-36 43rd Avenue, between 97th Place and National Street (Block 1628, Lot 21), currently contains a one-story warehouse building.

Although design plans for the new building have not been finalized, it is expected that the proposed school building would contain approximately 100,000 gross square feet (gsf) and would be five stories and approximately 77 feet in height (90 feet to the top of the mechanical space). An approximately 11,000-sf outdoor playground area would be located in the northern portion of the site at 43rd Avenue, and an approximately 3,000-sf open space with passive uses (e.g., benches and landscaping) would be located to the west of the school building on 44th Avenue.

The proposed project is located within R-5 and M1-1 zoning districts; schools are not permitted as-of-right in manufacturing districts as per Section 22-00 of the Zoning Resolution. As such, the project would require a zoning use override from the Deputy Mayor for Education and Community Development. While the design of the school is not yet final, preliminary plans show that the project would result in zoning bulk non-compliances, including permitted floor area, and requirements related to rear yard, maximum street wall, sky exposure plane, and planted areas. Therefore, the SCA would also seek a zoning bulk override.

The project site also contains a portion of a mapped street along 44th Avenue, which is currently being used by the existing warehouse as a driveway and loading area. SCA is currently coordinating with the New York City Department of Transportation and the New York City Department of City Planning to demap the portion of the street within the project site boundary that is currently mapped as an extension of the existing street bed of 44th Avenue. The SCA will undertake the New York City Uniform Land Use Review Procedure (ULURP) for the change to a New York City map upon completion of the City Environmental Quality Review (CEQR) process. Funding for design and construction of this project would be provided in the New York City Department of Education's Capital Plan for Fiscal Years 2010 to 2014.

For the purpose of this environmental review, it is assumed that construction of the proposed project would begin in 2012 and the student occupancy would begin in September 2015. Accordingly, 2015 has been selected as the Build Year for which the environmental assessment areas have been analyzed. It is assumed that if the proposed project does not proceed, the project site would remain in its current state (the "No Action" scenario).

SCA is currently pursuing plans to develop a new 1,110-seat Primary School (P.S.) at 96-18 43rd Avenue (Q315), one block west of the proposed project. The new P.S. at 96-18 43rd Avenue is currently anticipated to be completed before the proposed project. However, in the event that the new P.S. is not constructed by 2015, this environmental analysis considers two analysis scenarios for the future without the proposed project—Scenario One includes construction of the 1,110-seat P.S. by 2015. Scenario Two assumes that the new P.S. is not constructed by 2015.

B. PROBABLE IMPACTS OF THE PROPOSED PROJECT

LAND USE

The proposed school would improve land use conditions in the study area and enliven the project block by providing a new educational facility on a site that currently has industrial uses and contains a warehouse. At up to five stories in height, the proposed facility would be slightly taller but generally consistent with structures in the study area. The proposed school would be compatible with the uses currently found in the study area, including the residential, commercial, and community facility uses. The proposed school would also be compatible with the new 1,110-seat P.S. at 96-18 43rd Avenue, one block west of the proposed project, in the event that it is constructed by 2015.

The project site is also adjacent to industrial and community facility uses, including light industrial/manufacturing, auto related uses, and a firehouse. The new school would have buffering to separate it from the existing industrial, auto related, and community facility uses, including fencing and landscaped buffers along the perimeters to separate it from the existing industrial uses. Therefore, the development of the proposed school facility is not expected to affect adjacent land uses along 44th Avenue, or surrounding residential, commercial, or industrial uses, and would not result in significant adverse impacts on land use. Thus, under Scenario Two, in which the existing industrial use remains at 96-18 43rd Avenue, the proposed project would not result in any impacts to land use.

ZONING AND PUBLIC POLICY

The proposed project would replace an industrial use with a community facility that is allowed in R-5 zoning districts as-of-right and in M1-1 zoning districts by Special Permit from the Board of Standards and Appeals pursuant to Section 42-31 of the New York City Zoning Resolution. Instead of a Special Permit, the SCA would seek approval of a zoning use override from the Deputy Mayor for Education and Community Development to permit the project to proceed. While the design of the school is not yet final, preliminary plans show that the project would result in zoning bulk non-compliances, including permitted floor area, and requirements related to rear yard, maximum street wall, sky exposure plane, and planted areas. Therefore, the SCA would also seek zoning bulk overrides. As described above, the project site also contains a portion of a mapped street along 44th Avenue, which is currently being used by the existing warehouse as a driveway and loading area. SCA is currently coordinating with the New York City Department of Transportation (NYCDOT) and the New York City Department of City Planning (DCP) to demap the portion of the street within the project site boundary that is currently mapped as an extension of the existing street bed of 44th Avenue. The SCA will undertake ULURP demapping for the change to a New York City map upon completion of the CEQR process.

If the zoning override is granted, it would apply only to the project site and would have no impact on neighboring zoning or property. The demapping of the unbuilt street bed extension would not affect zoning on the project site or in the study area. Therefore, the proposed project would have no significant adverse impacts to local zoning or public policy.

COMMUNITY CHARACTER

In the future with the proposed project, the existing warehouse building on the site would be replaced with a new school that would be similar in scale to existing buildings and compatible with surrounding residential, industrial, commercial, and community facility uses. In addition, the increase in traffic volumes with the proposed project is not expected to result in significant adverse impacts to the character of the community. Therefore, the proposed project would have no significant adverse impacts on community character.

COMMUNITY FACILITIES

The new school would provide additional community resources for area residents, and is expected to relieve overcrowding in nearby elementary schools. The Police and Fire Departments monitor conditions to determine how their personnel are deployed. Decisions to alter existing deployment patterns would be made only in response to a demonstrated change in demand. Police and fire services would be adjusted as deemed necessary by both agencies, and no significant adverse impacts to police or fire services are expected to result from the proposed project.

HISTORIC AND CULTURAL RESOURCES

ARCHAEOLOGICAL RESOURCES

The disturbance memorandum prepared in March 2010 determined that the project site has low sensitivity for precontact archaeological resources and no sensitivity for historic period archaeological resources. The memorandum concluded that no further archaeological study was warranted. The report was accepted by the New York State Office of Parks, Recreation and Historic Preservation (OPRHP) in comments dated April 26, 2010. Therefore, the proposed project would not have significant adverse impacts on archaeological resources.

ARCHITECTURAL RESOURCES

Since there are no known or potential architectural resources on the project site, the proposed project would have no adverse impacts on architectural resources on the project site.

In a letter dated April 29, 2010, OPRHP determined that the proposed project would have "No Adverse Impact on cultural and historic resources eligible for or listed on the National Register of Historic Places," provided OPRHP reviews the new school's design to determine its effects on the nearby National Register (NR)-eligible former Tiffany Studios Complex and NR-listed Fire Engine Company 289/Ladder Company 138.

The project site is located adjacent to Fire Engine Company 289/Ladder Company 138, an architectural resource. To avoid potential adverse physical effects on this architectural resource, a Construction Protection Plan (CPP) would be developed and implemented prior to the commencement of any demolition or construction activities on the project site. As requested by OPRHP and to meet the conditions specified in OPRHP's April 29, 2010 findings letter, the CPP will be submitted to OPRHP for review. The CPP will follow the New York City Department of

Building (DOB) *TPPN #10/88,* regarding procedures for the avoidance of damage to historic structures resulting from adjacent construction, and will be prepared in consultation with the New York State Historic Preservation Officer (SHPO) and the New York City Landmarks Preservation Commission (LPC). *TPPN #10/88* requires a monitoring program to reduce the likelihood of construction damage to adjacent NYCLs and S/NR-listed properties (within 90 feet) and to detect at an early stage the beginnings of damage so that construction procedures can be changed.

The former Tiffany Studios Complex is located approximately 170 feet west of the project site so would not be affected by inadvertent construction-related impacts by the proposed project. Therefore, the CPP would not include protective measures for this architectural resource.

The new school is expected to be faced in masonry like many nearby buildings, including Fire Engine Company 289/Ladder Company 138. It would be built in place of a non-historic structure that does not have an important relationship with the historic fire station. As such, the proposed project would not result in adverse contextual impacts. The proposed project would also not obstruct views to the fire station, as the school building would be oriented along 44th Avenue with a playground located adjacent to the fire station on 43rd Avenue. Therefore, the proposed project would not result in significant adverse visual or contextual impacts on Fire Engine Company 289/Ladder Company 138.

The proposed project would also not have a direct physical or visual effect on the former Tiffany Studios Complex, as there are several intervening buildings and no visual relationship between the project site and this potential architectural resource. In a letter dated April 29, 2010, OPRHP determined that the proposed project would have "No Adverse Impact on cultural and historic resources eligible for or listed on the National Register of Historic Places," provided OPRHP reviews the new school's design.

Overall, the proposed project is not expected to have significant adverse impacts on historic resources.

URBAN DESIGN AND VISUAL RESOURCES

URBAN DESIGN

As currently planned, the proposed project would remove the existing one-story warehouse and redevelop the site with a new school building that would be up to five stories in height. Based on preliminary plans, the new school would be a free-standing rectangular building with its primary entrance on 44th Avenue. An outdoor playground would be located in the northern portion of the project site along 43rd Avenue and an early childhood play area would be located west of the new school building along 44th Avenue. The western portion of the new school would be set back seven feet from the sidewalk on 44th Avenue; the building's eastern portion would be set back from the sidewalk by approximately 10 feet in the area near the school's primary entrance. It is anticipated that the new school would be faced in red brick and concrete and would have a setback at the fourth floor. An approximately 16-foot-high chainlink fence with a gate would be located on the 43rd Avenue property line.

The new school building would positively affect the character of the adjacent streetscape by replacing the one-story brick warehouse and surface parking lot with a new school building, playground, open space, and landscaping. The school would enliven that area by introducing new pedestrian activity to the project site, and would not alter any natural features, street patterns, or block shapes in the study area. As there are no visual resources on the project site, the proposed project would have no adverse impacts on such resources.

The proposed school would be consistent with the existing mix of uses in the study area. Its footprint would be larger than the houses and apartment buildings in the study area, but it would be comparable to the warehouses located in the study area, including those on the east and west sides of 97th Place and 43rd Avenue. Although the proposed school building would be approximately two stories taller than most study area buildings, this would not be a substantial difference. The new school building would be similar in height to Public School 19 located at 40-30 99th Street, approximately 240 feet north of the study area. In addition, the planned P.S. Q315, at approximately 170 feet west of the project site, is expected to be a five-story, approximately 70-foot-tall building; it would therefore be similar in height and massing to the proposed project.

In sum, the proposed project would not have a significant adverse impact on visual character on the project site or in the surrounding study area.

VISUAL RESOURCES

The proposed school would not obstruct views in the study area. Views to the fire station on 43rd Avenue, a visual resource, would be maintained from existing vantage points, with views of its principal façade on 43rd Avenue remaining unchanged. Therefore, the proposed project would not adversely affect this visual resource. There are no notable view corridors and no other visual resources in the study area; therefore, there would be no adverse effects with the proposed project.

Overall, the proposed project would not adversely affect visual character or important visual elements on the project site or in the surrounding study area.

TRANSPORTATION

TRAFFIC

Traffic impacts for both signalized and unsignalized intersections are considered significant and require examination of improvements if they result in an increase of 5 or more seconds of delay in a lane group over No Build levels beyond mid-level of service (LOS) D. For No Build LOS E, a 4-second increase in delay is considered significant. For No Build LOS F, a 3-second increase in delay is considered significant. Impacts are also considered significant if levels of service decrease from acceptable LOS A, B, or C in the No Build condition to marginally unacceptable LOS D, or unacceptable LOS E or F in the future Build condition. In the event of such impacts, potential improvement measures will be examined. In addition, the 2010 *CEQR Technical Manual* states that for the minor approach to trigger significant impacts at an unsignalized intersection, a total of 90 passenger car equivalents (PCEs) must be identified in the future build condition in any peak hour.

It should be noted that this proposed demapping of an extension of the existing street bed of 44th Avenue will not alter the traffic circulation patterns in the study area and will have no affect on the traffic operating conditions at the study area intersections.

Scenario One

Under Scenario One, in addition to the general background growth, both primary schools in the study area are expected to be completed by the year 2015. Vehicular and pedestrian trips generated by these two planned school projects and their corresponding proposed geometric improvements were incorporated in the 2015 No Build analysis. These include the traffic improvements proposed as part of the new primary school located at 96-18 43rd Avenue involving installation of All-Way-Stop-Controls (AWSCs) at the intersections of 43rd and 44th Avenues at 97th Place to facilitate safe pedestrian crossings at newly installed crosswalks.

For the streets around the site, future intersection volumes would generally represent a moderate increase over the existing traffic volumes. The street capacities at most of the study area intersections would be sufficient to accommodate these increases. However, the proposed project could require traffic improvements at the following intersection approaches/lane-groups during the two peak hours analyzed:

Signalized Intersections

- The northbound and southbound approaches at the intersection of Roosevelt Avenue and Junction Boulevard during the AM and PM peak periods; and
- The southbound approach at the intersection of 43rd Avenue and Junction Boulevard during the AM and PM peak periods.

Unsignalized Intersections

- The westbound approach at the intersection of 44th Avenue and Junction Boulevard during the AM and PM peak periods;
- The westbound approach at the intersection of 44th Avenue and National Street during the PM peak period[1]; and
- The eastbound approach at the intersection of 45th Avenue and National Street during the AM and PM peak periods.

Scenario Two

Under Scenario Two, the new AWSCs proposed as part of the planned primary school located at 96-18 43rd Avenue would still be incorporated in the analysis. This is because the proposed primary school and the proposed I.S. 311 are in close proximity of each other. Regardless of the completion schedule for the new primary school, the proposed AWSCs would be required to facilitate the safe pedestrian crossings for the proposed I.S. 311.

For the streets around the site, capacities at most of the approaches would be sufficient to accommodate these increases. However, based on the impact criteria discussed earlier, the proposed project could cause significant adverse impacts at the following intersection approaches/lane-groups during the two peak hours analyzed:

---

[1] For the unsignalized intersection significant impact criteria, the difference in the westbound delays at this intersection between the No Build and Build conditions would not be considered a significant adverse impact per *CEQR* criteria because there are less than 90 vehicles at the westbound approach during the AM peak hour.

<u>Signalized Intersections</u>

- The northbound and southbound approaches at the intersection of Roosevelt Avenue and Junction Boulevard during the AM and PM peak periods.

<u>Unsignalized Intersections</u>

- The westbound approach at the intersection of 44th Avenue and Junction Boulevard during the AM and PM peak periods;
- The westbound approach at the intersection of 44th Avenue and National Street during the PM peak period[1]; and
- The eastbound approach at the intersection of 45th Avenue and National Street during the PM peak period.

Mitigation

Five of the intersections in the study area would experience significant traffic impacts in the 2015 Scenario One Build condition as a result of the project-generated traffic. The proposed improvement measures—consisting of signal timing modifications, approach daylighting (prohibiting parking at the approach for approximately 100-feet), and installation of new traffic signals—are recommended as part of the proposed project.

Four of the intersections in the study area would experience significant traffic impacts in the 2015 Scenario Two Build condition as a result of the project-generated traffic. The proposed improvement measures—consisting of signal timing modifications and installation of new traffic signals—are recommended as part of the proposed project.

All of these improvement measures are subject to review and approval by NYCDOT. With these improvement measures in place, all of the impacted intersection approaches/lane groups would operate at the same or at better service conditions than the No Build conditions.

TRANSIT OPERATIONS

The project site is served by Junction Boulevard and 103rd Street-Corona Plaza stations (No. 7 subway line) which are operated by New York City Transit (NYCT). The No. 7 train operates between Times Square-42nd Street in Manhattan and Flushing-Main Street in Queens.

Based on the travel demand estimates, it was determined that approximately 19 project-generated subway trips during each of the AM and PM peak 15-minute periods will be spread across several station elements at the Junction Boulevard and 103rd Street-Corona Plaza Stations. As specified by the 2010 *CEQR Technical Manual*, if the proposed project is considered unlikely to create any noticeable constraints on any subway station elements or to produce a significant transit impact, a quantitative analysis is not required. Consequently, the proposed project is not expected to create any operational constraints on transit.

Based on the travel demand estimates and the availability of Q23, Q58, and Q72 bus routes near the project site, it was determined that no individual bus route would experience 50 or more peak hour bus trips in one direction—the CEQR recommended threshold for undertaking quantified

[1] For the unsignalized intersection significant impact criteria, the difference in the westbound delays at this intersection between the No Build and Build conditions would not be considered a significant adverse impact per *CEQR* criteria because there are less than 90 vehicles at the westbound approach during the AM peak hour.

bus analysis. Consequently, it is expected that the project would not create a noticeable constraint on bus capacity; therefore, a quantitative bus analysis is not warranted.

PEDESTRIAN OPERATIONS

Based on CEQR criteria, the analyzed pedestrian elements (crosswalks, corner reservoirs, and sidewalks) would operate at acceptable levels under both the 2015 Scenario One and Scenario Two Build conditions. Therefore, the proposed project would not result in any significant adverse pedestrian impacts under either scenario.

PARKING

The proposed school would not provide any on-site parking spaces and would generate a demand of approximately 27 parking spaces by faculty/staff commuting by auto. Since the on-street parking utilization in the study area during the AM peak hour is expected to be 95 percent in the 2015 Scenario One No Build condition, and 93 percent in the 2015 Scenario Two No Build condition, parking demand generated by the proposed project would be accommodated by the available on-street parking spaces within the ¼-mile radius of the project site. This would result in an overall on-street parking utilization rate of approximately 96 or 94 percent, respectively, for Scenario One or Two, in the ¼ -mile study area in the 2015 Build conditions.

Therefore, the proposed project would not result in significant adverse impacts to the supply and demand of on-street parking in the study area.

PEDESTRIAN SAFETY

The *CEQR Technical Manual* considers a location to be a high-pedestrian-accident location if it has five or more pedestrian-related accidents in any year of the most recent three-year period for which data are available. Data on traffic accidents at study area intersections were obtained from the New York State Department of Transportation (NYSDOT) for the period between March 31, 2007 and March 31, 2010. During this period, a total of 97 reportable accidents (including 30 pedestrian-related accidents) occurred at the study area intersections. A rolling total of accident data identified the intersections of Junction Boulevard and Roosevelt Avenue and Junction Boulevard and 43rd Avenue as high pedestrian accident locations. At the intersection of Junction Boulevard and Roosevelt Avenue, nearly half of the pedestrian-related accidents were related to vehicles making left or right turning movements while pedestrians were crossing with the signal. The remaining accidents involved vehicles going straight and entering a parked position. With respect to geometric conditions, the intersection of Junction Boulevard and Roosevelt Avenue is signalized and provides three regular crosswalks and one high-visibility (school) crosswalk. In addition, "School Advance" signs are posted at all approaches at this intersection. At the intersection of Junction Boulevard and 43rd Avenue, two of the pedestrian-related accidents were related to vehicle making left or right turning movements while pedestrians were crossing with the signal, two involved vehicles going straight, and two were listed with causes unknown. With respect to geometric conditions, this intersection is signalized and provides three high-visibility (school) crosswalks and one regular crosswalk. In addition, "School Crosswalk" signs are posted at all approaches at this intersection.

With the proposed project, the intersection of Junction Boulevard and Roosevelt Avenue would experience modest increases in vehicular and pedestrian traffic. Measures to increase pedestrian safety at this intersection could include the installation of pedestrian safety sign such as "Turning Vehicles Yield to Pedestrians" on all approaches, repainting the one existing high-visibility (school) crosswalk, and replacing the three approaches with regular crosswalks with high-visibility (school) crosswalks. With these measures in place, the projected increases in vehicular and pedestrian levels at the intersection of Junction Boulevard and Roosevelt Avenue are not expected to result in any significant adverse pedestrian safety impacts.

With the proposed project, the intersection of Junction Boulevard and 43rd Avenue would experience moderate increases in vehicular and pedestrian traffic. Measures to increase pedestrian safety at this intersection could include the repainting of all three high-visibility (school) crosswalks, painting the one regular crosswalk with a high visibility crosswalk, and the installation of pedestrian safety signs such as "Turning Vehicles Yield to Pedestrians" on all the approaches. In addition, it is anticipated that SCA would coordinate with the relevant agencies regarding school crossing guards to facilitate pedestrians crossing at this intersection during the school related morning and afternoon peak periods. With these measures in place, the projected increases in vehicular and pedestrian levels at the intersection of Junction Boulevard and 43rd Avenue are not anticipated to exacerbate any of the current causes of pedestrian-related accidents.

AIR QUALITY

MOBILE SOURCE ANALYSIS

The results of the CO analysis indicate that the cumulative impact of the proposed project along with the planned P.S. nearby would not result in any violations of the 8-hour CO standard. In addition, the incremental increases in 8-hour average CO concentrations are very small, and consequently would not exceed the *de minimis* CO criteria.

The results of the PM analyses indicate that the cumulative vehicle trips generated by both the proposed project and the nearby P.S. would not result in PM_{10} concentrations that would exceed the NAAQS, and that the annual and daily (24-hour) $PM_{2.5}$ cumulative increments are predicted to be well below the interim guidance criteria. Therefore, the proposed project and the nearby P.S. would not result in significant adverse impacts from mobile sources.

HEAT AND HOT WATER SYSTEM SCREENING ANALYSIS

A screening analysis was performed to assess the potential for air quality impacts from the proposed school's heat and hot water systems. The analysis was based on the use of natural gas, total square footage of the proposed school, and an exhaust height of 80 feet. The nearest distance to a building of a similar or greater height was determined to be beyond 400 feet; therefore, in accordance with the guidance provided in the *CEQR Technical Manual,* the 400-foot distance was chosen for the analysis. The use of natural gas would not result in any significant stationary source air quality impacts because the proposed school would be below the maximum permitted size in accordance with the guidelines of the *CEQR Technical Manual.* Since the proposed P.S. at 96-18 43rd Avenue would be shorter than the proposed project, the heat and hot water system analysis conducted is applicable to both Scenario One and Scenario Two and neither would result in the potential for significant adverse impact on air quality.

INDUSTRIAL SOURCE SCREENING ANALYSIS

A field survey was conducted to determine whether there were any industrial sources in the project study area and to identify potential sites that might have New York City Department of Environmental Protection (NYCDEP) permits. Information was requested from NYCDEP on a business found to be operating within the study area that in the past had a permit with the New York State Department of Environmental Conservation (NYSDEC), according to the Envirofacts database. NYCDEP indicated that the business did not have or require any air emissions permits because it no longer engaged in activities that would result in emissions of concern. Therefore, a detailed industrial source analysis is not required, and there would be no potential for significant adverse impacts on the proposed school from existing businesses in the manufacturing district. The conclusions of this assessment are applicable to both Scenario One and Scenario Two.

CHEMICAL SPILL ANALYSIS

The results of the recirculation analysis indicate that a spill in a fume hood as described above would produce maximum concentrations at the nearest intake location below the corresponding STELs set by OSHA and/or NIOSH for any of the chemicals selected for analysis.

The results of the analysis of emissions from the proposed school's fume hood exhaust system show that the maximum concentrations found at the receptor of highest impact would be lower than the corresponding impact threshold. Therefore, there would be no significant impact on air quality from potential chemical spills in the school laboratory hoods.

NOISE

Based on the playground design/layout as currently contemplated, the change in noise levels at 97-42 43rd Avenue would be greater than 5 dBA during those portions of the school day when the playground is being used. These noise level increases would be considered significant under SCA criteria. However, predicted interior noise levels associated with the proposed playground would be expected to be less than the CEQR 45 dBA $L_{10(I)}$ interior noise level guideline. As a result, the noise level increases at this location would be considered significant increases but would not constitute a significant impact.

With the smaller open space design/layout, the change in noise levels at 97-12 43rd Avenue would be less than 5 dBA during those portions of the school day when the open space is being used. As a result, the noise level increases at this location would be not be considered a significant impact.

The school building's façade design would include the use of double-glazed windows, and would be designed to comply with Outdoor-Indoor Transmission Class (OITC) rating, as defined by the American Society of Testing and Materials (ASTM). Designing the proposed development based on these standards would provide sufficient attenuation to achieve the CEQR interior noise level requirements. In addition, the proposed school would have an alternate means of ventilation (i.e., air conditioning). The building mechanical system (including heating, ventilation, and air conditioning) would be designed to meet all applicable noise regulations (i.e., Subchapter 5, §24-227 of the New York City Noise Control Code and the New York City Department of Buildings and Mechanical Codes) and to avoid producing levels that would result in any significant increase in ambient noise levels.

SOIL AND GROUNDWATER

A Phase I Environmental Site Assessment (ESA) of the site was completed on behalf of the New York City School Construction Authority (SCA), in June 2009. The main objective of the Phase I ESA was to identify the presence or likely presence, use, or release of hazardous substances or petroleum products which are defined in American Society of Testing and Materials (ASTM)

Standard Practice E 1527-05 as recognized environmental conditions (RECs). In addition, other environmental issues or conditions such as radon, asbestos-containing materials (ACM), lead-based paint (LBP), and polychlorinated biphenyl- (PCB-) containing equipment were evaluated. The Phase I ESA included a site inspection, a review of the existing data on geology and hydrology of the area, and a review of historical maps, local agency records, and other documents to assess past and current uses of the proposed project site and adjacent areas.

The Phase I ESA identified on-site RECs related to a dry well, a suspect underground storage tank (UST) and historic use of the site for a rail road spur with coal storage areas. Several off-site RECs were also identified, including an adjoining New York City Fire Department Station with petroleum storage, an adjoining active auto repair shop, several nearby registered dry cleaners, a nearby gasoline station, several nearby historic auto repair facilities, an historic Corona Town Garage with gasoline tanks, and several historic manufacturing activities (glass making, a foundry, printing, clothing, woodworking and varnishing) near the site. In addition, environmental concerns were identified at the site, including potential ACM, suspect PCB-containing caulking material and light ballasts, and suspect LBP on interior and exterior painted surfaces. A Phase II Environmental Site Investigation (ESI) was completed on behalf of the SCA in December 2009 to assess the RECs identified in the Phase I ESA.

Based on the Phase I and Phase II investigations, the proposed project would not result in impacts from contaminated media and building materials if the following measures are followed.

- Prior to the construction of the project, the extent of PCB-impacted soil will be delineated as part of a pre-design investigation.
- Any PCB-impacted soil identified during the pre-design investigation will be removed in accordance with all applicable regulations.
- The existing dry well and its contents will be removed and managed in accordance with all applicable regulations.
- As a preventative measure, a soil vapor barrier and a sub slab depressurization system would be installed below the building to prevent the potential for soil vapor intrusion into the proposed school building.
- Prior to construction, any ACM, LBP, and PCB-containing materials affected by the preparation of the site for use as a public school will be identified and properly managed during construction activities.
- For areas of the site where exposed soils may exist (i.e., landscaped areas), a 24-inch-thick layer of environmentally clean fill will be placed over the soils.
- In addition, to minimize the potential for construction workers' exposure, standard industry practices, including appropriate health and safety measures, will be utilized.

CONSTRUCTION IMPACTS

It is anticipated that construction of the proposed project would require a total of approximately 36 months to complete, although the major external construction activities are expected to be completed within approximately 31 months. Based on current plans, construction would begin in 2012 and be completed in 2015.

Construction would begin with the fencing and screening of the site followed by site demolition, excavation and grading. First, any economically salvageable materials are removed. Then the building is deconstructed using large equipment. Typical demolition requires solid temporary walls around the building to prevent accidental dispersal of building materials into areas accessible to the general public. As the building is being deconstructed, bulldozers and front-end loaders would be used to load materials into dump trucks. The demolition debris would be sorted prior to being disposed at landfills to maximize recycling opportunities. Soil would be excavated from the project site and removed by truck to a licensed landfill or recycling facility. If soil containing petroleum or other contaminated materials is discovered during excavation activities, it would be segregated and disposed of in accordance with all applicable Federal, State, and local regulations and guidelines. Additionally, all material that needs to be removed from the site would be disposed of in accordance with applicable requirements. Where bedrock is shallow it is likely that solid rock excavation would be necessary. While the specific methods used for rock excavation cannot be determined until a subcontractor is selected, excavation typically includes rock drilling and/or controlled blasting, and the use of heavy excavation equipment and cranes to remove broken rock from the site. During this period, piles would be driven, as necessary, to support the building, and pile caps would be formed and concrete poured to build the foundations for the building. Next, the project's structural frame and exterior façade would be erected. Construction of the exterior enclosure, or "shell" of the building would include construction of the building's framework (installation of beams and columns), floor decks, facade (exterior walls and cladding), and roof construction. In the final year one to two years of construction, interior finishing would proceed, including electrical work, plumbing, wall and ceiling construction, painting, floorwork, and other finishing items along with the completion of the remaining exterior work, such as utility and façade work. During this time, most work would occur inside, and operation of heavy on-site equipment would be infrequent. As construction nears completion on the interior of the project, final site work would commence and would include construction of the outdoor play yards and landscaping.

The estimated average number of workers on site by phase would be: 40 workers for mobilization, demolition, excavation and foundation; 60 workers for superstructure and exterior work; 120 workers for interior construction and fit-out; and 40 workers for exterior finishing and landscaping. The majority of construction activities would take place Monday through Friday, although if necessary, the delivery or installation of certain equipment could occur on weekend days. Hours of construction are regulated by the New York City Department of Buildings (DOB) and apply in all areas of the City. Almost all work could occur between 7 AM and 6 PM on weekdays, although some workers would arrive and begin to prepare work areas before 7 AM. Occasionally, Saturday or overtime hours would be required to complete time-sensitive tasks. Weekend work requires a permit from the DOB and, in certain instances, approval of a noise mitigation plan from the NYCDEP under the City's Noise Code.

Much of the proposed project's construction staging would occur within the project site, thereby limiting any effects on surrounding roadways and pedestrian elements. However, certain construction activities may require the temporary closing, narrowing, or otherwise impeding of 44th Avenue, the sidewalk along 44th Avenue, as well as the sidewalk and parking lane immediately adjacent to the project site along 43rd Avenue.

Under Scenario One, construction of the new P.S. at 96-18 43rd Avenue would proceed along the same timeframe with the construction schedule of the proposed project. It is assumed that while the major external construction activities associated with the two projects would occur at similar times, they would be short-term in nature (lasting less than two years). SCA would coordinate construction activities of the two projects to ensure that access is provided to nearby residences, businesses, and community facilities at all times.

Under Scenario Two, construction of the new P.S. at 96-18 43rd Avenue would proceed at some point in the future. While the construction timetable for P.S. in this Scenario is unknown under this scenario, it is unlikely that the major external construction activities associated with the two projects would overlap (i.e. last longer than two consecutive years). Furthermore, as described below, the construction activities for both projects will be subject to New York City Local Law 77, which would require the use of best available technology (BAT) for equipment at the time of construction. Therefore, once one of the planned schools is operational, no construction–related impacts associated with the other planned school would occur with these measures in place.

As with most development in New York City, construction of the proposed project may be disruptive to the surrounding area for limited periods of time throughout the construction period. The following technical areas were analyzed to determine the proposed project's temporary effects on transportation systems, air quality, noise, historic and cultural resources, hazardous materials, natural resources, land use and neighborhood character, socioeconomic conditions, community facilities, open space, and infrastructure, as well as the economic benefits associated with the construction. The analysis concluded that the proposed project would not result in extensive construction-related effects with respect to any of the analysis areas of concern. Therefore, no significant adverse impacts are expected to occur as a result of construction. *

A. INTRODUCTION

The New York City School Construction Authority (SCA) proposes the site selection, acquisition, acceptance of construction funding, and construction of a new Intermediate School (I.S.) facility with the capacity of approximately 785 seats in the Corona section of Queens (see **Figure 1-1**). The proposed school would serve Community School District (CSD) 24 and would accommodate children in grades six through eight, as well as District 75 special education students. The project site, an approximately 40,000-square-foot (sf) lot located at 97-36 43rd Avenue, between 97th Place and National Street (Block 1628, Lot 21), currently contains a one-story warehouse building (see **Figure 1-2**).

Although design plans for the new building have not been finalized, it is expected that the proposed school building would contain approximately 100,000 gross square feet (gsf) and would be five stories and approximately 77 feet in height (90 feet to the top of the mechanical space). An approximately 11,000-sf outdoor playground area would be located in the northern portion of the site at 43rd Avenue, and an approximately 3,000-sf open space with passive uses (e.g., benches and landscaping) would be located to the west of the school building on 44th Avenue (see **Figure 1-3**).

The proposed project is located within R5 and M1-1 zoning districts; schools are not permitted as-of-right in manufacturing districts as per Section 22-00 of the Zoning Resolution. Therefore, the project would require a zoning use override from the Deputy Mayor for Education and Community Development. While the design of the school is not yet final, preliminary plans show that the project would result in zoning bulk non-compliances, including permitted floor area, and requirements related to rear yard, maximum street wall, sky exposure plane, and planted areas. Therefore, the SCA would also seek zoning bulk overrides.

The project site contains a portion of a mapped street along 44th Avenue, which is currently being used by the existing warehouse as a driveway and loading area. SCA is currently coordinating with the New York City Department of Transportation and the New York City Department of City Planning to demap the portion of the street within the project site boundary that is currently mapped as an extension of the existing street bed of 44th Avenue. The SCA will undertake the New York City Uniform Land Use Review Procedure (ULURP) for the change to a New York City map upon completion of the City Environmental Quality Review (CEQR) process. Funding for design and construction of this project would be provided in the New York City Department of Education's Capital Plan for Fiscal Years 2010 to 2014.

B. PURPOSE AND NEED

Construction of the new school facility has been proposed to provide additional public school capacity at the intermediate school level in CSD 24. According to the latest DOE school utilization profile for 2009 to 2010, intermediate schools in CSD 24 are operating at 92 percent capacity, with a district-wide capacity of 11,465 and a district-wide enrollment of 10,534. The intermediate school located in closest proximity to the project site is the I.S. 61/Leonardo Da Vinci School, located approximately 0.4 miles from the project site at 98-50 50th Avenue. I.S. 61 is operating at 104 percent capacity, with 2,005 seats.

C. ANALYSIS FRAMEWORK

For the purpose of this environmental review, it is assumed that construction of the proposed project would begin in 2012 and the student occupancy would begin in September 2015. Accordingly, 2015 has been selected as the Build Year for which the environmental assessment areas have been analyzed. It is assumed that if the proposed project does not proceed, the project site would remain in its current state (the "No Action" scenario).

SCA is currently pursuing plans to develop a new 1,110-seat Primary School (P.S.) at 96-18 43rd Avenue, one block west of the proposed project. The new P.S. at 96-18 43rd Avenue is currently anticipated to be completed by the proposed project's Build Year, 2015. However, in the event that the new P.S. is not constructed by 2015, this environmental analysis considers two analysis scenarios for the future without the proposed project—Scenario One includes construction of the 1,110-seat P.S. by 2015, and Scenario Two assumes that the new P.S. is not constructed by 2015.

D. PROJECT SITE AND PROPOSED SCHOOL

The approximately 40,000-sf project site is located in the Corona section of Queens. The site, consisting of Block 1628, Lot 21, is a through-lot located on the block bounded by 44th Avenue to the south, 43rd Avenue to the north, National Street to the east, and 97th Place to the west. The site has frontage on 43rd and 44th Avenues. The project site currently contains a one-story, approximately 27,560-square-foot warehouse building.

The project site is adjacent to the Long Island Rail Road/Port Washington branch railroad tracks, which extend along 44th and 45th Avenues. The site is located in a predominantly residential area, though there are also a number of industrial uses along 44th Avenue and 97th Place within the study area.

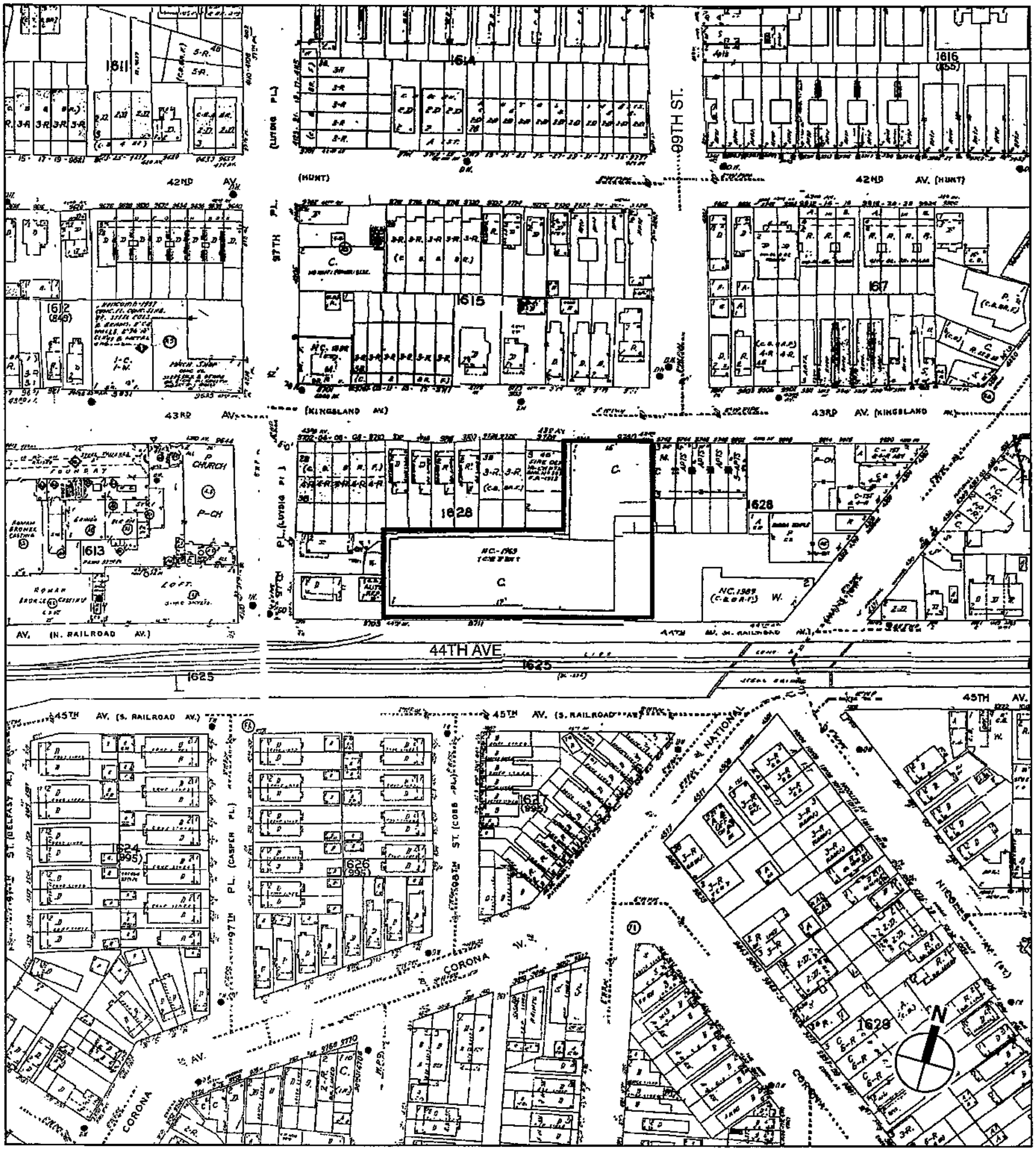
With the proposed project, the existing warehouse structure on the project site would be removed. As mentioned above, design plans for the proposed project are not yet finalized; however, it is expected that the proposed school building would contain approximately 100,000 gsf and would be five stories and approximately 77 feet in height (90 feet to the top of the mechanical space). The main entrance to the school would be located on 44th Avenue, and a secondary entrance would be located on 43rd Avenue. An approximately 11,000-sf outdoor playground area would be located in the northern portion of the site at 43rd Avenue, and an approximately 3,000-sf open space with passive uses (e.g., benches and landscaping) would be located to the west of the school building on 44th Avenue

The new school facility would contain approximately 785 seats for students in grades six through eight, including 84 seats for District 75 special education students, and would contain classrooms, administrative spaces, a gymnasium, library, cafeteria, and kitchen facilities. The new school would employ approximately 60 teachers, administrators, and support staff. The school would operate during normal school hours, likely between 8:00 AM to 3:30 PM between September and June. *

Project Location

Figure 1-1

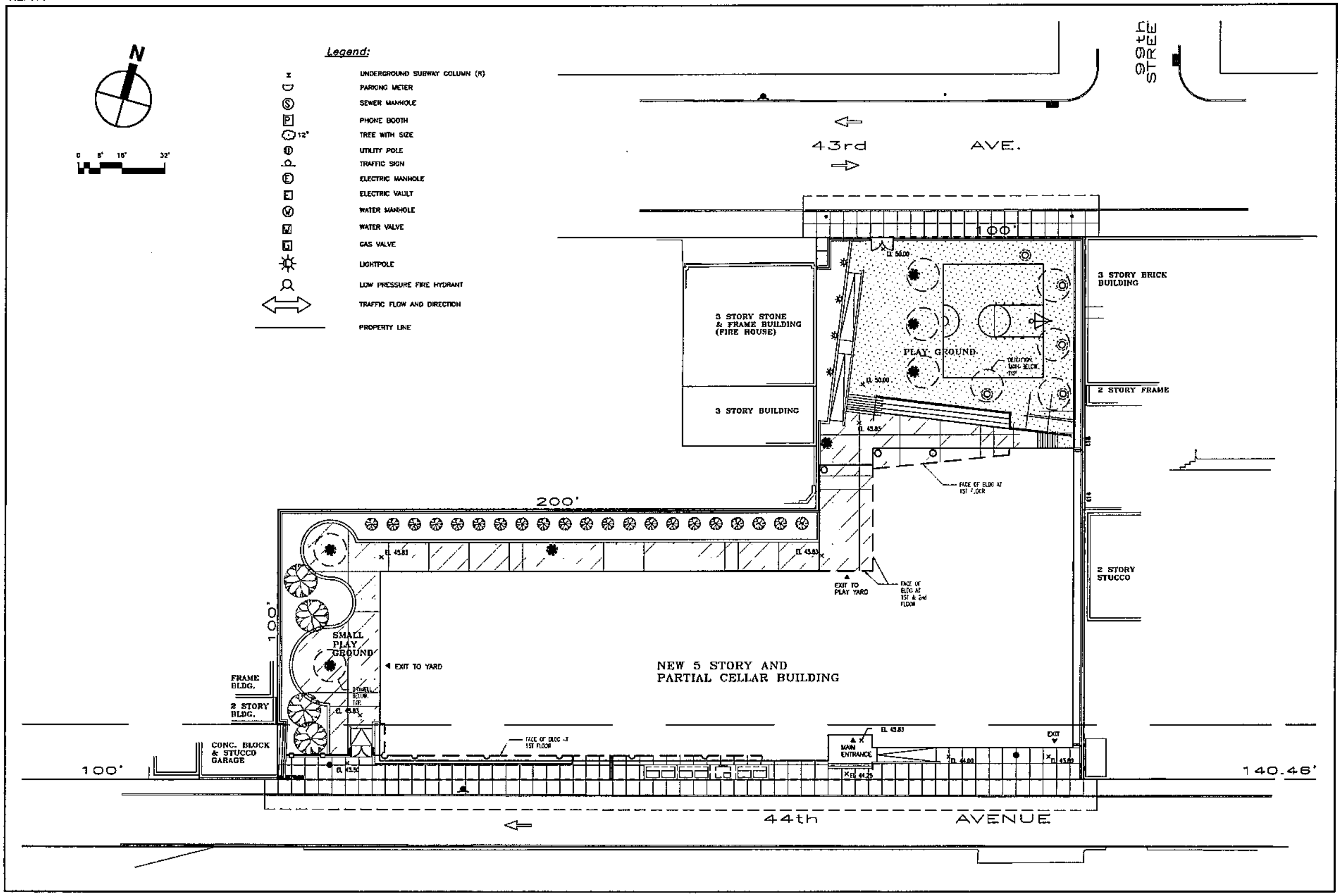
1.27.11



Project Site Boundary

0 100 200 FEET
SCALE

Sanborn Map
Figure 1-2



Proposed School - Conceptual Site Plan
Figure 1-3

A. INTRODUCTION

This chapter considers the effects of the proposed project on land use, zoning, and community character. The proposed project would entail demolition of an existing one-story warehouse building and the construction of a new five-story, approximately 785-seat Intermediate School (I.S.) facility for students in grades six through eight in Corona, Queens. Land use issues associated with the proposed project include potential changes in local land uses and neighborhood land use patterns. Zoning and public policy issues include the compatibility of the proposed project with public policies and zoning requirements.

As described below, this analysis concludes that construction of the proposed project would be compatible with, and supportive of, existing land uses and ongoing land use trends in the study area, and would not result in any significant adverse impacts to land use, zoning, or community character.

B. METHODOLOGY

The 400-foot land use study area roughly extends to 41st Avenue to the north, Corona Avenue to the south, Junction Boulevard to the west, and 102nd Street to the east (see Figure 2-1). This analysis identifies anticipated changes in land use, zoning, and community character that are expected to occur independently of the proposed project by 2015, the project's build year, and assesses any potential adverse impacts to land use, zoning, and community character that would occur as a result of the proposed project.

C. EXISTING CONDITIONS

Existing land use patterns and trends are described below for the project site and the study area. This is followed by a discussion of zoning and community character for both areas.

LAND USE

PROJECT SITE

The project site is located at 97-36 43rd Avenue and Corona, Queens (Block 1628, Lot 21), and is bounded by 44th Avenue to the south, 43rd Avenue to the north, National Street to the east, and 97th Place to the west. It is currently developed with a one-story, 27,560 square foot (sf) warehouse building. The project site also contains a portion of a mapped street along 44th Avenue, which is currently being used by the existing warehouse as a driveway and loading area. The site has a total lot area of approximately 40,000 sf.

STUDY AREA

The study area, generally defined as the 400-foot area surrounding the project site, contains a mix of uses, the most predominant of which are residential, with several manufacturing and institutional uses located nearby. The project site is adjacent to the Long Island Railroad/Port Washington branch railroad tracks, which extend along 44th and 45th Avenues.

Residential buildings in the study area primarily consist of single-family detached and semi-detached homes, as well as multi-family homes and small- to medium-sized apartment buildings, and range in height from two to four stories. Along National Street, east of the project site, many of the residential buildings contain ground-floor commercial spaces with neighborhood retail uses such as laundromats, florists, restaurants, and beauty salons.

Industrial uses in the study area include the one-story 27,560 square foot warehouse building that currently exists at the project site, a poultry processing center located one block west of the project site, and several warehousing and shipping companies. Other industrial uses in the area include auto-related uses, such as auto body garages and gas stations. Commercial uses are primarily located along Junction Boulevard, National Street, Corona Avenue, and 102nd Street and include supermarkets as well as other neighborhood-oriented retail such as video stores, restaurants, and laundromats.

There are several community facility uses in the study area. The 110th Police Precinct is located west of the project site on 43rd Avenue. Fire response services in the study area are provided by Engine 289, Ladder 138, Battalion 46, located at 97-28 43rd Ave, which is adjacent to the project site to the west. Religious uses in the area include a church, an Islamic Mosque, a Buddhist Temple, and a Jehovah's Witness Kingdom Hall, all of which are located on the east side of National Avenue between 41st Avenue and 44th Avenue. Another church is located on 43rd Avenue between 99th Street and National Street.

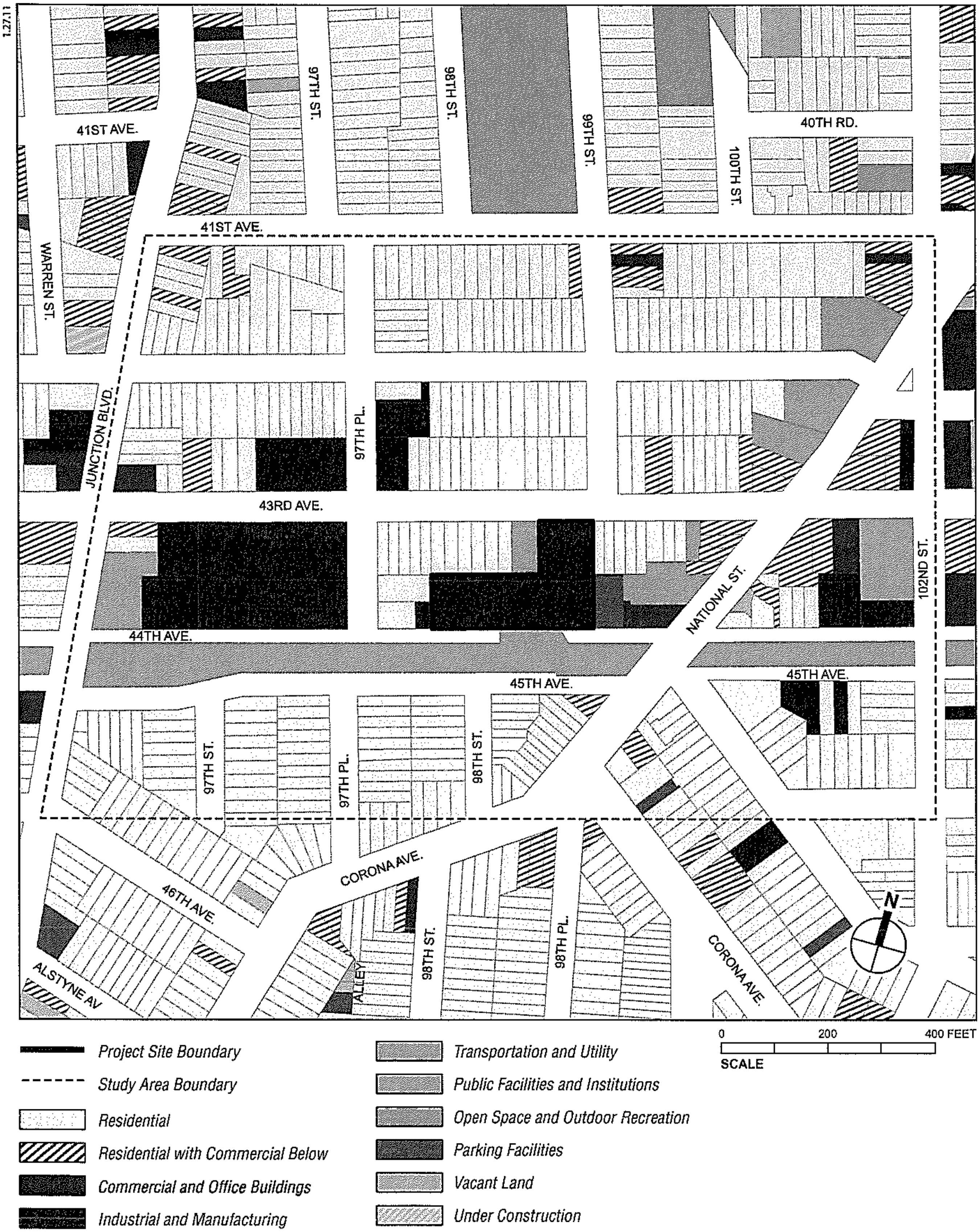
ZONING AND PUBLIC POLICY

PROJECT SITE

A portion of the project site (approximately 30,000 sf) is located in an M1-1 manufacturing zoning district, and a portion (approximately 10,000 sf) is located in an R5 residential zoning district (see Figure 2-2). M1-1 districts permit light manufacturing uses that must meet stringent performance standards and are often located adjacent to residential and commercial districts. M1-1 zoning districts have a maximum allowable floor area ratio (FAR) of 1.0 for manufacturing and commercial uses, and a maximum FAR of 2.4 for community facility uses. Schools are not allowed as-of-right in M1 zones. R5 zoning districts are medium-density residential districts that are typified by small apartment buildings and three-story attached houses. R5 districts often provide a transition between lower- and higher-density neighborhoods, and have a maximum floor area ratio (FAR) of 1.25 for residential uses and a maximum FAR of 2.0 for community facility uses. Schools can be built as-of-right in R5 zoning districts.

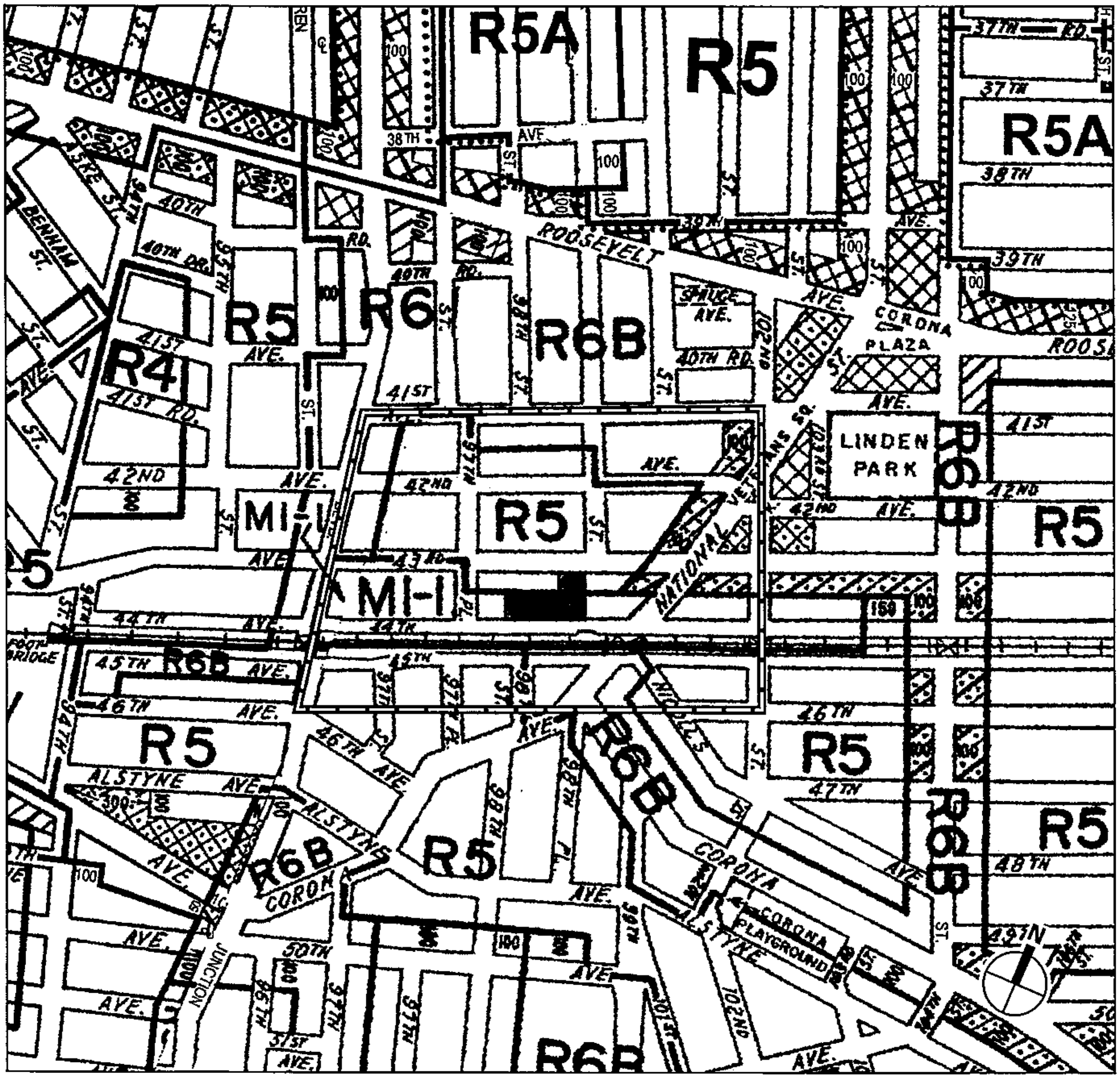
STUDY AREA

The central portion of the study area, to the north of the Long Island Railroad tracks, is within the M1-1 district, described above. The northern and southern portions of the study area contain residential R5 (described above) and R6B districts. R6B districts generally contain four-story attached row houses, many of which are set back from the street by stoops or front yards, and



Land Use
Figure 2-1

1.27.11



0 200 500 FEET
SCALE

Project Site

Study Area Boundary

Zoning District Boundary

C1-4 Overlay

C2-2 Overlay

C2-3 Overlay

C2-4 Overlay

Zoning
Figure 2-2

allow a maximum FAR of 2.0. The R6B District contains commercial overlays along National Street. Within the study area, a C2-3 commercial overlay is mapped on the west side of National Street from 41st Avenue to just south of 43rd Avenue and on the east side of National Street just south of 43rd Avenue. A C2-2 commercial overlay is mapped along the east side of National Street between 42nd and 43rd Avenues. Within these overlay districts, the maximum commercial FAR is 2.0.

COMMUNITY CHARACTER

Community character is defined as the combination of a number of traits, including land use, urban design and visual resources, traffic, and noise. These elements are considered together to create a sense of the neighborhood in which a project is proposed, so that the compatibility of the project within its community setting can be presented and assessed.

PROJECT SITE AND STUDY AREA

The community character of the Corona section of Queens is generally that of a medium-density residential area and also includes a mix of commercial, industrial, and community facility uses. The Long Island Railroad/Port Washington line railroad tracks, which are located above grade and run in an east-west direction, bisect the study area.

Junction Boulevard and National Street are both busy, two-way streets that run north-south through the study area. Corona Avenue is a busy, two-way street that runs generally east-west through the study area. Each of these streets typically carries local traffic, with one travel lane in each direction and a parking lane on each side of the street. These streets are also retail corridors, with neighborhood retail located on the ground floor of many residential buildings. Other establishments, such as auto-related businesses and houses of worship, are also located along these streets. Roosevelt Avenue is also a busy, two-way street that runs east-west just outside of the study area to the north. Roosevelt Avenue is a major retail corridor, with neighborhood retail located on the ground floor of many residential buildings.

The area immediately to the north of the Long Island Railroad/Port Washington branch railroad tracks, including the project site, contains several large industrial and commercial uses, while the remainder of the study area to the north and south of the project site is primarily residential. The residential character of the area is defined by a combination of detached houses, and two- to four-story semi-attached and attached brick and frame buildings. A variety of religious institutional uses, including churches, mosques, and temples are present in this area as well.

The neighborhood's pedestrian activity is mainly concentrated on National Street, Junction Boulevard, Corona Avenue, and Roosevelt Avenue. Pedestrian traffic is mainly to and from bus stops, as well as to the retail and service shops along the thoroughfares. The area is served by the Q23, Q58 and Q72 bus routes, which run along National Street, Corona Avenue, and Junction Boulevard, respectively. The #7 subway line runs elevated above Roosevelt Avenue. Two subway stations along Roosevelt Avenue at Junction Boulevard and 103rd Street are just outside of the study area limits.

COMMUNITY FACILITIES

A new school facility would provide additional community resources for area residents. The project is not expected to place additional demands on hospitals and other health care facilities, libraries, or public school or day care facilities. This section focuses, therefore, on police and fire protection services.

The project is served by the 110th Police Precinct. The precinct house is located at 94-41 43rd Avenue in the Elmhurst section of Queens, approximately ¼ mile west of the project site. The project site is served by Engine 289, Ladder 138, Battalion 46 located at 97-28 43rd Ave, which is adjacent to the project site to the west.

D. THE FUTURE WITHOUT THE PROPOSED PROJECT

LAND USE

In the future without the project, the existing one-story building on the site is expected to remain in operation as a warehouse by 2015.

As described in Chapter 1, "Project Description," the School Construction Authority (SCA) is currently pursuing plans to develop a new 1,110-seat Primary School (P.S.) at 96-18 43rd Avenue, one block west of the proposed project. The new P.S. at 96-18 43rd Avenue is currently anticipated to be completed by the proposed project's Build Year, 2015. However, in the event that the new P.S. is not constructed by 2015, this environmental analysis considers two analysis scenarios for the future without the proposed project—Scenario One includes construction of the 1,110-seat P.S. by 2015, and Scenario Two assumes that the new P.S. is not constructed by 2015 and the existing industrial use remains on that site.

No additional projects planned within the study area. However, a four-story residential building is under construction just outside of the study area at the northeast corner of the intersection of Junction Boulevard and 42nd Avenue.

ZONING AND PUBLIC POLICY

In the future without the proposed project, the zoning on the project site and within the study area is expected to remain unchanged.

COMMUNITY CHARACTER

In the future without the proposed project, it is anticipated that the general character of the community in which the proposed project is located would remain as it is today, with a mix of uses and low-rise character. Any new development that might occur in the study area is not expected to be substantially different from what currently exists, nor is it expected to introduce a significant new source of traffic or noise. Therefore, no change to the existing community character is expected in the future without the proposed project.

COMMUNITY FACILITIES

The Police Department has no known plans for any changes that will affect law enforcement services in this portion of the 110th Precinct. Similarly, there are no other projects or changes in fire protection services or equipment expected by the 2015 build year.

E. PROBABLE IMPACTS OF THE PROPOSED PROJECT

LAND USE

PROJECT SITE

With the proposed project, the existing warehouse structure currently located on the project site would be demolished. The design plans for the proposed project are not yet finalized, however, it is expected that the proposed school building would contain approximately 100,000 gsf and would be five stories and approximately 77 feet in height (90 feet to the top of the mechanical space). The main entrance to the school would be located on 44th Avenue. An approximately 11,000-sf outdoor playground area would be located at ground level in the northern portion of the site, and an approximately 3,000-sf open space with passive uses (e.g., benches and landscaping) would be located to the west of the school building on 44th Avenue.

STUDY AREA

The proposed school would improve land use conditions in the study area and enliven the project block by providing a new educational facility on a site that currently has industrial uses and contains a warehouse. At up to five stories in height, the proposed facility would be slightly taller but generally consistent with structures in the study area. The proposed school would be compatible with the mix of uses currently found in the study area, including residential, commercial, and community facility uses. The proposed school would also be compatible with the new 1,110-seat P.S. at 96-18 43rd Avenue, one block west of the proposed project, in the event that it is constructed by 2015 (Scenario One).

The project site is also adjacent to industrial and community facility uses, including light industrial/manufacturing, auto related uses, and a firehouse. The new school would have buffering to separate it from the existing industrial, auto related, and community facility uses, including fencing and landscaped buffers along the perimeters to separate it from the existing industrial uses. Therefore, the development of the proposed school facility is not expected to affect adjacent land uses such as the firehouse, the industrial and automotive service facilities located along 44th Avenue, or surrounding residential, commercial, or industrial uses. Thus, under Scenario Two, in which the existing industrial use remains at 96-18 43rd Avenue, the proposed project would not result in any impacts to land use, zoning, or community character.

ZONING AND PUBLIC POLICY

The proposed project would replace an industrial use with a community facility that is allowed in R-5 zoning districts as-of-right, and in M1-1 zoning districts by Special Permit from the Board of Standards and Appeals pursuant to Section 42-31 of the New York City Zoning Resolution. Instead of a Special Permit, the SCA would seek approval of a zoning use override from the Deputy Mayor for Education and Community Development to permit the project to proceed. While the design of the school is not yet final, preliminary plans show that the project would result in zoning bulk non-compliances, including permitted floor area, and requirements related to rear yard, maximum street wall, sky exposure plane, and planted areas. Therefore, the SCA would also seek zoning bulk overrides. The project site also contains a portion of a mapped street along 44th Avenue, which is currently being used by the existing warehouse as a driveway and loading area. SCA is currently coordinating with the New York City Department of Transportation and the New York City Department of City Planning to demap the portion of the street within the project site boundary that is currently mapped as an extension of the existing street bed of 44th Avenue. The SCA will undertake the New York City Uniform Land Use Review Procedure (ULURP) for the change to a New York City map upon completion of the City Environmental Quality Review (CEQR) process.

If the zoning override is granted, it would apply only to the project site and would have no impact on neighboring zoning or property. The demapping of the unbuilt street bed extension would not affect zoning on the project site or in the study area. Therefore, the proposed project would have no significant adverse impacts to local zoning.

COMMUNITY CHARACTER

In the future with the proposed project, the existing warehouse building on the site would be replaced with a new school that would be similar in scale to existing buildings and compatible with surrounding residential, industrial, commercial, and community facility uses. The increase in traffic volumes with the proposed project is not expected to result in any significant adverse impacts to the character of the community.

COMMUNITY FACILITIES

The new school would provide additional community resources for area residents, and is expected to relieve overcrowding in nearby elementary schools. The Police and Fire Departments monitor conditions to determine how their personnel are deployed. Decisions to alter existing deployment patterns would be made only in response to a demonstrated change in demand. Police and fire services would be adjusted as deemed necessary by both agencies, and no significant adverse impacts to police or fire services are expected to result from the proposed project. *

A. INTRODUCTION

This chapter assesses the potential of the proposed project to affect historic resources. The project site (Block 1628, Lot 21) is a through-block site located at 97-36 43rd Avenue, between 97th Place and National Street in the Corona section of Queens (see Figure 3-1). The site currently contains a one-story, L-shaped brick warehouse and a small paved parking area.

Historic resources include both archaeological and architectural resources. The study area for archaeological resources is the project site, which is the area that could be disturbed by the project's construction. Study areas for architectural resources are determined based on the area of potential effect for construction-period impacts, such as ground-borne vibrations, and the area of potential effect for visual or contextual effects, which is usually a larger area. The architectural resources study area for this project is defined as being within an approximately 400-foot radius of the project site (see Figure 3-1).

For this analysis, known architectural resources include properties listed on the State and National Registers of Historic Places (S/NR) and properties determined eligible for S/NR listing, New York City Landmarks (NYCLs), and properties determined eligible for landmark status. Potential architectural resources are properties that may meet the criteria of eligibility for S/NR listing and/or NYCL designation.

B. EXISTING CONDITIONS

ARCHAEOLOGICAL RESOURCES

AKRF prepared a disturbance memorandum for the project site in March 2010. The disturbance memorandum, the results of which are summarized below, concluded that the project site has low sensitivity for precontact archaeological resources and no sensitivity for historic period archaeological resources. The memorandum was submitted to the New York State Office of Parks, Recreation, and Historic Preservation (OPRHP) for review and comment on March 23, 2010. In a letter dated April 26, 2010, (see Appendix A,) OPRHP concurred with the recommendations, described below (see Appendix A).

BACKGROUND HISTORY

The precontact period refers to the time when Queens was inhabited by Native Americans, prior to the settlement of New York by European colonists. In general, Native American archaeological sites are characterized by close proximity to coastal areas, with access to marine resources, fresh water sources, and areas of high elevation. Because of the varied resources provided by the nearby marshes, Flushing Creek, and Flushing Bay, the project site could have been utilized by Native Americans for the exploitation of natural resources. However, the project site was gently sloping and there were more level areas to the north. Further, the project site was at a great distance from water courses for a permanent settlement to have been located there. Therefore, it does not seem likely that a campsite or permanent settlement would have been located on the project site.

Further indication of the potential presence of Native American activity near a project site is indicated by the number of precontact archaeological sites that have been previously identified in the vicinity of the project site. The closest site identified is the "Indian Site" excavated by Dr. Ralph Solecki in the 1930s. However, little is known about this site, including its exact location, and attempts to obtain more information about the excavation and its results have not been successful. Additional sites were identified along the shores of Flushing Creek and its surrounding marshes to the east of the project site. In addition, a Native American trail may have been located in the vicinity of the project site.

By the mid-19th century, the Corona section of Queens was predominantly used for agricultural purposes although several roads had been cut through the area by that time. The 1844 Hasseler map depicts three roads in the vicinity of the project site that appear to be precursors of modern Junction Boulevard and Corona and National Avenues and no structures are depicted within the project site on that map. Maps dating to the 1840s and 1850s continue to depict farmland in the vicinity of the project site. However, after the construction of the rail line south of the project site and several new roads made the area more accessible, the Corona neighborhood of Queens was increasingly developed.

The adjacent rail line was initially operated by the Flushing Rail Road, although it was later operated by the Flushing and North Side Railroad and finally the Long Island Railroad (LIRR), which controls the tracks today. While today the tracks run on elevated platforms, they were originally at ground level and a station house was originally located to the west of the project site in the center of what is now 44th Avenue near its intersection with National Avenue. The station house was later relocated to an area immediately south of the project site within what is now the streetbed of 44th Avenue midway between 97th Place and 99th Street. Although a pathway associated with the new depot entered the project site, no structures were depicted within the project site during the 19th century and the only structures on the entire block were located along its eastern side, along National Avenue.

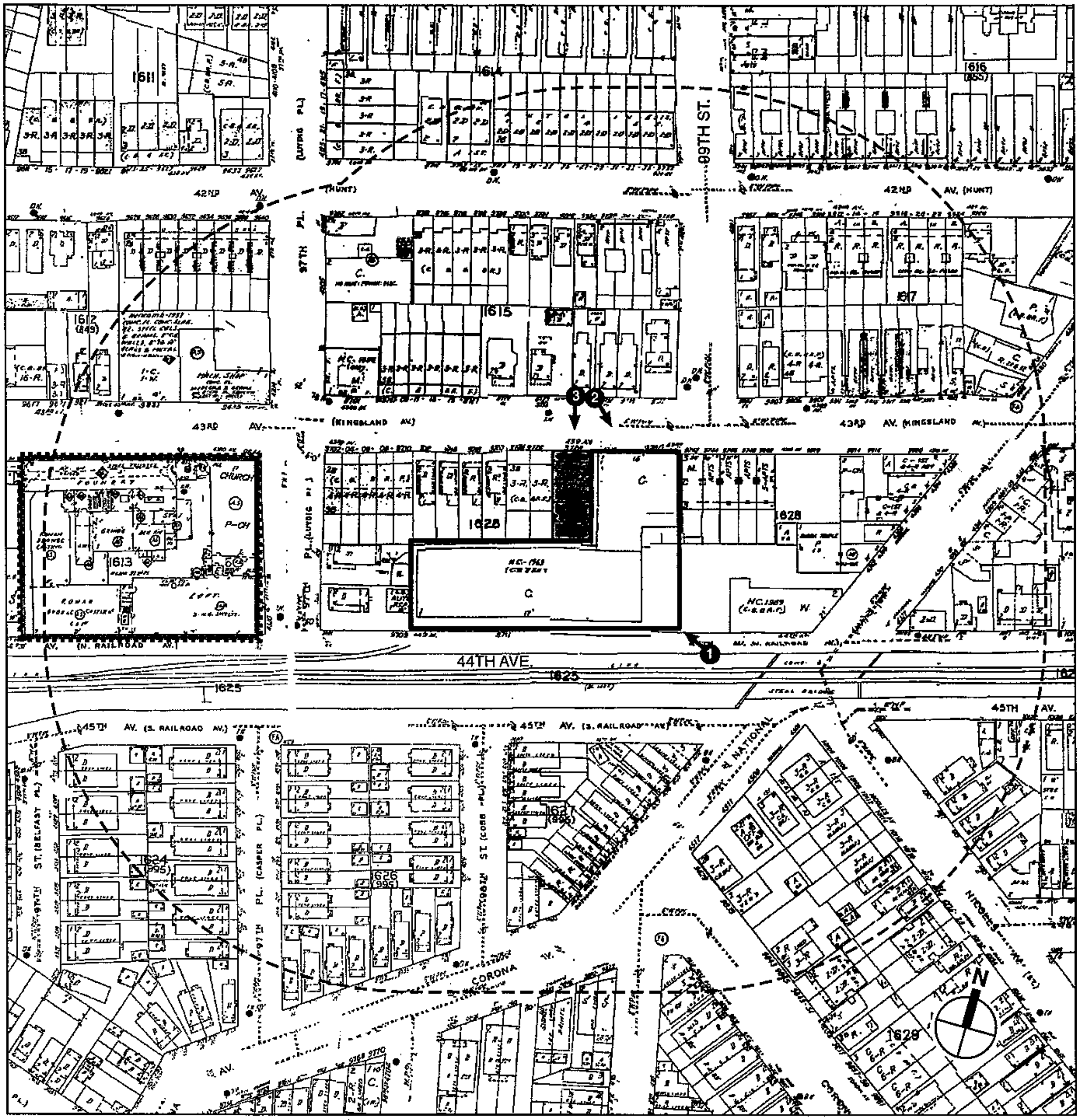
By the turn of the 20th century, additional structures were built within Block 1628, although none were within the project site. A railroad spur was constructed within the project site by the late 1920s. The spur included two tracks: one that diverged from the main rail line and connected to the other, which ran through the center of the project site. A Sanborn map from 1931 depicts a small, 1-story trapezoidal structure with a dashed outline, which may suggest that it was not a formal structure. Maps from this time also depict a series of circular "coal pockets" near the eastern side of the site which at that time was operated by the "Corona Fuel Company." No additional structures were depicted on the project site during the mid-20th century and there is evidence that portions of the site were used for the storage of lumber. In the 1960s, the station house adjacent to the site was closed and relocated further east. In 1969, the existing factory/warehouse was constructed on the project site.

POTENTIAL ARCHAEOLOGICAL SENSITIVITY OF THE PROJECT SITE

Precontact Sensitivity

As discussed previously, the precontact sensitivity of project sites in New York City is generally evaluated by a site's proximity to level slopes, water courses, well-drained soils, and previously

1.27.11



——— *Project Site Boundary*

– – – *Study Area Boundary (400-Foot Perimeter)*

Known Architectural Resource - Fire Engine Company 289/Ladder Company 138 (S/NR, NYCL)

Potential Architectural Resource – Former Tiffany Studios Complex

Photograph View Direction and Reference Number

0 100 200 FEET
SCALE

Architectural Resources
Figure 3-1

identified precontact archaeological sites. Precontact archaeological sites are generally found at shallow depths, usually within five feet of the original ground surface. While the project site's original topography may have made the site attractive to Native Americans for resource exploitation, it is not likely that a campsite or permanent habitation site would have been located there. In addition, while there may be evidence that a Native American trail ran in the vicinity of the project site, only one poorly documented precontact site appears to have been identified within one mile of the project site. Although there has been a lack of documented disturbance related to 19th and 20th century development on the project site, soil borings show that the soil profile across the site is inconsistent and it appears that soils may have been moved and redeposited, possibly as a result of railroad uses during the early 20th century or the construction of the existing building. While the possibility that fill levels that may have served to protect the original ground surface may have existed at one point, the lack of continuity presented in the soil borings suggests that this may not be the case. Therefore, the disturbance memorandum submitted to SHPO concluded that the site is considered to have low sensitivity for precontact archaeological resources.

Historic Sensitivity

Historic maps depict the project site as undeveloped until the early 20th century. There is no record of any domestic occupation on the site nor were any substantial structures ever present before the circa 1969 construction of the existing factory/warehouse. Therefore, the disturbance memorandum concluded that the project site is determined to have no sensitivity for historic period archaeological resources.

ARCHITECTURAL RESOURCES

PROJECT SITE

There are no known architectural resources on the project site. The project site is currently occupied by a one-story, L-shaped warehouse that was constructed circa 1969. The cinder block- and brick-faced building has a flat roof and irregularly-spaced window and door openings, some of which have been altered (see Views 1 and 2 of Figure 3-2). The building does not meet age criteria (50 years) for listing on the S/NR and is not architecturally distinguished. Therefore, there are no architectural resources on the project site.

STUDY AREA

Known Architectural Resources

There are two known architectural resources in the 400-foot study area.

Fire Engine Company 289/Ladder Company 138 (S/NR, NYCL)

The fire station, located at 97-28 43rd Avenue, is immediately west of the project site. The building was designed by architects Satterlee & Boyd and built in 1912-1914. It is a three-story, red brick-faced French Renaissance-style building with a steeply pitched mansard roof. The building is faced in Stony Creek granite at its base with buff-colored Indiana limestone above, which is also used on the second and third floor window surrounds and the roof cornice. The building's design also incorporates brick, bronze, and marble medallions, and decorative ironwork. The fire station was built soon after the 1898 Consolidation of Greater New York as part of a campaign to bring professional fire service to Queens. It is one of the earliest fire stations designed during the automobile age and has two side-by-side bays specifically designed for motorized vehicles (see View 3 of Figure 3-3).

Former Tiffany Studios Complex (S/NR-eligible)

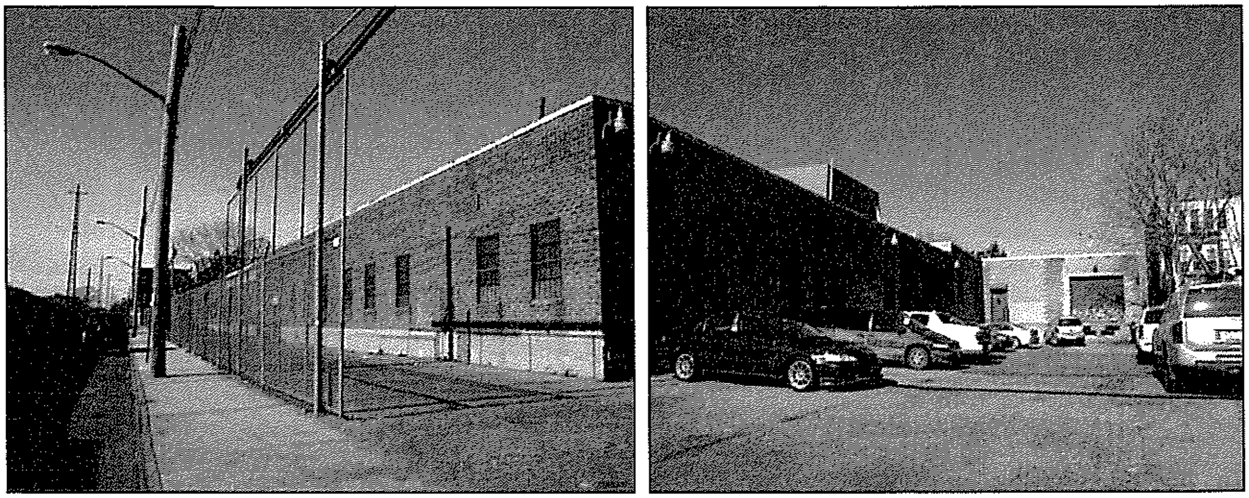
Louis Comfort Tiffany's Corona factory complex included the Tiffany Furnaces and the Tiffany Studios. The Tiffany Furnaces were located on the northwest corner of 43rd Avenue and 97th Place across from the Studios, however, the Furnaces were demolished between 1931 and 1951. The former Tiffany Studios Complex continues to occupy the eastern end of the block bounded 97th Place and 43rd, 44th, and Junction Avenues. The Furnaces opened in 1892 as the "Sturbridge Glass Works," a business established by Louis Comfort Tiffany. The Furnaces were where Tiffany successfully developed opalescent glass that was marketed under the trademarked name "Favrile," meaning handmade.

The company produced high volumes of glass, experimented in glass colors and pottery glazing, and perfected techniques of assembling stained glass windows and lamps at the Corona factory complex. Heavier work was also done at the Corona factory, including making and soldering glass, assembling lamps, and making bronze. The factory also produced decorative light fixtures, metal-work, enamelware, ceramics, and jewelry that were sold at the Tiffany showroom in Manhattan.

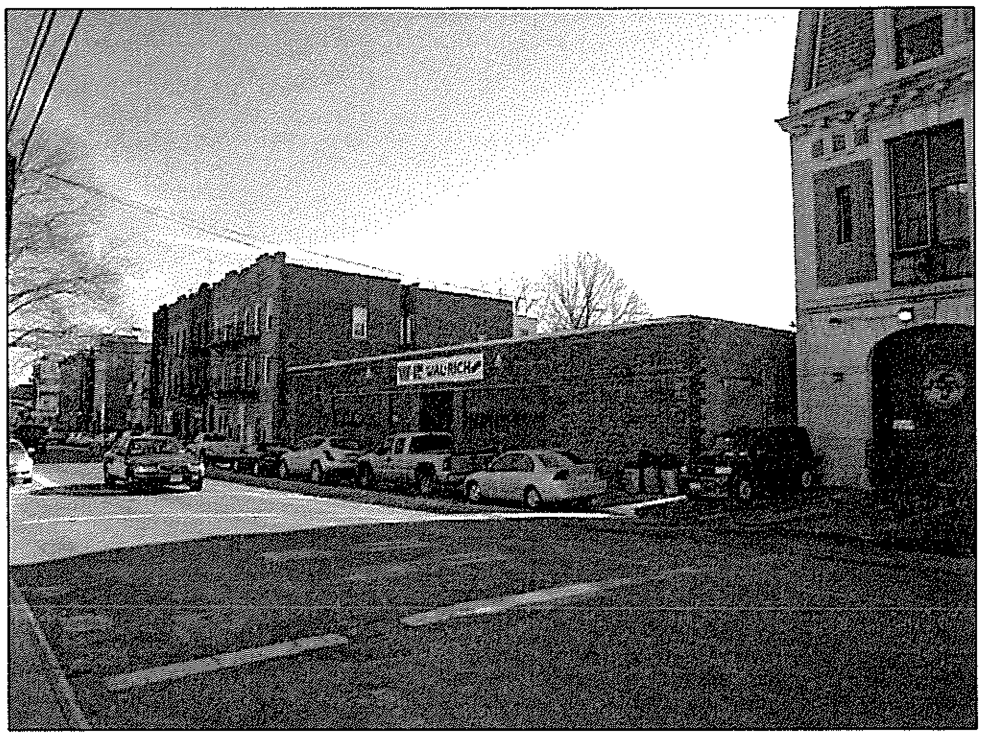
The Tiffany company was dissolved in the late 1920s as the stained glass and decorative items that the company produced went out of style. In 1928 the Tiffany factory's bronze and ironworks studios, including the material and equipment, were purchased by the General Bronze Corporation. When Tiffany Studios filed for bankruptcy in 1931, the Studios building complex was acquired by Roman Bronze Works, a company that had served as a subcontractor to Tiffany in prior years. The company continued operating as bronze and aluminum foundries in the Studios buildings, producing such works as the statues of Prometheus and Atlas for Rockefeller Center. During World War II the foundry was used for defense work which disrupted the organization of the artisans. The former Studios complex buildings have since been used by a variety of tenants, including electronics and garment businesses, a church, and a live poultry business.

The former Tiffany Studios Complex comprises attached one- to three-story industrial buildings that are faced in brick and cinder block. The buildings on the eastern end of the complex, built between 1893 and 1902, have windows with brick segmental arch headers and lintels and a cornice with decorative brick corbelling and dentils (see View 4 of Figure 3-3). Some windows have been infilled with brick, door openings have been cut into the north façade, and metal security screens have been installed on most door openings. Several ground level windows have closed gray metal shutters. The western portion of the complex includes two buildings that were constructed by 1915. Facing 43rd Avenue is a one-story foundry, an east-west oriented building with a pitched roof along its length and a raised shed-like component at the ridge. The foundry's north façade has nine large rectangular window openings, with both horizontal pivot windows and fixed lights. A large vehicular entrance and a doorway also open from this façade, both of which have rolling metal security screens (see View 4 of Figure 3-3). The western portion of the complex's 44th Avenue frontage is a two-story utilitarian structure faced in brick and cinder block. It has two loading docks and five small window openings on the first floor, and 17 window bays on the second floor. The windows have metal screens and shutters.

There are no potential architectural resources in the study area. Other than the two known architectural resources, buildings in the study area include a mix of older two- and three-story attached, detached, and semi-detached houses, most of which have been altered with vinyl

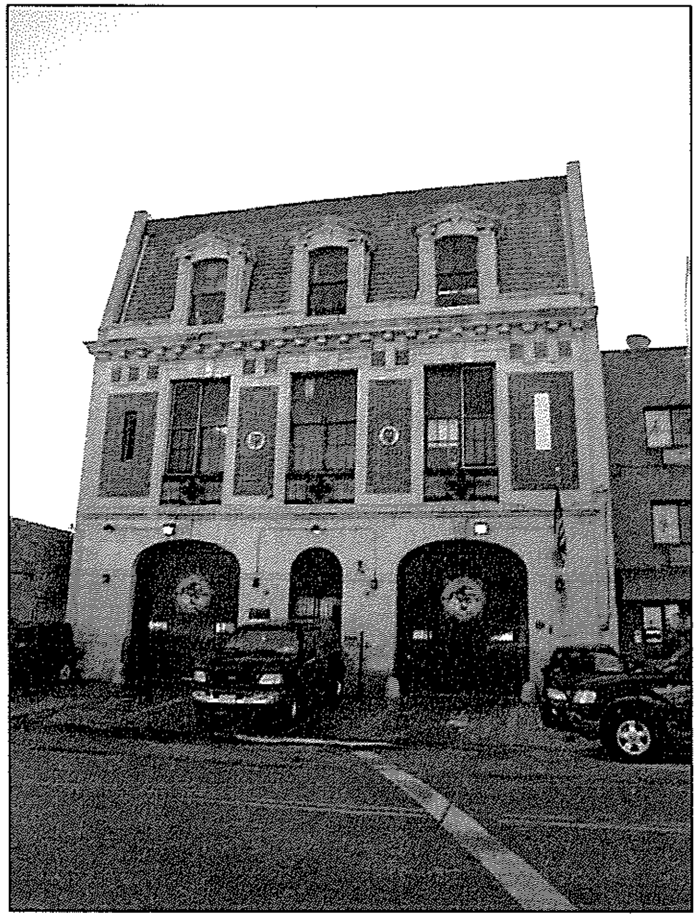


View to the project site from 44th Avenue **1**

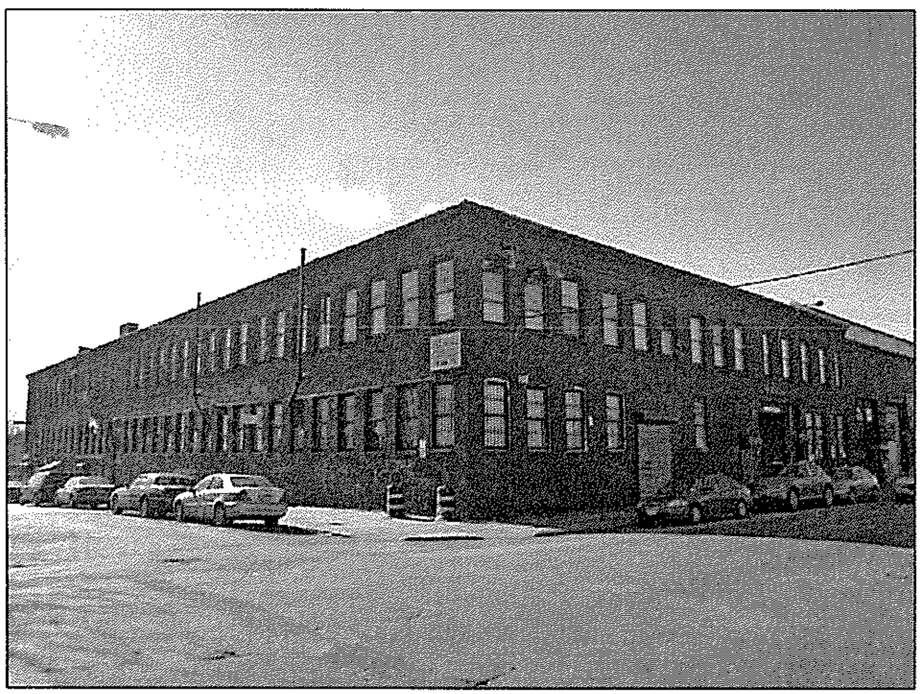


View to the project site from 43rd Avenue **2**

Project Site
Figure 3-2



Fire Engine Company 289/Ladder Company 138
97-28 43rd Avenue **3**



Former Tiffany Studios Complex - Southwest corner of 43rd Avenue and 97th Place **4**

Known and Potential Architectural Resources
Figure 3-3

siding, porch enclosures, and new windows. There are also both older and newer two- and three-story, brick-faced apartment buildings, one- to three-story industrial buildings and warehouses, and institutional buildings. The buildings in the study area, apart from the two architectural resources described above, do not appear to meet the criteria for S/NR listing or NYCL designation.

C. THE FUTURE WITHOUT THE PROPOSED PROJECT

Architectural resources that are listed on the National Register or that have been found eligible for such listing are given a measure of protection from the effects of federally-sponsored or federally-assisted projects under Section 106 of the National Historic Preservation Act. Although preservation is not mandated, federal agencies must attempt to avoid adverse impacts on such resources through a notice, review, and construction process. Properties listed on the State Register are similarly protected against impacts resulting from state-sponsored or state-assisted projects under the State Historic Preservation Act. Private property owners using private funds can, however, alter or demolish their properties without such a review process.

PROJECT SITE

In the future without the proposed project, it is assumed that the project site will remain in its current condition with a one-story brick building and surface parking and will not be developed by the 2015 analysis year.

STUDY AREA

There are no projects within the study area that are currently under construction. There is one known development project planned in the study area that may be completed by the project's 2015 Build year, or it may be completed after 2015. This No Build project is a new 1,100-seat primary school on the site of the former Tiffany Studios Complex, a known architectural resource, which is located one block west of the project site at 97-18 43rd Avenue. This No Build project involves the demolition of the former Tiffany Studios Complex. There is no visual relationship between the project site and this architectural resource, however, as there are several intervening buildings.

Absent the proposed project, it is possible that the former Tiffany Studios Complex could be listed on the S/NR or determined eligible or designated a NYCL.

D. PROBABLE IMPACTS OF THE PROPOSED PROJECT

ARCHAEOLOGICAL RESOURCES

The disturbance memorandum prepared in March 2010 determined that the project site has low sensitivity for precontact archaeological resources and no sensitivity for historic period archaeological resources. The memorandum concluded that no further archaeological study was warranted. The report was accepted by OPRHP in comments dated April 26, 2010. Therefore, the proposed project is not expected to adversely affect archaeological resources.

ARCHITECTURAL RESOURCES

In general, potential impacts on architectural resources can include both direct physical impacts and indirect impacts. Direct impacts include demolition of a resource and alterations to a resource that cause it to become a different visual entity. A resource could also be damaged from vibration (i.e., from construction blasting or pile driving) and additional damage from adjacent construction that could occur from falling objects, subsidence, collapse, or damage from construction machinery. Adjacent construction is defined as any construction activity that would occur within 90 feet of an architectural resource, as defined in the *New York City Department of Buildings (DOB) Technical Policy and Procedure Notice (TPPN) #10/88*.[1] Indirect impacts such as contextual impacts may include isolation of a historic resource from its setting or visual relationships with the streetscape, changes to a resource's visual prominence, elimination or screening of publicly accessible views of a historic resource, introduction of significant new shadows or significant lengthening of the duration of existing shadows on sun-sensitive historic resources, and introduction of incompatible visual, audible, or atmospheric elements to a resource's setting.

PROJECT SITE

With the proposed project, the project site would be redeveloped with a new intermediate school. Design plans for the proposed project are not yet finalized, however, it is expected that the proposed school building would be up to five stories and approximately 77 feet in height (90 feet to the top of the mechanical space). The building would be rectangular in shape and oriented with its primary entrance on 44th Avenue. An outdoor playground area would be located in the northern portion of the project site along 43rd Avenue and a passive open space for students would be located west of the new school building along 44th Avenue. New trees, grassy areas, and paving would screen the school building from the fire station to the north. It is expected that the new school would be faced in masonry. Since there are no known or potential architectural resources on the project site, the proposed project would have no adverse impacts on architectural resources on the project site.

In a letter dated April 29, 2010, (see Appendix A,) OPRHP determined that the proposed project would have "No Adverse Impact on cultural and historic resources eligible for or listed on the National Register of Historic Places," provided OPRHP reviews the new school's design to determine its effects on the NR-eligible (the former Tiffany Studios Complex) and NR-listed (Fire Engine Company 289/Ladder Company 138) resources in the study area.

STUDY AREA

The project site is located adjacent to Fire Engine Company 289/Ladder Company 138, an architectural resource. Therefore, to avoid potential adverse physical effects on this architectural resource, a Construction Protection Plan (CPP) would be developed and implemented prior to the commencement of any demolition or construction activities on the project site. The CPP would follow DOB's *TPPN #10/88*, regarding procedures for the avoidance of damage to historic structures resulting from adjacent construction, and would be prepared in consultation with SHPO and LPC. *TPPN #10/88* requires a monitoring program to reduce the likelihood of construction damage to adjacent NYCLs and S/NR-listed properties (within 90 feet) and to detect at an early stage the beginnings of damage so that construction procedures can be changed

[1] TPPN #10/88 was issued by DOB on June 6, 1988, to supplement Building Code regulations with regard to historic structures. TPPN #10/88 outlines procedures for the avoidance of damage to historic structures resulting from adjacent construction, defined as construction within a lateral distance of 90 feet from the historic resource.

As requested by OPRHP and to meet the conditions specified in OPRHP's April 29, 2010 findings letter, the CPP would be submitted to OPRHP for review.

The former Tiffany Studios Complex is located approximately 170 feet west of the project site so would not be affected by inadvertent construction-related impacts by the proposed project. Therefore, the CPP would not include protective measures for this architectural resource.

The proposed project also is not expected to result in any adverse visual or contextual impacts on Fire Engine Company 289/Ladder Company 138. The proposed project would replace a one-story warehouse with a new institutional building. Like the fire station, another institutional building in the study area, the proposed school would be taller than most other nearby buildings. However, study area buildings range in height from one to four stories. In addition, the LIRR's embankment and bridge extend through the study area immediately south of the project site. It is expected that the new school would be faced in masonry like many nearby buildings, including Fire Engine Company 289/Ladder Company 138. The new school would be built in the location of a non-historic structure that has no meaningful relationship with the historic fire station. As such, the proposed project would not result in adverse contextual impacts. The proposed project would also not obstruct views to the fire station as the school building would be oriented along 44th Avenue with a playground located adjacent to the fire station on 43rd Avenue. Therefore, the proposed project would not result in any adverse visual or contextual impacts on Fire Engine Company 289/Ladder Company 138.

The proposed project would not have a direct physical or visual effect on the former Tiffany Studios Complex as there are several intervening buildings and no visual relationship between the project site and this architectural resource. Further, as described in Section C above and in Chapter 1, "Project Description," this architectural resource may be demolished in the future without the proposed project.

As stated above, OPRHP determined that the project would not adversely impact cultural and historic resources in the study area provided OPRHP's review of the new school's design.

Overall, the proposed project is not expected to adversely affect archaeological or architectural resources. *

A. INTRODUCTION

This chapter considers the potential of the proposed project to affect urban design and visual resources. The through-block project site is located at 97-36 43rd Avenue, between 97th Place and National Street on Block 1628, Lot 21 in the Corona section of Queens. As per the guidelines presented in the 2010 *New York City Environmental Quality Review (CEQR) Technical Manual*, the urban design and visual resources study area is consistent with the study area for the analysis of land use, zoning and public policy and is defined as 400 feet from the boundary of the project site. Views of the project site are generally not available beyond this distance from the project site. The study area is roughly bounded by 42nd Avenue to the north, Corona Avenue to the south, the mid-block east of National Avenue to the east, and the mid-block west of 97th Place to the west (see Figures 4-1 and 4-2).

The following preliminary assessment addresses urban design and visual resources for existing conditions and the future without and with the proposed actions for the year 2015, when the proposed project is expected to be completed. The basis for comparison is the No Action scenario. It is assumed that if the proposed project does not proceed, the project site would remain in its current condition.

As described below, the proposed project would replace a one-story, L-shaped warehouse and a portion of a mapped street along 44th Avenue, which is currently used as a driveway and loading area, with a new intermediate school building, a playground area, open space, and landscaping. The New York City School Construction Authority (SCA) has not yet finalized project plans for the proposed school; however, as currently contemplated, the new school building would be five stories (approximately 77 feet) in height with an outdoor playground area located in the northern portion of the project site along 43rd Avenue and an open space with passive uses (e.g., benches and landscaping) located west of the new school building along 44th Avenue. The new school would be similar in bulk to apartment buildings and warehouses in the study area. It would also be similar in height to Public School 19, approximately 240 feet north of the study area, and the No Build project Public School Q315, to be located approximately 170 feet west of the project site. With the proposed project, the new school would cover approximately 52 percent of the lot. It would not be expected to adversely affect wind or sunlight conditions in the surrounding area. The proposed project would not alter the street pattern, block shapes, or natural features of the study area, nor would it introduce an incompatible use. Although some views in the study area would be altered by the addition of a new building on the project site, as described below, no significant visual resources or view corridors would be obstructed.

This preliminary assessment concludes that in comparison to the No Action scenario, the proposed project would not be expected to result in any significant adverse impacts to urban design and visual resources on the project site or in the study area and does not require further analysis.

B. EXISTING CONDITIONS

PROJECT SITE

URBAN DESIGN

The project site contains a one-story (15- and 17-foot-tall), L-shaped warehouse with its primary façade on 43rd Avenue and its secondary façade on 44th Avenue (see Views 1 and 2 of Figure 4-3). The project site building is faced in brown brick and cinder block and has a flat roof and window and door openings of varying sizes. The building is approximately 27,560 square feet (sf) in size, and is below the permitted maximum floor area ratio (FAR) for the project site (2.0 for the northern portion within the R5 Residential Zoning District and 2.4 for the southern portion within the M1-1 Manufacturing Zoning District).

The project site also contains a portion of a mapped street along 44th Avenue, which is currently being used as a driveway and loading area for the existing warehouse. A driveway entrance is located on 44th Avenue. There is an approximately 10-foot-tall chain link fence along the 44th Avenue property line. The project site has a total lot area of approximately 40,000 sf. Existing lot coverage is approximately 68 percent.

VISUAL RESOURCES

The building on the project site is not architecturally distinctive or visually prominent. Therefore, there are no visual resources on the project site.

One visual resource is visible from the project site—Fire Engine Company 289/Ladder Company 138 at 97-28 43rd Avenue. This historic, architecturally distinctive three-story (46-foot-tall) building is located immediately west of the project site on 43rd Avenue. This early 20th century fire station is faced in red brick, limestone, and granite and has a mansard roof and two garage entrances (see View 3 of Figure 4-4).

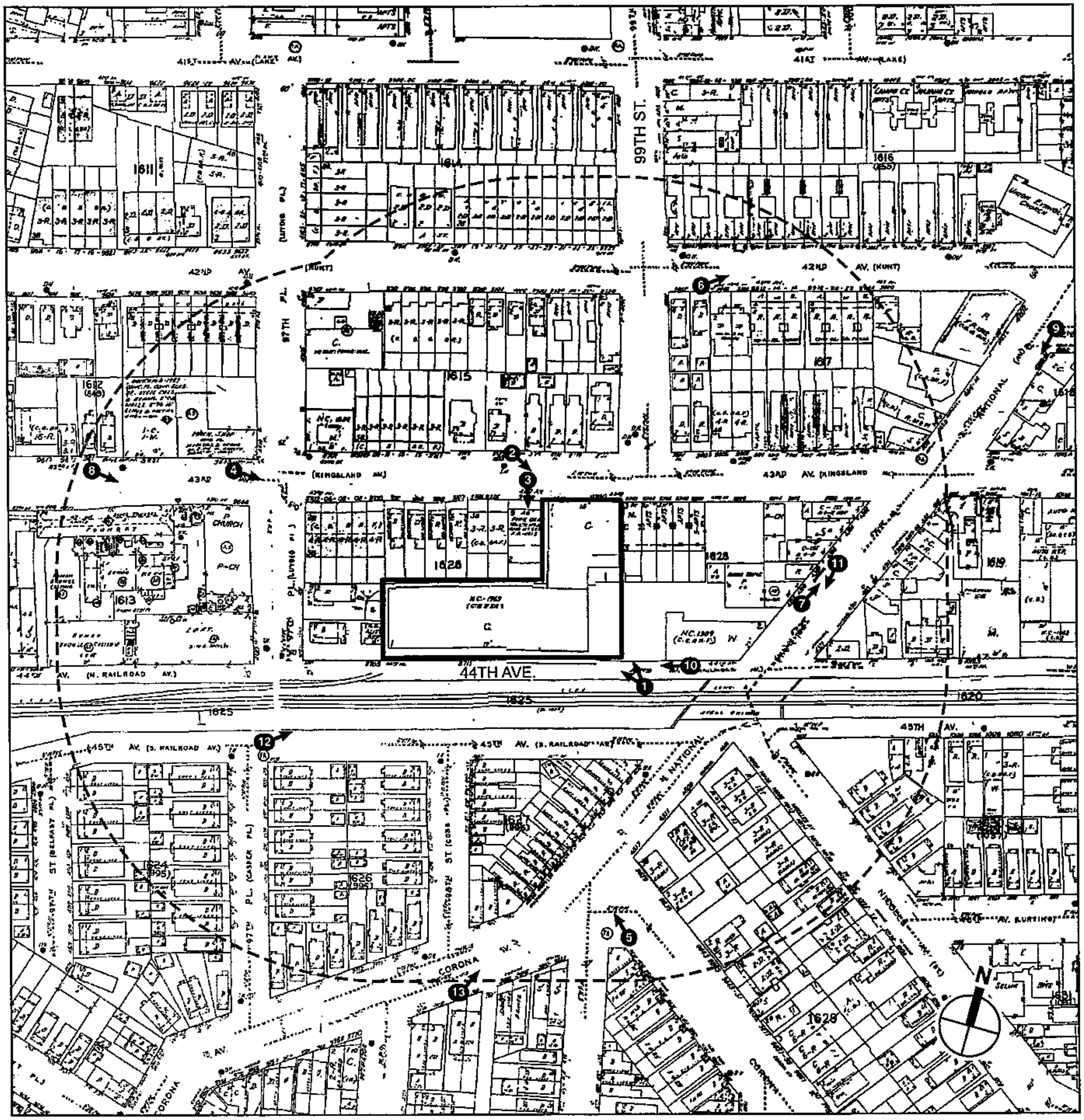
STUDY AREA

URBAN DESIGN

The two primary thoroughfares in the study area are National and Corona Avenues. National Avenue is approximately 66 to 70 feet wide and Corona Avenue is 80 feet wide. National Avenue extends diagonally northeast-southwest through the study area and Corona Avenue follows a triangulated route in the study area (see Figure 4-1). Both avenues carry two-way traffic. Other streets in the study area include narrow north-south streets north and west of National and Corona Avenues and narrow north-south and diagonal streets south and southeast of these avenues. Streets and avenues north of the project site generally have two-way traffic while streets south of the project site carry one-way traffic. Streets and avenues throughout the study area have curbside parking. Most blocks in the study area have irregular shapes and sizes due to the angles of National, Corona, and Nicholls Avenues. Most blocks have their skewed, short ends along National or Corona Avenues. In general, smaller blocks are located south of the project site.

Most buildings in the study area are residential, including free-standing, semi-detached, and attached houses; small apartment buildings; and residential buildings, including tenements and converted houses, with ground floor commercial uses. Most study area buildings do not cover

1.27.11



0 100 200 FEET
SCALE

Project Site Boundary

Study Area Boundary (400-Foot Perimeter)

Photograph View Direction and Reference Number

Urban Design and Visual Resources Study Area and Project Location Map

Figure 4-1

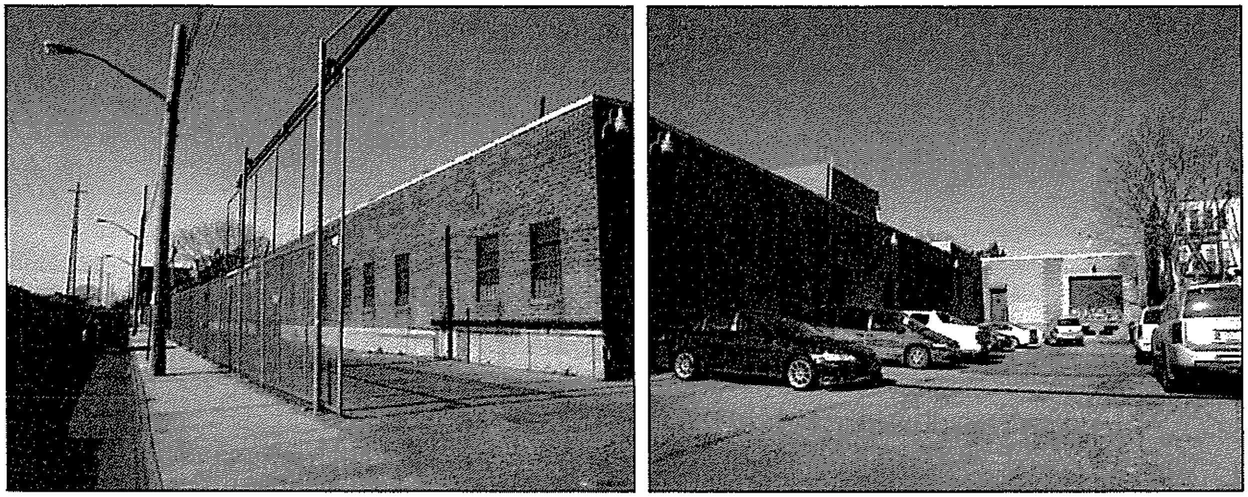
Project Site Boundary

Study Area Boundary (400-Foot Perimeter)

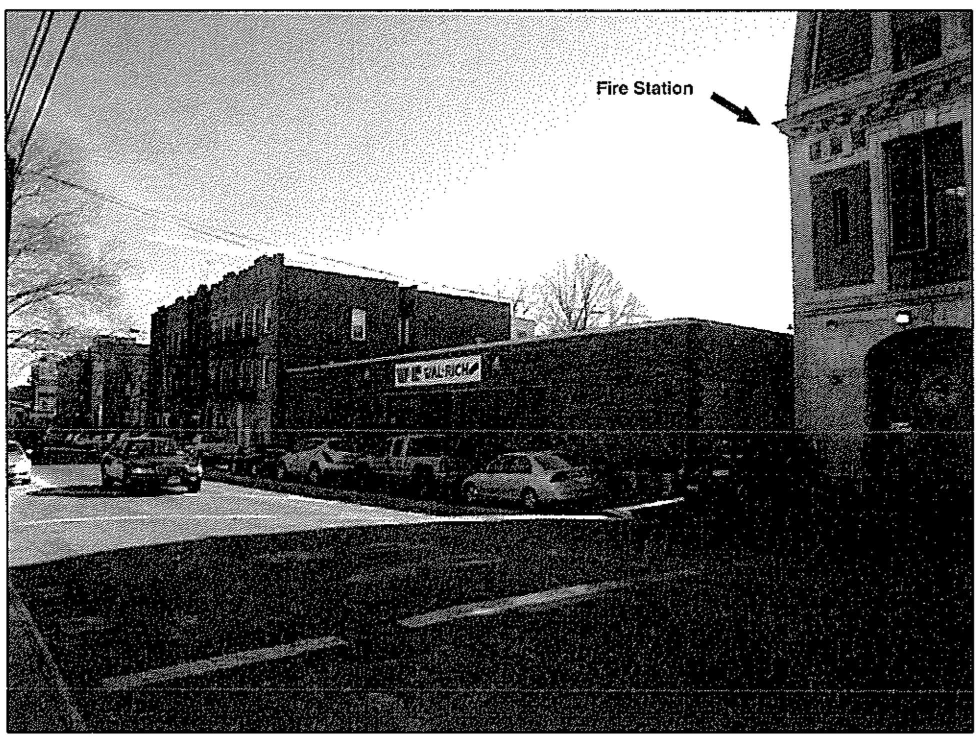
14 Photograph View Direction and Reference Number

Urban Design and Visual Resources
Aerial Photograph of the Project Site and Study Area

Figure 4-2

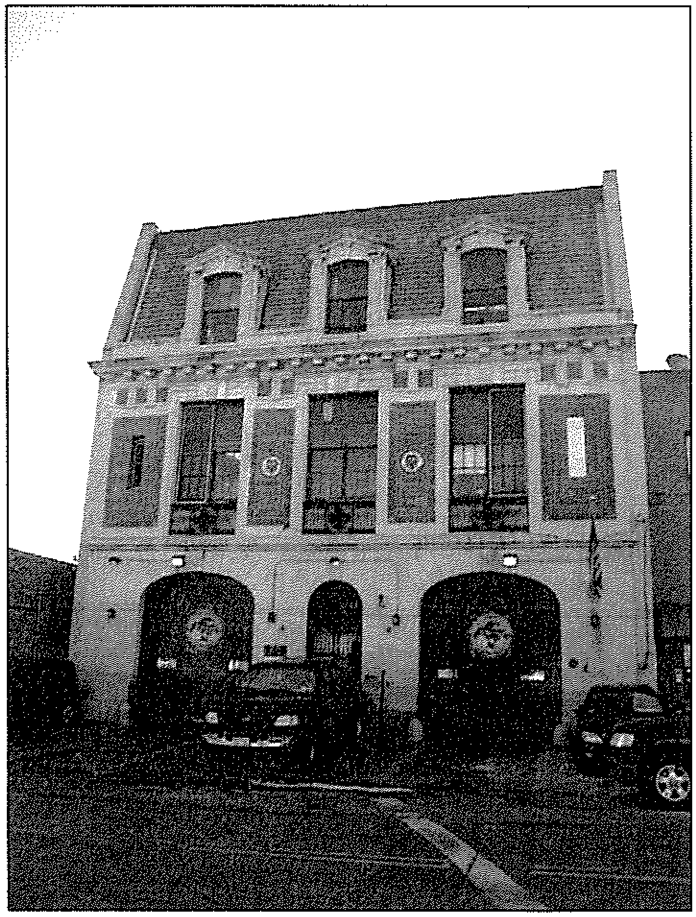


View to the project site from 44th Avenue **1**



View to the project site from 43rd Avenue **2**

Urban Design and Visual Resources
Project Site
Figure 4-3



Fire Engine Company 289/Ladder Company 138 **3**
97-28 43rd Avenue

their entire lots. Houses and residential buildings with ground floor commercial use generally have small rectangular or square footprints, while apartment buildings have larger footprints. Most houses are two to three stories, faced in brick or vinyl siding, and have gambrel or gable roofs. Many houses are set back from the sidewalk by small yards and have front stoops and front porches, some of which are enclosed (see Views 4 and 5 of Figure 4-5). Most apartment buildings are older two- to three-story buildings, though there are also some newer apartment buildings in the study area (see View 6 of Figure 4-6). Residential buildings with ground floor commercial uses are smaller, older two- to three-story buildings located on National and Corona Avenues (see View 7 of Figure 4-6). These structures are built to the sidewalk, are faced in brick or siding (including vinyl siding), and have large glass storefront windows.

Industrial and warehouse buildings in the study area are generally limited to buildings near the intersection of 43rd Avenue and 97th Place. These include a one- to three-story red brick building complex that occupies the eastern end of the block facing 43rd and 44th Avenues and 97th Place, a one-story brown brick warehouse at the northwest corner of 43rd Avenue and 97th Place, and one- and two-story warehouses on the east side of 97th Place between 42nd and 43rd Avenues (see View 8 of Figure 4-7). These buildings are block-like in form and have large footprints compared to the smaller footprints of the residential buildings in the study area.

Four institutional buildings are located in the study area. As described above, immediately west of the project site is a three-story fire station (see View 3 of Figure 4-4). East of the project site at 99-14 43rd Avenue is the Faith Bible Church of Corona, a three-story rectangular building that rises without setbacks and is faced in dark brown brick at its base and tan brick on the upper floors. Also east of the project site is a two-story, white brick-faced building occupied by the Fu Yen True Buddha Temple located at 43-10 National Avenue. It is built to the sidewalk and has a yellow awning above its entrance. The Masjid Alfalah, a mosque, at 42-16 National Avenue is located northeast of the project site. The building is set back from the sidewalk beyond a tall metal fence and a white minaret. The building has an irregular footprint and a small white dome on its roof (see View 9 of Figure 4-7).

The Long Island Rail Road (LIRR)'s concrete retaining walls and bridge are the most defining streetscape elements in the study area, as these structures visually and physically separate areas north and south of the rail line. The concrete retaining walls extend east-west through the study area on either side of the LIRR right-of-way, adjacent to 44th and 45th Avenues. The retaining walls are approximately 10 feet tall and are characterized by graffiti and are in poor repair in some locations. Above the retaining walls, the LIRR tracks are set at a higher elevation at the top of the embankment. Tall electrical poles and cables are also located above the LIRR tracks. 97th Street, 97th Place, and 98th Street terminate at the retaining walls and are not through-streets. A steel bridge carries the LIRR tracks over National Avenue, permitting through vehicular traffic. Billboards are affixed to the retaining walls near National Avenue (see Views 10 through 13 of Figure 4-8).

Other streetscape elements in the study area include standard cobra head street lamps; fire hydrants; mail boxes; telephone booths; bus stops on Corona Avenue; street trees; and telephone poles with overhead lines. The houses and apartment buildings in the study area are generally set back from the street behind a fenced-in small grassy lawn or a paved yard. Many houses have curb cuts for driveways. Most houses and some apartment buildings also have decorative brick walls or metal fences with gates along the property line. Some newer apartment buildings have driveways in front of the buildings.

The topography of the study area is generally flat, however, there is a slight decline south on 97th Place and National Avenue toward the Long Island Railroad (LIRR) embankment and bridge and a decline west on 43rd and 44th Avenues west of 97th Place. Natural features in the study area are limited to small grassy yards with trees and shrubs on some residential properties. Most streets also have street trees, including several mature trees, although street trees on National Avenue are limited in number.

The study area was field surveyed in late winter. No notable pedestrian wind conditions were experienced at that time. Most buildings in the study area are one to three stories in height and most streets are 50 to 70 feet wide. In general, these conditions allow sunlight to reach the study area streets throughout the day.

VISUAL RESOURCES

There are no notable view corridors in the study area. Views east and west on 42nd and 43rd Avenues extend for long distances but are limited to views of adjacent buildings. The approximately 10-foot-tall LIRR embankment restricts views along 44th and 45th Avenues to those areas to the north and south of this structure, respectively. Views on the north-south streets generally terminate at the LIRR embankment. Long views on National and Corona Avenues are available due to their widths. However, the LIRR bridge obscures views on National Avenue where it crosses between 44th and 45th Avenues. Views in other parts of the study area are generally limited to buildings on the same street.

As described above, there is one visual resource in the study area—Fire Engine Company 289/Ladder Company 138 at 97-28 43rd Avenue (see View 3 of Figure 4-4). Located immediately west of the project site's 43rd Avenue frontage, this three-story building is a taller, architecturally distinctive building visible in views east-west on 43rd Avenue and in views south on 97th Place and 99th Street.

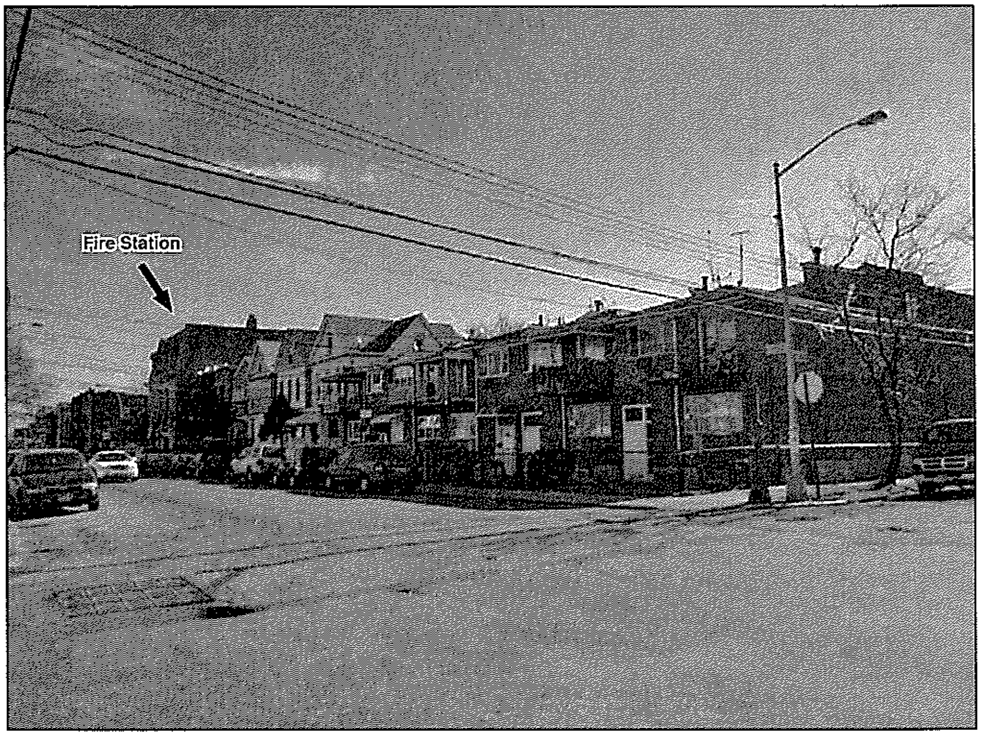
C. THE FUTURE WITHOUT THE PROPOSED PROJECT

PROJECT SITE

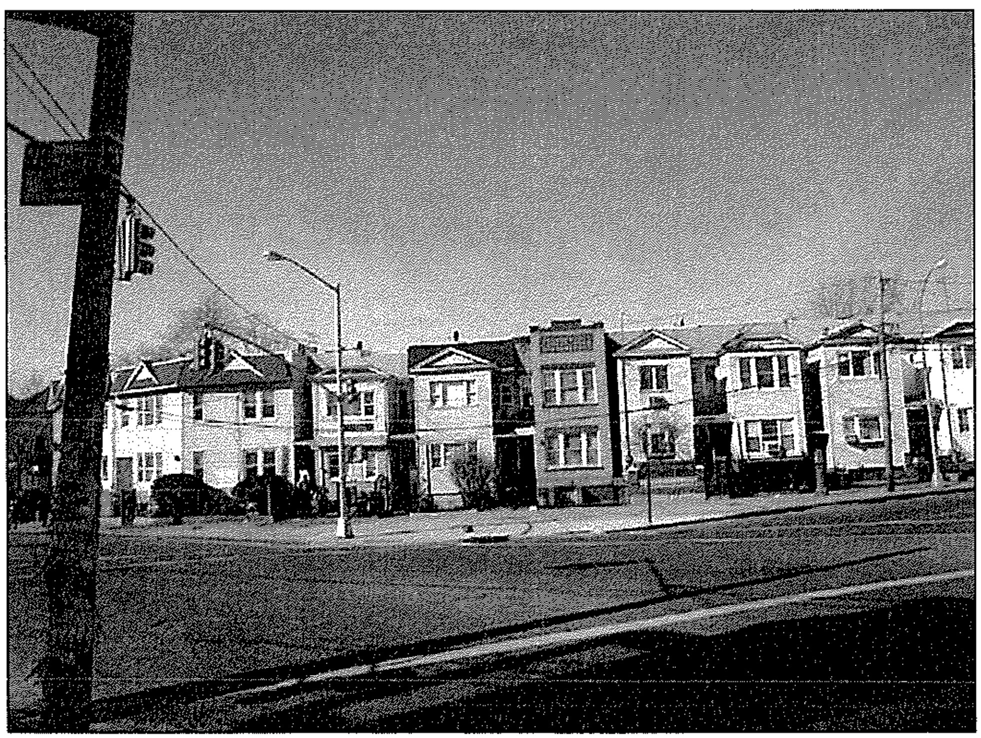
In the future without the proposed action, the project site is expected to remain unchanged by the 2015 build year. Therefore, the urban design character of the project site would not be altered.

OTHER FUTURE PROJECTS

There is one known development project planned in the study area. This No Build project is a new 1,100-seat primary school (Q315) proposed for construction one block west of the project site at 97-18 43rd Avenue. Because this No Build project is currently in the planning stages, it may be completed by the project's 2015 Build year or it may be completed after 2015. With either scenario, this No Build project is not expected to adversely affect the urban design or visual character of the project site since the project site does not have a physical or visual relationship with the No Build site. The planned Q315 school will contribute to the urban design and visual character of the study area by adding new pedestrian activity to the area.



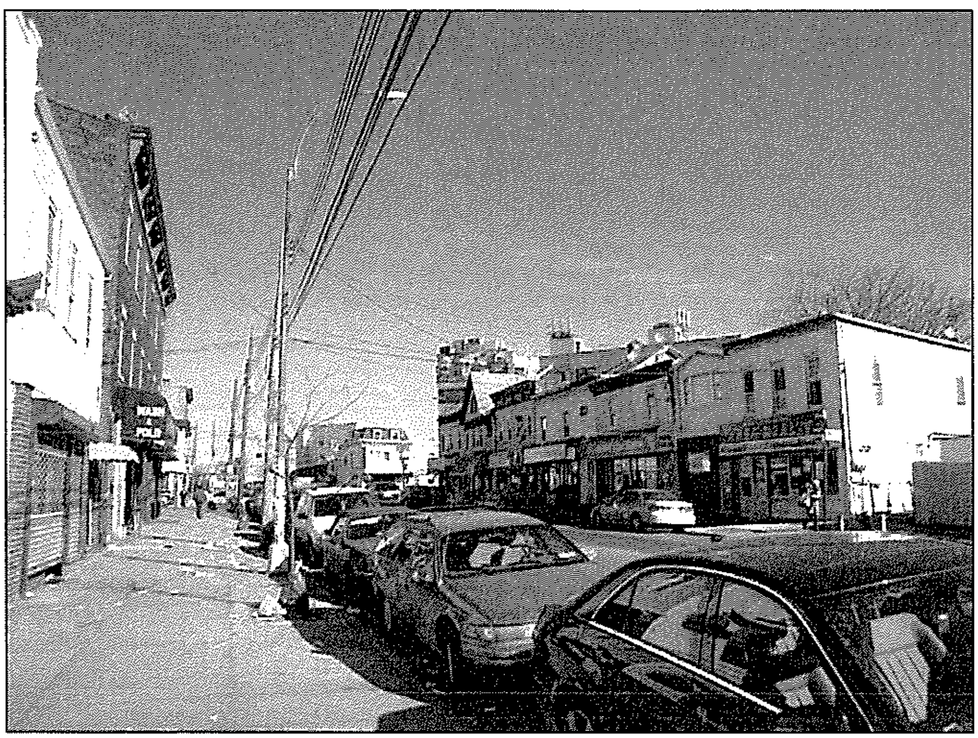
View southeast on 43rd Avenue 4



View northwest on Corona and National Avenues 5

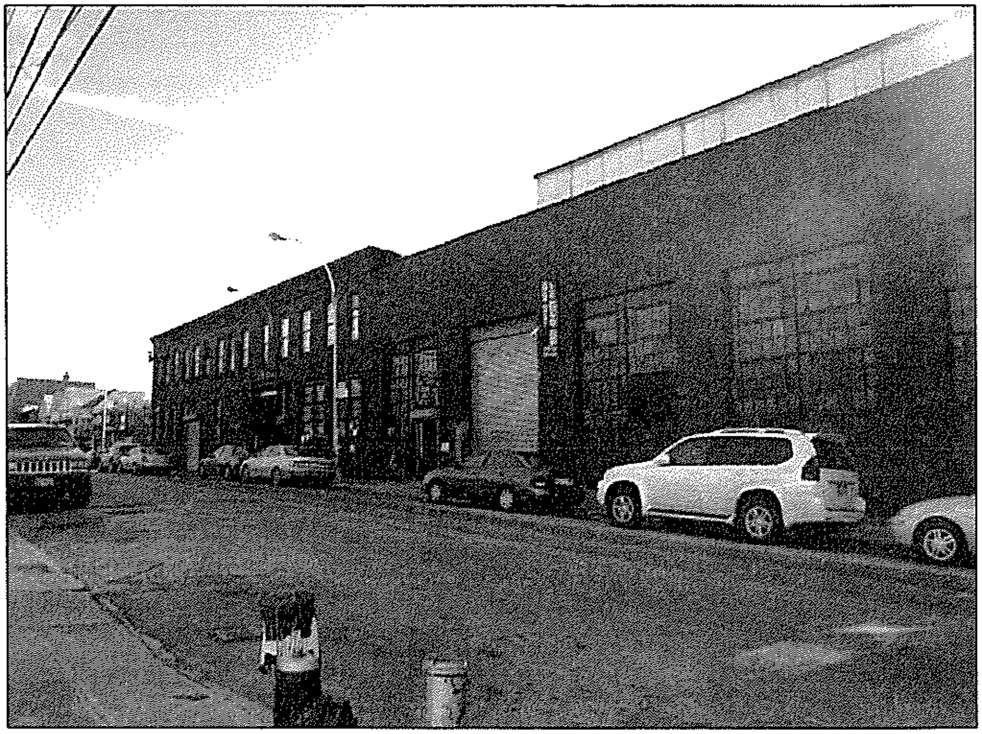
Urban Design and Visual Resources
Study Area
Figure 4-5

View northeast on 42nd Avenue **6**



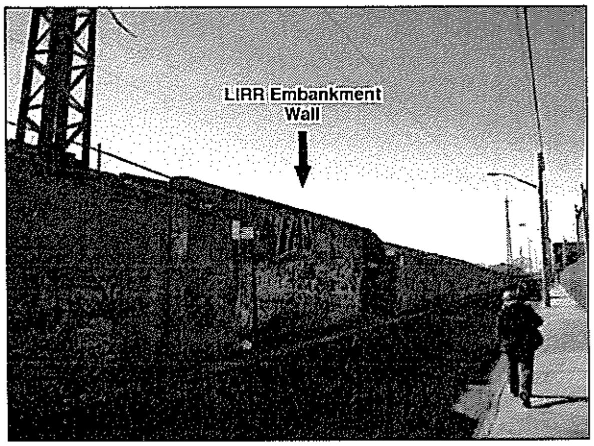
View east on National Avenue **7**

Urban Design and Visual Resources
Study Area
Figure 4-6

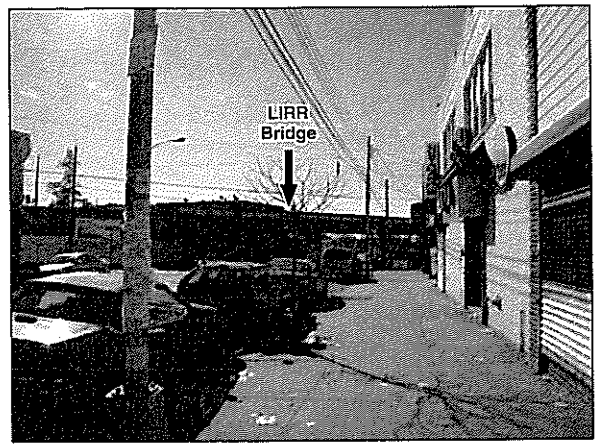


View east on 43rd Avenue to a warehouse building complex **8**

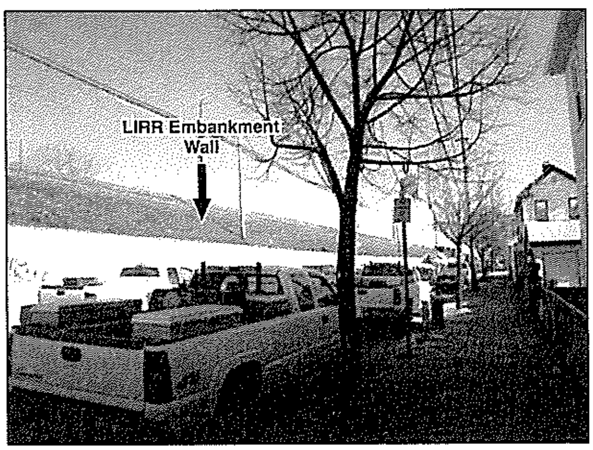
View southwest on National Avenue **9**



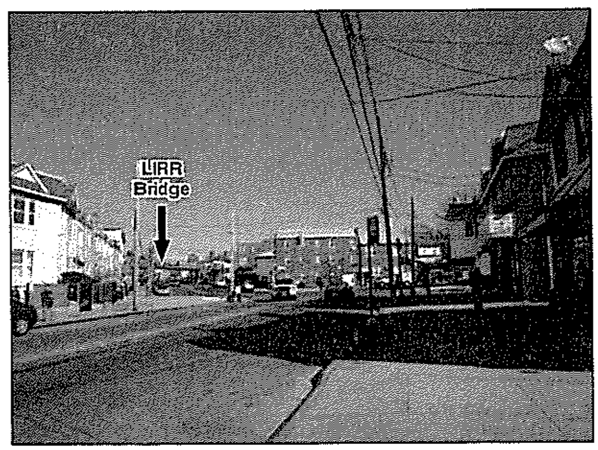
View southwest on 44th Avenue across from the project site **10**



View southeast on National Avenue toward the LIRR bridge **11**



View northeast on 45th Avenue toward the LIRR embankment wall **12**



View northeast on Corona Avenue toward National Avenue **13**

Urban Design and Visual Resources
Study Area
Figure 4-8

D. PROBABLE IMPACTS OF THE PROPOSED PROJECT

PROJECT SITE

URBAN DESIGN

As described above, plans for the proposed project are not yet finalized; however, as currently anticipated, the proposed project would remove the existing one-story warehouse, loading area, and driveway from the project site and redevelop the site with a new, approximately 100,000-gross-square-foot (gsf) school building that would be five stories (approximately 77 feet) in height. Based on preliminary plans, the new school would be a free-standing rectangular building that would be oriented with its primary entrance on 44th Avenue. On 44th Avenue, the western portion of the new building would be set back seven feet from the sidewalk; the building's eastern portion would set back from the sidewalk by approximately ten feet in the area near the school's primary entrance. It is anticipated that the new school would be faced in red brick and concrete and would have a setback at the fourth floor. An approximately 11,000-sf outdoor playground area would be located in the northern portion of the project site along 43rd Avenue and an approximately 3,000-sf open space with passive uses (e.g., benches and landscaping) would be located west of the new school building along 44th Avenue (see Figures 4-9 and 4-10 and Figure 1-3 of Chapter 1, "Project Description). An approximately 16-foot-hight chainlink fence with a gate would be located on the 43rd Avenue property line.

The total square footage of the proposed building would be approximately 72,440 sf greater than the existing building on the project site that would be retained in the No Action scenario. The proposed school building would be approximately 60 feet taller than the existing building. It would have a smaller footprint than the No Action scenario building, as the new school building would occupy approximately 52 percent of the lot with the new building occupying most of the southern portion of the project site and some of the northern portion of the project site. The remainder of the project site would contain a playground oriented along 43rd Avenue and open space to the west of the proposed building along 44th Avenue.

As with the existing building, which would be retained in the No Action scenario, preliminary plans for the new school show that the proposed project would result in zoning bulk non-compliances, including requirements related to rear yard, maximum street wall height, sky exposure plane, and planted areas. In addition, as currently contemplated and shown in Table 4-1, the zoning floor area of the proposed project would not be in compliance with existing applicable floor area requirements. Therefore, zoning waivers from the Deputy Mayor for Education and Community Development would be required for rear yard, maximum street wall height, sky exposure plane, planted areas, use, and bulk requirements.

Table 4-1
Project Site Zoning

Zoning District	Maximum Allowable FAR	Area within Zoning District	Maximum Allowable ZFA	Proposed ZFA
R5	2.0	10,000	20,000	
M1-1	2.4 (community facility)	30,000	72,000	
Totals			**92,000**	**100,000**

Sources: NYC School Construction Authority, Zoning Resolution of the City of New York

The project site also contains a portion of a mapped street along 44th Avenue, which is currently being used by the existing warehouse as a driveway and loading area. SCA is coordinating with the New York City Department of Transportation and the New York City Department of City Planning to demap the portion of the street within the project site boundary that is currently mapped as an extension of the existing street bed of 44th Avenue, as described in Chapter 2, "Land Use, Zoning, and Public Policy."

The proposed project, like the No Action scenario, would be constructed on an existing block, and would not entail any changes to street patterns, public open spaces, or natural features on the project site. The use on the project site would change from a warehouse in the No Action scenario to a public school with the proposed project. Although the proposed project would result in a building of a different height, use, bulk, and lot coverage than the existing building on the project site, these changes would not be considered adverse, as the proposed school would be constructed in an area characterized by a variety of building types, heights, sizes, and uses (see discussion below and Figures 4-3 through 4-8). While the proposed project would not comply with certain aspects of the zoning regulations, the anticipated changes to the pedestrian experience would not be considered likely to disturb the vitality, walkability, or visual character of the project site.

Overall, the new school building would be expected to positively affect the character of the adjacent streetscape by replacing the one-story brick warehouse, loading area, and driveway with a new school building, playground, open space, and landscaping. The school would enliven the area by introducing new pedestrian activity to the project site and surrounding area.

VISUAL RESOURCES

As there are no visual resources on the project site, the proposed project would have no adverse impacts on such resources. Views to the fire station would remain available from existing vantage points along the sidewalk adjacent to the project site. The new school would not adversely affect these views.

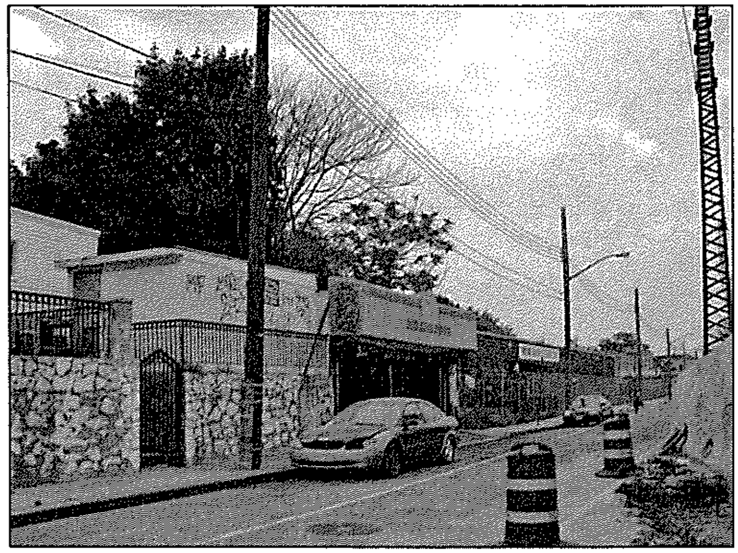
STUDY AREA

URBAN DESIGN

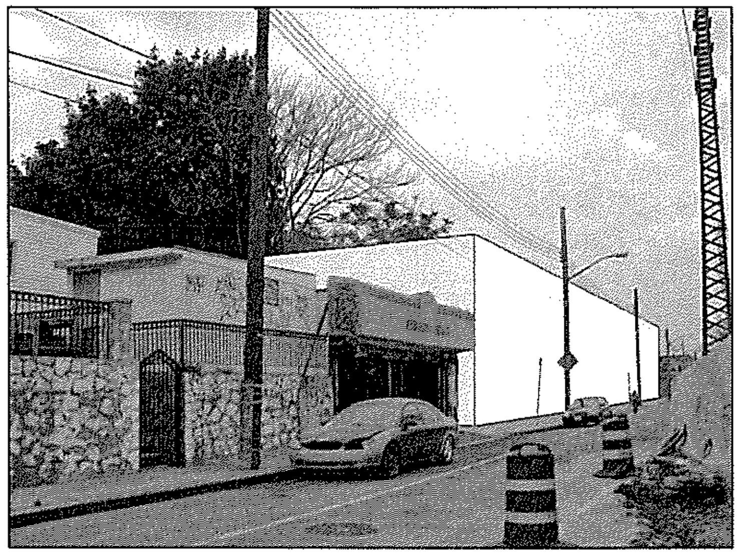
The proposed school building would be constructed on an existing block and would not alter street patterns or block shapes in the study area. The proposed school would be consistent with the existing mix of uses in the study area.

As currently contemplated, the proposed school building would be similar in shape and form to existing warehouses in the study area. The school would be faced in masonry—red brick and concrete—like many study area buildings. The building's footprint would be larger than the houses and apartment buildings in the study area, but would be comparable to the footprints of warehouses located in the study area on the east and west sides of 97th Place and 43rd Avenue. In addition, Primary School Q315, as described in "The Future Without the Proposed Project," may be constructed by the 2015 build year. It will be located one block west of the project site and will be similar in footprint size and cladding materials to the proposed new school.

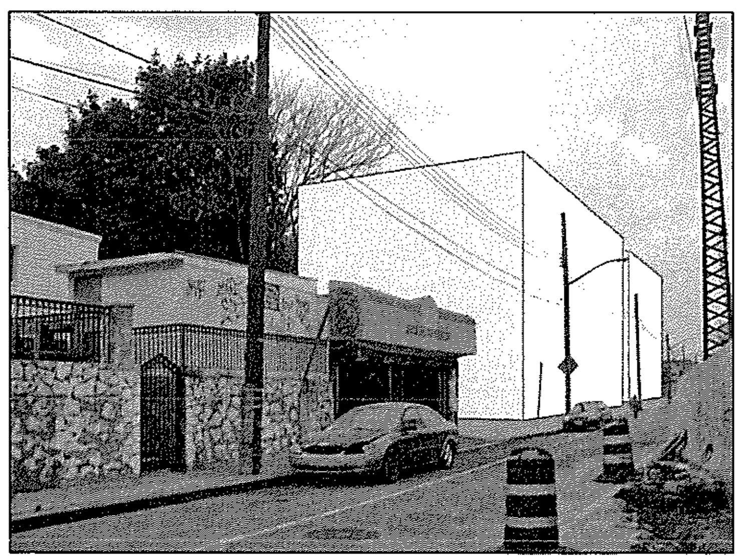
The new building's lot coverage would be similar to other study area buildings. Although the proposed school building would be approximately 77 feet tall, approximately two stories taller than most nearby study area buildings, this would not be perceived as a substantial difference in



Existing Conditions **14a**



As-of-Right **14b**



Proposed Project **14c**

Views along 44th Avenue toward the Project Site
Figure 4-9

Existing Conditions **15a**

As-of-Right **15b**

Proposed Project **15c**

Views along 43rd Avenue toward the Project Site
Figure 4-10

surrounding pedestrian views (see Figures 4-9 and 4-10). (For reference, Figures 4-9 and 4-10 provide a three-dimensional representation of the future streetscape as developed as-of-right, as well as with the proposed project.) In addition, the new primary school (Q315) to be located one block west of the project site will be of a similar height and massing to the proposed project. Further, because of the height of nearby buildings and because the proposed school would be oriented along 44th Avenue with a playground along 43rd Avenue, the school would not be visible from certain vantage points north of the project site on 43rd Avenue.

The proposed school would be built in an area characterized by a variety of building uses, shapes, and forms and would be located across 44th Avenue from the LIRR embankment, a tall structure in the study area. The new school building would be similar in height to Public School 19 located at 40-30 99th Street (approximately 240 feet north of the study area), a five-story, approximately 75-foot-tall building. In addition, the No Build Public School Q315, at approximately 170 feet west of the project site, is expected to be a five-story, approximately 70-foot-tall building. Therefore, there would be no impacts to building uses, shapes, and forms as a result of the proposed project.

As described above, on 44th Avenue, the western portion of the proposed building would set back seven feet from the sidewalk and the eastern portion would be set back from the sidewalk by approximately ten feet in the area near the primary entrance, and would include a playground area on its 43rd Avenue frontage open space with passive uses (e.g., benches and landscaping) would be located of the new school building on 44th Avenue. The new school, playground area, and open space would add active uses to the project site that would enliven the study area's streetscape.

Because the proposed school building would be constructed on an existing block and would not alter street patterns or block shapes in the study area, there would be no impacts to natural features as a result of the proposed project. The new school building would also not be expected to adversely affect wind or sunlight conditions in the surrounding area.

VISUAL RESOURCES

The proposed school would not obstruct views in the study area. Views to the fire station on 43rd Avenue, a visual resource, would be maintained from existing vantage points, with views of its principal façade on 43rd Avenue remaining unchanged. Therefore, the proposed project would not adversely affect this visual resource. There are no significant view corridors and no other visual resources in the study area. Therefore, there would be no adverse impacts with the proposed project.

Overall, this preliminary assessment concludes that in comparison to the No Action scenario, the proposed project would not be expected to result in any significant adverse impacts to urban design and visual resources on the project site or in the study area and does not require further analysis. *

A. INTRODUCTION

The proposed school would generate new trips from students and staff traveling to and from the project site. This section examines the potential for impacts of the proposed school project on transportation—traffic, parking, transit and pedestrian—conditions in the Corona section of Queens. The proposed school, expected to be operational in 2015, would serve Community School District (CSD) 24 accommodating a total of 785 students in grades six through eight, including approximately 84 District 75 special education students. In terms of staff, the proposed school would employ approximately 60 teachers and administrative personnel.

Based on travel demand estimates, the proposed project would exceed the 2010 *City Environmental Quality Review (CEQR) Technical Manual* thresholds for undertaking quantified traffic, parking and pedestrian analyses. However, since the proposed project would not exceed the CEQR threshold for undertaking a quantified transit analyses—i.e. 200 peak hour transit riders at any given subway station element and/or bus route—it is not expected to result in significant adverse transit impacts in the study area. For informational purposes, this chapter provides a qualitative assessment of transit conditions in the study area.

B. METHODOLOGY

The operation of all of the signalized intersections and unsignalized intersections in the study area were assessed using methodologies presented in the *2000 Highway Capacity Manual (HCM)* using the *Highway Capacity Software (HCS+ 5.5)*. The *HCM* procedure evaluates the levels of service (LOS) for signalized and unsignalized intersections using stop control delay, in seconds per vehicle, as described below.

SIGNALIZED INTERSECTIONS

The average control delay per vehicle is the basis for LOS determination for individual lane groups (grouping of movements in one or more travel lanes), the approaches, and the overall intersection. The levels of service are defined as follows:

Table 5-1
LOS Criteria for Signalized Intersections

LOS	Average Control Delay
A	≤ 10.0 seconds
B	>10.0 and ≤ 20.0 seconds
C	>20.0 and ≤ 35.0 seconds
D	>35.0 and ≤ 55.0 seconds
E	>55.0 and ≤ 80.0 seconds
F	>80.0 seconds
Source:	Transportation Research Board. *Highway Capacity Manual*, 2000.

Although the HCM methodology calculates a volume-to-capacity (v/c) ratio, there is no strict relationship between v/c ratios and LOS as defined in the *HCM.* A high v/c ratio indicates substantial traffic passing through an intersection, but a high v/c ratio combined with low average delay actually represents the most efficient condition in terms of traffic engineering standards, where an approach or the whole intersection processes traffic close to its theoretical maximum capacity with minimal delay. However, very high v/c ratios—especially those approaching or greater than 1.0—are often correlated with a deteriorated LOS. Other important variables affecting delay include cycle length, progression, and green time. LOS A and B indicate good operating conditions with minimal delay. At LOS C, the number of vehicles stopping is higher, but congestion is still fairly light. LOS D describes a condition where congestion levels are more noticeable and individual cycle failures (a condition where motorists may have to wait for more than one green phase to clear the intersection) can occur. Conditions at LOS E and F reflect poor service levels, and cycle breakdowns are frequent. The *HCM* methodology also provides for a summary of the total intersection operating conditions. The analysis chooses the two critical movements (the worst case from each roadway) and calculates a summary critical v/c ratio. The overall intersection delay, which determines the intersection's LOS, is based on a weighted average of control delays of the individual lane groups. Within New York City, the midpoint of LOS D (45 seconds of delay) is generally considered as the threshold between acceptable and unacceptable operations.

SIGNIFICANT IMPACT CRITERIA

According to the criteria presented in the *CEQR Technical Manual*, impacts are considered significant and require examination of mitigation if they result in an increase in the Action condition of 5 or more seconds of delay in a lane group over No Action levels beyond mid-LOS D. For No Action LOS E, a 4-second increase in delay is considered significant. For No Action LOS F, a 3-second increase in delay is considered significant. In addition, impacts are considered significant if levels of service deteriorate from acceptable A, B, or C in the No Action condition to marginally unacceptable LOS D (a delay in excess of 45 seconds, the midpoint of LOS D), or unacceptable LOS E or F in the future Action condition.

UNSIGNALIZED INTERSECTIONS

For unsignalized intersections, the average control delay is defined as the total elapsed time from which a vehicle stops at the end of the queue until the vehicle departs from the stop line. This includes the time required for the vehicle to travel from the last-in-queue to the first-in-queue position. The average control delay for any particular minor movement is a function of the service rate or capacity of the approach and the degree of saturation. The LOS criteria for unsignalized intersections are summarized as follows:

Table 5-2
LOS Criteria for Unsignalized Intersections

LOS	Average Control Delay
A	≤ 10.0 seconds
B	> 10.0 and ≤ 15.0 seconds
C	> 15.0 and ≤ 25.0 seconds
D	> 25.0 and ≤ 35.0 seconds
E	> 35.0 and ≤ 50.0 seconds
F	> 50.0 seconds
Source: Transportation Research Board. *Highway Capacity Manual*, 2000.	

The LOS thresholds for unsignalized intersections are different from those for signalized intersections. The primary reason is that drivers expect different levels of performance from different types of transportation facilities. The expectation is that a signalized intersection is designed to carry higher traffic volumes than an unsignalized intersection; hence, the corresponding control delays are higher at a signalized intersection than at an unsignalized intersection for the same LOS. In addition, certain driver behavioral considerations combine to make delays at signalized intersections less onerous than at unsignalized intersections. For example, drivers at signalized intersections are able to relax during the red interval, whereas drivers on minor approaches to unsignalized intersections must remain attentive to the task of identifying acceptable gaps and vehicle conflicts. Also, there is often much more variability in the amount of delay experienced by individual drivers at unsignalized intersections. For these reasons, the corresponding delay thresholds for unsignalized intersections are lower than those of signalized intersections. As with signalized intersections, within New York City, the midpoint of LOS D (30 seconds of delay) is generally perceived as the threshold between acceptable and unacceptable operations.

SIGNIFICANT IMPACT CRITERIA

The same sliding scale of significant delays described for signalized intersections applies for unsignalized intersections. For the minor street to trigger significant impacts, at least 90 passenger car equivalents (PCE) must be identified in the future Action condition in any peak hour.

PARKING CONDITIONS ASSESSMENT

The parking analysis identifies the extent to which on-street and off-street parking is available and utilized under existing and future conditions. It takes into consideration anticipated changes in area parking supply and provides a comparison of parking needs versus availability to determine if a parking shortfall is likely to result from parking displacement attributable to or additional demand generated by a proposed action. Typically, this analysis encompasses a study area within ¼-mile of the project site. If the analysis concludes a shortfall in parking within the ¼-mile study area, the study area could sometimes be extended to ½-mile (reasonable for certain uses, such as amusement parks, arenas, beaches, and other recreational facilities) to identify additional parking supply.

Outside of Manhattan, and areas in the South Bronx, Flushing, Jamaica, Long Island City/Astoria, Downtown Brooklyn, and Greenpoint/Williamsburg, a parking shortfall that exceeds more than half the available on-street and off-street parking spaces within ¼-mile of the project site may be considered significant. Additional factors, such as the availability and extent of transit in the area, proximity of the project to such transit, and patterns of automobile usage by area residents, could be considered to determine significance of the identified parking shortfall. In some cases, if there is adequate parking supply within ½-mile of the project site, the projected parking shortfall may also not necessarily be considered significant.

PEDESTRIAN OPERATIONS

The adequacy of the study area's sidewalks, crosswalks, and corner reservoir capacities in relation to the demand imposed on them is evaluated based on the methodologies presented in the 2000 *Highway Capacity Manual* (HCM), pursuant to procedures detailed in the *CEQR Technical Manual*.

Sidewalks are analyzed in terms of pedestrian flow. The calculation of the average pedestrians per minute per foot (PMF) of effective walkway width is the basis for a sidewalk level-of-service (LOS) analysis. The determination of walkway LOS is also dependent on whether the pedestrian flow being analyzed is best described as "non-platoon" or "platoon." Non-platoon flow occurs when pedestrian volume within the peak 15-minute period is relatively uniform, whereas, platoon flow occurs when pedestrian volumes vary significantly with the peak 15-minute period. Such variation typically occurs near bus stops, subway stations, and/or where adjacent crosswalks account for much of the walkway's pedestrian volume.

Crosswalks and street corners are not easily measured in terms of free pedestrian flow, as they are influenced by the effects of traffic signals. Street corners must be able to provide sufficient space for a mix of standing pedestrians (queued to cross a street) and circulating pedestrians (crossing the street or moving around the corner). The HCM methodologies apply a measure of time and space availability based on the area of the corner, the timing of the intersection signal, and the estimated space used by circulating pedestrians.

The total "time-space" available for these activities, expressed in square feet-second, is calculated by multiplying the net area of the corner (in square feet) by the signal's cycle length. The analysis then determines the total circulation time for all pedestrian movements at the corner per signal cycle (expressed as pedestrians per second). The ratio of net time-space divided by the total pedestrian circulation volume per signal cycle provides the LOS measurement of square feet per pedestrian (SFP).

Crosswalk LOS is also a function of time and space. Similar to the street corner analysis, crosswalk conditions are first expressed as a measurement of the available area (the crosswalk width multiplied by the width of the street) and the permitted crossing time. This measure is expressed in square feet-second. The average time required for a pedestrian to cross the street is calculated based on the width of the street and an assumed walking speed. The ratio of time-space available in the crosswalk to the total crosswalk pedestrian occupancy time is the LOS measurement of available square feet per pedestrian. The LOS analysis also accounts for vehicular turning movements that traverse the crosswalk.

The LOS standards for sidewalks, corner reservoirs, and crosswalks are summarized as follows:

Table 5-3
Level of Service Criteria for Pedestrian Elements

LOS	Sidewalks		Corner Reservoirs and Crosswalks
	Non-Platoon Flow	Platoon Flow	
A	≤ 5 PMF	≤ 0.5 PMF	> 60 SFP
B	> 5 and ≤ 7 PMF	> 0.5 and ≤ 3 PMF	> 40 and ≤ 60 SFP
C	> 7 and ≤ 10 PMF	> 3 and ≤ 6 PMF	> 24 and ≤ 40 SFP
D	> 10 and ≤ 15 PMF	> 6 and ≤ 11 PMF	> 15 and ≤ 24 SFP
E	> 15 and ≤ 23 PMF	> 11 and ≤ 18 PMF	> 8 and ≤ 15 SFP
F	> 23 PMF	> 18 PMF	≤ 8 SFP

Notes: PMF = pedestrians per minute per foot; SFP = square feet per pedestrian.
Source: New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual* (May 2010).

The *CEQR Technical Manual* specifies that a mid-LOS D condition or better is considered reasonable for sidewalks, corner reservoirs, and crosswalks within Central Business District (CBD) areas, which include Midtown and Lower Manhattan, Downtown Brooklyn, Long Island

City, Downtown Flushing, and Downtown Jamaica, and other areas having CBD type characteristics, while acceptable LOS elsewhere in the city (non-CBD areas) is LOS C or better.

SIGNIFICANT IMPACT CRITERIA

The determination of significant pedestrian impacts considers the level of predicted deterioration in pedestrian flow or decrease in pedestrian space between the No Action and Action conditions. For different pedestrian elements, flow conditions, and area types, the CEQR procedure for impact determination corresponds with various sliding-scale formulas, as further detailed below.

Sidewalks

There are two sliding-scale formulas for determining significant sidewalk impacts. For non-platoon flow, the increase in average pedestrian flow rate (Y) in PMF needs to be greater or equal to 3.5 minus X divided by 8.0 (where X is the No Action pedestrian flow rate in PMF [Y ≥ 3.5 – X/8.0]) for it to be a significant impact. For platoon flow, the sliding-scale formula is Y ≥ 3.0 – X/8.0. Since deterioration in pedestrian flow within acceptable levels would not constitute a significant impact, these formulas would apply only if the Action pedestrian flow exceeds LOS C in non-CBD areas or mid-LOS D in CBD areas. The following table summarizes the sliding scale guidance provided by the *CEQR Technical Manual* for determining potential significant sidewalk impacts.

Table 5-4
Significant Impact Guidance for Sidewalks

Non-Platoon Flow				Platoon Flow			
Sliding Scale Formula: *Y ≥ 3.5 – X/8.0*				Sliding Scale Formula: *Y ≥ 3.0 – X/8.0*			
Non-CBD Areas		CBD Areas		Non-CBD Areas		CBD Areas	
No Action Ped. Flow (X, PMF)	Action Ped. Flow Incr. (Y, PMF)	No Action Ped. Flow (X, PMF)	Action Ped. Flow Incr. (Y, PMF)	No Action Ped. Flow (X, PMF)	Action Ped. Flow Incr. (Y, PMF)	No Action Ped. Flow (X, PMF)	Action Ped. Flow Incr. (Y, PMF)
7.4 to 7.8	≥ 2.6	–	–	3.4 to 3.8	≥ 2.6	–	–
7.9 to 8.6	≥ 2.5	–	–	3.9 to 4.6	≥ 2.5	–	–
8.7 to 9.4	≥ 2.4	–	–	4.7 to 5.4	≥ 2.4	–	–
9.5 to 10.2	≥ 2.3	–	–	5.5 to 6.2	≥ 2.3	–	–
10.3 to 11.0	≥ 2.2	10.3 to 11.0	≥ 2.2	6.3 to 7.0	≥ 2.2	6.3 to 7.0	≥ 2.2
11.1 to 11.8	≥ 2.1	11.1 to 11.8	≥ 2.1	7.1 to 7.8	≥ 2.1	7.1 to 7.8	≥ 2.1
11.9 to 12.6	≥ 2.0	11.9 to 12.6	≥ 2.0	7.9 to 8.6	≥ 2.0	7.9 to 8.6	≥ 2.0
12.7 to 13.4	≥ 1.9	12.7 to 13.4	≥ 1.9	8.7 to 9.4	≥ 1.9	8.7 to 9.4	≥ 1.9
13.5 to 14.2	≥ 1.8	13.5 to 14.2	≥ 1.8	9.5 to 10.2	≥ 1.8	9.5 to 10.2	≥ 1.8
14.3 to 15.0	≥ 1.7	14.3 to 15.0	≥ 1.7	10. to 11.0	≥ 1.7	10. to 11.0	≥ 1.7
15.1 to 15.8	≥ 1.6	15.1 to 15.8	≥ 1.6	11.1 to 11.8	≥ 1.6	11.1 to 11.8	≥ 1.6
15.9 to 16.6	≥ 1.5	15.9 to 16.6	≥ 1.5	11.9 to 12.6	≥ 1.5	11.9 to 12.6	≥ 1.5
16.7 to 17.4	≥ 1.4	16.7 to 17.4	≥ 1.4	12.7 to 13.4	≥ 1.4	12.7 to 13.4	≥ 1.4
17.5 to 18.2	≥ 1.3	17.5 to 18.2	≥ 1.3	13.5 to 14.2	≥ 1.3	13.5 to 14.2	≥ 1.3
18.3 to 19.0	≥ 1.2	18.3 to 19.0	≥ 1.2	14.3 to 15.0	≥ 1.2	14.3 to 15.0	≥ 1.2
19.1 to 19.8	≥ 1.1	19.1 to 19.8	≥ 1.1	15.1 to 15.8	≥ 1.1	15.1 to 15.8	≥ 1.1
19.9 to 20.6	≥ 1.0	19.9 to 20.6	≥ 1.0	15.9 to 16.6	≥ 1.0	15.9 to 16.6	≥ 1.0
20.7 to 21.4	≥ 0.9	20.7 to 21.4	≥ 0.9	16.7 to 17.4	≥ 0.9	16.7 to 17.4	≥ 0.9
21.5 to 22.2	≥ 0.8	21.5 to 22.2	≥ 0.8	17.5 to 18.2	≥ 0.8	17.5 to 18.2	≥ 0.8
22.3 to 23.0	≥ 0.7	22.3 to 23.0	≥ 0.7	18.3 to 19.0	≥ 0.7	18.3 to 19.0	≥ 0.7
> 23.0	≥ 0.6	> 23.0	≥ 0.6	> 19.0	≥ 0.6	> 19.0	≥ 0.6

Notes: PMF = pedestrians per minute per foot; Y = increase in average pedestrian flow rate in PMF; X = No Action pedestrian flow rate in PMF.
Sources: New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual* (May 2010).

Corner Reservoirs and Crosswalks

The determination of significant corner and crosswalk impacts is also based on a sliding scale using the following formula: $Y \geq X/9.0 - 0.3$, where Y is the decrease in pedestrian space in SFP and X is the No Action pedestrian space in SFP. Since a decrease in pedestrian space within acceptable levels would not constitute a significant impact, this formula would apply only if the Action pedestrian space falls short of LOS C in non-CBD areas or mid-LOS D in CBD areas. The following table summarizes the sliding scale guidance provided by the *CEQR Technical Manual* for determining potential significant corner reservoir and crosswalk impacts.

Table 5-5
Significant Impact Guidance for Corners and Crosswalks

Sliding Scale Formula: $Y \geq X/9.0 - 0.3$			
Non-CBD Areas		CBD Areas	
No Action Pedestrian Space (X, SFP)	Action Pedestrian Space Reduction (Y, SFP)	No Action Pedestrian Space (X, SFP)	Action Pedestrian Space Reduction (Y, SFP)
25.8 to 26.6	≥ 2.6	–	–
24.9 to 25.7	≥ 2.5	–	–
24.0 to 24.8	≥ 2.4	–	–
23.1 to 23.9	≥ 2.3	–	–
22.2 to 23.0	≥ 2.2	–	–
21.3 to 22.1	≥ 2.1	21.3 to 21.6	≥ 2.1
20.4 to 21.2	≥ 2.0	20.4 to 21.2	≥ 2.0
19.5 to 20.3	≥ 1.9	19.5 to 20.3	≥ 1.9
18.6 to 19.4	≥ 1.8	18.6 to 19.4	≥ 1.8
17.7 to 18.5	≥ 1.7	17.7 to 18.5	≥ 1.7
16.8 to 17.6	≥ 1.6	16.8 to 17.6	≥ 1.6
15.9 to 16.7	≥ 1.5	15.9 to 16.7	≥ 1.5
15.0 to 15.8	≥ 1.4	15.0 to 15.8	≥ 1.4
14.1 to 14.9	≥ 1.3	14.1 to 14.9	≥ 1.3
13.2 to 14.0	≥ 1.2	13.2 to 14.0	≥ 1.2
12.3 to 13.1	≥ 1.1	12.3 to 13.1	≥ 1.1
11.4 to 12.2	≥ 1.0	11.4 to 12.2	≥ 1.0
10.5 to 11.3	≥ 0.9	10.5 to 11.3	≥ 0.9
9.6 to 10.4	≥ 0.8	9.6 to 10.4	≥ 0.8
8.7 to 9.5	≥ 0.7	8.7 to 9.5	≥ 0.7
7.8 to 8.6	≥ 0.6	7.8 to 8.6	≥ 0.6
6.9 to 7.7	≥ 0.5	6.9 to 7.7	≥ 0.5
6.0 to 6.8	≥ 0.4	6.0 to 6.8	≥ 0.4
5.1 to 5.9	≥ 0.3	5.1 to 5.9	≥ 0.3
< 5.1	≥ 0.2	< 5.1	≥ 0.2

Notes: SFP = square feet per pedestrian; Y = decrease in pedestrian space in SFP; X = No Action pedestrian space in SFP.
Sources: New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual* (May 2010).

VEHICULAR AND PEDESTRIAN SAFETY EVALUATION

An evaluation of vehicular and pedestrian safety is necessary for locations within the traffic and pedestrian study areas that have been identified as high accident locations, where 48 or more total reportable and non-reportable crashes or five or more pedestrian/bicyclist injury crashes occurred in any consecutive 12 months of the most recent three-year period for which data are available. For these locations, accident trends would be identified to determine whether projected vehicular and pedestrian traffic would further impact safety at these locations or whether existing unsafe conditions could adversely impact the flow of the projected new trips. The determination of potential significant safety impacts depends on the type of area where the project site is located, traffic volumes, accident types and severity, and other contributing factors. Where appropriate, measures to improve traffic and pedestrian safety should be identified and coordinated with the New York City Department of Transportation (NYCDOT).

C. TRAFFIC ANALYSES

EXISTING CONDITIONS

ROADWAY NETWORK

To assess the potential traffic impacts associated with the development of the project, nine key intersections were identified that would most likely be affected by the project-generated traffic (see **Figure 5-1**). These include three signalized and six unsignalized intersections. The signalized intersections are:

- Roosevelt Avenue and Junction Boulevard;
- 43rd Avenue and Junction Boulevard; and
- Corona Avenue and Junction Boulevard.

The unsignalized intersections are:

- 44th Avenue and Junction Boulevard;
- 45th Avenue and Junction Boulevard;
- 44th Avenue and 97th Place;
- 44th Avenue and National Street;
- 45th Avenue and National Street; and
- 43rd Avenue and 97th Place.

Major roadways in the study area are discussed as follows:

- Roosevelt Avenue is a major two-way east-west roadway that operates with one effective moving lane in each direction and provides curbside (mostly metered) parking on both sides.
- Junction Boulevard is a major two-way north-south roadway that operates with one effective moving lane in each direction. Curbside parking is generally permitted on both sides of Junction Boulevard in the study area, specifically along the segments between Roosevelt Avenue and 43 Avenue.
- 43rd Avenue is a local two-way east-west street that operates with one effective moving lane in each direction and provides curbside parking on both sides.
- 44th Avenue is a local one-way westbound street providing a connection between 114th Street in the east and 94th Street in the west. Within the study area, it operates with one effective moving lane and provides curbside parking on the north side of the street.

- 45th Avenue is a local one-way eastbound street providing a connection between 94th Street in the west and 111th Street in the east. Within the study area, it operates with one effective moving lane and provides curbside parking on the south side of the street.
- Corona Avenue is a major two-way east-west roadway that operates with one effective moving lane in each direction and provides curbside parking on both sides of the street.
- 97th Place is a local two-way north-south street providing a connection between 44th Avenue in the south and 41st Avenue in the north. It operates with one effective moving lane in each direction and provides curbside parking on both sides of the street.
- National Street is a two-way north-south street that operates with one effective moving lane in each direction and provides curbside parking on both sides of the street.

TRAFFIC CONDITIONS

Existing traffic volumes for the study area intersections were primarily established based on field counts conducted in January 2010. In addition to the January 2010 field counts, traffic data was collected in November 2010 at the intersection of 43rd Avenue and 97th Place in order to be consistent with the traffic study area identified for the potential new school located at 96-18 43rd Avenue. Furthermore, to determine any changes in the study area traffic levels that my have occurred since January 2010, updated Automatic Traffic Recorder (ATR) counts were conducted at key locations to record any variations in peak hour traffic levels.

To supplement the field data, inventories of roadway geometry, traffic controls, bus stops, and parking regulations/activities were also recorded to provide appropriate inputs for the operational analyses. In addition, official signal timings obtained from New York City Department of Transportation (NYCDOT) were used in the analysis for all of the signalized intersections. **Figures 5-2** and **5-3** show the existing traffic volumes for the AM and PM peak hours, which were determined to take place from 7:45 to 8:45 AM and 2:30 to 3:30 PM, respectively.

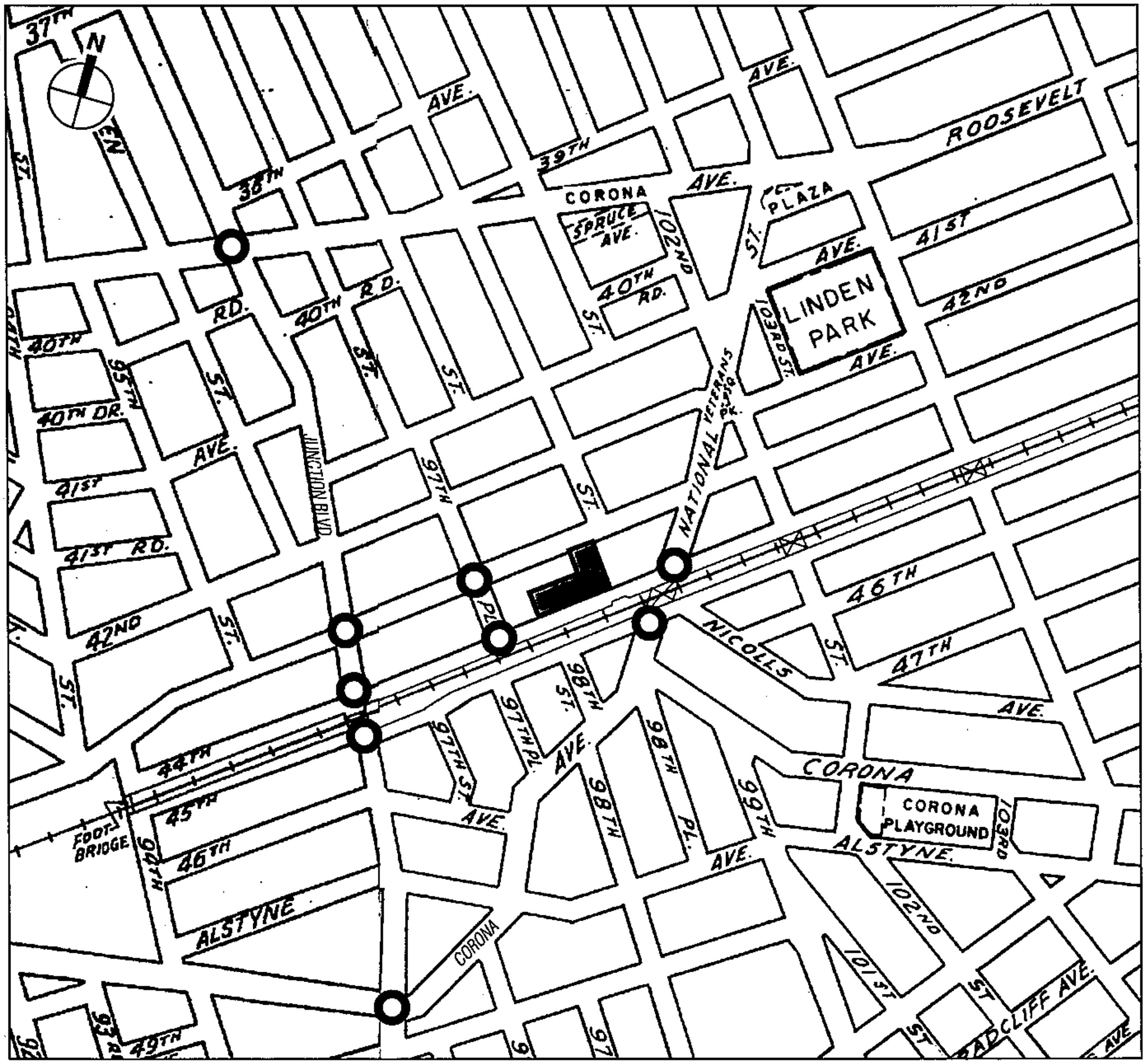
Junction Boulevard carries the heaviest traffic volumes in the study area, ranging from approximately 765 to 980 vehicles per hour (vph) in both directions during the AM and PM peak hours. Two-way peak hour traffic volumes on Roosevelt Avenue are in the range of approximately 775 to 835 vph, while the two-way peak hour traffic volumes on Corona Avenue range from approximately 440 to 775 vph during the AM and PM peak hours. National Street carries two-way peak hour traffic volumes ranging from approximately 610 to 720 vph during the AM and PM peak hours. Two-way peak hour traffic volumes on 43rd Avenue range from approximately 240 to 455 vph. Other local streets in the study area—including 44th and 45th Avenues, and 97th Place—carry up to approximately 155 vph during the two peak hours.

LEVELS OF SERVICE

Tables 5-6 and **5-7** present the service conditions for the study area's signalized and unsignalized intersections. The capacity analysis indicates that most of the study area's signalized intersection approaches operate acceptably—at mid-LOS D (delays of 45 seconds or less for signalized intersections and 30 seconds or less for unsignalized intersections) or better for the two peak hours—with the following exceptions:

- The northbound and southbound approaches at the intersection of Roosevelt Avenue and Junction Boulevard, which operate at beyond mid-LOS D and at LOS F, during the AM and PM peak hours, respectively;

1.27.11



Project Site

Intersections to be Analyzed

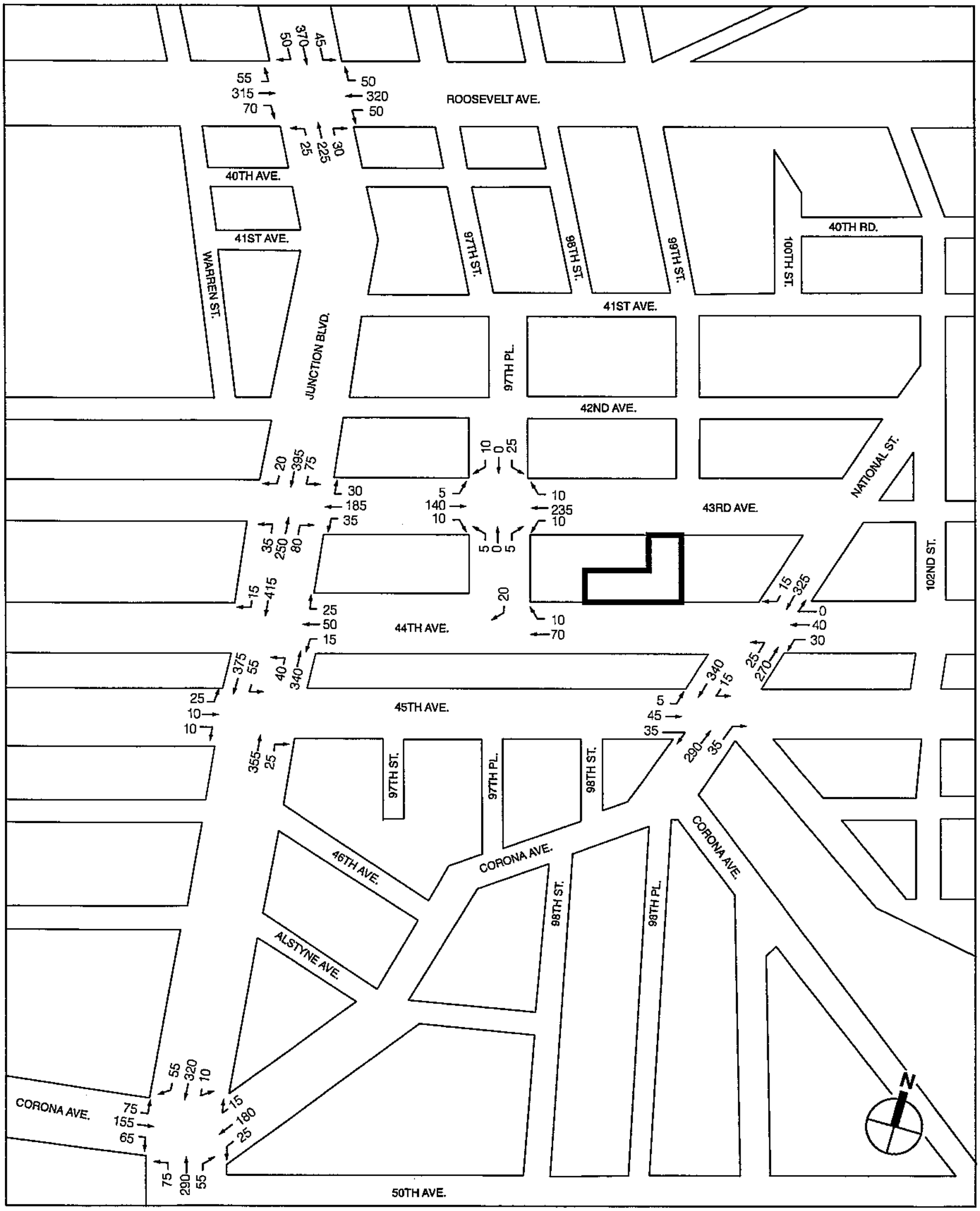
0 400 800 FEET

SCALE

Traffic Study Area

Figure 5-1

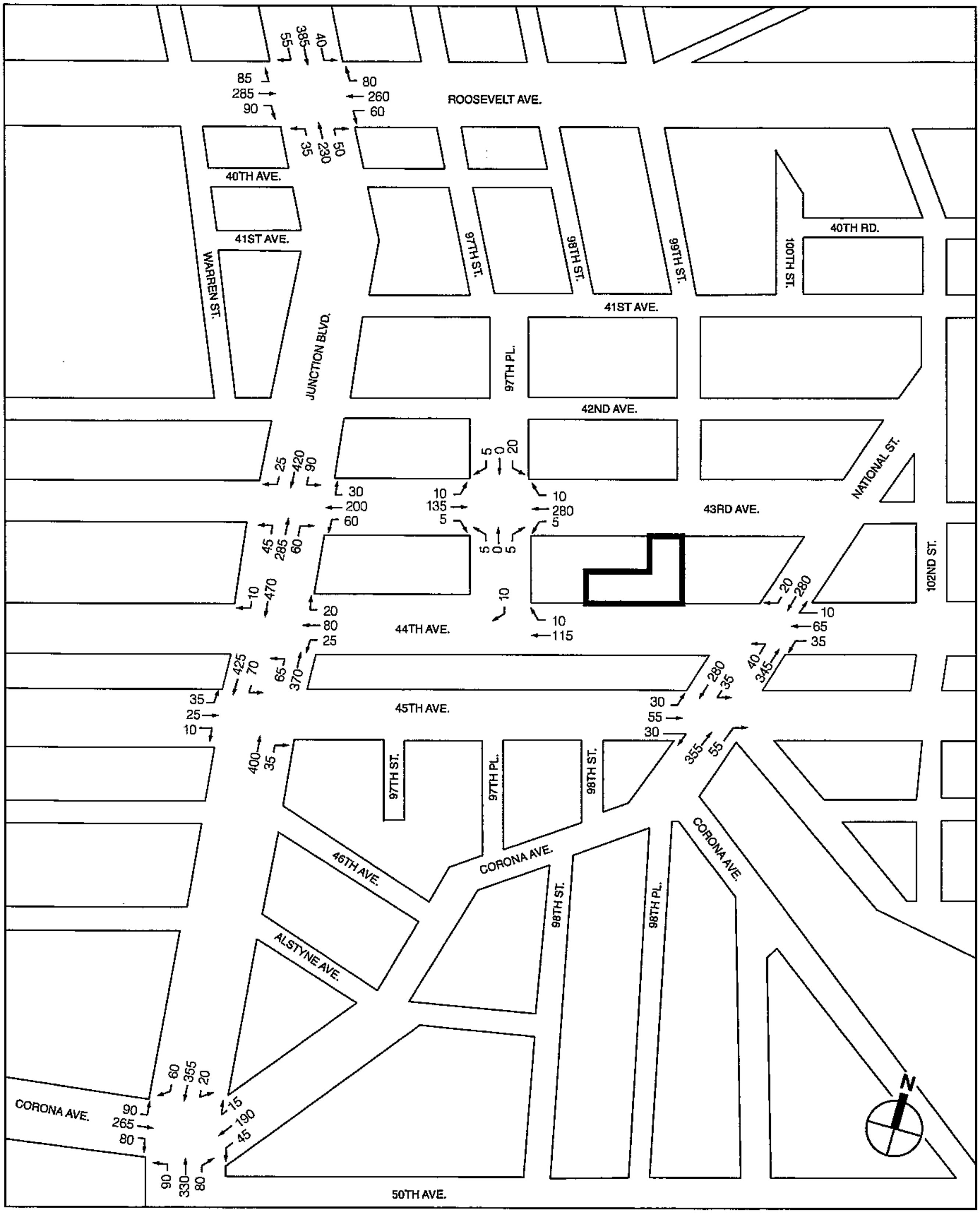
1.27.11



Project Site Boundary

NOT TO SCALE

2010 Existing Traffic Volumes
AM Peak Hour
Figure 5-2



Project Site Boundary

NOT TO SCALE

2010 Existing Traffic Volumes
PM Peak Hour
Figure 5-3

Table 5-6
2010 Existing Conditions Level of Service Analysis
Signalized Intersections

Intersection / Approach	AM Peak Hour Lane Group	AM V/C Ratio	AM Delay (spv)	AM LOS	PM Peak Hour Lane Group	PM V/C Ratio	PM Delay (spv)	PM LOS
Roosevelt Avenue/Junction Boulevard								
Eastbound	LTR	0.69	24.2	C	LTR	0.79	30.4	C
Westbound	LTR	0.61	21.4	C	LTR	0.66	23.3	C
Northbound	LTR	0.79	47.8	D	LTR	0.81	50.2	D
Southbound	LTR	1.05	91.3	F	LTR	1.02	85.6	F
	Intersection		46.3	D	Intersection		47.3	D
43rd Avenue/Junction Boulevard								
Westbound	LTR	0.67	25.8	C	LTR	0.73	28.5	C
Northbound	LTR	0.57	13.6	B	LTR	0.63	14.8	B
Southbound	LTR	0.80	21.5	C	LTR	0.85	25.1	C
	Intersection		20.1	C	Intersection		22.6	C
Corona Avenue/Junction Boulevard								
Eastbound	LTR	0.55	16.9	B	LTR	0.79	25.2	C
Westbound	LTR	0.36	13.5	B	LTR	0.46	15.0	B
Northbound	LTR	0.66	19.0	B	LTR	0.80	24.9	C
Southbound	LTR	0.70	20.9	C	LTR	0.75	22.9	C
	Intersection		18.1	B	Intersection		22.8	C

Note: L: Left Turn; T: Through; R: Right Turn; LOS: Level of Service.

Table 5-7
2010 Existing Conditions Level of Service Analysis
Unsignalized Intersections

Intersection / Approach	AM Peak Hour Lane Group	AM V/C Ratio	AM Delay (spv)	AM LOS	PM Peak Hour Lane Group	PM V/C Ratio	PM Delay (spv)	PM LOS
44th Avenue/Junction Boulevard								
Westbound	LTR	0.54	45.7	E	LTR	1.28	237.1	F
Northbound	LT	0.05	9.4	A	LT	0.08	9.6	A
45th Avenue/Junction Boulevard								
Eastbound	LTR	0.24	26.2	D	LTR	0.54	51.5	F
Southbound	LT	0.07	9.2	A	LT	0.09	9.6	A
44th Avenue/97th Place								
Westbound	TR	0.10	9.5	A	TR	0.16	9.9	A
44th Avenue/National Street								
Westbound	LTR	0.28	21.2	C	LTR	0.50	30.6	D
Northbound	LT	0.02	8.4	A	LT	0.04	8.4	A
45th Avenue/National Street								
Eastbound	LTR	0.30	19.8	C	LTR	0.42	26.5	D
Southbound	LT	0.01	8.3	A	LT	0.04	8.7	A
43rd Avenue/97th Place								
Eastbound	LTR	0.00	7.8	A	LTR	0.01	8.0	A
Westbound	LTR	0.01	7.6	A	LTR	0.00	7.6	A
Northbound	LTR	0.02	11.1	B	LTR	0.02	11.2	B
Southbound	LTR	0.08	12.4	B	LTR	0.06	12.8	B

Note: L: Left Turn; T: Through; R: Right Turn; LOS: Level of Service.

- The westbound approach at the intersection of 44th Avenue and Junction Boulevard, which operates at LOS E and LOS F during the AM and PM peak hours, respectively;
- The eastbound approach at the intersection of 45th Avenue and Junction Boulevard, which operates at LOS F during the PM peak hour; and

- The westbound approach at the intersection of 44th Avenue and National Street, which operates at beyond mid-LOS D during the PM peak hour.

THE FUTURE WITHOUT THE PROPOSED PROJECT

Future 2015 conditions without the proposed project were estimated by increasing existing traffic and pedestrian levels to reflect expected growth in overall travel through and within the study area. As per the 2010 *CEQR* guidelines, an annual background growth rate of 0.5 percent was assumed for an overall compounded growth of approximately 2.5 percent by 2015.

Besides the general background growth, notable projects expected to be completed in the study area by the year 2015 include an 800-seat primary school at 50-51 98th Street (located between 50th Avenue and Christie Avenue) and a new 1,110-seat primary school at 96-18 43rd Avenue, across 97th Place from the proposed project site. However, since the school at 96-18 43rd Avenue is still in the planning stages and is subject to a separate discretionary approval, two No Build scenarios were assessed—one assuming the school at 96-18 43rd Avenue is constructed by the proposed project's 2015 Build year, and the other assuming the school is constructed later. Furthermore, there was a recent change in the street direction on 45th Avenue between Junction Boulevard and 94th Street from one-way eastbound to one-way westbound. This street direction change has been incorporated in the No Build analysis.

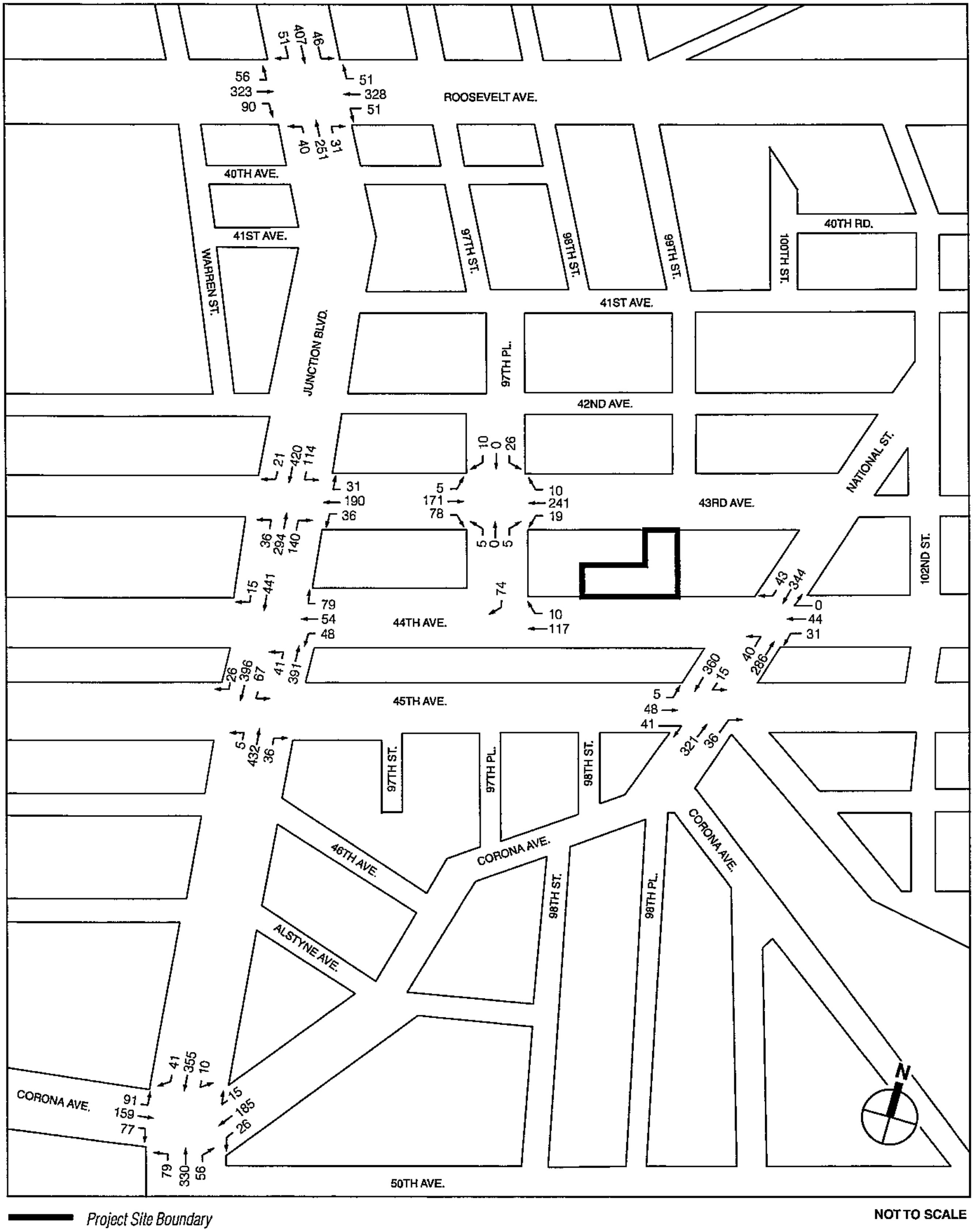
TRAFFIC OPERATIONS

Scenario One

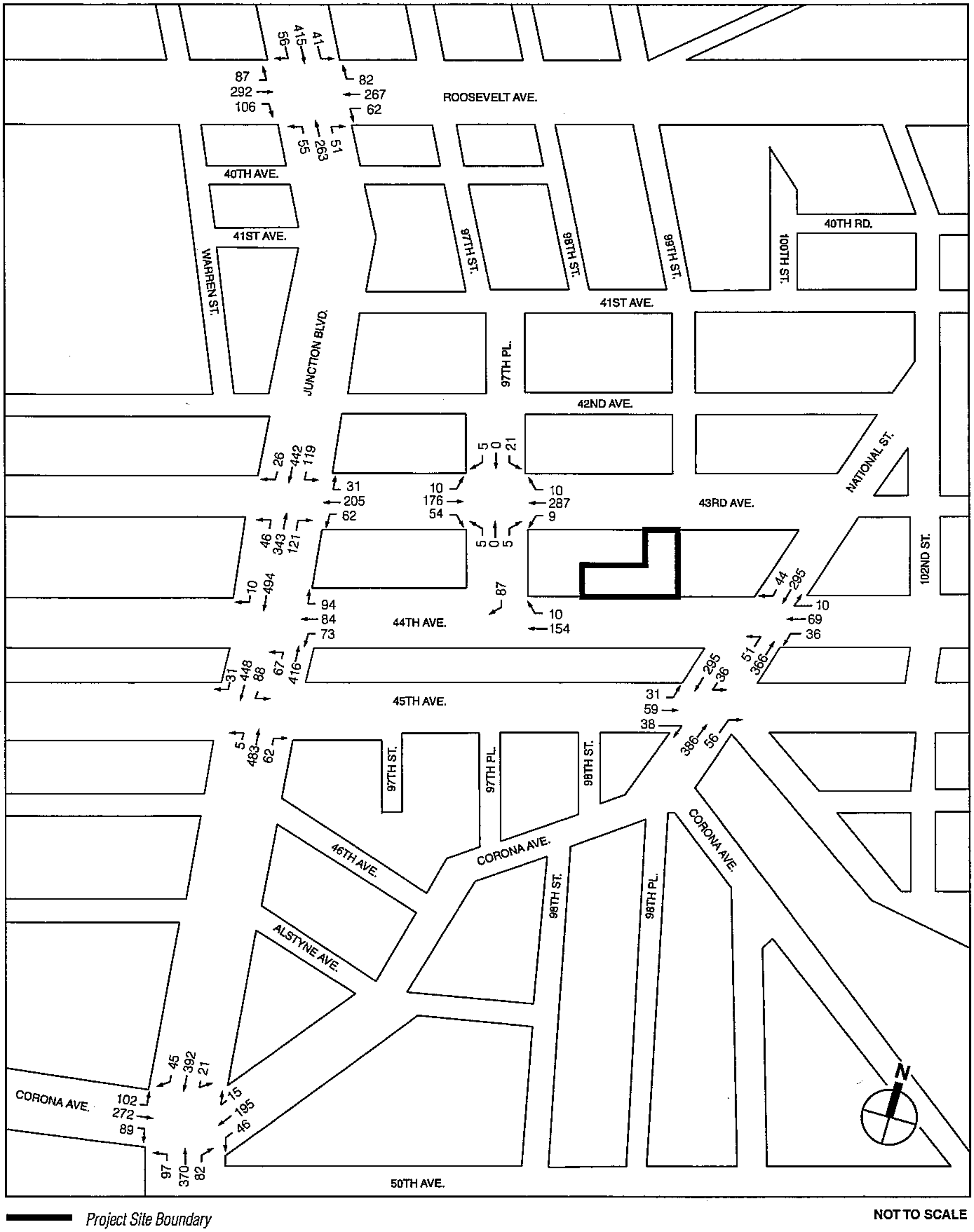
Under Scenario One, in addition to the general background growth, both primary schools in the study area are expected to be completed by the year 2015. Vehicular and pedestrian trips generated by these two planned school projects and their corresponding proposed geometric improvements were incorporated in the 2015 No Build analysis. These include the traffic improvements proposed as part of the new primary school located at 96-18 43rd Avenue involving installation of All-Way-Stop-Controls (AWSC) at the intersections of 43rd and 44th Avenues at 97th Place to facilitate safe pedestrian crossings at newly installed crosswalks.

The 2015 Scenario One No Build traffic volumes are shown in **Figures 5-4** and **5-5** for the AM and PM peak hours, respectively. **Tables 5-8** and **5-9** present a comparison of Existing and Scenario One No Build conditions for signalized and unsignalized intersections, respectively. Based on the analysis results, the majority of the approaches/lane-groups would operate at the same LOS as in the existing conditions with the following notable exceptions:

- The northbound approach at the intersection of Roosevelt Avenue and Junction Boulevard which would deteriorate from LOS D to LOS F during the AM and PM peak hours;
- The southbound approach at the intersection of 43rd Avenue and Junction Boulevard which would deteriorate from LOS C to LOS D during the AM and PM peak hours;
- The westbound approach at the intersection of 44th Avenue and Junction Boulevard which would deteriorate from LOS E to LOS F during the AM peak hour;
- The westbound approach at the intersection of 44th Avenue and National Street which would deteriorate from LOS C to LOS F during the AM peak hour and from LOS D to LOS F during the PM peak hour; and



2015 Scenario One No Build Traffic Volumes
AM Peak Hour
Figure 5-4



2015 Scenario One No Build Traffic Volumes
PM Peak Hour

I.S.311

Figure 5-5

Table 5-8
2010 Existing and 2015 Scenario One No Build Conditions Level of Service Analysis
Signalized Intersections

Intersection/Approach	AM Peak Hour								PM Peak Hour							
	2010 Existing				2015 No Build				2010 Existing				2015 No Build			
	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS
Roosevelt Avenue/Junction Boulevard																
Eastbound	LTR	0.69	24.2	C	LTR	0.75	27.1	C	LTR	0.79	30.4	C	LTR	0.85	35.4	C
Westbound	LTR	0.61	21.4	C	LTR	0.63	21.9	C	LTR	0.66	23.3	C	LTR	0.68	24.3	C
Northbound	LTR	0.79	47.8	D	LTR	1.03	92.9	F	LTR	0.81	50.2	D	LTR	1.08	108.1	F
Southbound	LTR	1.05	91.3	F	LTR	1.14	123.8	F	LTR	1.02	85.6	F	LTR	1.10	109.9	F
	Intersection		46.3	D	Intersection		65.7	E	Intersection		47.3	D	Intersection		67.5	E
43rd Avenue/Junction Boulevard																
Westbound	LTR	0.67	25.8	C	LTR	0.69	26.6	C	LTR	0.73	28.5	C	LTR	0.75	29.6	C
Northbound	LTR	0.57	13.6	B	LTR	0.78	21.3	C	LTR	0.63	14.8	B	LTR	0.86	26.8	C
Southbound	LTR	0.80	21.5	C	LTR	1.00	49.2	D	LTR	0.85	25.1	C	LTR	1.00	51.6	D
	Intersection		20.1	C	Intersection		34.7	C	Intersection		22.6	C	Intersection		37.7	D
Corona Avenue/Junction Boulevard																
Eastbound	LTR	0.55	16.9	B	LTR	0.62	18.8	B	LTR	0.79	25.2	C	LTR	0.86	30.5	C
Westbound	LTR	0.36	13.5	B	LTR	0.38	13.7	B	LTR	0.46	15.0	B	LTR	0.47	15.2	B
Northbound	LTR	0.66	19.0	B	LTR	0.74	21.8	C	LTR	0.80	24.9	C	LTR	0.90	33.8	C
Southbound	LTR	0.70	20.9	C	LTR	0.73	21.9	C	LTR	0.75	22.9	C	LTR	0.78	24.5	C
	Intersection		18.1	B	Intersection		19.8	B	Intersection		22.8	C	Intersection		27.6	C

Note: L: Left Turn; T: Through; R: Right Turn; LOS: Level of Service.

Table 5-9
2010 Existing and 2015 Scenario One No Build Conditions Level of Service Analysis
Unsignalized Intersections

Intersection/Approach	AM Peak Hour								PM Peak Hour							
	2010 Existing				2015 No Build				2010 Existing				2015 No Build			
	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS
44th Avenue/Junction Boulevard																
Westbound	LTR	0.54	45.7	E	LTR	2.09	598.3	F	LTR	1.28	237.1	F	LTR	4.46	1676.0	F
Northbound	LT	0.05	9.4	A	LT	0.05	9.7	A	LT	0.08	9.6	A	LT	0.09	9.9	A
45th Avenue/Junction Boulevard																
Eastbound	LTR	0.25	26.9	D					LTR	0.54	51.5	F				
Northbound					LTR	0.01	9.1	A					LTR	0.01	9.3	A
Southbound	LT	0.07	9.3	A	LTR	0.15	13.3	B	LT	0.09	9.6	A	LTR	0.20	14.3	B
44th Avenue/97th Place																
Westbound	TR	0.10	9.5	A	TR	0.17	7.9	A	TR	0.16	9.9	A	TR	0.22	8.5	A
Southbound					R	0.10	7.1	A					R	0.11	7.3	A
					Intersection		7.6	A					Intersection		8.0	A
44th Avenue/National Street																
Westbound	LTR	0.28	21.2	C	LTR	0.59	56.8	F	LTR	0.50	30.6	D	LTR	1.05	156.3	F
Northbound	LT	0.02	8.4	A	LT	0.07	11.6	B	LT	0.04	8.4	A	LT	0.09	11.5	B
45th Avenue/National Street																
Eastbound	LTR	0.30	19.8	C	LTR	0.62	51.9	F	LTR	0.42	26.5	D	LTR	0.87	99.7	F
Southbound	LT	0.01	8.3	A	LT	0.01	8.4	A	LT	0.04	8.7	A	LTR	0.04	8.8	A
43rd Avenue/97th Place																
Eastbound	LTR	0.00	7.8	A	LTR	0.38	9.9	A	LTR	0.01	8.0	A	LTR	0.36	9.8	A
Westbound	LTR	0.01	7.6	A	LTR	0.36	10.0	B	LTR	0.00	7.6	A	LTR	0.41	10.5	B
Northbound	LTR	0.02	11.1	B	LTR	0.02	8.3	A	LTR	0.02	11.2	B	LTR	0.02	8.3	A
Southbound	LTR	0.08	12.4	B	LTR	0.07	8.7	A	LTR	0.06	12.8	B	LTR	0.05	8.7	A
					Intersection		9.9	A					Intersection		10.1	B

Note: L: Left Turn; T: Through; R: Right Turn; LOS: Level of Service.

- The eastbound approach at the intersection of 45th Avenue and National Street which would deteriorate from LOS C to LOS F during the AM peak hour and from LOS D to LOS F during the PM peak hour.

Scenario Two

Under Scenario Two, in addition to the general background growth, only the primary school located at 50-51 98th Street is expected to be completed by the year 2015. Vehicular and pedestrian trips generated by the planned school project were incorporated in the 2015 No Build analysis.

The 2015 Scenario Two No Build traffic volumes are shown in **Figures 5-6** and **5-7** for the AM and PM peak hours, respectively. **Tables 5-10** and **5-11** present a comparison of Existing and Scenario Two No Build conditions for signalized and unsignalized intersections, respectively. Based on the analysis results, the majority of the approaches/lane-groups would operate at the same LOS as in the existing conditions with the following notable exceptions:

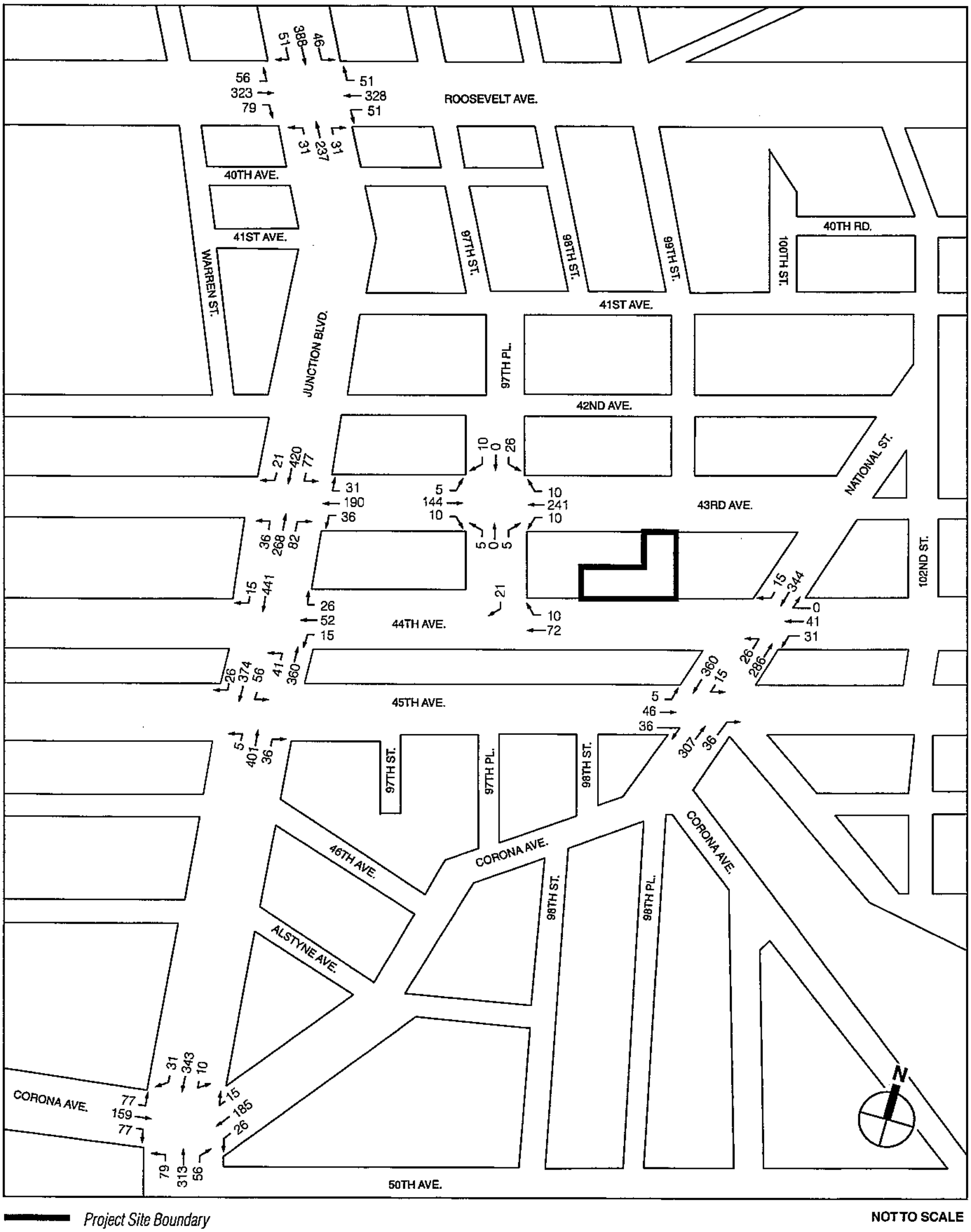
- The northbound approach at the intersection of Roosevelt Avenue and Junction Boulevard which would deteriorate from LOS D to LOS E during the AM and PM peak hours; and
- The westbound approach at the intersection of 44th Avenue and Junction Boulevard which would deteriorate from LOS E to LOS F during the AM peak hour.

Table 5-10

2010 Existing and 2015 Scenario Two No Build Conditions Level of Service Analysis Signalized Intersections

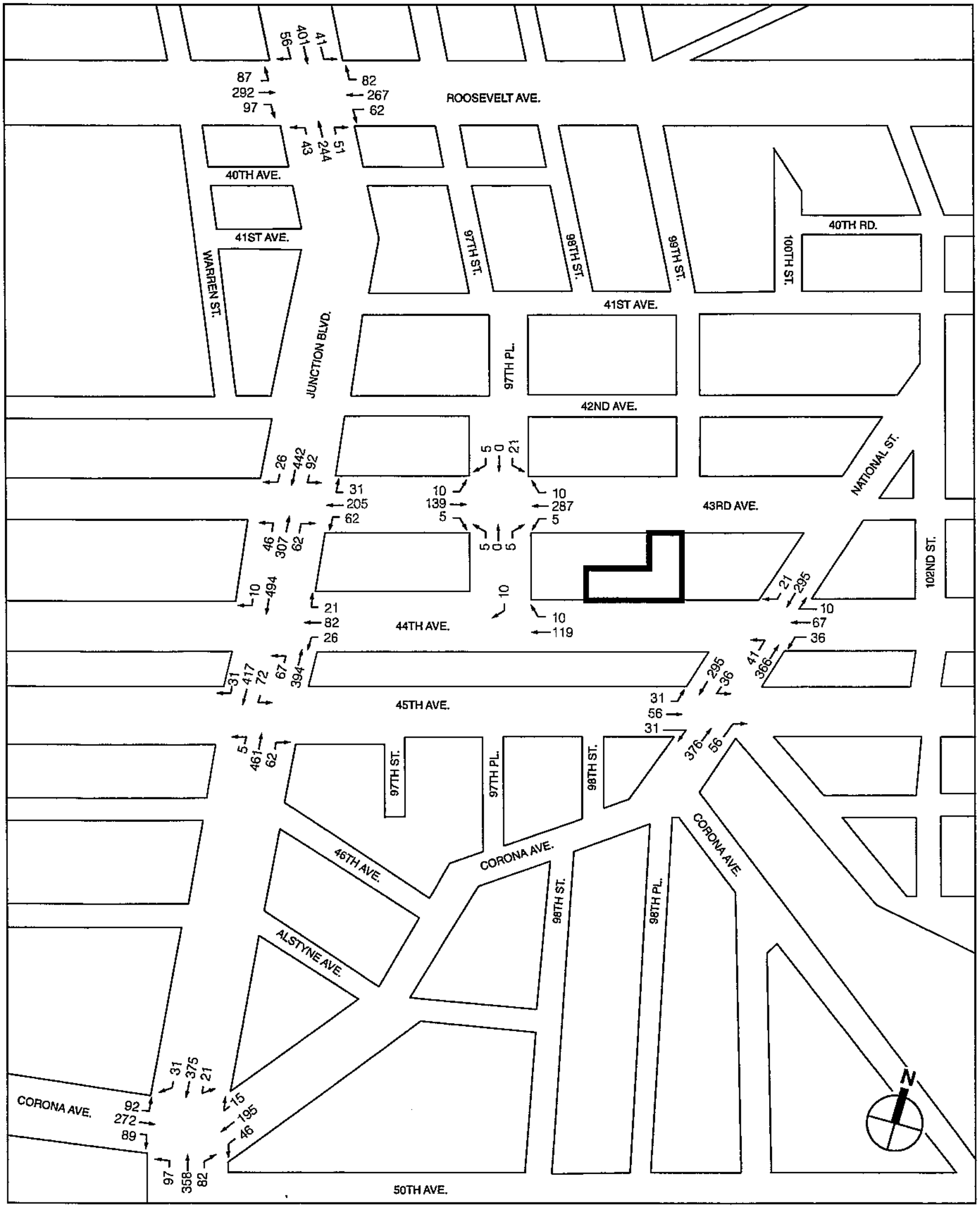
Intersection/ Approach	AM Peak Hour								PM Peak Hour							
	2010 Existing				2015 No Build				2010 Existing				2015 No Build			
	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS
Roosevelt Avenue/Junction Boulevard																
Eastbound	LTR	0.69	24.2	C	LTR	0.73	25.7	C	LTR	0.79	30.4	C	LTR	0.83	33.3	C
Westbound	LTR	0.61	21.4	C	LTR	0.63	21.8	C	LTR	0.66	23.3	C	LTR	0.68	24.2	C
Northbound	LTR	0.79	47.8	D	LTR	0.89	60.2	E	LTR	0.81	50.2	D	LTR	0.91	64.8	E
Southbound	LTR	1.05	91.3	F	LTR	1.10	107.8	F	LTR	1.02	85.6	F	LTR	1.07	98.6	F
	Intersection		46.3	D	Intersection		53.9	D	Intersection		47.3	D	Intersection		54.7	D
43rd Avenue/Junction Boulevard																
Westbound	LTR	0.67	25.8	C	LTR	0.69	26.6	C	LTR	0.73	28.5	C	LTR	0.75	29.6	C
Northbound	LTR	0.57	13.6	B	LTR	0.61	14.4	B	LTR	0.63	14.8	B	LTR	0.67	16.0	B
Southbound	LTR	0.80	21.5	C	LTR	0.85	25.3	C	LTR	0.85	25.1	C	LTR	0.88	28.8	C
	Intersection		20.1	C	Intersection		22.2	C	Intersection		22.6	C	Intersection		24.8	C
Corona Avenue/Junction Boulevard																
Eastbound	LTR	0.55	16.9	B	LTR	0.58	17.8	B	LTR	0.79	25.2	C	LTR	0.82	27.6	C
Westbound	LTR	0.36	13.5	B	LTR	0.38	13.7	B	LTR	0.46	15.0	B	LTR	0.47	15.2	B
Northbound	LTR	0.66	19.0	B	LTR	0.71	20.7	C	LTR	0.80	24.9	C	LTR	0.87	30.3	C
Southbound	LTR	0.70	20.9	C	LTR	0.68	20.3	C	LTR	0.75	22.9	C	LTR	0.72	21.8	C
	Intersection		18.1	B	Intersection		18.7	B	Intersection		22.8	C	Intersection		25.0	C

Note: L: Left Turn; T: Through; R: Right Turn; LOS: Level of Service.



2015 Scenario Two No Build Traffic Volumes
AM Peak Hour
Figure 5-6

5.2.11



Project Site Boundary

NOT TO SCALE

2015 Scenario Two No Build Traffic Volumes
PM Peak Hour
Figure 5-7

I.S.311

Table 5-11
2010 Existing and 2015 Scenario Two No Build Conditions Level of Service Analysis
Unsignalized Intersections

	AM Peak Hour								PM Peak Hour							
	2010 Existing				2015 No Build				2010 Existing				2015 No Build			
Intersection/ Approach	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS
44th Avenue/Junction Boulevard																
Westbound	LTR	0.54	45.7	E	LTR	0.62	57.5	F	LTR	1.28	237.1	F	LTR	1.40	295.3	F
Northbound	LT	0.05	9.4	A	LT	0.05	9.6	A	LT	0.08	9.6	A	LT	0.09	9.8	A
45th Avenue/Junction Boulevard																
Eastbound	LTR	0.24	26.2	D					LTR	0.54	51.5	F				
Northbound					LTR	0.01	9.0	A					LTR	0.01	9.1	A
Southbound	LT	0.07	9.2	A	LTR	0.07	9.6	A	LT	0.09	9.6	A	LTR	0.10	10.0+	B
44th Avenue/97th Place																
Westbound	TR	0.10	9.5	A	TR	0.11	9.5	A	TR	0.16	9.9	A	TR	0.17	9.9	A
44th Avenue/National Street																
Westbound	LTR	0.28	21.2	C	LTR	0.31	23.1	C	LTR	0.50	30.6	D	LTR	0.55	34.8	D
Northbound	LT	0.02	8.4	A	LT	0.03	8.5	A	LT	0.04	8.4	A	LT	0.04	8.5	A
45th Avenue/National Street																
Eastbound	LTR	0.30	19.8	C	LTR	0.33	21.3	C	LTR	0.42	26.5	D	LTR	0.46	29.3	D
Southbound	LT	0.01	8.3	A	LT	0.01	8.4	A	LT	0.04	8.7	A	LTR	0.04	8.8	A
43rd Avenue/97th Place																
Eastbound	LTR	0.00	7.8	A	LTR	0.00	7.9	A	LTR	0.01	8.0	A	LTR	0.01	8.0	A
Westbound	LTR	0.01	7.6	A	LTR	0.01	7.6	A	LTR	0.00	7.6	A	LTR	0.00	7.6	A
Northbound	LTR	0.02	11.1	B	LTR	0.02	11.2	B	LTR	0.02	11.2	B	LTR	0.02	11.2	B
Southbound	LTR	0.08	12.4	B	LTR	0.08	12.6	B	LTR	0.06	12.8	B	LTR	0.07	13.0	B

Note: L: Left Turn; T: Through; R: Right Turn; LOS: Level of Service.

PROBABLE IMPACTS OF THE PROPOSED PROJECT

PROJECT TRIP GENERATION AND MODAL SPLIT

The proposed school would serve Community School District (CSD) 24 and would accommodate students in grades six to eight. Modal split estimates for the intermediate school students were determined based on the information presented in environmental studies for other school projects with comparable characteristics and the New York Metropolitan Transportation Council (NYMTC) data for Queens County. In terms of modal split estimates for special education students, it was assumed that due to their special needs, they would primarily use school buses or be dropped off by autos. The modal split estimates for the staff/faculty were based on the reverse-journey-to-work (RJTW) information from the 2000 US Census Data.

INTERMEDIATE SCHOOL

The intermediate school would serve approximately 701 students (not including special education students). To accurately estimate the number of student trips on a typical day, a 10 percent absentee rate was assumed, yielding a total of 631 students. In addition, it is estimated that approximately 90 percent, or about 568 of the students, would arrive and depart during the morning and afternoon peak hours. The trip generation and modal splits for the proposed intermediate school students are presented in **Table 5-12**.

Table 5-12
Trip Generation
Intermediate School Students

Travel Mode	Students		
	Percent	Person Trips	Vehicle Trips
AM PEAK HOUR			
Automobile (drop-offs/pick-ups)*	10%	57	44
Taxi	0%	0	0
School Bus/Van*	5%	28	2
Public Transit	10%	57	—
Walk	75%	426	—
PM PEAK HOUR			
Automobile (drop-offs/pick-ups)*	10%	57	44
Taxi	0%	0	0
School Bus/Van*	5%	28	2
Public Transit	10%	57	—
Walk	75%	426	—

Notes:
* Both inbound and outbound vehicle trips takes place during the same peak hour
Student Vehicle Occupancy = 1.3
School Bus/Van Occupancy = 17

SPECIAL EDUCATION STUDENTS

The proposed school would serve approximately 84 special education students. To accurately estimate the number of student trips on a typical day, a 10-percent absentee rate was assumed, yielding a daily total of 76 students attending school. In addition, it is estimated that about 90 percent or approximately 68 students would arrive and depart during the morning and afternoon peak hours. The trip generation and modal splits for the special education students are presented in **Table 5-13.**

Table 5-13
Trip Generation
Special Education Students

Travel Mode	Students		
	Percent	Person Trips	Vehicle Trips
AM PEAK HOUR			
Automobile (drop-offs/pick-ups)*	25%	17	13
School Bus/Van*	75%	51	3
Public Transit	0%	0	---
Walk	0%	0	---
PM PEAK HOUR			
Automobile (drop-offs/pick-ups)*	25%	17	13
School Bus/Van*	75%	51	3
Public Transit	0%	0	---
Walk	0%	0	---

Notes:
* Both inbound and outbound vehicle trips takes place during the same peak hour
Student Vehicle Occupancy = 1.3
School Bus/Van Occupancy = 17

TEACHERS AND ADMINISTRATIVE STAFF

The school facility would be staffed by approximately 60 teachers and administrative staff. It is estimated that about 90 percent of the teachers and administrative staff would arrive and depart during the morning and afternoon peak hours. The trip generation and modal splits for the teachers and administrative staff are presented in **Table 5-14**.

Table 5-14
Trip Generation
Teachers and Administrative Staff

Travel Mode [1]	Staff		
	Percent	Person Trips	Vehicle Trips
AM PEAK HOUR			
Automobile (Drive)	55%	30	24
Taxi	2%	1	1
Subway	15%	8	—
Local Bus	7%	4	—
Walk	21%	11	—
PM PEAK HOUR			
Automobile (Drive)	55%	30	24
Taxi	2%	1	1
Subway	15%	8	—
Local Bus	7%	4	—
Walk	21%	11	—

Notes:
Staff Vehicle Occupancy = 1.23
(1) Modal splits based on Reverse-Journey-To-Work (RJTW) information from the 2000 U.S. Census Data.

SITE ACCESS AND STUDENT DROP-OFFS

The main entrance for the proposed school facility would be located on 44th Avenue between 97th Place and National Street and the secondary entrance would be located on 43rd Avenue between 97th Place and National Street. Based on the location of the project site and the direction of traffic flow on the streets/roadways in the study area, a majority of the student auto drop-offs/pick-ups were assumed to take place on 43rd Avenue between Junction Boulevard and National Street near the school's secondary entrance, while the remaining student auto drop-offs/pick-ups and all school bus drop-offs/pick-ups were assumed to take place on 44th Avenue in front of the main entrance. All the staff-generated auto trips were assigned to on-street parking in the study area.

PROJECT VEHICLE ASSIGNMENT

Project-generated traffic was assigned to the study area network based on the local travel patterns and the most likely approach paths to and from the project site. Project-generated traffic entering the study area was distributed in the following manner: 24 percent from the north, 25 percent from the south; 24 percent from the east and 27 percent from the west.

PROPOSED STREET DEMAPPING

As discussed in Chapter 1, "Project Description," the project site also contains a portion of a mapped street along 44th Avenue. The New York City School Construction Authority (SCA) is currently coordinating with NYCDOT and the New York City Department of City Planning (NYCDCP) to demap this portion of the street (within the project site boundary) that is currently mapped as an extension of the existing street bed of 44th Avenue. It should be noted that this proposed demapping will not alter the traffic circulation patterns in the study area and will have no affect on the traffic operating conditions at the study area intersections presented in this chapter.

TRAFFIC OPERATIONS

As discussed in the preceding "The Future without the Proposed Project" section, two No Build scenarios were assessed—Scenario One assumed that the construction of a new 1,110-seat primary school at 96-18 43rd Avenue would be completed by 2015, while Scenario Two assumed that the primary school would be constructed later than 2015. Traffic operations under both scenarios are discussed in the following sections.

Scenario One

Figures 5-8 and **5-9** show the total project-generated traffic volumes on the streets surrounding the site in the AM and PM peak hours, respectively. **Figures 5-10** and **5-11** show the estimated Scenario One future with the proposed project (Build) condition volumes for the AM and PM peak hours, respectively. **Tables 5-15** and **5-16** present a comparison of the Scenario One No Build and Build conditions for signalized and unsignalized intersections.

For the streets around the site, capacities at most of the approaches would be sufficient to accommodate these increases. However, based on the impact criteria discussed earlier, the proposed project could cause significant adverse impacts at the following intersection approaches/lane-groups during the two peak hours analyzed:

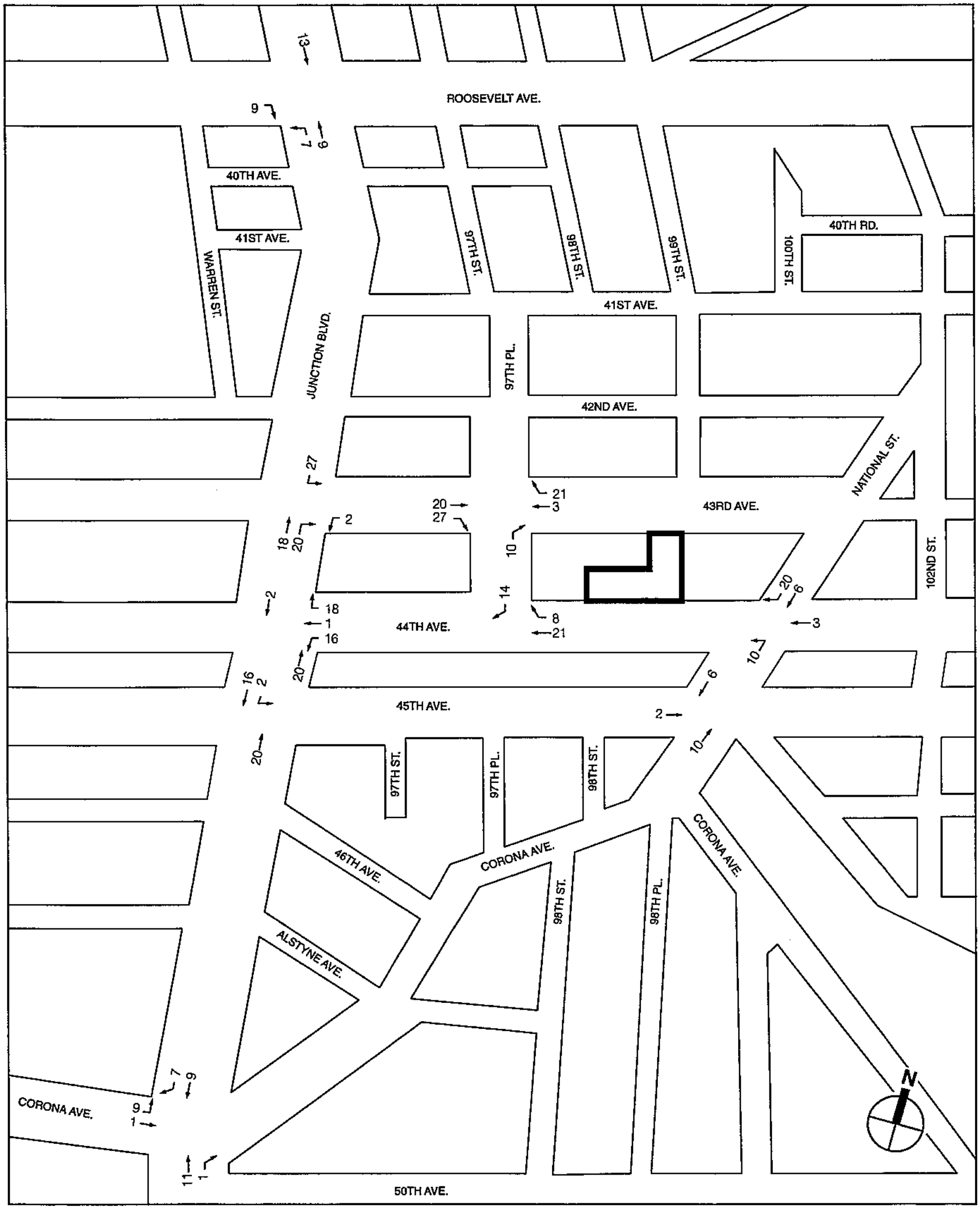
Signalized Intersections

- The northbound and southbound approaches at the intersection of Roosevelt Avenue and Junction Boulevard during the AM and PM peak periods; and
- The southbound approach at the intersection of 43rd Avenue and Junction Boulevard during the AM and PM peak hours.

Unsignalized Intersections

- The westbound approach at the intersection of 44th Avenue and Junction Boulevard during the AM and PM peak periods;
- The westbound approach at the intersection of 44th Avenue and National Street during the PM peak period[1]; and
- The eastbound approach at the intersection of 45th Avenue and National Street during the AM and PM peak periods.

[1] As described in Section B, "Methodology," for the unsignalized intersection significant impact criteria, the difference in the westbound delays at this intersection between the No Build and Build conditions would not be considered a significant adverse impact per *CEQR* criteria because there are less than 90 vehicles at the westbound approach during the AM peak hour.

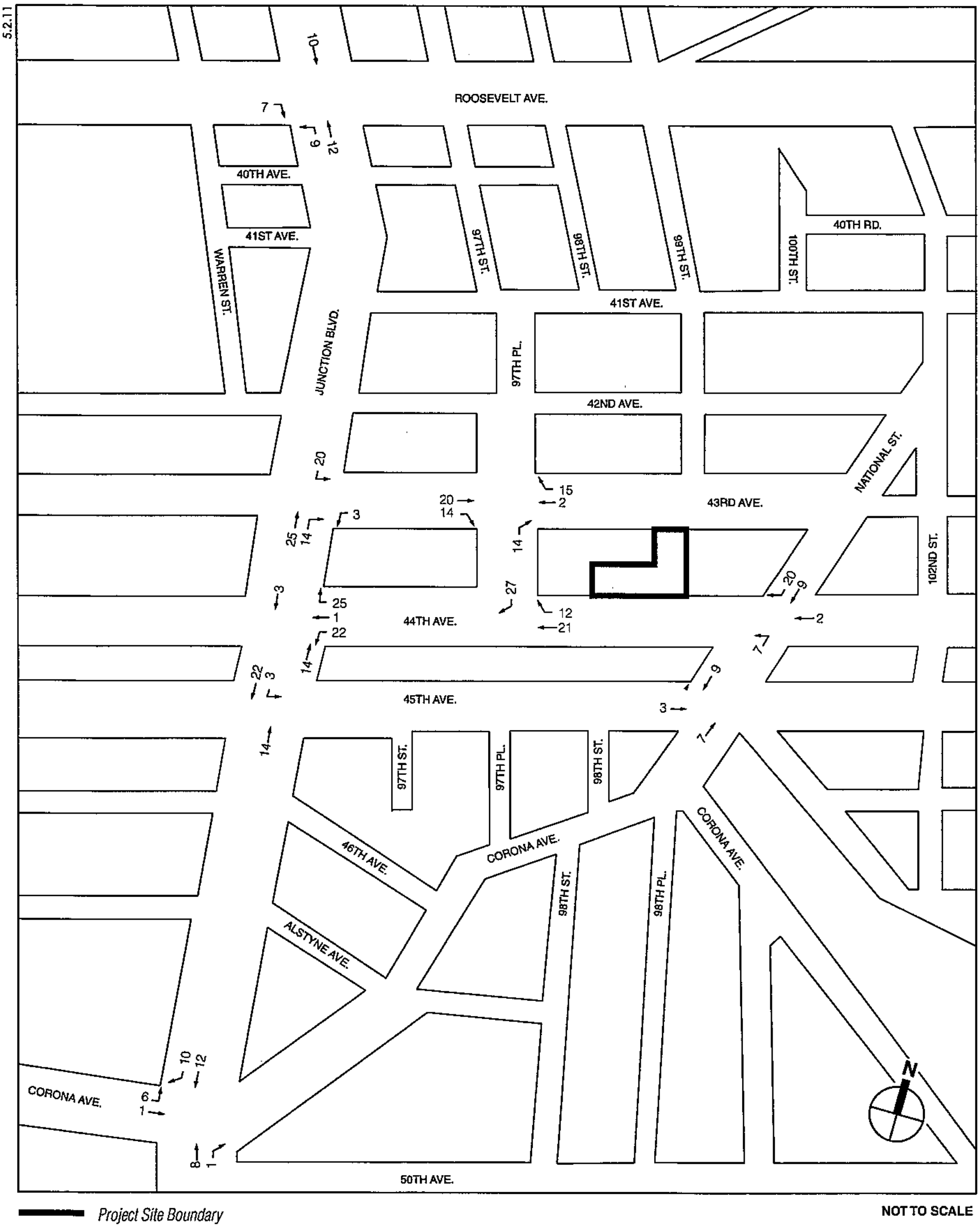


Project Site Boundary

NOT TO SCALE

2015 Project Generated Traffic Volumes
AM Peak Hour
Figure 5-8

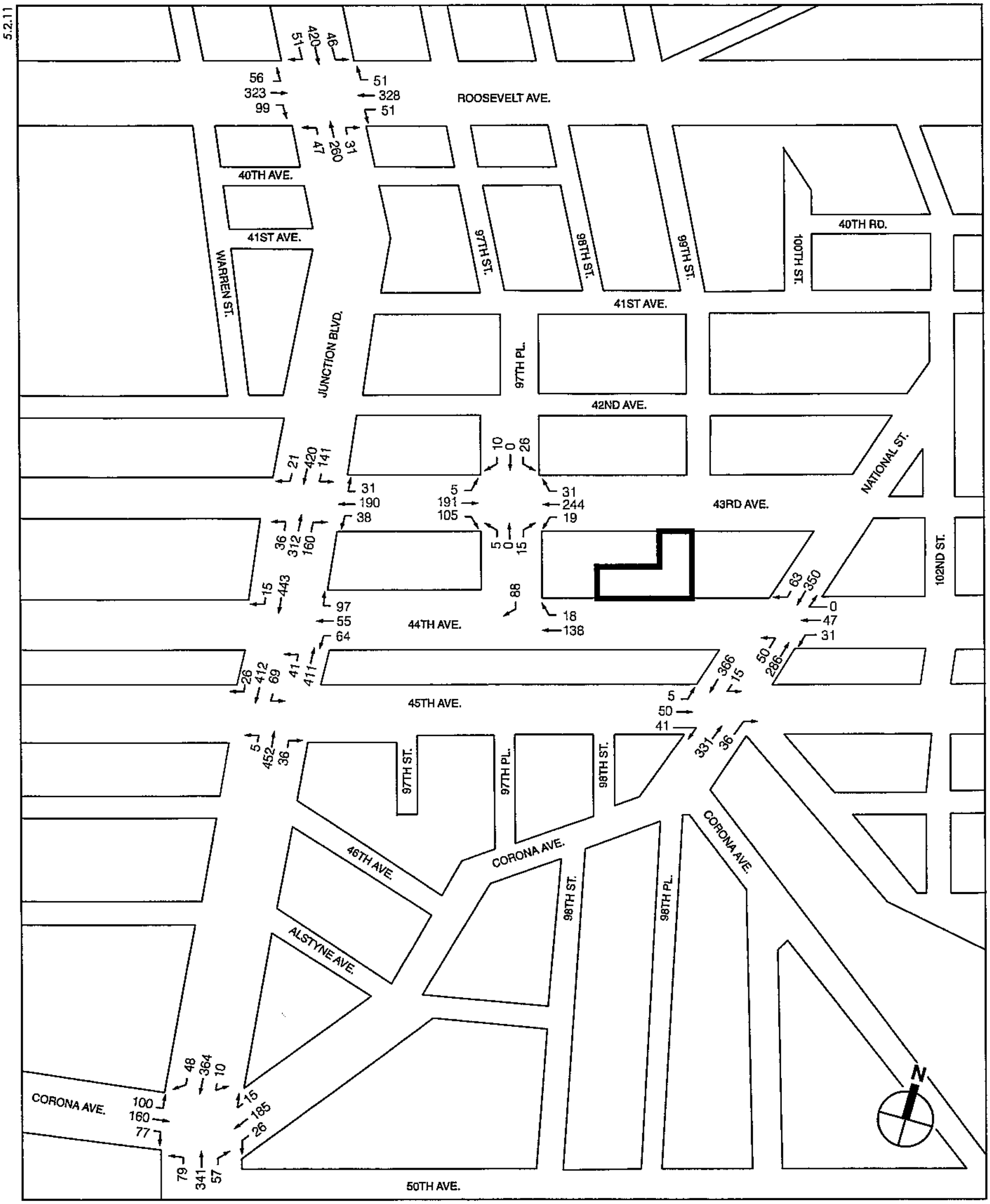
I.S.311



2015 Project Generated Traffic Volumes
PM Peak Hour

I.S.311

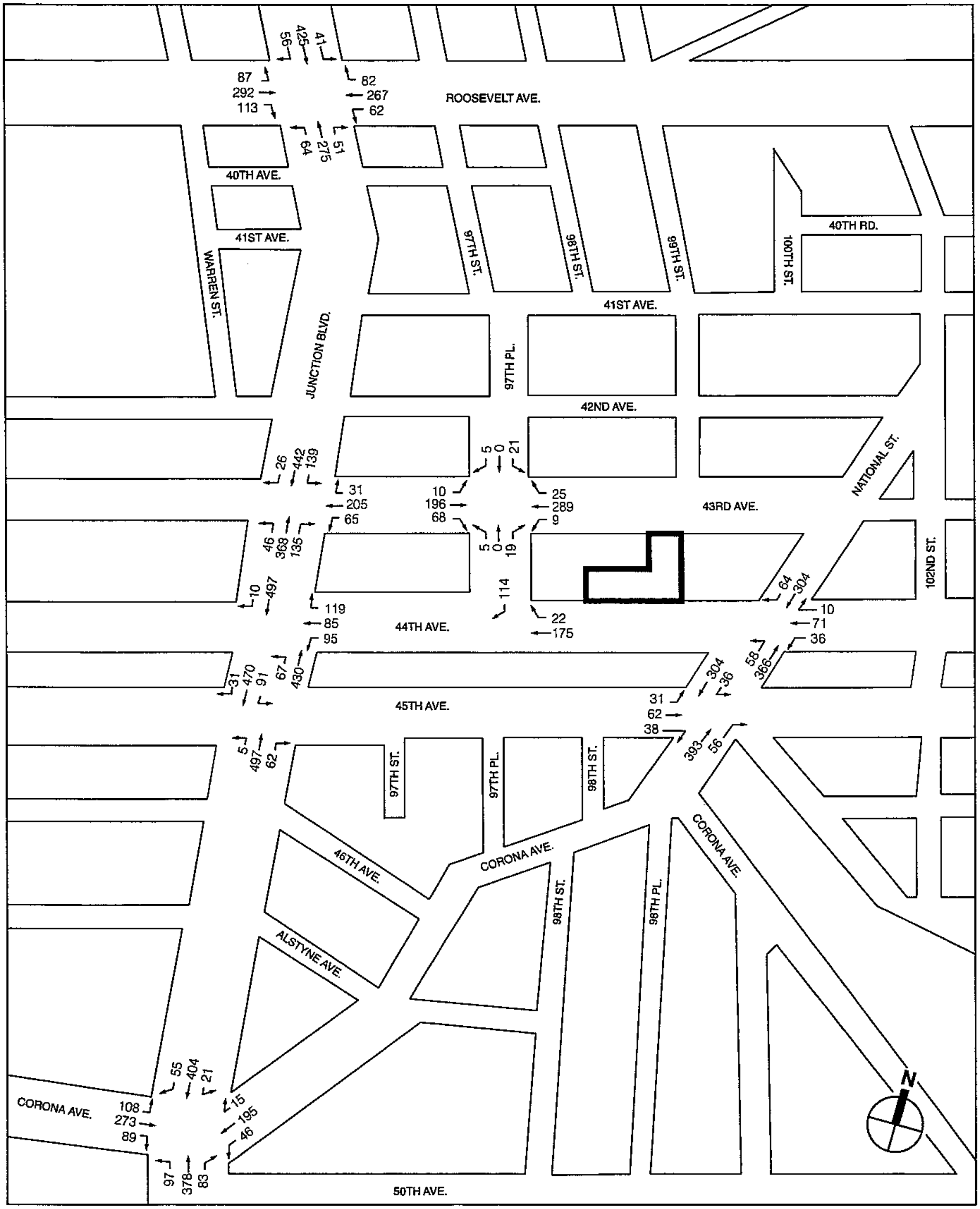
Figure 5-9



Project Site Boundary

NOT TO SCALE

2015 Scenario One Build Traffic Volumes
AM Peak Hour
Figure 5-10



Project Site Boundary

NOT TO SCALE

2015 Scenario One Build Traffic Volumes
PM Peak Hour

Figure 5-11

Table 5-15
2015 Scenario One No Build and Build Conditions Level of Service Analysis
Signalized Intersections

Intersection/ Approach	AM Peak Hour									PM Peak Hour								
	2015 No Build				2015 Build					2015 No Build				2015 Build				
	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS		Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	
Roosevelt Avenue/Junction Boulevard																		
Eastbound	LTR	0.75	27.1	C	LTR	0.78	28.4	C		LTR	0.85	35.4	C	LTR	0.87	37.2	D	
Westbound	LTR	0.63	21.9	C	LTR	0.63	21.9	C		LTR	0.68	24.3	C	LTR	0.69	24.4	C	
Northbound	LTR	1.03	92.9	F	LTR	1.16	135.1	F	+	LTR	1.08	108.1	F	LTR	1.21	157.0	F	+
Southbound	LTR	1.14	123.8	F	LTR	1.17	135.4	F	+	LTR	1.10	109.9	F	LTR	1.13	118.8	F	+
	Intersection		65.7	E	Intersection		78.3	E		Intersection		67.5	E	Intersection		81.2	F	
43rd Avenue/Junction Boulevard																		
Westbound	LTR	0.69	26.6	C	LTR	0.70	26.9	C		LTR	0.75	29.6	C	LTR	0.76	30.0	C	
Northbound	LTR	0.78	21.3	C	LTR	0.86	27.7	C		LTR	0.86	26.8	C	LTR	0.94	36.9	D	
Southbound	LTR	1.00	49.2	D	LTR	1.14	96.0	F	+	LTR	1.00	51.6	D	LTR	1.12	87.9	F	+
	Intersection		34.7	C	Intersection		57.5	E		Intersection		37.7	D	Intersection		56.4	E	
Corona Avenue/Junction Boulevard																		
Eastbound	LTR	0.62	18.8	B	LTR	0.65	19.6	B		LTR	0.86	30.5	C	LTR	0.88	33.1	C	
Westbound	LTR	0.38	13.7	B	LTR	0.38	13.7	B		LTR	0.47	15.2	B	LTR	0.47	15.2	B	
Northbound	LTR	0.74	21.8	C	LTR	0.76	22.8	C		LTR	0.90	33.8	C	LTR	0.92	36.9	D	
Southbound	LTR	0.73	21.9	C	LTR	0.76	23.5	C		LTR	0.78	24.5	C	LTR	0.82	27.2	C	
	Intersection		19.8	B	Intersection		20.8	C		Intersection		27.6	C	Intersection		30.0	C	

Notes: L: Left Turn; T: Through; R: Right Turn; LOS: Level of Service.
+ implies a significant adverse impact

Table 5-16
2015 Scenario One No Build and Build Conditions Level of Service Analysis
Unsignalized Intersections

Intersection/ Approach	AM Peak Hour									PM Peak Hour								
	2015 No Build				2015 Build					2015 No Build				2015 Build				
	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS		Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	
44th Avenue/Junction Boulevard																		
Westbound	LTR	2.09	598.3	F	LTR	3.38	1195.0	F	+	LTR	4.46	1676.0	F	LTR	6.00	2381.0	F	+
Northbound	LT	0.05	9.7	A	LT	0.05	9.7	A		LT	0.09	9.9	A	LT	0.09	9.9	A	
45th Avenue/Junction Boulevard																		
Northbound	LTR	0.01	9.1	A	LTR	0.01	9.2	A		LTR	0.01	9.3	A	LTR	0.01	9.3	A	
Southbound	LTR	0.15	13.3	B	LTR	0.19	15.7	C		LTR	0.20	14.3	B	LTR	0.25	17.3	C	
44th Avenue/97th Place																		
Westbound	TR	0.17	7.9	A	TR	0.21	8.2	A		TR	0.22	8.5	A	TR	0.27	8.9	A	
Southbound	R	0.10	7.1	A	R	0.12	7.3	A		R	0.11	7.3	A	R	0.15	7.6	A	
	Intersection		7.6	A	Intersection		7.9	A		Intersection		8.0	A	Intersection		8.4	A	
44th Avenue/National Street																		
Westbound	LTR	0.59	56.8	F	LTR	0.88	128.7	F		LTR	1.05	156.3	F	LTR	1.52	357.2	F	+
Northbound	LT	0.07	11.6	B	LT	0.12	14.0	B		LT	0.09	11.5	B	LT	0.13	14.0	B	
45th Avenue/National Street																		
Eastbound	LTR	0.62	51.9	F	LTR	0.83	96.6	F	+	LTR	0.87	99.7	F	LTR	1.16	205.6	F	+
Southbound	LT	0.01	8.4	A	LT	0.02	8.5	A		LTR	0.04	8.8	A	LTR	0.04	8.8	A	
43rd Avenue/97th Place																		
Eastbound	LTR	0.38	9.9	A	LTR	0.45	10.9	B		LTR	0.36	9.8	A	LTR	0.42	10.6	B	
Westbound	LTR	0.36	10.0	B	LTR	0.40	10.6	B		LTR	0.41	10.5	B	LTR	0.44	11.0	B	
Northbound	LTR	0.02	8.3	A	LTR	0.03	8.4	A		LTR	0.02	8.3	A	LTR	0.04	8.4	A	
Southbound	LTR	0.07	8.7	A	LTR	0.07	8.9	A		LTR	0.05	8.7	A	LTR	0.05	8.9	A	
	Intersection		9.9	A	Intersection		10.6	B		Intersection		10.1	B	Intersection		10.6	B	

Notes: L: Left Turn; T: Through; R: Right Turn; LOS: Level of Service.
+ implies a significant adverse impact

Scenario Two

Figures 5-8 and **5-9** show the total project-generated traffic volumes on the streets surrounding the site in the AM and PM peak hours, respectively. **Figures 5-12** and **5-13** show the estimated Scenario Two future with the proposed project (Build) condition volumes for the AM and PM peak hours, respectively. **Tables 5-17** and **5-18** present a comparison of the Scenario Two No Build and Build conditions for signalized and unsignalized intersections.

Table 5-17
2015 Scenario Two No Build and Build Conditions Level of Service Analysis
Signalized Intersections

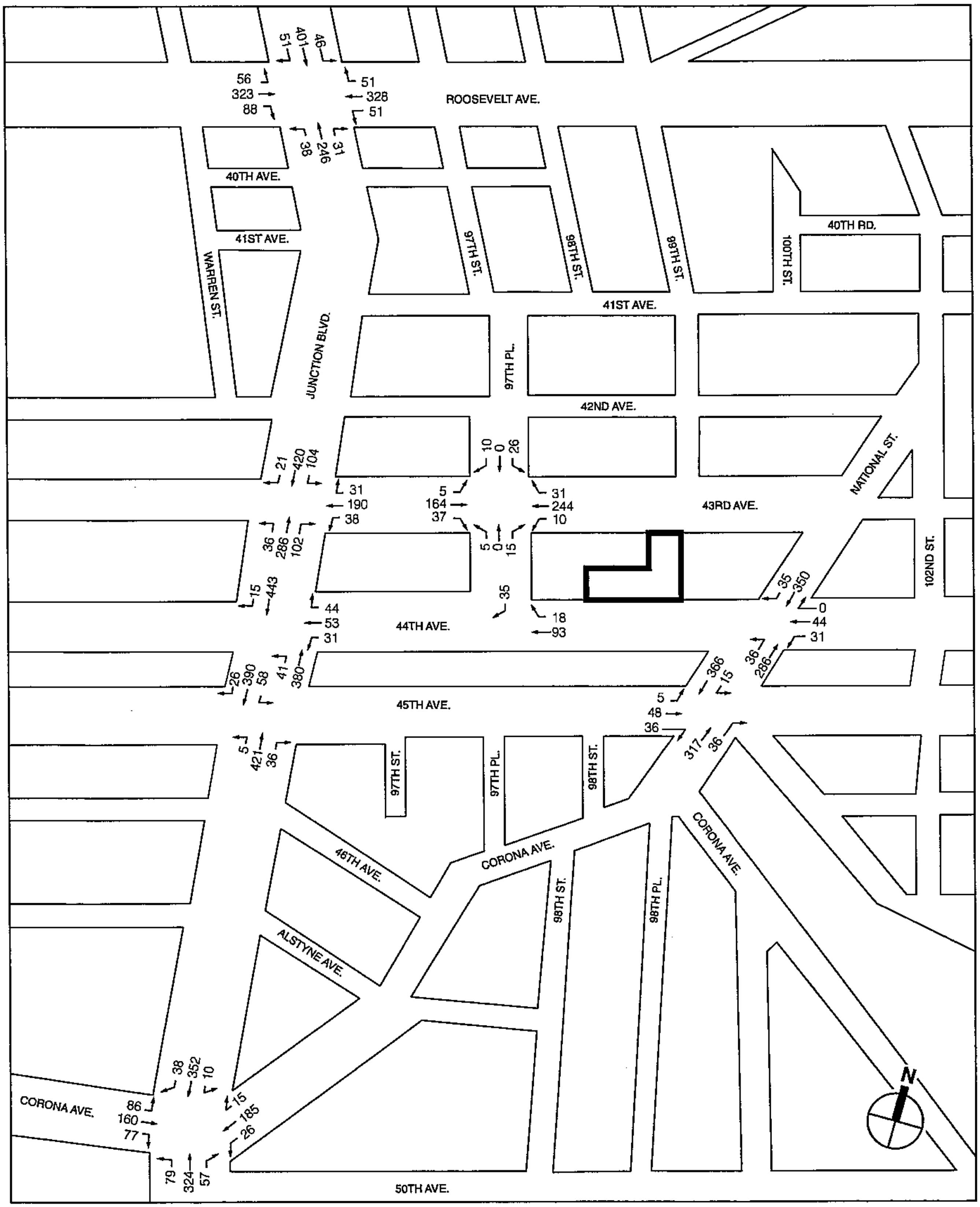
	AM Peak Hour									PM Peak Hour								
	2015 No Build				2015 Build					2015 No Build				2015 Build				
Intersection/ Approach	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS		Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	
Roosevelt Avenue/Junction Boulevard																		
Eastbound	LTR	0.73	25.7	C	LTR	0.75	26.8	C		LTR	0.83	33.3	C	LTR	0.85	35.0	C	
Westbound	LTR	0.63	21.8	C	LTR	0.63	21.9	C		LTR	0.68	24.2	C	LTR	0.68	24.3	C	
Northbound	LTR	0.89	60.2	E	LTR	0.99	81.0	F	+	LTR	0.91	64.8	E	LTR	1.03	93.5	F	+
Southbound	LTR	1.10	107.8	F	LTR	1.13	119.4	F	+	LTR	1.07	98.6	F	LTR	1.09	106.2	F	+
	Intersection		53.9	D	Intersection		61.8	E		Intersection		54.7	D	Intersection		63.2	E	
43rd Avenue/Junction Boulevard																		
Westbound	LTR	0.69	26.6	C	LTR	0.70	26.9	C		LTR	0.75	29.6	C	LTR	0.76	30.0	C	
Northbound	LTR	0.61	14.4	B	LTR	0.68	16.6	B		LTR	0.67	16.0	B	LTR	0.74	18.6	B	
Southbound	LTR	0.85	25.3	C	LTR	0.94	37.2	D		LTR	0.88	28.8	C	LTR	0.95	39.9	D	
	Intersection		22.2	C	Intersection		28.2	C		Intersection		24.8	C	Intersection		30.4	C	
Corona Avenue/Junction Boulevard																		
Eastbound	LTR	0.58	17.8	B	LTR	0.61	18.4	B		LTR	0.82	27.6	C	LTR	0.85	29.4	C	
Westbound	LTR	0.38	13.7	B	LTR	0.38	13.7	B		LTR	0.47	15.2	B	LTR	0.47	15.2	B	
Northbound	LTR	0.71	20.7	C	LTR	0.73	21.5	C		LTR	0.87	30.3	C	LTR	0.89	32.7	C	
Southbound	LTR	0.68	20.3	C	LTR	0.71	21.5	C		LTR	0.72	21.8	C	LTR	0.76	23.6	C	
	Intersection		18.7	B	Intersection		19.5	B		Intersection		25.0	C	Intersection		26.7	C	

Notes: L: Left Turn; T: Through; R: Right Turn; LOS: Level of Service.
+ implies a significant adverse impact

Table 5-18
2015 Scenario Two No Build and Build Conditions Level of Service Analysis
Unsignalized Intersections

	AM Peak Hour									PM Peak Hour								
	2015 No Build				2015 Build					2015 No Build				2015 Build				
Intersection/ Approach	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS		Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	
44th Avenue/Junction Boulevard																		
Westbound	LTR	0.62	57.5	F	LTR	1.04	150.5	F	+	LTR	1.40	295.3	F	LTR	2.23	657.4	F	+
Northbound	LT	0.05	9.6	A	LT	0.05	9.7	A		LT	0.09	9.8	A	LT	0.09	9.9	A	
45th Avenue/Junction Boulevard																		
Northbound	LTR	0.01	9.0	A	LTR	0.01	9.1	A		LTR	0.01	9.1	A	LTR	0.01	9.2	A	
Southbound	LTR	0.07	9.6	A	LTR	0.09	10.5	B		LTR	0.10	10.0+	B	LTR	0.12	11.1	B	
44th Avenue/97th Place																		
Westbound	TR	0.11	9.5	A	TR	0.14	7.6	A		TR	0.17	9.9	A	TR	0.21	8.2	A	
Southbound					R	0.04	6.9	A						R	0.05	7.0	A	
					Intersection		7.4	A						Intersection		7.9	A	
44th Avenue/National Street																		
Westbound	LTR	0.31	23.1	C	LTR	0.41	31.8	D		LTR	0.55	34.8	D	LTR	0.72	60.5	F	+
Northbound	LT	0.03	8.5	A	LT	0.04	9.5	A		LT	0.04	8.5	A	LT	0.06	9.5	A	
45th Avenue/National Street																		
Eastbound	LTR	0.33	21.3	C	LTR	0.42	28.5	D		LTR	0.46	29.3	D	LTR	0.59	43.8	E	+
Southbound	LT	0.01	8.4	A	LT	0.01	8.4	A		LTR	0.04	8.8	A	LTR	0.04	8.8	A	

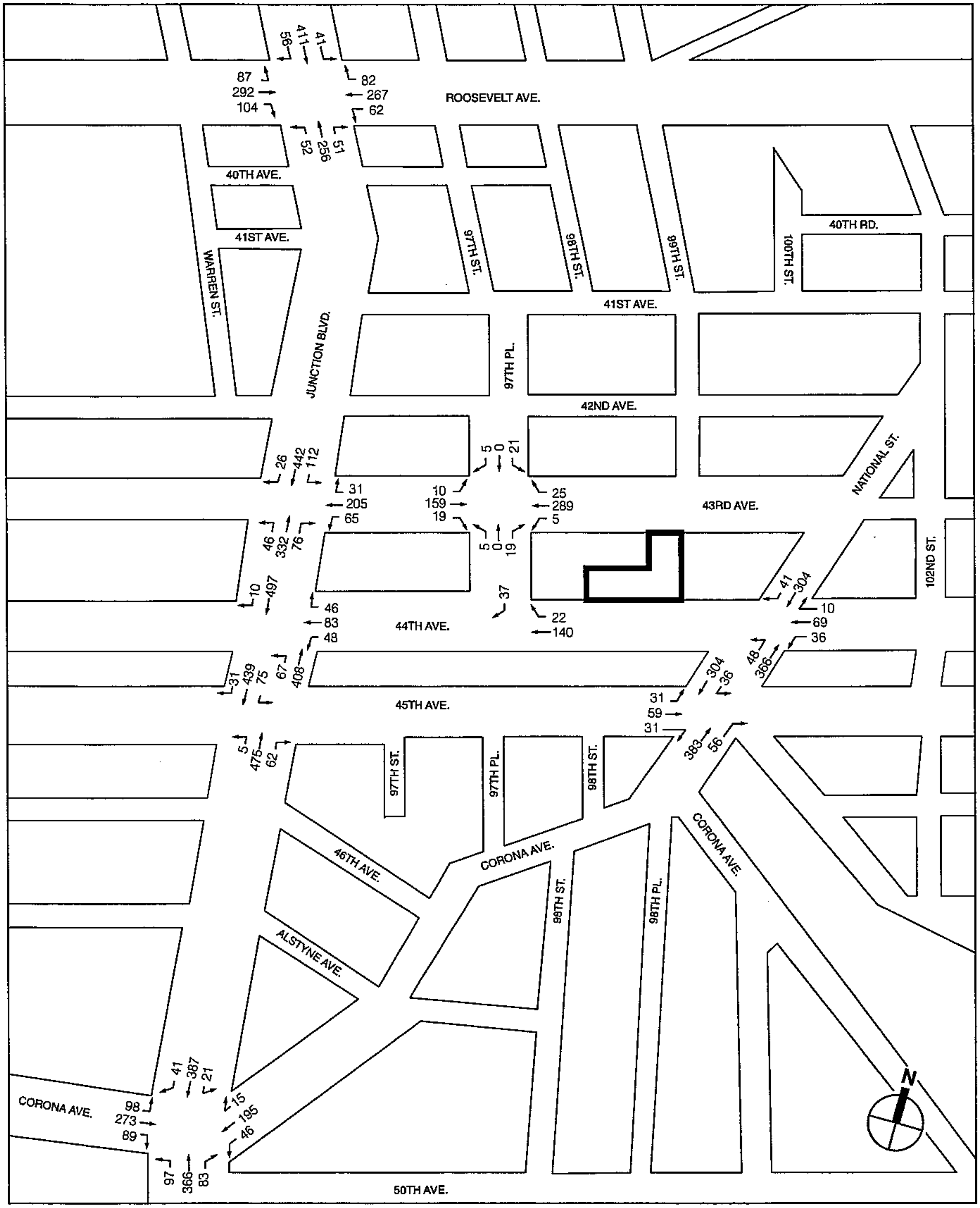
5.2.11



▬ *Project Site Boundary*

NOT TO SCALE

2015 Scenario Two Build Traffic Volumes
AM Peak Hour
Figure 5-12



2015 Scenario Two Build Traffic Volumes
PM Peak Hour
Figure 5-13

Table 5-18 (cont'd)
2015 Scenario Two No Build and Build Conditions Level of Service Analysis
Unsignalized Intersections

	AM Peak Hour								PM Peak Hour							
	2015 No Build				2015 Build				2015 No Build				2015 Build			
Intersection/ Approach	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS
43rd Avenue/97th Place																
Eastbound	LTR	0.00	7.9	A	LTR	0.32	9.5	A	LTR	0.01	8.0	A	LTR	0.29	9.3	A
Westbound	LTR	0.01	7.6	A	LTR	0.38	10.1	B	LTR	0.00	7.6	A	LTR	0.42	10.6	B
Northbound	LTR	0.02	11.2	B	LTR	0.03	8.1	A	LTR	0.02	11.2	B	LTR	0.04	8.1	A
Southbound	LTR	0.08	12.6	B	LTR	0.06	8.6	A	LTR	0.07	13.0	B	LTR	0.05	8.6	A
					Intersection		9.7	A					Intersection		9.9	A

Notes: L: Left Turn; T: Through; R: Right Turn; LOS: Level of Service.
+ implies a significant adverse impact

It should be noted that under Scenario Two, the new AWSCs proposed as part of the new primary school located at 96-18 43rd Avenue would still be incorporated in the analysis. This is due to the fact that the new primary school and the proposed I.S. 311 are in close proximity of each other and regardless of the completion schedule for the new primary school, the proposed AWSCs would be required to facilitate the safe pedestrian crossings for the proposed I.S. 311. These proposed project improvements are reflected in the LOS results presented in **Table 5-18.**

For the streets around the site, capacities at most of the approaches would be sufficient to accommodate these increases. However, based on the impact criteria discussed earlier, the proposed project could cause significant adverse impacts at the following intersection approaches/lane-groups during the two peak hours analyzed:

Signalized Intersections

- The northbound and southbound approaches at the intersection of Roosevelt Avenue and Junction Boulevard during the AM and PM peak periods.

Unsignalized Intersections

- The westbound approach at the intersection of 44th Avenue and Junction Boulevard during the AM and PM peak periods;
- The westbound approach at the intersection of 44th Avenue and National Street during the PM peak period[1]; and
- The eastbound approach at the intersection of 45th Avenue and National Street during the PM peak period.

[1] As described in Section B, "Methodology," for the unsignalized intersection significant impact criteria, the difference in the westbound delays at this intersection between the No Build and Build conditions would not be considered a significant adverse impact per *CEQR* criteria because there are less than 90 vehicles at the westbound approach during the AM peak hour.

MITIGATION

SCENARIO ONE

As discussed under "Probable Impacts of the Proposed Project," five of the intersections in the study area would experience significant traffic impacts in the 2015 Scenario One Build condition as a result of the project-generated traffic. **Table 5-19** summarizes the improvement measures—consisting of signal timing modifications, approach daylighting (prohibiting parking at the approach for approximately 100-feet), and installation of new traffic signals—recommended as part of the proposed project. Please note that all of the improvement measures summarized in **Table 5-19** are subject to review and approval by NYCDOT.

With these improvement measures in place, all of the impacted intersection approaches/lane groups would operate at the same or at better service conditions than the No Build conditions. **Tables 5-20** and **5-21** compare the LOS conditions for the No Build, Build, and Build with Improvement conditions for these intersections.

Table 5-19
Scenario One Recommended Improvements

Intersection	AM Peak Hour	PM Peak Hour
Signalized Intersections		
Roosevelt Avenue/Junction Boulevard	Shift 3 seconds of green time from the EB/WB phase to the NB/SB phase.	Shift 2 seconds of green time from the EB/WB phase to the NB/SB phase. Daylight the NB approach.
43rd Avenue/Junction Boulevard	Daylight the SB approach.	Daylight the SB approach.
Unsignalized Intersections		
44th Avenue/Junction Boulevard	Provide 2 phase signal with the following timing plan: Phase / Green / Amber / Red EB/WB 19 3 2 NB/SB 31 3 2 Cycle Length = 60 Seconds	Provide 2 phase signal with the following timing plan: Phase / Green / Amber / Red EB/WB 19 3 2 NB/SB 31 3 2 Cycle Length = 60 Seconds
44th Avenue/National Street	Provide 3 phase signal with the following timing plan: Phase / Green / Amber / Red EB/WB 18 3 2 NB/SB 22 3 2 NB 5 3 2 Cycle Length = 60 Seconds	Provide 3 phase signal with the following timing plan: Phase / Green / Amber / Red EB/WB 18 3 2 NB/SB 22 3 2 NB 5 3 2 Cycle Length = 60 Seconds
45th Avenue/National Street	Provide 3 phase signal with the following timing plan: Phase / Green / Amber / Red EB/WB 18 3 2 NB/SB 22 3 2 SB 5 3 2 Cycle Length = 60 Seconds	Provide 3 phase signal with the following timing plan: Phase / Green / Amber / Red EB/WB 18 3 2 NB/SB 22 3 2 SB 5 3 2 Cycle Length = 60 Seconds

Notes: L = Left Turn, T = Through, R = Right Turn, EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound.

Table 5-20
2015 Scenario One No Build, Build, and Build with Improvements Conditions Level of Service Analysis – Signalized Intersections

Intersection/ Approach	2015 No Build				2015 Build					2015 Build with Improvements			
	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS		Lane Group	V/C Ratio	Delay (spv)	LOS
AM Peak Hour													
Roosevelt Avenue/Junction Boulevard													
Eastbound	LTR	0.75	27.1	C	LTR	0.78	28.4	C		LTR	0.82	33.3	C
Westbound	LTR	0.63	21.9	C	LTR	0.63	21.9	C		LTR	0.67	24.9	C
Northbound	LTR	1.03	92.9	F	LTR	1.16	135.1	F	+	LTR	1.04	93.0	F
Southbound	LTR	1.14	123.8	F	LTR	1.17	135.4	F	+	LTR	1.08	99.1	F
	Intersection		65.7	E	Intersection		78.3	E		Intersection		61.7	E
43rd Avenue/Junction Boulevard													
Westbound	LTR	0.69	26.6	C	LTR	0.70	26.9	C		LTR	0.70	26.9	C
Northbound	LTR	0.78	21.3	C	LTR	0.86	27.7	C		LTR	0.86	27.7	C
Southbound	LTR	1.00	49.2	D	LTR	1.14	96.0	F	+	LTR	0.97	41.5	D
	Intersection		34.7	C	Intersection		57.5	E		Intersection		33.6	C
PM Peak Hour													
Roosevelt Avenue/Junction Boulevard													
Eastbound	LTR	0.85	35.4	C	LTR	0.87	37.2	D		LTR	0.91	43.6	D
Westbound	LTR	0.68	24.3	C	LTR	0.69	24.4	C		LTR	0.71	26.8	C
Northbound	LTR	1.08	108.1	F	LTR	1.21	157.0	F	+	LTR	0.95	69.4	E
Southbound	LTR	1.10	109.9	F	LTR	1.13	118.8	F	+	LTR	1.07	96.3	F
	Intersection		67.5	E	Intersection		81.2	F		Intersection		59.3	E
43rd Avenue/Junction Boulevard													
Westbound	LTR	0.75	29.6	C	LTR	0.76	30.0	C		LTR	0.76	30.0	C
Northbound	LTR	0.86	26.8	C	LTR	0.94	36.9	D		LTR	0.94	36.9	D
Southbound	LTR	1.00	51.6	D	LTR	1.12	87.9	F	+	LTR	0.95	37.8	D
	Intersection		37.7	D	Intersection		56.4	E		Intersection		35.8	D

Notes: L: Left Turn; T: Through; R: Right Turn; LOS: Level of Service.
\+ implies a significant adverse impact

Table 5-21
2015 Scenario One No Build, Build, and Build with Improvements Conditions Level of Service Analysis – Unsignalized Intersections

Intersection/ Approach	2015 No Build				2015 Build					2015 Build with Improvements			
	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS		Lane Group	V/C Ratio	Delay (spv)	LOS
AM Peak Hour													
44th Avenue/Junction Boulevard													
											Signalized		
Westbound	LTR	2.09	598.3	F	LTR	3.38	1195.0	F	+	LTR	0.47	19.4	B
Northbound	LT	0.05	9.7	A	LT	0.05	9.7	A		LT	0.52	11.6	B
Southbound										TR	0.69	16.0	B
										Intersection		14.9	B
44th Avenue/National Street [1]													
											Signalized		
Westbound	LTR	0.59	56.8	F	LTR	0.88	128.7	F		LTR	0.20	16.6	B
Northbound	LT	0.07	11.6	B	LT	0.12	14.0	B		LT	0.40	9.6	A
Southbound										TR	0.80	28.7	C
										Intersection		19.7	B
45th Avenue/National Street													
											Signalized		
Eastbound	LTR	0.62	51.9	F	LTR	0.83	96.6	F	+	LTR	0.25	17.1	B
Northbound										TR	0.67	22.0	C
Southbound	LT	0.01	8.4	A	LT	0.02	8.5	A		LT	0.37	9.1	A
										Intersection		15.6	B

Table 5-21 (cont'd)
2015 Scenario One No Build, Build, and Build with Improvements Conditions
Level of Service Analysis – Unsignalized Intersections

Intersection/ Approach	2015 No Build Lane Group	2015 No Build V/C Ratio	2015 No Build Delay (spv)	2015 No Build LOS	2015 Build Lane Group	2015 Build V/C Ratio	2015 Build Delay (spv)	2015 Build LOS		2015 Build with Improvements Lane Group	2015 Build with Improvements V/C Ratio	2015 Build with Improvements Delay (spv)	2015 Build with Improvements LOS
PM Peak Hour													
44th Avenue/Junction Boulevard										Signalized			
Westbound	LTR	4.46	1676.0	F	LTR	6.00	2381.0	F	+	LTR	0.74	27.9	C
Northbound	LT	0.09	9.9	A	LT	0.09	9.9	A		LT	0.60	13.1	B
Southbound										TR	0.69	15.9	B
										Intersection		17.9	B
44th Avenue/National Street										Signalized			
Westbound	LTR	1.05	156.3	F	LTR	1.52	357.2	F	+	LTR	0.33	18.4	B
Northbound	LT	0.09	11.5	B	LT	0.13	14.0	B		LT	0.52	11.2	B
Southbound										TR	0.73	24.9	C
										Intersection		17.6	B
45th Avenue/National Street										Signalized			
Eastbound	LTR	0.87	99.7	F	LTR	1.16	205.6	F	+	LTR	0.30	17.9	B
Northbound										TR	0.85	32.4	C
Southbound	LTR	0.04	8.8	A	LTR	0.04	8.8	A		LT	0.42	9.8	A
										Intersection		21.6	C

Notes: L: Left Turn; T: Through; R: Right Turn; LOS: Level of Service.
\+ implies a significant adverse impact
(1) Intersection not impacted during the AM peak hour but analysis was conducted to incorporate permanent geometric/signal phasing changes proposed as improvement measures in the PM peak hours.

SCENARIO TWO

As discussed under "Probable Impacts of the Proposed Project," four of the intersections in the study area would experience significant traffic impacts in the 2015 Scenario Two Build condition as a result of the project-generated traffic. **Table 5-22** summarizes the improvement measures—consisting of signal timing modifications and installation of new traffic signals—recommended as part of the proposed project. Please note that all of the improvement measures summarized in **Table 5-22** are subject to review and approval by NYCDOT.

With these improvement measures in place, all of the impacted intersection approaches/lane groups would operate at the same or at better service conditions than the No Build conditions. **Tables 5-23** and **5-24** compare the LOS conditions for the No Build, Build, and Build with Improvement conditions for these intersections.

Table 5-22
Scenario Two Recommended Improvements

Intersection	AM Peak Hour	PM Peak Hour
Signalized Intersections		
Roosevelt Avenue/Junction Boulevard	Shift 3 seconds of green time from the EB/WB phase to the NB/SB phase.	Shift 3 seconds of green time from the EB/WB phase to the NB/SB phase.
Unsignalized Intersections		
44th Avenue/Junction Boulevard	Provide 2 phase signal with the following timing plan: Phase Green Amber Red EB/WB 19 3 2 NB/SB 31 3 2 Cycle Length = 60 Seconds	Provide 2 phase signal with the following timing plan: Phase Green Amber Red EB/WB 19 3 2 NB/SB 31 3 2 Cycle Length = 60 Seconds
44th Avenue/National Street	Provide 3 phase signal with the following timing plan: Phase Green Amber Red EB/WB 18 3 2 NB/SB 22 3 2 NB 5 3 2 Cycle Length = 60 Seconds	Provide 3 phase signal with the following timing plan: Phase Green Amber Red EB/WB 18 3 2 NB/SB 22 3 2 NB 5 3 2 Cycle Length = 60 Seconds
45th Avenue/National Street	Provide 3 phase signal with the following timing plan: Phase Green Amber Red EB/WB 18 3 2 NB/SB 22 3 2 SB 5 3 2 Cycle Length = 60 Seconds	Provide 3 phase signal with the following timing plan: Phase Green Amber Red EB/WB 18 3 2 NB/SB 22 3 2 SB 5 3 2 Cycle Length = 60 Seconds

Notes: L = Left Turn, T = Through, R = Right Turn, EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound.

Table 5-23
2015 Scenario Two No Build, Build, and Build with Improvements Conditions Level of Service Analysis – Signalized Intersections

Intersection/ Approach	2015 No Build				2015 Build					2015 Build with Improvements			
	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS		Lane Group	V/C Ratio	Delay (spv)	LOS
AM Peak Hour													
Roosevelt Avenue/Junction Boulevard													
Eastbound	LTR	0.73	25.7	C	LTR	0.75	26.8	C		LTR	0.79	31.1	C
Westbound	LTR	0.63	21.8	C	LTR	0.63	21.9	C		LTR	0.66	24.8	C
Northbound	LTR	0.89	60.2	E	LTR	0.99	81.0	E	+	LTR	0.90	58.9	E
Southbound	LTR	1.10	107.8	F	LTR	1.13	119.4	F	+	LTR	1.04	86.2	F
	Intersection		53.9	D	Intersection		61.8	E		Intersection		50.2	D
PM Peak Hour													
Roosevelt Avenue/Junction Boulevard													
Eastbound	LTR	0.83	33.3	C	LTR	0.85	35.0	C		LTR	0.90	43.9	D
Westbound	LTR	0.68	24.2	C	LTR	0.68	24.3	C		LTR	0.72	28.1	C
Northbound	LTR	0.91	64.8	E	LTR	1.03	93.5	F	+	LTR	0.93	65.6	E
Southbound	LTR	1.07	98.6	F	LTR	1.09	106.2	F	+	LTR	1.01	78.7	E
	Intersection		54.7	D	Intersection		63.2	E		Intersection		53.7	D

Notes: L: Left Turn; T: Through; R: Right Turn; LOS: Level of Service.
+ implies a significant adverse impact

Table 5-24
2015 Scenario Two No Build, Build, and Build with Improvements Conditions
Level of Service Analysis – Unsignalized Intersections

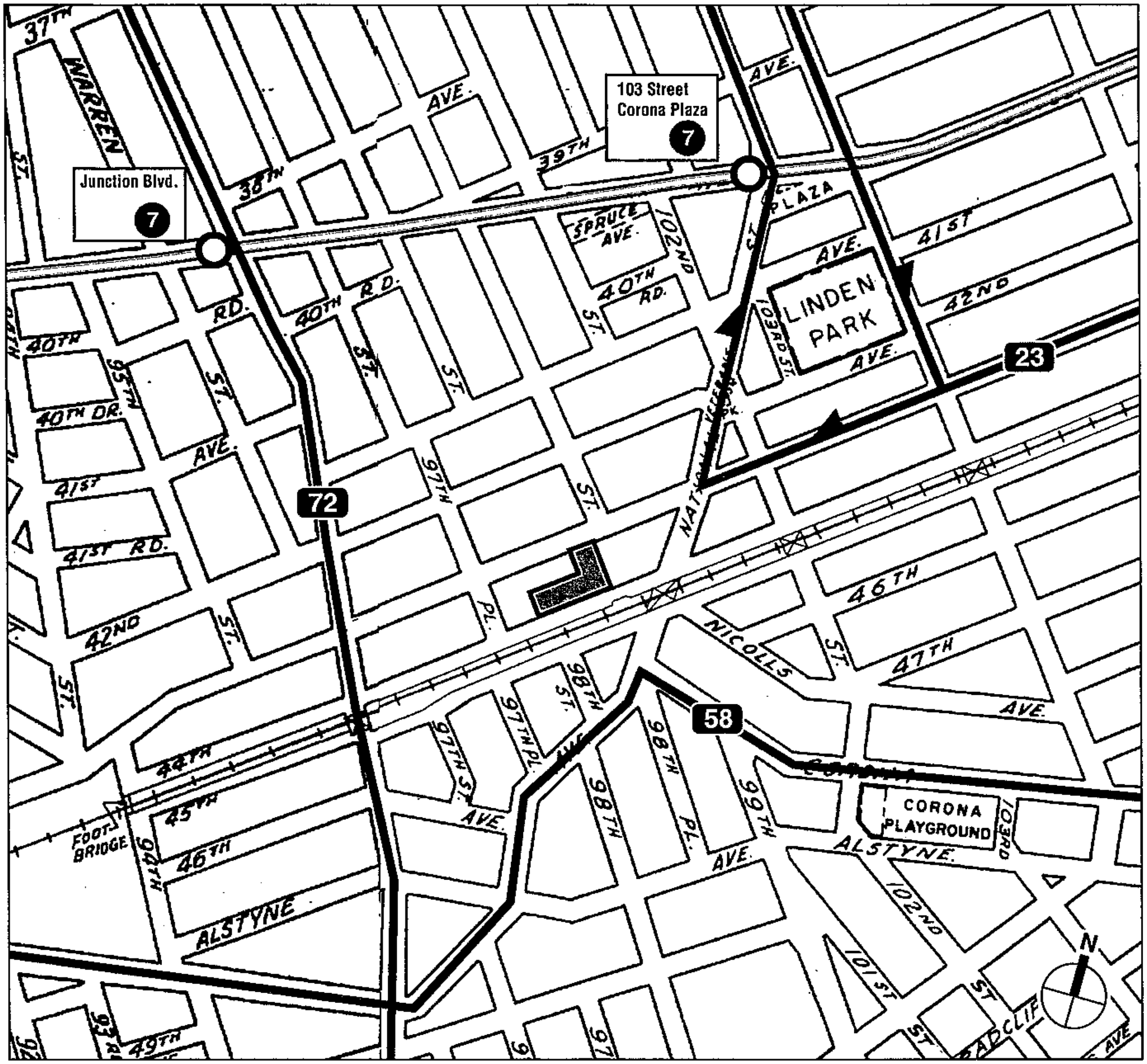
Intersection/ Approach	2015 No Build Lane Group	V/C Ratio	Delay (spv)	LOS	2015 Build Lane Group	V/C Ratio	Delay (spv)	LOS		2015 Build with Improvements Lane Group	V/C Ratio	Delay (spv)	LOS
AM Peak Hour													
44th Avenue/Junction Boulevard										Signalized			
Westbound	LTR	0.62	57.5	F	LTR	1.04	150.5	F	+	LTR	0.23	16.0	B
Northbound	LT	0.05	9.6	A	LT	0.05	9.7	A		LT	0.49	11.1	B
Southbound										TR	0.69	16.0	B
										Intersection		14.0	B
44th Avenue/National Street [(1)]										Signalized			
Westbound	LTR	0.31	23.1	C	LTR	0.41	31.8	D		LTR	0.20	16.5	B
Northbound	LT	0.03	8.5	A	LT	0.04	9.5	A		LT	0.34	8.9	A
Southbound										TR	0.70	23.1	C
										Intersection		16.6	B
45th Avenue/National Street [(1)]										Signalized			
Eastbound	LTR	0.33	21.3	C	LTR	0.42	28.5	D		LTR	0.22	16.7	B
Northbound										TR	0.64	21.2	C
Southbound	LT	0.01	8.4	A	LT	0.01	8.4	A		LT	0.37	9.1	A
										Intersection		15.1	B
PM Peak Hour													
44th Avenue/Junction Boulevard										Signalized			
Westbound	LTR	1.40	295.3	F	LTR	2.23	657.4	F	+	LTR	0.38	17.8	B
Northbound	LT	0.09	9.8	A	LT	0.09	9.9	A		LT	0.58	12.7	B
Southbound										TR	0.69	15.9	B
										Intersection		14.9	B
44th Avenue/National Street										Signalized			
Westbound	LTR	0.55	34.8	D	LTR	0.72	60.5	F	+	LTR	0.32	18.2	B
Northbound	LT	0.04	8.5	A	LT	0.06	9.5	A		LT	0.46	10.3	B
Southbound										TR	0.64	21.2	C
										Intersection		15.7	B
45th Avenue/National Street										Signalized			
Eastbound	LTR	0.46	29.3	D	LTR	0.59	43.8	E	+	LTR	0.27	17.4	B
Northbound										TR	0.83	30.7	C
Southbound	LTR	0.04	8.8	A	LTR	0.04	8.8	A		LT	0.41	9.7	A
										Intersection		20.6	C

Notes: L: Left Turn; T: Through; R: Right Turn; LOS: Level of Service.
+ implies a significant adverse impact
(1) Intersection not impacted during the AM peak hour but analysis was conducted to incorporate permanent geometric/signal phasing changes proposed as improvement measures in the PM peak hour.

D. TRANSIT OPERATIONS

Mass transit options serving the project site and surrounding area are shown in **Figure 5-14**. The project site is located in an area served by Junction Boulevard and 103rd Street-Corona Plaza stations (No. 7 subway line) and the Q23, Q58, and Q72 bus routes. A description of each of these transit modes that would be affected by trips associated with the proposed project is provided below.

1.27.11



	Project Site	7	*Subway Route Number*
72	*Bus Route*		*Subway Route*

0 400 800 FEET
SCALE

Transit Map
Figure 5-14

SUBWAY SERVICE

The project site is served by Junction Boulevard and 103rd Street-Corona Plaza stations (No. 7 subway line) which are operated by New York City Transit (NYCT). The No. 7 train operates between Times Square-42nd Street in Manhattan and Flushing-Main Street in Queens.

Based on the travel demand estimates, it was determined that approximately 19 project-generated of the subway trips during each of the AM and PM peak 15-minute periods will be spread across several station elements at the Junction Boulevard and 103rd Street-Corona Plaza Stations.

As specified by the 2010 *CEQR Technical Manual*, if the proposed project is considered unlikely to create any noticeable constraints on any subway station elements or to produce a significant transit impact, a quantitative analysis is not required. Consequently, the proposed project is not expected to create any operational constraints on transit.

BUS SERVICE

Based on the travel demand estimates and the availability of Q23, Q58, and Q72 bus routes near the project site, it was determined that no individual bus route would experience 50 or more peak hour bus trips in one direction—the CEQR recommended threshold for undertaking quantified bus analysis. Consequently, it is expected that the project would not create a noticeable constraint on bus capacity; therefore, a quantitative bus analysis is not warranted.

Table 5-25 provides a summary of the NYCT local bus routes, which provide regular service to the study area, and their weekday frequencies of operation. All of these routes use standard buses with a guideline capacity of 54 to 55 passengers per bus.

Table 5-25
NYCT Local Bus Routes Serving The Study Area

Bus Route	Start Point	End Point	Routing	Freq. of Bus Service (Headway in Minutes)	
				AM	PM
Q23	Forest Hills	East Elmhurst	108th Street	8	6
Q58	Flushing	Ridgewood	Corona Avenue	12	8
Q72	Rego Park	La Guardia Airport	Junction Blvd	6	4

Source: MTA NYCT, Queens Bus Timetable (2009/2010).

E. PEDESTRIAN OPERATIONS

Existing pedestrian levels are based on field surveys conducted in January and November 2010 during the hours of 7:30 to 9:30 AM and 2:00 to 4:00 PM. The intersection of 43rd Avenue and 97th Place was included in order to be consistent with the study area identified for the potential new school located at 96-18 43rd Avenue. Pedestrian counts for this additional location were conducted in November 2010 for three weekdays. Furthermore, two additional days of pedestrian counts were conducted at the intersections of 43rd Avenue at National Street and Junction Boulevard in November 2010 to update the pedestrian data at these locations, in accordance with the criteria identified in the 2010 *CEQR Technical Manual.*

PEDESTRIAN STUDY AREA

Pedestrian trip assignments were developed by distributing person trips generated by the proposed project to surrounding pedestrian facilities, including sidewalks, crosswalks, and corner reservoirs that would be most affected by new trips. Transit riders were assigned to the nearby subway stations/stairways and available bus stops. As shown in **Figures 5-15** and **5-16**, pedestrian activities resulting from the proposed project are expected to concentrate along 43rd Avenue and 44th Avenue as well as the connecting sidewalks and crosswalks on Junction Boulevard, 97th Place, and National Street. Since this level of pedestrian activity is above the 200 peak-hour pedestrian trips/element threshold identified in the 2010 *CEQR Technical Manual*, detailed pedestrian analyses were conducted for the following pedestrian elements as shown in **Figure 5-17**.

Sidewalk Analysis Locations

- East sidewalk along Junction Boulevard between 43rd Avenue and 44th Avenue;
- South sidewalk along 43rd Avenue between 95th Street and Junction Boulevard;
- South sidewalk along 43rd Avenue between Junction Boulevard and 97th Place;
- North sidewalk (east segment) along 44th Avenue between Junction Boulevard and 97th Place;
- North sidewalk (west segment) along 44th Avenue between Junction Boulevard and 97th Place;
- North sidewalk (west segment) along 44th Avenue between 97th Place and National Street;
- North sidewalk (center segment) along 44th Avenue between 97th Place and National Street;
- North sidewalk (east segment) along 44th Avenue between 97th Place and National Street;
- West sidewalk along 97th Place between 43rd Avenue and 44th Avenue;
- South sidewalk along 43rd Avenue between 99th Street and National Street;
- South sidewalk along 43rd Avenue between National Street and 102nd Street; and
- West sidewalk along National Street between 43rd Avenue and 44th Avenue.

Crosswalk Analysis Locations

- South crosswalk of Junction Boulevard and 43rd Avenue; and
- South crosswalk of National Street and 43rd Avenue.

Corner Reservoir Analysis Locations

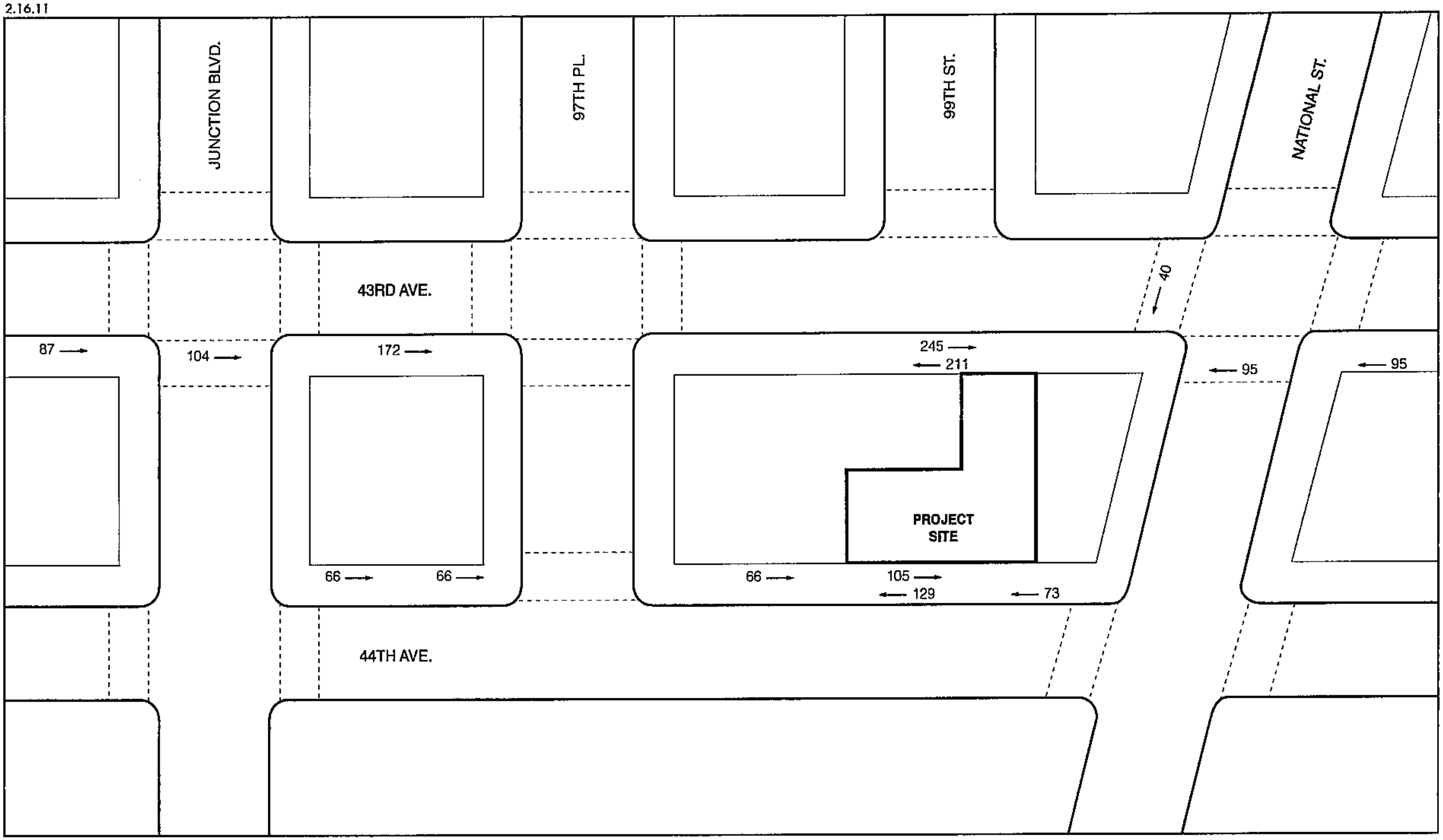
- Northwest corner of 43rd Avenue and National Street; and
- Southwest corner of 43rd Avenue and National Street.

ANALYSIS RESULTS

Street Level Pedestrian Operations

As described above, the study area sidewalks, corner reservoirs, and crosswalks were assessed for the AM and PM peak periods. Existing peak 15-minute volumes were developed for 16 pedestrian elements closest to the project site where the most pedestrian trips are anticipated. As shown in **Tables 5-26** to **5-28**, all sidewalks, crosswalks, and corner reservoir analysis locations operate at acceptable levels (minimum 24 SFP for crosswalks and corners, maximum 6 PMF platoon flows for sidewalks) during the AM and PM peak 15-minute periods.

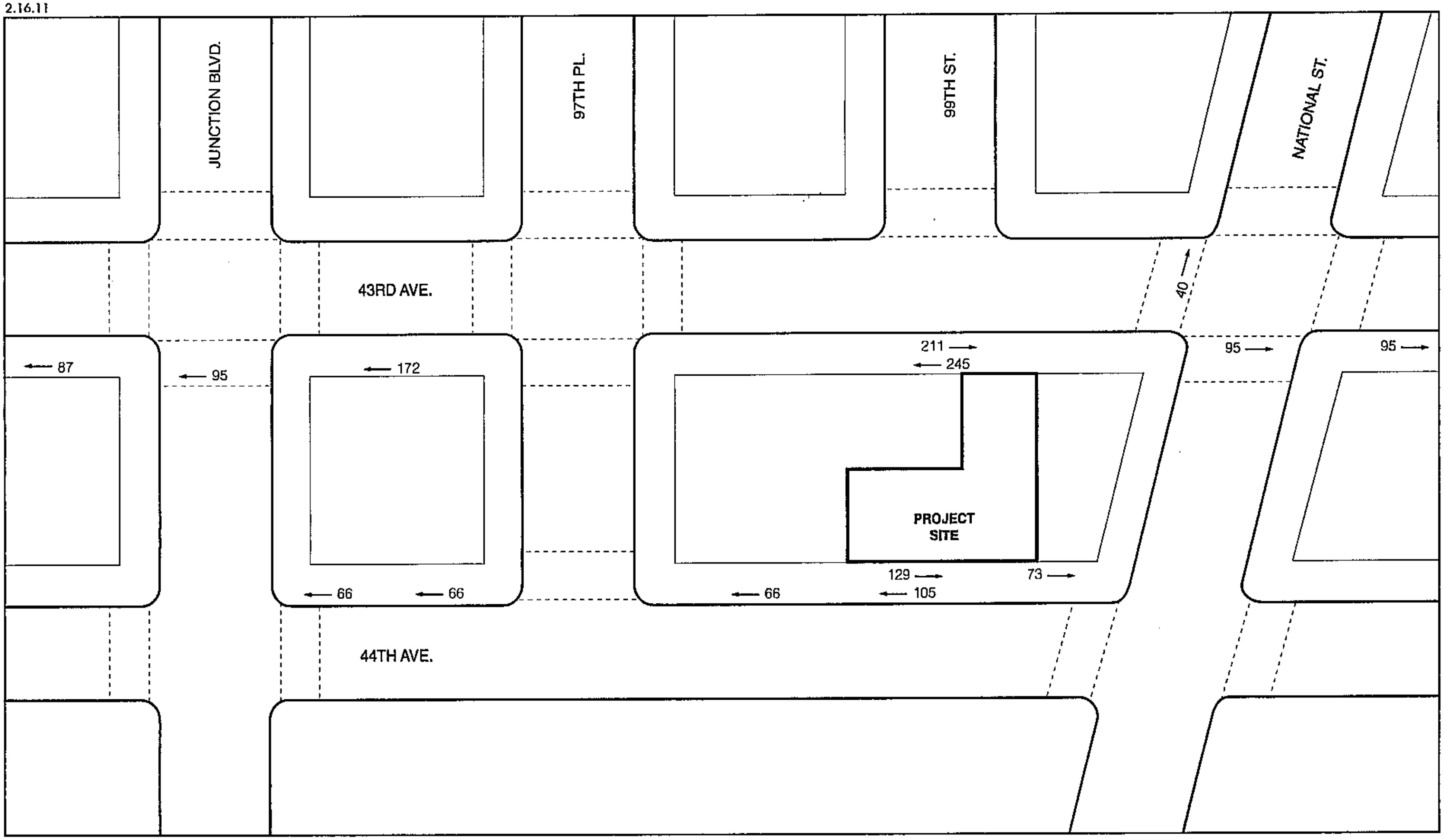
2.16.11



NOT TO SCALE

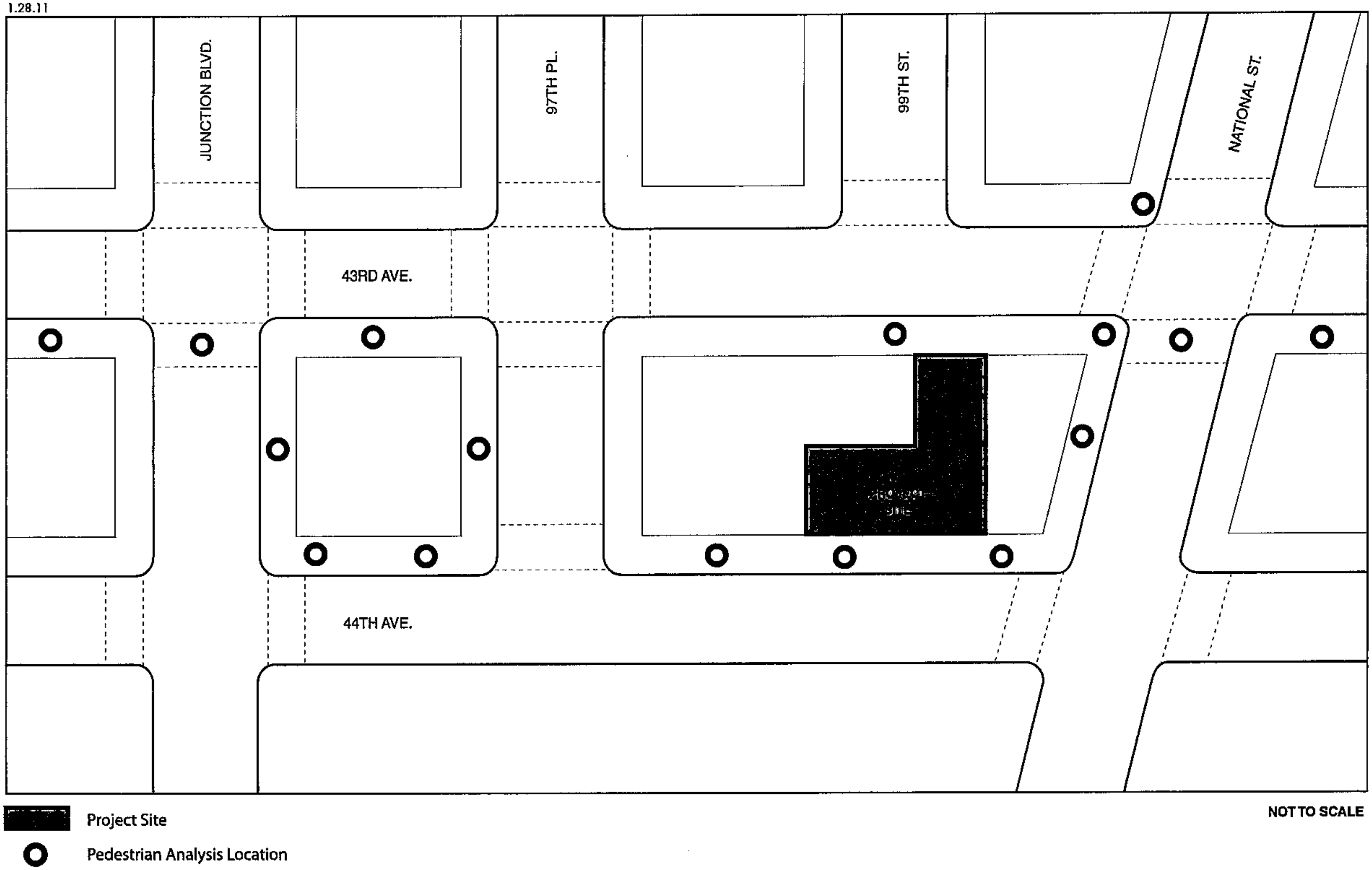
Project Generated Pedestrian Volumes
AM Peak Hour
Figure 5-15

2.16.11



Project Generated Pedestrian Volumes
PM Peak Hour
Figure 5-16

1.28.11



Pedestrian Analysis Locations
Figure 5-17

Table 5-26
2010 Existing Conditions: Pedestrian LOS Analysis for Sidewalks

Location	Sidewalk	Effective Width (ft)	15 Minute Two-Way Volume	Platoon Flow	
				PMF	LOS
AM Peak Period					
Junction Blvd between 43rd Avenue and 44th Avenue	East	6.5	109	1.1	B
43rd Avenue between 95th Street and Junction Blvd	South	8.5	38	0.3	A
43rd Avenue between Junction Blvd and 97th Place	South	9.5	24	0.2	A
44th Avenue between Junction Blvd and 97th Place	North (east segment)	2.5	7	0.2	A
44th Avenue between Junction Blvd and 97th Place	North (west segment)	2.5	7	0.2	A
44th Avenue between 97th Place and National Street	North (west segment)	2.8	9	0.2	A
44th Avenue between 97th Place and National Street	North (center segment)	3.3	9	0.2	A
44th Avenue between 97th Place and National Street	North (east segment)	2.0	9	0.3	A
97th Place between 43rd Avenue and 44th Avenue	West	11.0	15	0.1	A
43rd Avenue between 99th Street and National Street	South	6.3	88	0.9	B
43rd Avenue between National Street and 102nd Street	South	8.5	23	0.2	A
National Street between 43rd Avenue and 44th Avenue	West	10.5	95	0.6	B
PM Peak Period					
Junction Blvd between 43rd Avenue and 44th Avenue	East	6.5	78	0.8	B
43rd Avenue between 95th Street and Junction Blvd	South	8.5	37	0.3	A
43rd Avenue between Junction Blvd and 97th Place	South	9.5	50	0.4	A
44th Avenue between Junction Blvd and 97th Place	North (east segment)	2.5	5	0.1	A
44th Avenue between Junction Blvd and 97th Place	North (west segment)	2.5	5	0.1	A
44th Avenue between 97th Place and National Street	North (west segment)	2.8	6	0.1	A
44th Avenue between 97th Place and National Street	North (center segment)	3.3	6	0.1	A
44th Avenue between 97th Place and National Street	North (east segment)	2.0	6	0.2	A
97th Place between 43rd Avenue and 44th Avenue	West	11.0	9	0.1	A
43rd Avenue between 99th Street and National Street	South	6.3	52	0.6	B
43rd Avenue between National Street and 102nd Street	South	8.5	29	0.2	A
National Street between 43rd Avenue and 44th Avenue	West	10.5	71	0.5	A

Note: PMF = pedestrians per minute per foot

Table 5-27
2010 Existing Conditions: Pedestrian LOS Analysis for Corner Reservoirs

Locations	Corner	AM Peak Period		PM Peak Period	
		SFP	LOS	SFP	LOS
National Street and 43rd Avenue	Southwest	175.8	A	185.0	A
	Northwest	329.4	A	274.6	A

Note: SFP = square feet per pedestrian

Table 5-28
2010 Existing Conditions: Pedestrian Crosswalk LOS Analysis

Location	Crosswalk	Street Width (feet)	Crosswalk Width (feet)	Conditions with conflicting vehicles			
				AM		PM	
				SFP	LOS	SFP	LOS
Junction Blvd and 43rd Avenue	South	51.5	12.0	129.1	A	183.2	A
National Street and 43rd Avenue	South	59.5	10.0	256.7	A	187.6	A

Note: SFP = square feet per pedestrian

THE FUTURE WITHOUT THE PROPOSED PROJECT

Consistent with the traffic analyses discussed above, two separate No Build scenarios were assessed—one assuming the new school at 96-18 43rd Avenue is constructed by the proposed project's 2015 Build year, and the other assuming the school is constructed later. Scenario One, which assumes the new school at 96-18 43rd Avenue would be constructed by 2015, would include the pedestrian trips anticipated to be generated by the new school in the No Build analysis. Scenario Two, which assumes the new school at 96-18 43rd Avenue would be constructed later, would not include the pedestrian trips anticipated to be generated by the new school in the No Build analysis.

SCENARIO ONE ANALYSIS RESULTS

Street Level Pedestrian Operations

The 2015 Scenario One No Build peak period volume projections were applied to the pedestrian analysis networks described previously. As shown in **Tables 5-29** to **5-31**, all sidewalks, crosswalks, and corner reservoir analysis locations would continue to operate at acceptable levels (minimum 24 SFP for crosswalks and corners, maximum 6 PMF platoon flows for sidewalks) during both the AM and PM peak 15-minute periods.

Table 5-29
2015 Scenario One No Build Conditions:
Pedestrian LOS Analysis for Sidewalks

Location	Sidewalk	Effective Width (ft)	15 Minute Two-Way Volume	Platoon Flow	
				PMF	LOS
AM Peak Period					
Junction Blvd between 43rd Avenue and 44th Avenue	East	6.5	179	1.8	B
43rd Avenue between 95th Street and Junction Blvd	South	8.5	164	1.3	B
43rd Avenue between Junction Blvd and 97th Place	South	9.5	124	0.9	B
44th Avenue between Junction Blvd and 97th Place	North (east segment)	14	396	1.9	B
44th Avenue between Junction Blvd and 97th Place	North (west segment)	2.5	169	4.5	C
44th Avenue between 97th Place and National Street	North (west segment)	2.8	106	2.5	B
44th Avenue between 97th Place and National Street	North (center segment)	3.3	106	2.1	B
44th Avenue between 97th Place and National Street	North (east segment)	2.0	106	3.5	C
97th Place between 43rd Avenue and 44th Avenue	West	9.7	422	2.9	B
43rd Avenue between 99th Street and National Street	South	6.3	258	2.7	B
43rd Avenue between National Street and 102nd Street	South	8.5	151	1.2	B
National Street between 43rd Avenue and 44th Avenue	West	10.5	97	0.6	B
PM Peak Period					
Junction Blvd between 43rd Avenue and 44th Avenue	East	6.5	147	1.5	B
43rd Avenue between 95th Street and Junction Blvd	South	8.5	162	1.3	B
43rd Avenue between Junction Blvd and 97th Place	South	9.5	151	1.1	B
44th Avenue between Junction Blvd and 97th Place	North (east segment)	14	394	1.9	B
44th Avenue between Junction Blvd and 97th Place	North (west segment)	2.5	167	4.5	C
44th Avenue between 97th Place and National Street	North (west segment)	2.8	103	2.5	B
44th Avenue between 97th Place and National Street	North (center segment)	3.3	103	2.1	B
44th Avenue between 97th Place and National Street	North (east segment)	2.0	103	3.4	C
97th Place between 43rd Avenue and 44th Avenue	West	9.7	416	2.9	B
43rd Avenue between 99th Street and National Street	South	6.3	222	2.3	B
43rd Avenue between National Street and 102nd Street	South	8.5	157	1.2	B
National Street between 43rd Avenue and 44th Avenue	West	10.5	73	0.5	A

Note: PMF = pedestrians per minute per foot

Table 5-30
2015 Scenario One No Build Conditions:
Pedestrian LOS Analysis for Corner Reservoirs

Locations	Corner	AM Peak Period		PM Peak Period	
		SFP	LOS	SFP	LOS
National Street and 43rd Avenue	Southwest	76.9	A	72.7	A
	Northwest	191.7	A	172.5	A
Note: SFP = square feet per pedestrian					

Table 5-31
2015 Scenario One No Build Conditions:
Pedestrian Crosswalk LOS Analysis

Location	Crosswalk	Street Width (feet)	Crosswalk Width (feet)	Conditions with conflicting vehicles			
				AM		PM	
				SFP	LOS	SFP	LOS
Junction Blvd and 43rd Avenue	South	51.5	12.0	33.1	C	35.7	C
National Street and 43rd Avenue	South	59.5	10.0	41.3	B	39.5	C
Note: SFP = square feet per pedestrian							

SCENARIO TWO ANALYSIS RESULTS

Street Level Pedestrian Operations

The 2015 Scenario Two No Build peak period volume projections were applied to the pedestrian analysis networks described previously. As shown in **Tables 5-32** to **5-34**, all sidewalks, crosswalks, and corner reservoir analysis locations would continue to operate at acceptable levels (minimum 24 SFP for crosswalks and corners, maximum 6 PMF platoon flows for sidewalks) during both the AM and PM peak 15-minute periods.

Table 5-32
2015 Scenario Two No Build Conditions:
Pedestrian LOS Analysis for Sidewalks

Location	Sidewalk	Effective Width (ft)	15 Minute Two-Way Volume	Platoon Flow	
				PMF	LOS
AM Peak Period					
Junction Blvd between 43rd Avenue and 44th Avenue	East	6.5	112	1.1	B
43rd Avenue between 95th Street and Junction Blvd	South	8.5	39	0.3	A
43rd Avenue between Junction Blvd and 97th Place	South	9.5	24	0.2	A
44th Avenue between Junction Blvd and 97th Place	North (east segment)	2.5	7	0.2	A
44th Avenue between Junction Blvd and 97th Place	North (west segment)	2.5	7	0.2	A
44th Avenue between 97th Place and National Street	North (west segment)	2.8	9	0.2	A
44th Avenue between 97th Place and National Street	North (center segment)	3.3	9	0.2	A
44th Avenue between 97th Place and National Street	North (east segment)	2.0	9	0.3	A
97th Place between 43rd Avenue and 44th Avenue	West	11.0	15	0.1	A

Table 5-32 (cont'd)
2015 Scenario Two No Build Conditions: Pedestrian LOS Analysis for Sidewalks

Location	Sidewalk	Effective Width (ft)	15 Minute Two-Way Volume	Platoon Flow PMF	Platoon Flow LOS
AM Peak Period					
43rd Avenue between 99th Street and National Street	South	6.3	90	1.0	B
43rd Avenue between National Street and 102nd Street	South	8.5	23	0.2	A
National Street between 43rd Avenue and 44th Avenue	West	10.5	97	0.6	B
PM Peak Period					
Junction Blvd between 43rd Avenue and 44th Avenue	East	6.5	80	0.8	B
43rd Avenue between 95th Street and Junction Blvd	South	8.5	37	0.3	A
43rd Avenue between Junction Blvd and 97th Place	South	9.5	51	0.4	A
44th Avenue between Junction Blvd and 97th Place	North (east segment)	2.5	5	0.1	A
44th Avenue between Junction Blvd and 97th Place	North (west segment)	2.5	5	0.1	A
44th Avenue between 97th Place and National Street	North (west segment)	2.8	6	0.1	A
44th Avenue between 97th Place and National Street	North (center segment)	3.3	6	0.1	A
44th Avenue between 97th Place and National Street	North (east segment)	2.0	6	0.2	A
97th Place between 43rd Avenue and 44th Avenue	West	11.0	9	0.1	A
43rd Avenue between 99th Street and National Street	South	6.3	54	0.6	B
43rd Avenue between National Street and 102nd Street	South	8.5	29	0.2	A
National Street between 43rd Avenue and 44th Avenue	West	10.5	73	0.5	A

Note: PMF = pedestrians per minute per foot

Table 5-33
2015 Scenario Two No Build Conditions: Pedestrian LOS Analysis for Corner Reservoirs

Locations	Corner	AM Peak Period SFP	AM Peak Period LOS	PM Peak Period SFP	PM Peak Period LOS
National Street and 43rd Avenue	Southwest	172.1	A	178.0	A
	Northwest	323.8	A	267.0	A

Note: SFP = square feet per pedestrian

Table 5-34
2015 Scenario Two No Build Conditions: Pedestrian Crosswalk LOS Analysis

Location	Crosswalk	Street Width (feet)	Crosswalk Width (feet)	Conditions with conflicting vehicles AM SFP	AM LOS	PM SFP	PM LOS
Junction Blvd and 43rd Avenue	South	51.5	12.0	126.5	A	177.7	A
National Street and 43rd Avenue	South	59.5	10.0	256.7	A	179.4	A

Note: SFP = square feet per pedestrian

PROBABLE IMPACTS OF THE PROPOSED PROJECT

The future with the proposed project would result in increased pedestrian trips as compared to the two No Build conditions. This section describes the projected travel patterns of the site-related trips and assesses their potential impacts on nearby transit and pedestrian facilities.

TRIP DISTRIBUTION AND ASSIGNMENT

Pedestrians will primarily access the project site along 43rd Avenue between 97th Place and National Street. The following assumptions were used to assign auto, taxi, school bus, transit, and walk-only trips to the project site.

- Majority of auto drop-offs/pick-ups, faculty auto, and taxi trips were assumed to occur on 43rd Avenue between Junction Boulevard and National Street near the school's secondary entrance while the remaining trips were assumed to occur at the main entrance on 44th Avenue between 97th Place and National Street.
- School bus drop-offs/pick-ups were assumed to occur on 44th Avenue between 97th Place and National Street at the school's main entrance.
- The assignment of the subway trips is based on the available routes within the study area and transfer opportunities within the New York City subway system. In total, 19 project-generated subway trips were projected during each of the AM and PM peak 15-minute periods and were assigned to the Junction Boulevard and 103rd Street-Corona Plaza stations (No. 7 subway line).
- As with the subway person trips, bus person trips would be distributed to the three bus routes available in the study area. In total, 16 project-generated bus trips were estimated during each of the AM and PM peak 15-minute periods, with the Q23, Q58, and Q72 bus routes expected to absorb the highest share of the total project-generated bus trips. The assignment of bus person trips began with designating specific bus stops at which users would access the nearby bus routes, then tracing these trips through logical walking routes to the project site.
- While all trips would require a walking component that connects the origins and destinations with their respective mode of transportation, a portion of the trips are made only by walking. These trips were estimated to be 345 total walk only project-generated trips during each of the AM and PM peak 15-minute periods. The area's pedestrian network and nearby populated neighborhoods were accounted for in the assignment of these trips.

SCENARIO ONE ANALYSIS RESULTS

Pedestrian trips associated with the proposed project would result in increased volumes at the analysis locations. The analysis conducted for the 2015 Scenario One Build condition accounts for the distribution of project-generated trips overlaid onto the 2015 Scenario One No Build trips on the network's sidewalks, corner reservoirs, and crosswalks. **Tables 5-35** to **5-37** present the future Build operating conditions for the analysis elements. All the crosswalks, corner reservoirs, and sidewalks would continue to operate at acceptable levels (minimum 24 SFP for crosswalks and corners, maximum 6 PMF platoon flows for sidewalks) during both the AM and PM peak 15-minute periods. Therefore, the proposed project would not result in any significant adverse pedestrian impacts under the 2015 Scenario One Build condition.

Table 5-35
2015 Scenario One Build Conditions: Pedestrian LOS Analysis for Sidewalks

Location	Sidewalk	Effective Width (ft)	15 Minute Two-Way Volume	Platoon Flow	
				PMF	LOS
AM Peak Period					
Junction Blvd between 43rd Avenue and 44th Avenue	East	6.5	179	1.8	B
43rd Avenue between 95th Street and Junction Blvd	South	8.5	208	1.6	B
43rd Avenue between Junction Blvd and 97th Place	South	9.5	210	1.5	B
44th Avenue between Junction Blvd and 97th Place	North (east segment)	14	429	2.0	B
44th Avenue between Junction Blvd and 97th Place	North (west segment)	2.5	202	5.4	C
44th Avenue between 97th Place and National Street	North (west segment)	2.8	139	3.3	C
44th Avenue between 97th Place and National Street	North (center segment)	3.3	223	4.5	C
44th Avenue between 97th Place and National Street	North (east segment)	2.0	143	4.8	C
97th Place between 43rd Avenue and 44th Avenue	West	9.7	422	2.9	B
43rd Avenue between 99th Street and National Street	South	6.3	485	5.1	C
43rd Avenue between National Street and 102nd Street	South	8.5	199	1.6	B
National Street between 43rd Avenue and 44th Avenue	West	10.5	97	0.6	B
PM Peak Period					
Junction Blvd between 43rd Avenue and 44th Avenue	East	6.5	147	1.5	B
43rd Avenue between 95th Street and Junction Blvd	South	8.5	206	1.6	B
43rd Avenue between Junction Blvd and 97th Place	South	9.5	237	1.7	B
44th Avenue between Junction Blvd and 97th Place	North (east segment)	14	427	2.0	B
44th Avenue between Junction Blvd and 97th Place	North (west segment)	2.5	200	5.3	C
44th Avenue between 97th Place and National Street	North (west segment)	2.8	136	3.2	C
44th Avenue between 97th Place and National Street	North (center segment)	3.3	220	4.4	C
44th Avenue between 97th Place and National Street	North (east segment)	2.0	140	4.7	C
97th Place between 43rd Avenue and 44th Avenue	West	9.7	416	2.9	B
43rd Avenue between 99th Street and National Street	South	6.3	449	4.8	C
43rd Avenue between National Street and 102nd Street	South	8.5	205	1.6	B
National Street between 43rd Avenue and 44th Avenue	West	10.5	73	0.5	A

Note: PMF = pedestrians per minute per foot

Table 5-36
2015 Scenario One Build Conditions:
Pedestrian LOS Analysis for Corner Reservoirs

Locations	Corner	AM Peak Period		PM Peak Period	
		SFP	LOS	SFP	LOS
National Street and 43rd Avenue	Southwest	63.1	A	56.4	B
	Northwest	158.0	A	146.7	A
Note: SFP = square feet per pedestrian					

Table 5-37
2015 Scenario One Build Conditions:
Pedestrian Crosswalk LOS Analysis

Location	Crosswalk	Street Width (feet)	Crosswalk Width (feet)	Conditions with conflicting vehicles			
				AM		PM	
				SFP	LOS	SFP	LOS
Junction Blvd and 43rd Avenue	South	51.5	12.0	25.7	C	27.0	C
National Street and 43rd Avenue	South	59.5	10.0	30.9	C	31.0	C
Note: SFP = square feet per pedestrian							

SCENARIO TWO ANALYSIS RESULTS

Pedestrian trips associated with the proposed project would result in increased volumes at the analysis locations. The analysis conducted for the 2015 Scenario Two Build condition accounts for the distribution of project-generated trips overlaid onto the 2015 Scenario Two No Build trips on the network's sidewalks, corner reservoirs, and crosswalks. **Tables 5-38** to **5-40** present the future Build operating condition for the analysis elements. All sidewalks, crosswalks, and corner reservoir analysis locations would continue to operate at acceptable levels (minimum 24 SFP for crosswalks and corners, maximum 6 PMF platoon flows for sidewalks) during both the AM and PM peak 15-minute periods. Therefore, the proposed project would not result in any significant adverse pedestrian impacts under the 2015 Scenario Two Build condition.

Table 5-38
2015 Scenario Two Build Conditions:
Pedestrian LOS Analysis for Sidewalks

Location	Sidewalk	Effective Width (ft)	15 Minute Two-Way Volume	Platoon Flow	
				PMF	LOS
AM Peak Period					
Junction Blvd between 43rd Avenue and 44th Avenue	East	6.5	112	1.1	B
43rd Avenue between 95th Street and Junction Blvd	South	8.5	83	0.7	B
43rd Avenue between Junction Blvd and 97th Place	South	9.5	110	0.8	B
44th Avenue between Junction Blvd and 97th Place	North (east segment)	2.5	40	1.1	B
44th Avenue between Junction Blvd and 97th Place	North (west segment)	2.5	40	1.1	B
44th Avenue between 97th Place and National Street	North (west segment)	2.8	42	1.0	B
44th Avenue between 97th Place and National Street	North (center segment)	3.3	126	2.5	B
44th Avenue between 97th Place and National Street	North (east segment)	2.0	46	1.5	B

Table 5-38 (cont'd)
2015 Scenario Two Build Conditions:
Pedestrian LOS Analysis for Sidewalks

Location	Sidewalk	Effective Width (ft)	15 Minute Two-Way Volume	Platoon Flow PMF	Platoon Flow LOS
AM Peak Period (cont'd)					
97th Place between 43rd Avenue and 44th Avenue	West	11.0	15	0.1	A
43rd Avenue between 99th Street and National Street	South	6.3	317	3.4	C
43rd Avenue between National Street and 102nd Street	South	8.5	71	0.6	B
National Street between 43rd Avenue and 44th Avenue	West	10.5	97	0.6	B
PM Peak Period					
Junction Blvd between 43rd Avenue and 44th Avenue	East	6.5	80	0.8	B
43rd Avenue between 95th Street and Junction Blvd	South	8.5	81	0.6	B
43rd Avenue between Junction Blvd and 97th Place	South	9.5	137	1.0	B
44th Avenue between Junction Blvd and 97th Place	North (east segment)	2.5	38	1.0	B
44th Avenue between Junction Blvd and 97th Place	North (west segment)	2.5	38	1.0	B
44th Avenue between 97th Place and National Street	North (west segment)	2.8	39	0.9	B
44th Avenue between 97th Place and National Street	North (center segment)	3.3	123	2.5	B
44th Avenue between 97th Place and National Street	North (east segment)	2.0	43	1.4	B
97th Place between 43rd Avenue and 44th Avenue	West	11.0	9	0.1	A
43rd Avenue between 99th Street and National Street	South	6.3	281	3.0	B
43rd Avenue between National Street and 102nd Street	South	8.5	77	0.6	B
National Street between 43rd Avenue and 44th Avenue	West	10.5	73	0.5	A

Note: PMF = pedestrians per minute per foot

Table 5-39
2015 Scenario Two Build Conditions:
Pedestrian LOS Analysis for Corner Reservoirs

Locations	Corner	AM Peak Period SFP	AM Peak Period LOS	PM Peak Period SFP	PM Peak Period LOS
National Street and 43rd Avenue	Southwest	116.6	A	113.3	A
	Northwest	240.9	A	210.2	A

Note: SFP = square feet per pedestrian

Table 5-40
2015 Scenario Two Build Conditions:
Pedestrian Crosswalk LOS Analysis

Location	Crosswalk	Street Width (feet)	Crosswalk Width (feet)	Conditions with conflicting vehicles			
				AM		PM	
				SFP	LOS	SFP	LOS
Junction Blvd and 43rd Avenue	South	51.5	12.0	60.7	A	72.1	A
National Street and 43rd Avenue	South	59.5	10.0	84.7	A	74.2	A

Note: SFP = square feet per pedestrian

F. PARKING

EXISTING CONDITIONS

A survey of off-and on-street parking within a ¼-mile radius of the project site was conducted in April 2010 to assess their capacities and approximate utilization rates. Based on the survey, there are no off-street public parking facilities located within a ¼-mile radius of the project site. In terms of on-street parking, there are approximately 2,067 legal on-street spaces within a ¼-mile radius of the project site. Out of these, approximately 224 spaces were available during the morning peak period resulting in an overall utilization rate of 89 percent.

THE FUTURE WITHOUT THE PROPOSED PROJECT

SCENARIO ONE

The study area's overall on-street parking utilization is assumed to experience the same growth as projected for the traffic conditions in the study area. Accounting for the general background growth and the demand generated by other No Build projects, the overall on-street parking utilization rate in the study area in the 2015 Scenario One No Build condition would increase to approximately 95 percent, with 111 available on-street spaces during the AM period.

SCENARIO TWO

The study area's overall on-street parking utilization is assumed to experience the same growth as projected for the traffic conditions in the study area. Accounting for the general background growth and the demand generated by the No Build project, the overall on-street parking utilization rate in the study area in the 2015 Scenario Two No Build condition would increase to approximately 93 percent, with 149 available on-street spaces during the AM period.

PROBABLE IMPACTS OF THE PROPOSED PROJECT

SCENARIO ONE

The proposed school would not provide any on-site parking spaces and would generate a demand of approximately 27 parking spaces by faculty/staff commuting by auto. Since the on-street parking utilization in the study area in the 2015 Scenario One No Build condition is expected to be 95 percent during the AM peak hour, the parking demand generated by the proposed project would be accommodated by the available on-street parking spaces within the ¼-mile radius of the project site. This would result in an overall on-street parking utilization rate of approximately 96 percent in the ¼ -mile study area in the 2015 Build conditions.

Since the on-street parking in the study area would operate with available capacity in the 2015 Build condition, the proposed project would not result in significant adverse impacts to the supply and demand of on-street parking in the study area.

SCENARIO TWO

The proposed school would not provide any on-site parking spaces and would generate a demand of approximately 27 parking spaces by faculty/staff commuting by auto. Since the on-street parking utilization in the study area in the 2015 Scenario Two No Build condition is expected to be 93 percent during the AM peak hour, the parking demand generated by the proposed project would be accommodated by the available on-street parking spaces within the ¼-mile radius of the project site. This would result in an overall on-street parking utilization rate of approximately 94 percent in the ¼ -mile study area in the 2015 Build conditions.

Since the on-street parking in the study area would operate with available capacity in the 2015 Build condition, the proposed project would not result in significant adverse impacts to the supply and demand of on-street parking in the study area.

G. PEDESTRIAN SAFETY

Accident data for the study area intersections were compiled from New York State Department of Transportation (NYSDOT) records for the period between March 31, 2007 and March 31, 2010. The data obtained quantify the total number of reportable accidents (involving fatality, injury, or more than $1,000 in property damage) during the study period, as well as a yearly breakdown of pedestrian- and bicycle-related accidents at each location. According to the 2010 *CEQR Technical Manual*, a high accident location is one where there were 48 or more total reportable and non-reportable accidents or five or more pedestrian/bicyclist injury accidents in any consecutive twelve months of the most recent three-year period for which data are available.

During this period, a total of 97 reportable and non-reportable accidents (including 30 pedestrian-related accidents) occurred at the study area intersections. **Table 5-41** depicts total accident characteristics by intersection during the study period, as well as a breakdown of pedestrian and bicycle accidents by year and location. Based on the CEQR criteria, the intersections of Junction Boulevard and Roosevelt Avenue and Junction Boulevard and 43rd Avenue were identified as high pedestrian accident locations.

Table 5-42 shows a detailed description of each accident at the intersection of Junction Boulevard and Roosevelt Avenue during the three year period. Based on the detailed description, nearly half of the pedestrian-related accidents were related to vehicles making left or right turning movements while pedestrians were crossing with the signal. This failure to yield right-of-way was specifically listed as a contributing factor in one-third of the six accidents involving turning vehicles. Of the remaining eight accidents, seven involved vehicles going straight and one involved a vehicle entering a parked position. With respect to geometric deficiencies that could potentially cause safety hazards, the intersection of Junction Boulevard and Roosevelt Avenue is signalized and provides three regular crosswalks and one high-visibility (school) crosswalk. In addition, "School Advance" signs are posted at all approaches at this intersection.

Table 5-41
Accident Data

Intersection		Study Period						Accidents by Year							
		All Accidents by Year				Total	Total	Pedestrian				Bicycle			
North-South Roadway	East-West Roadway	2007	2008	2009	2010	Fatalities	Injuries	2007	2008	2009	2010	2007	2008	2009	2010
Junction Blvd	**Roosevelt Ave**	8	7	9	0	0	20	2	0	7	0	1	3	1	0
Junction Blvd	42nd Avenue	0	1	0	0	0	1	0	0	0	0	0	0	0	0
Junction Blvd	**43rd Avenue**	1	0	6	0	0	7	1	0	5	0	0	0	0	0
Junction Blvd	44th Avenue	2	2	3	0	0	9	1	0	0	0	0	0	0	0
Junction Blvd	45th Avenue	1	2	2	0	0	6	1	0	0	0	0	1	1	0
Junction Blvd	46th Avenue	1	0	1	0	0	2	0	0	0	0	0	0	1	0
Junction Blvd	Alstyne Avenue	0	2	0	1	0	2	0	0	0	0	0	0	0	0
Junction Blvd	Corona Avenue	8	5	6	1	0	13	2	1	2	1	2	0	0	0
National Street	43rd Avenue	1	3	2	0	0	6	0	2	2	0	0	0	0	0
National Street	44th Avenue	2	1	3	0	0	11	1	1	0	0	0	0	0	0
National Street	45th Avenue	0	0	0	0	0	0	0	0	0	0	0	0	0	0
99th Street	42nd Avenue	1	4	3	0	0	9	0	0	0	0	0	0	1	0
99th Street	43rd Avenue	0	0	1	1	0	2	0	0	1	0	0	0	0	0
97th Street	42nd Avenue	0	3	0	0	0	3	0	0	0	0	0	0	0	0
97th Street	43rd Avenue	1	1	1	0	0	2	0	0	0	0	0	0	0	0
97th Street	44th Avenue	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Source: NYSDOT March 31, 2007 to March 31, 2010 accident data.
Bold intersections are high pedestrian accident locations.

With the proposed project, the intersection of Junction Boulevard and Roosevelt Avenue would experience modest increases in vehicular and pedestrian traffic. In terms of project generated activity, the intersection could experience peak-hour volume increases of approximately 38 vehicles during each of the AM and PM peak hours. As for the pedestrian trips, the proposed project would generate less than 10 pedestrians through this intersection during the two peak hours.

Based on the review of the accident history at the intersection of Junction Boulevard and Roosevelt Avenue, no prevailing trends with regard to geometric deficiencies were identified as the primary causes of recorded accidents. Measures to increase pedestrian safety at this intersection could include the installation of pedestrian safety signs such as "Turning Vehicles Yield to Pedestrians" on all approaches, repainting the one existing high-visibility (school) crosswalk, and replacing the three regular crosswalks with high visibility (school) crosswalks. With these measures in place, the projected increases in vehicular and pedestrian levels at the intersection of Junction Boulevard and Roosevelt Avenue are not anticipated to exacerbate any of the current causes of pedestrian-related accidents.

Table 5-42 also shows a detailed description of each accident at the intersection of Junction Boulevard and 43rd Avenue during the three year period. Based on the detailed description, two of the pedestrian-related accidents were related to vehicles making left or right turning movements while pedestrians were crossing with the signal. The failure to yield right-of-way was specifically listed as a contributing factor in one of the accidents involving turning vehicles. Of the remaining four accidents, two involved vehicles going straight and two were listed with causes unknown. With respect to geometric deficiencies that could potentially cause safety hazards, the intersection of Junction Boulevard and 43rd Avenue is signalized and provides three high-visibility (school) crosswalks and one regular crosswalk. In addition, "School Crosswalk" signs are posted at all approaches at this intersection.

Table 5-42
Vehicle – Pedestrian Accident Summary

Intersection	Year	Date	Time	Accident Class: Injured	Accident Class: Killed	Action of Vehicle	Action of Pedestrian	Cause of Accident: Left / Right Turns	Cause of Accident: Pedestrian Error/ Confusion	Cause of Accident: Driver Inattention	Cause of Accident: Other
Junction Boulevard @ Roosevelt Avenue	2007	6/24	9:45 PM	X		Entering parked position	Working in roadway				Unknown
		8/19	9:10 PM	X		Going straight – West	Crossing with signal				Unknown
		10/7	7:25 PM	X		Making left turn – Northwest	Crossing with signal	x			Driver Inexperience
	2008	2/10	11:35 AM	X		Going straight – West	Along Highway with Traffic				Unknown
		6/28	8:25 AM	X		Going straight – South	Crossing with signal				Unknown
		10/4	9:25 PM			Going straight – North	Unknown				Unknown
	2009	2/6	10:50 PM	X		Making left turn - East	Crossing with signal	x			Failure to Yield R.O.W.
		2/23	8:30 AM	X		Going straight – South	Crossing with signal				Unknown
		3/3	6:48 PM	X		Making right turn - East	Crossing with signal	x	x	x	
		3/16	N/A	X		Going Straight – West	Crossing		x		
		4/23	4:03 PM	X		Going Straight – West	Crossing against signal				Unknown
		8/29	11:34 AM	X		Making left turn – Northeast	Crossing with signal	x			
		10/4	10:37 PM	X		Making left turn – East	Crossing with signal	x			Failure to yield R.O.W.
		10/27	9:50 PM	X		Making left turn – East	Crossing with signal	x			Pavement slippery, Turning improper
Junction Boulevard @ 43rd Avenue	2007	10/20	5:25 PM	X		Going straight – West	Crossing				Unknown
	2009	3/26	9:10 PM	X		Making left turn – South	Crossing with signal	x			Failure to yield R.O.W.
		4/6	3:00 PM	X		Going straight – Southeast	Crossing with signal				Unknown
		8/2	9:35 PM	X		Making left turn - North	Crossing with signal	x			Unknown
		12/4	7:02 PM	X		Unknown	Crossing against signal				Unknown
		12/8	5:48 PM	X		Unknown	Crossing with signal				Unknown

Source: NYSDOT March 31, 2007 to March 31, 2010 accident data.

With the proposed project, the intersection of Junction Boulevard and 43rd Avenue would experience moderate increases in vehicular and pedestrian traffic. In terms of project generated activity, the intersection could experience peak-hour volume increases of approximately 67 and 62 vehicles during the AM and PM peak hours, respectively. As for the pedestrian trips, the proposed project would generate less than 150 pedestrians through this intersection during each of the two peak hours.

Based on the review of the accident history at the intersection of Junction Boulevard and 43rd Avenue, no prevailing trends with regard to geometric deficiencies were identified as the primary causes of recorded accidents. Measures to increase pedestrian safety at this intersection could include the repainting of all three high-visibility (school) crosswalks, painting the one regular crosswalk with a high visibility crosswalk, and the installation of pedestrian safety signs such as "Turning Vehicles Yield to Pedestrians" on all the approaches. In addition, it is anticipated that SCA would coordinate with the relevant agencies regarding school crossing guards to facilitate pedestrians crossing at this intersection during the school related morning and afternoon peak periods. With these measures in place, the projected increases in vehicular and pedestrian levels at the intersection of Junction Boulevard and 43rd Avenue are not anticipated to exacerbate any of the current causes of pedestrian-related accidents.

With the proposed safety improvement measures in place at the two high pedestrian accident locations discussed above, the proposed project is not expected to result in any significant adverse pedestrian safety impacts. *

A. INTRODUCTION

The potential for air quality impacts with the proposed school is examined in this chapter. Air quality impacts can be either direct or indirect. Direct impacts result from emissions generated by stationary sources at the project site, such as emissions from on-site fuel combustion for heat and hot water system. Indirect impacts are those caused by emissions from nearby existing stationary sources (impacts on the proposed project) or by emissions from on-road vehicle trips (mobile sources) generated by a project. SCA is currently pursuing plans to develop a new 1,110-seat Primary School (P.S.) at 96-18 43rd Avenue, one block west of the proposed project. The new P.S. at 96-18 43rd Avenue is currently anticipated to be completed by the proposed project's Build Year, 2015. However, in the event that the new P.S. is not constructed by 2015, this environmental analysis considers two analysis scenarios for the future without the proposed project—Scenario One includes construction of the 1,110-seat P.S. by 2015, and Scenario Two assumes that the new P.S. is not constructed by 2015. For the assessment of mobile source air quality impacts Scenario One is analyzed as the worst case scenario, accounting for emissions from cumulative vehicle trips that would be generated by the two schools. The stationary source analysis conducted for the proposed school is applicable to both Scenario One and Scenario Two.

The maximum hourly traffic that would cumulatively be generated by the proposed project and the proposed school at 96-18 43rd Avenue under Scenario One would exceed the *CEQR Technical Manual* carbon monoxide screening threshold of 170 for peak hour trips at nearby intersections in the study area. The cumulative trips generated under Scenario One would also exceed the particulate matter emission screening threshold discussed in Chapter 17, Sections 210 and 311 of the *CEQR Technical Manual*. Therefore, a quantified assessment of emissions from traffic that would cumulatively be generated by the proposed project and the proposed school at 96-18 43rd Avenue was conducted.

The proposed school would include natural-gas-fueled heat and hot water systems. Therefore, a heat and hot water system screening analysis was conducted to evaluate the potential for air quality impacts. In addition, a site survey was conducted to identify manufacturing and other businesses that have the potential to emit pollutants of concern. This chapter also describes the expected use of potentially hazardous materials in the proposed school instruction laboratories and the procedures and systems that would be employed in the proposed school to ensure the safety of staff, students and the surrounding community in the event of a chemical spill in one of the proposed laboratories.

The mobile source analysis conducted shows that there would be no potential for significant adverse impact on air quality from the vehicle trips cumulatively generated by the proposed project and the P.S. at 96-18 43rd Avenue. As the cumulative assessment represents the worst-case condition, the proposed project generated on its own would also not result in a significant adverse mobile source impact on air quality. Based on the heat and hot water system screening analysis, there would be no potential significant adverse air quality impacts from emissions of the proposed school's heat and hot water systems. In addition, there would be no significant adverse air quality impacts from existing manufacturing district businesses on the proposed school. Based on the analysis of the laboratory exhaust system, there would be no significant impacts in the proposed school building or on the surrounding community in the event of a chemical spill. Therefore, there is no potential for any significant adverse air quality impacts with the proposed school.

B. POLLUTANTS FOR ANALYSIS

Ambient air quality is affected by air pollutants produced by both motor vehicles and stationary sources. Emissions from motor vehicles are referred to as mobile source emissions, while emissions from fixed facilities are referred to as stationary source emissions. Ambient concentrations of carbon monoxide (CO) are predominantly influenced by mobile source emissions. Particulate matter (PM), volatile organic compounds (VOCs), and nitrogen oxides (NO and NO_2, collectively referred to as NO_x) are emitted from both mobile and stationary sources. Fine PM is also formed when emissions of NO_x, sulfur oxides (SO_x), ammonia, organic compounds, and other gases react or condense in the atmosphere. Emissions of sulfur dioxide (SO_2) are associated mainly with stationary sources, and sources utilizing non-road diesel such as diesel trains, marine engines, and non-road vehicles (e.g., construction engines). On-road diesel vehicles currently contribute very little to SO_2 emissions since the sulfur content of on-road diesel fuel, which is federally regulated, is extremely low. Ozone is formed in the atmosphere by complex photochemical processes that include NO_x and VOCs.

CARBON MONOXIDE

CO, a colorless and odorless gas, is produced in the urban environment primarily by the incomplete combustion of gasoline and other fossil fuels. In urban areas, approximately 80 to 90 percent of CO emissions are from motor vehicles. Since CO is a reactive gas which does not persist in the atmosphere, CO concentrations can vary greatly over relatively short distances; elevated concentrations are usually limited to locations near crowded intersections, heavily traveled and congested roadways, parking lots, and garages. Consequently, CO concentrations must be predicted on a local, or microscale, basis. Since the proposed project together with the proposed school at 96-18 43rd Avenue would result in cumulative peak hour vehicle trips that would exceed the *CEQR Technical Manual* screening analysis thresholds for CO under Scenario 1, a quantified assessment of air quality impacts from vehicle CO emissions generated under that scenario was conducted.

NITROGEN OXIDES, VOCS, AND OZONE

NO_x are of principal concern because of their role, together with VOCs, as precursors in the formation of ozone. Ozone is formed through a series of reactions that take place in the atmosphere in the presence of sunlight. Because the reactions are slow, and occur as the pollutants are advected downwind, elevated ozone levels are often found many miles from sources of the precursor pollutants. The effects of NO_x and VOC emissions from all sources are therefore generally examined on a regional basis. The contribution of any action or project to regional emissions of these pollutants would include any added stationary or mobile source emissions; the change in regional mobile source emissions of these pollutants would be related to the total vehicle miles traveled added or subtracted on various roadway types throughout the

New York metropolitan area, which is designated as a moderate nonattainment area for ozone by the U.S. Environmental Protection Agency (EPA).

The proposed school would not have a significant effect on the overall volume of vehicular travel in the metropolitan area; therefore, no measurable impact on regional NO_x emissions or on ozone levels is predicted. An analysis of emissions of these pollutants from mobile sources was therefore not warranted.

In addition to being a precursor to the formation of ozone, NO_2 (one component of NO_x) is also a regulated pollutant. Since NO_2 is mostly formed from the transformation of NO in the atmosphere, it has mostly been of concern further downwind from large stationary point sources, and not a local concern from mobile sources. (NO_x emissions from fuel combustion consist of approximately 90 percent NO and 10 percent NO_2 at the source.) However, with the promulgation of the 2010 1-hour average standard for NO_2, local (i.e., mobile) sources may become of greater concern for this pollutant. Potential impacts from the proposed school's heat and hot water systems were evaluated.

LEAD

Airborne lead emissions are currently associated principally with industrial sources. Effective January 1, 1996, the Clean Air Act (CAA) banned the sale of the small amount of leaded fuel that was still available in some parts of the country for use in on-road vehicles, concluding a 25-year effort to phase out lead in gasoline. Even at locations in the New York City area where traffic volumes are very high, atmospheric lead concentrations are below the 3-month average national standard of 0.15 micrograms per cubic meter ($\mu g/m^3$).

No significant sources of lead are associated with the proposed school and, therefore, analysis was not warranted.

RESPIRABLE PARTICULATE MATTER—PM_{10} AND $PM_{2.5}$

PM is a broad class of air pollutants that includes discrete particles of a wide range of sizes and chemical compositions, as either liquid droplets (aerosols) or solids suspended in the atmosphere. The constituents of PM are both numerous and varied, and they are emitted from a wide variety of sources (both natural and anthropogenic). Natural sources include the condensed and reacted forms of naturally occurring VOC; salt particles resulting from the evaporation of sea spray; wind-borne pollen, fungi, molds, algae, yeasts, rusts, bacteria, and material from live and decaying plant and animal life; particles eroded from beaches, soil, and rock; and particles emitted from volcanic and geothermal eruptions and from forest fires. Naturally occurring PM is generally greater than 2.5 micrometers in diameter. Major anthropogenic sources include the combustion of fossil fuels (e.g., vehicular exhaust, power generation, boilers, engines, and home heating), chemical and manufacturing processes, all types of construction, agricultural activities, as well as wood-burning stoves and fireplaces. PM also acts as a substrate for the adsorption (accumulation of gases, liquids, or solutes on the surface of a solid or liquid) of other pollutants, often toxic and some likely carcinogenic compounds.

As described below, PM is regulated in two size categories: particles with an aerodynamic diameter of less than or equal to 2.5 micrometers ($PM_{2.5}$), and particles with an aerodynamic diameter of less than or equal to 10 micrometers (PM_{10}, which includes $PM_{2.5}$). $PM_{2.5}$ has the ability to reach the lower regions of the respiratory tract, delivering with it other compounds that adsorb to the surfaces of the particles, and is also extremely persistent in the atmosphere. $PM_{2.5}$

is mainly derived from combustion material that has volatilized and then condensed to form primary PM (often soon after the release from a source exhaust) or from precursor gases reacting in the atmosphere to form secondary PM.

Diesel-powered vehicles, especially heavy duty trucks and buses, are a significant source of respirable PM, most of which is $PM_{2.5}$; PM concentrations may, consequently, be locally elevated near roadways with high volumes of heavy diesel-powered vehicles. Since under Scenario One the proposed project together with the proposed school at 96-18 43rd Avenue would result in an increase in $PM_{2.5}$ vehicle emissions that would exceed the $PM_{2.5}$ emissions threshold defined in Chapter 17, Sections 210 and 311 of the *CEQR Technical Manual* above which a detailed analysis of mobile source impacts on air quality is required, a quantified assessment of air quality impacts from vehicle PM emissions generated under that scenario was conducted.

SULFUR DIOXIDE

SO_2 emissions are primarily associated with the combustion of sulfur-containing fuels (oil and coal). Monitored SO_2 concentrations in New York City are lower than the national standards. Due to the federal restrictions on the sulfur content in diesel fuel for on-road vehicles, no significant quantities are emitted from vehicular sources. Vehicular sources of SO_2 are not significant and therefore, an analysis of SO_2 from mobile sources was not warranted.

The proposed school would include heat and hot water system that would use natural gas. The sulfur content of natural gas is negligible; therefore, no analysis was performed to estimate the future levels of SO_2.

NONCRITERIA POLLUTANTS

In addition to the criteria pollutants discussed above, noncriteria pollutants are of concern. Noncriteria pollutants are emitted by a wide range of man-made and naturally occurring sources. Emissions of noncriteria pollutants from industries are regulated by EPA. Federal ambient air quality standards do not exist for noncriteria pollutants; however, the New York State Department of Environmental Conservation (NYSDEC) has issued standards for certain non-criteria compounds, including beryllium, gaseous fluorides, and hydrogen sulfide. NYSDEC has also developed guideline concentrations for numerous noncriteria pollutants. The NYSDEC guidance document DAR-1 (October 2010) contains a compilation of annual and short term (1-hour) guideline concentrations for these compounds. The NYSDEC guidance thresholds represent ambient levels that are considered safe for public exposure.

EPA has also developed guidelines for assessing exposure to noncriteria pollutants. These exposure guidelines are used in health risk assessments to determine the potential effects to the public.

A site survey was performed to assess whether any existing manufacturing district businesses are potentially sources of noncriteria pollutant emissions.

C. AIR QUALITY REGULATIONS, STANDARDS, AND BENCHMARKS

NATIONAL AND STATE AIR QUALITY STANDARDS

As required by the CAA, primary and secondary National Ambient Air Quality Standards (NAAQS) have been established for six major air pollutants: CO, NO_2, ozone, respirable PM (both $PM_{2.5}$ and PM_{10}), SO_2, and lead. The primary standards represent levels that are requisite to protect the public health, allowing an adequate margin of safety. The secondary standards are intended to protect the nation's welfare, and account for air pollutant effects on soil, water, visibility, materials, vegetation, and other aspects of the environment. The primary and secondary standards are the same for NO_2 (annual), ozone, lead, and PM, and there is no secondary standard for CO and the 1-hour NO_2 standard. The NAAQS are presented in Table 6-1. The NAAQS for CO, NO_2, and SO_2 have also been adopted as the ambient air quality standards for New York State, but are defined on a running 12-month basis rather than for calendar years only. New York State also has standards for total suspended particulate matter (TSP), settleable particles, non-methane hydrocarbons (NMHC), and ozone which correspond to federal standards that have since been revoked or replaced, and for beryllium, fluoride, and hydrogen sulfide (H_2S).

EPA has revised the NAAQS for PM, effective December 18, 2006. The revision included lowering the level of the 24-hour $PM_{2.5}$ standard from 65 $\mu g/m^3$ to 35 $\mu g/m^3$ and retaining the level of the annual standard at 15 $\mu g/m^3$. The PM_{10} 24-hour average standard was retained and the annual average PM_{10} standard was revoked.

EPA has also revised the 8-hour ozone standard, lowering it from 0.08 to 0.075 parts per million (ppm), effective as of May 2008. On January 6, 2010, EPA proposed a change in the 2008 ozone NAAQS, lowering the primary NAAQS from the current 0.075 ppm level to within the range of 0.060 to 0.070 ppm. EPA is also proposing a secondary ozone standard, measured as a cumulative concentration within the range of 7 to 15 ppm-hours aimed mainly at protecting sensitive vegetation.

EPA established a 1-hour average NO_2 standard of 0.100 ppm, effective April 12, 2010, in addition to the annual standard. The statistical form is the 3-year average of the 98th percentile of daily maximum 1-hour average concentration in a year.

EPA established a 1-hour average SO_2 standard of 0.075 ppm, replacing the current 24-hour and annual primary standards, effective August 23, 2010. The statistical form is the 3-year average of the 99th percentile of the annual distribution of daily maximum 1-hour concentrations (the 4th highest daily maximum corresponds approximately to 99th percentile for a year.)

NAAQS ATTAINMENT STATUS AND STATE IMPLEMENTATION PLANS

The CAA, as amended in 1990, defines nonattainment areas (NAA) as geographic regions that have been designated as not meeting one or more of the NAAQS. When an area is designated as nonattainment by EPA, the state is required to develop and implement a State Implementation Plan (SIP), which delineates how a state plans to achieve air quality that meets the NAAQS under the deadlines established by the CAA.

In 2002, EPA re-designated New York City as in attainment for CO. The CAA requires that a maintenance plan ensure continued compliance with the CO NAAQS for former nonattainment areas. New York City is also committed to implementing site-specific control measures throughout the city to reduce CO levels, should unanticipated localized growth result in elevated CO levels during the maintenance period.

Table 6-1
National Ambient Air Quality Standards (NAAQS)

Pollutant	Primary		Secondary	
	ppm	µg/m³	ppm	µg/m³
Carbon Monoxide (CO)				
8-Hour Average [1]	9	10,000	None	
1-Hour Average [1]	35	40,000		
Lead				
Rolling 3-Month Average [2]	NA	0.15	NA	0.15
Nitrogen Dioxide (NO_2)				
1-Hour Average [3]	0.100	188	None	
Annual Average	0.053	100	0.053	100
Ozone (O_3)				
8-Hour Average [4,5]	0.075	150	0.075	150
Respirable Particulate Matter (PM_{10})				
24-Hour Average [1]	NA	150	NA	150
Fine Respirable Particulate Matter ($PM_{2.5}$)				
Annual Mean	NA	15	NA	15
24-Hour Average [6,7]	NA	35	NA	35
Sulfur Dioxide (SO_2) [8]				
1-Hour Average[9]	0.075	196	NA	NA
Maximum 3-Hour Average [1]	NA	NA	0.50	1,300

Notes:

ppm – parts per million
µg/m³ – micrograms per cubic meter
NA – not applicable

All annual periods refer to calendar year.

PM concentrations (including lead) are in µg/m³ since ppm is a measure for gas concentrations. Concentrations of all gaseous pollutants are defined in ppm and approximately equivalent concentrations in µg/m³ are presented.

(1) Not to be exceeded more than once a year.
(2) EPA has lowered the NAAQS down from 1.5 µg/m³, effective January 12, 2009.
(3) 3-year average of the annual 98th percentile daily maximum 1-hr average concentration. Effective April 12, 2010.
(4) 3-year average of the annual fourth highest daily maximum 8-hr average concentration.
(5) EPA has proposed lowering this standard further to within the range 0.060-0.070 ppm.
(6) Not to be exceeded by the annual 98th percentile when averaged over 3 years.
(7) EPA has lowered the NAAQS down from 65 µg/m³, effective December 18, 2006.
(8) EPA revoked the 24-hour and annual primary standards, replacing them with a 1-hour average standard. Effective August 23, 2010.
(9) 3-year average of the annual 99th percentile daily maximum 1-hr average concentration. Effective August 23, 2010.

Source: 40 CFR Part 50: National Primary and Secondary Ambient Air Quality Standards.

Manhattan has been designated as a moderate NAA for PM_{10}. On December 17, 2004, EPA took final action designating the five New York City counties, Nassau, Suffolk, Rockland, Westchester, and Orange counties as a $PM_{2.5}$ nonattainment area under the CAA due to exceedance of the annual average standard. Based on recent monitoring data (2006-2009), annual average concentrations of $PM_{2.5}$ in New York no longer exceed the annual standard.

As described above, EPA has revised the 24-hour average $PM_{2.5}$ standard. In October 2009 EPA finalized the designation of the New York City Metropolitan Area as nonattainment with the 2006 24-hour $PM_{2.5}$ NAAQS, effective in November 2009. The nonattainment area includes the same 10-county area EPA originally designated as nonattainment with the 1997 annual $PM_{2.5}$ NAAQS. By November 2012 New York will be required to submit a SIP demonstrating attainment with the 2006 24-hour standard by November 2014 (EPA may grant attainment date extensions for up to five additional years).

Nassau, Rockland, Suffolk, Westchester, Lower Orange County Metropolitan Area (LOCMA), and the five New York City counties had been designated as a severe nonattainment area for ozone (1-hour average standard). In November 1998, New York State submitted its *Phase II Alternative Attainment Demonstration for Ozone*, which was finalized and approved by EPA effective March 6, 2002, addressing attainment of the 1-hour ozone NAAQS by 2007. These SIP revisions included additional emission reductions that EPA requested to demonstrate attainment of the standard, and an update of the SIP estimates using the latest versions of the mobile source emissions model, MOBILE6.2, and the nonroad emissions model, NONROAD—which have been updated to reflect current knowledge of engine emissions and the latest mobile and nonroad engine emissions regulations.

On April 15, 2004, EPA designated these same counties as moderate nonattainment for the 8-hour average ozone standard which became effective as of June 15, 2004 (LOCMA was moved to the Poughkeepsie moderate nonattainment area for 8-hour ozone). EPA revoked the 1-hour standard on June 15, 2005; however, the specific control measures for the 1-hour standard included in the SIP are required to stay in place until the 8-hour standard is attained. The discretionary emissions reductions in the SIP would also remain but could be revised or dropped based on modeling. On February 8, 2008, NYSDEC submitted final revisions to a new SIP for ozone to EPA. NYSDEC has determined that achieving attainment for ozone before 2012 is unlikely, and has therefore made a request for a voluntary reclassification of the New York nonattainment area as "serious".

In March 2008 EPA strengthened the 8–hour ozone standards. SIPs will be due three years after the final designations are made. On March 12, 2009, NYSDEC recommended that the counties of Suffolk, Nassau, Bronx, Kings, New York, Queens, Richmond, Rockland, and Westchester be designated as a nonattainment area for the 2008 ozone NAAQS (the NYMA MSA nonattainment area). The EPA has proposed to determine that the Poughkeepsie nonattainment area (Dutchess, Orange, Ulster, and Putnam counties) has attained the 2008 one-hour and eight-hour National Ambient Air Quality Standards for ozone. It is unclear at this time what the attainment status of these areas will be under the newly proposed standard due to the range of concentrations proposed.

New York City is currently in attainment of the annual-average NO_2 standard. EPA has promulgated a 1-hour standard. The existing monitoring data indicates background concentrations below the standard. NYSDEC has determined that the present monitoring does not meet the revised EPA requirements in all respects and has recommended a designation of "unclassifiable" for the entire state. Therefore, it is likely that New York City will be designated by EPA as "unclassifiable" at first (January 2012), and then classified once three years of monitoring data are available (2016 or 2017).

EPA has established a new 1-hour SO_2 standard, replacing the 24-hour and annual standards, effective August 23, 2010. Based on the available monitoring data, all New York State counties currently meet the 1-hour standard. Additional monitoring will be required. EPA plans to make final attainment designations in June 2012, based on 2008 to 2010 monitoring data and refined modeling. SIPs for nonattainment areas will be due by June 2014.

DETERMINING THE SIGNIFICANCE OF AIR QUALITY IMPACTS

The State Environmental Quality Review Act (SEQRA) regulations and the *CEQR Technical Manual* state that the significance of a predicted consequence of a project (i.e., whether it is material, substantial, large or important) should be assessed in connection with its setting (e.g., urban or rural), its probability of occurrence, its duration, its irreversibility, its geographic scope, its magnitude, and the number of people affected.[1] In terms of the magnitude of air quality impacts, any action predicted to increase the concentration of a criteria air pollutant to a level that would exceed the concentrations defined by the NAAQS (see Table 6-1) would be deemed to have a potential significant adverse impact. In addition, in order to maintain concentrations lower than the NAAQS in attainment areas, or to ensure that concentrations will not be significantly increased in nonattainment areas, threshold levels have been defined for certain pollutants; any action predicted to increase the concentrations of these pollutants above the thresholds would be deemed to have a potential significant adverse impact, even in cases where violations of the NAAQS are not predicted.

DE MINIMIS CRITERIA REGARDING CO IMPACTS

New York City has developed *de minimis* criteria to assess the significance of the increase in CO concentrations that would result from the impact of proposed projects or actions on mobile sources, as set forth in the *CEQR Technical Manual*. These criteria set the minimum change in CO concentration that defines a significant environmental impact. Significant increases of CO concentrations in New York City are defined as: (1) an increase of 0.5 ppm or more in the maximum 8-hour average CO concentration at a location where the predicted No Action 8-hour concentration is equal to or between 8 and 9 ppm; or (2) an increase of more than half the difference between baseline (i.e., No Action) concentrations and the 8-hour standard, when No Action concentrations are below 8.0 ppm.

$PM_{2.5}$ INTERIM GUIDANCE CRITERIA

NYSDEC has published a policy to provide interim direction for evaluating $PM_{2.5}$ impacts[2]. This policy would apply only to facilities applying for permits or major permit modifications under SEQRA that emit 15 tons of PM_{10} or more annually. The policy states that such a project will be deemed to have a potentially significant adverse impact if the project's maximum impacts are predicted to increase $PM_{2.5}$ concentrations by more than 0.3 $\mu g/m^3$ averaged annually or more than 5 $\mu g/m^3$ on a 24-hour basis. Projects that exceed either the annual or 24-hour threshold will

[1] CEQR Technical Manual, Chapter 17, section 400, May 2010; and State Environmental Quality Review Regulations, 6 NYCRR § 617.7

[2] CP33/Assessing and Mitigating Impacts of Fine Particulate Emissions, NYSDEC 12/29/2003.

be required to prepare an Environmental Impact Statement (EIS) to assess the severity of the impacts, to evaluate alternatives, and to employ reasonable and necessary mitigation measures to minimize the $PM_{2.5}$ impacts of the source to the maximum extent practicable.

In addition, New York City uses interim guidance criteria for evaluating the potential $PM_{2.5}$ impacts for projects subject to CEQR. The interim guidance criteria currently employed under CEQR for determination of potential significant adverse $PM_{2.5}$ impacts are as follows:

- 24-hour average $PM_{2.5}$ concentration increments which are predicted to be greater than 5 $\mu g/m^3$ at a discrete receptor location would be considered a significant adverse impact on air quality under operational conditions (i.e., a permanent condition predicted to exist for many years regardless of the frequency of occurrence);
- 24-hour average $PM_{2.5}$ concentration increments which are predicted to be greater than 2 $\mu g/m^3$ but no greater than 5 $\mu g/m^3$ would be considered a significant adverse impact on air quality based on the magnitude, frequency, duration, location, and size of the area of the predicted concentrations;
- Annual average $PM_{2.5}$ concentration increments which are predicted to be greater than 0.1 $\mu g/m^3$ at ground level on a neighborhood scale (i.e., the annual increase in concentration representing the average over an area of approximately 1 square kilometer, centered on the location where the maximum ground-level impact is predicted for stationary sources; or at a distance from a roadway corridor similar to the minimum distance defined for locating neighborhood scale monitoring stations); or
- Annual average $PM_{2.5}$ concentration increments which are predicted to be greater than 0.3 $\mu g/m^3$ at a discrete receptor location (elevated or ground level).

Actions under CEQR predicted to increase $PM_{2.5}$ concentrations by more than the above interim guidance criteria will be considered to have a potential significant adverse impact.

The proposed school's annual emissions of PM_{10} are estimated to be well below the 15-ton-per-year threshold under the New York State Department of Environmental Conservation (NYSDEC) $PM_{2.5}$ policy guidance. The above interim guidance criteria have been used to evaluate the significance of predicted impacts of cumulative mobile source $PM_{2.5}$ emissions with the proposed project and the proposed school at 96-18 43rd Avenue on $PM_{2.5}$ concentrations.

D. METHODOLOGY FOR PREDICTING POLLUTANT CONCENTRATIONS

MOBILE SOURCES

The prediction of vehicle-generated emissions and their dispersion in an urban environment incorporates meteorological phenomena, traffic conditions, and physical configuration. Air pollutant dispersion models mathematically simulate how traffic, meteorology, and physical configuration combine to affect pollutant concentrations. The mathematical expressions and formulations contained in the various models attempt to describe an extremely complex physical phenomenon as closely as possible. However, because all models contain simplifications and approximations of actual conditions and interactions, and since it is necessary to predict the reasonable worst-case condition, most dispersion analyses predict conservatively high concentrations of pollutants, particularly under adverse meteorological conditions.

The mobile source analysis for the proposed school employs a model approved by EPA that has been widely used for evaluating air quality impacts of projects in New York City, other parts of New York State, and throughout the country. The modeling approach includes a series of conservative assumptions relating to meteorology, traffic, and background concentration levels resulting in a conservatively high estimate of expected pollutant concentrations that could ensue from the proposed school. The assumptions used in the analysis are based on the latest CO and $PM_{2.5}$ interim guidance for CEQR projects.

VEHICLE EMISSIONS

Engine Emissions

Vehicular CO and PM engine emission factors were computed using the EPA mobile source emissions model, MOBILE6.2[1]. This emissions model is capable of calculating engine emission factors for various vehicle types, based on the fuel type (gasoline, diesel, or natural gas), meteorological conditions, vehicle speeds, vehicle age, roadway types, number of starts per day, engine soak time, and various other factors that influence emissions, such as inspection maintenance programs. The inputs and use of MOBILE6.2 incorporate the most current guidance available from NYSDEC and NYCDEP.

Vehicle classification was based on data collected in the field. Appropriate credits were used to accurately reflect the inspection and maintenance program. The inspection and maintenance programs require inspections of automobiles and light trucks to determine if pollutant emissions from each vehicle exhaust system are lower than emission standards. Vehicles failing the emissions test must undergo maintenance and pass a repeat test to be registered in New York State.

All taxis were assumed to be in hot stabilized mode (i.e. excluding any start emissions). The general categories of vehicle types for specific roadways were further categorized into subcategories based on their relative breakdown within the fleet.[2]

An ambient temperature of 43°F was used. The use of this temperature is recommended in the *CEQR Technical Manual* for the Borough of Queens and is consistent with current DEP guidance.

Road Dust

The contribution of re-entrained road dust to PM_{10} concentrations, as presented in the PM_{10} SIP, is considered to be significant; therefore, the PM_{10} estimates include both exhaust and road dust. In accordance with the DEP $PM_{2.5}$ interim guidance criteria methodology, $PM_{2.5}$ emission rates were determined with fugitive road dust to account for their impacts in local microscale analyses. However, fugitive road dust was not included in the neighborhood scale $PM_{2.5}$ microscale analyses, since DEP considers it to have an insignificant contribution on that scale.

---

1 EPA, User's Guide to MOBILE6.1 and MOBILE6.2: Mobile Source Emission Factor Model, EPA420-R-03-010, August 2003.

2 The MOBILE6.2 emissions model utilizes 28 vehicle categories by size and fuel. Traffic counts and predictions are based on broader size categories, and then broken down according to the fleet-wide distribution of subcategories and fuel types (diesel, gasoline, or alternative).

Road dust emission factors were calculated according to the latest procedure delineated by EPA[1] and the 2010 *CEQR Technical Manual.*

TRAFFIC DATA

Traffic data for the air quality analysis were derived from existing traffic counts, projected future growth in traffic, and other information developed as part of the traffic analysis for both the proposed school (see Chapter 5, "Transportation") and the nearby Primary School (P.S.) project at 96-18 43rd Avenue. Traffic data for the future without and with the proposed schools were employed in the respective air quality modeling scenarios. The weekday morning (7:45 to 8:45 AM) and afternoon (2:30 to 3:30 PM) peak hour traffic volumes were used as a baseline for determining off-peak volumes. Off-peak traffic volumes in the existing condition and in the future without the proposed school, and off-peak increments from the proposed school, were determined by adjusting the peak period volumes by the 24-hour distributions of actual vehicle counts collected at appropriate locations.

DISPERSION MODEL FOR MICROSCALE ANALYSES

Maximum CO concentrations adjacent to streets near the proposed project site, resulting from vehicle emissions, were predicted using the CAL3QHC model Version 2.0.[2] The CAL3QHC model employs a Gaussian (normal distribution) dispersion assumption and includes an algorithm for estimating vehicular queue lengths at signalized intersections. CAL3QHC predicts dispersion of CO from idling and moving vehicles. The queuing algorithm includes site-specific traffic parameters, such as signal timing and delay calculations (from the *2000 Highway Capacity Manual* traffic forecasting model), saturation flow rate, vehicle arrival type, and signal actuation (i.e., pre-timed or actuated signal) characteristics to accurately predict the number of idling vehicles. The CAL3QHC model has been updated with an extended module, CAL3QHCR, which allows for the incorporation of hourly traffic and meteorological data into the modeling, instead of worst-case assumptions regarding meteorological parameters. To determine motor vehicle generated PM concentrations adjacent to streets near the proposed project site, the refined CAL3QHCR version of the model was applied since it is more appropriate for calculating 24-hour and annual average concentrations.

METEOROLOGY

In general, the transport and concentration of pollutants from vehicular sources are influenced by three principal meteorological factors: wind direction, wind speed, and atmospheric stability. Wind direction influences the direction in which pollutants are dispersed, and atmospheric stability accounts for the effects of vertical mixing in the atmosphere. These factors, therefore, influence the concentration at a particular prediction location (receptor).

---

[1] EPA, Compilations of Air Pollutant Emission Factors AP-42, Fifth Edition, Volume I: Stationary Point and Area Sources, Ch. 13.2.1, NC, http://www.epa.gov/ttn/chief/ap42, January 2011.

[2] EPA, User's Guide to CAL3QHC, A Modeling Methodology for Predicted Pollutant Concentrations Near Roadway Intersections, Office of Air Quality, Planning Standards, Research Triangle Park, North Carolina, EPA-454/R-92-006.

Tier I Analyses—CAL3QHC

In applying the CAL3QHC model, the wind angle was varied to determine the wind direction resulting in the maximum concentrations at each receptor.

Following the EPA guidelines[1], CAL3QHC computations were performed using a wind speed of 1 meter per second, and the neutral stability class D. The 8-hour average CO concentrations were estimated by multiplying the predicted 1-hour average CO concentrations by a factor of 0.70 to account for persistence of meteorological conditions and fluctuations in traffic volumes. A surface roughness of 3.21 meters was chosen. At each receptor location, concentrations were calculated for all wind directions, and the highest predicted concentration was reported, regardless of frequency of occurrence. These assumptions ensured that worst-case meteorology was used to estimate CO impacts.

Tier II Analyses—CAL3QHCR

A Tier II analysis performed with the CAL3QHCR model includes the modeling of hourly concentrations based on hourly traffic data and five years of monitored hourly meteorological data. The data consists of surface data collected at LaGuardia Airport and upper air data collected at Brookhaven, New York for the period 2005-2009. All hours were modeled, and the highest resulting concentration for each averaging period is presented.

ANALYSIS YEAR

The microscale analyses were performed for existing conditions and 2015, the year by which the proposed project is likely to be completed. The future analysis was performed for both the Scenario Two No Build condition (without either of the proposed schools – i.e. the proposed project and the nearby P.S. at 96-18 43rd Ave) and Scenario One Build condition (with the completion of the proposed project and the P.S.). This represents the largest increment of vehicles to be expected in the area, and therefore the highest air quality impact.

BACKGROUND CONCENTRATIONS

Background concentrations are those pollutant concentrations originating from distant sources that are not directly included in the modeling analysis, which directly accounts for vehicular emissions on the streets within 1,000 feet and in the line of sight of the analysis site. Background concentrations are added to modeling results to obtain total pollutant concentrations at an analysis site.

The background CO concentrations used in the mobile source analysis were based on maximum second highest concentrations recorded at the NYSDEC PS 219/Queens College monitoring station from 2005 to 2009. For the assessment of 24-hour average PM_{10} levels, a background concentration of 51 $\mu g/m^3$ was used. The background concentrations is based on monitored levels at the P.S. 219 / Queens College 2 monitoring station, the NYSDEC monitoring station nearest to the proposed school site. The selected background value represents the second highest concentration over the most recent 3-year period (2007 to 2009) for which a New York State Ambient Air Quality Report is available. $PM_{2.5}$ impacts are assessed on an incremental basis and compared with the $PM_{2.5}$ interim guidance criteria. Therefore, a background concentration for

[1] *Guidelines for Modeling Carbon Monoxide from Roadway Intersections*, EPA Office of Air Quality Planning and Standards, Publication EPA-454/R-92-005.

$PM_{2.5}$ is not included. The latest monitored values indicate that the $PM_{2.5}$ concentrations in Queens no longer exceed the NAAQS.

ANALYSIS SITE AND RECEPTOR PLACEMENT

The Junction Boulevard and 44th Avenue intersection was selected for microscale analysis because it is expected that the greatest level of traffic cumulatively generated by the proposed project and the proposed P.S. nearby, and therefore the highest air quality impacts and maximum changes in concentrations would occur at this intersection. The greatest number of school bus trips is expected at this intersection as well. Therefore, both the CO and the PM modeling analyses were conducted at this intersection. Multiple receptors (i.e. precise locations at which concentrations are predicted) were modeled along the approach and departure links at spaced intervals. Receptors were placed at sidewalk or roadside locations near intersections with continuous public access. For predicting annual average neighborhood-scale $PM_{2.5}$ concentrations, receptors were placed at a distance of 15 meters from the nearest moving lane, based on the NYCDEP procedure for neighborhood-scale $PM_{2.5}$ modeling.

HEAT AND HOT WATER SYSTEM SCREENING ANALYSIS

To assess air quality impacts associated with emissions from the proposed school's heat and hot water system, a screening analysis was performed. The methodology described in the *CEQR Technical Manual* was used for the analysis, which determines the threshold of development size below which the action would not have a significant adverse impact. The screening procedures utilize information regarding the type of fuel to be burned, the maximum development size, type of development, and the stack height, to evaluate whether a significant adverse impact is likely. Based on the distance from the development to the nearest building of similar or greater height, if the maximum development size is greater than the threshold size in the *CEQR Technical Manual,* there is the potential for significant adverse air quality impacts, and a refined dispersion modeling analysis would be required. Otherwise, the source passes the screening analysis, and no further analysis is required.

INDUSTRIAL SOURCE SCREENING ANALYSIS

To assess air quality impacts from emissions from nearby industrial sources on the proposed school, a screening analysis is performed using the methodology described in the *CEQR Technical Manual.* The first step in this analysis is to perform a field survey in order to identify any processing or manufacturing facilities located within 400 feet of the project site. Once identified, information regarding the release of air contaminants from these facilities is obtained from the New York City Department of Environmental Protection (NYCDEP) Bureau of Environmental Compliance (BEC). A comprehensive search is also performed to identify NYSDEC Title V permits and permits listed in the EPA Envirofacts database.[1] In the next step, the potential ambient concentrations of each noncriteria pollutant are determined using a screening database in the *CEQR Technical Manual.* The database provides factors for estimating maximum concentrations based on emissions levels at the source. The factors provided in the *Technical Manual* were derived from generic AERMOD dispersion modeling for the NYC area. Estimates of worst-case short-term (1-hour) and annual average pollutant levels are predicted and then compared with the short-term (SGC) and annual (AGC) guideline concentrations. The

[1] EPA, Envirofacts Data Warehouse, http://oaspub.epa.gov/enviro/ef_home2.air, 1/20/2010

guideline concentrations are established by NYSDEC and represent levels that are considered safe for inhalation exposure by the public. A significant impact occurs if the predicted concentration exceeds an SGC or AGC.

CHEMICAL SPILL ANALYSIS

INTRODUCTION

Emissions from the proposed school's fume hood exhaust system, in the event of an accidental chemical spill in the school's science laboratory, were analyzed. Impacts were evaluated using information, procedures, and methodologies contained in the *CEQR Technical Manual*. Maximum concentrations were compared to the short-term exposure levels (STELs) or to the ceiling levels recommended by the U.S. Occupational Safety and Health Administration (OSHA) for the chemicals examined. It is assumed that the types and quantities of materials that are to be used in the proposed school facility are those typically used in school science laboratories at New York City Department of Education schools.

The following section details the expected usage of potentially hazardous materials, as well as the systems that would be employed at the proposed school to ensure the safety of the students, staff, and the surrounding community in the event of an accidental chemical spill in the science laboratories. A quantitative analysis employing mathematical modeling was performed to determine potential impacts on nearby places of public access (dispersion modeling) and potential impacts due to recirculation into school's air intake systems (recirculation modeling).

LABORATORY FUME HOOD EXHAUSTS

All school laboratories in which hazardous chemicals would be used will be equipped with fume hoods. Fume hoods are enclosures that are maintained under negative pressure and continuously vented to the outside. Their function is to protect teachers, staff, and students from potentially harmful fumes. By providing a continuous exhaust from laboratory rooms, they also prevent any fumes released within the laboratory from escaping into other areas of the building, or through windows to the outside.

Since design information is not yet available on the fume hood exhaust system for the proposed school facility, a set of conservative assumptions was used. The fume hood exhaust stack height was conservatively assumed to be 3 feet above the roof. An exhaust fan sufficient to maintain a minimum exit velocity of 1,500 feet per minute through a 12-inch diameter stack discharge was assumed, as was a 1.11 square meter lab spill area.

PLANNED OPERATIONS

An inventory of chemicals that may be present in a typical laboratory in the proposed high school was examined. From the chemical inventory, 10 chemicals were selected for further examination, based on their toxicity and potential for air quality impacts. Common buffers, salts, enzymes, nucleotides, peptides, and other bio–chemicals were not considered in the analysis since they are not typically categorized as air pollutants. Nonvolatile chemicals (having a vapor pressure of less than 10 mm Hg) were excluded as well. Table 6-2 shows the hazardous chemicals selected. The vapor pressure shown for each chemical is a measure of the material's volatility—its tendency to evaporate, or to form fumes or vapors, which is a critical parameter in determining potential impacts from chemical spills. The exposure standards (OSHA permissible exposure limit [PEL], National Institute for Occupational Safety and Health [NIOSH], immediately dangerous to life or health [IDLH], and OSHA and/or NIOSH short-term exposure level [STEL] and ceiling values) are measures of the material's toxicity—more toxic substances have lower exposure standards.

Table 6-2
Expected Hazardous Materials in the Proposed Laboratories

Chemical [CAS #]	Vapor Pressure mm Hg	PEL PPM	STEL PPM	IDLH PPM	Ceiling PPM
Acetic Acid [64-19-7]	11	10	15	50	10
Acetone [67-64-1]	180	1,000	-	2,500	250
Cyclohexene [110-83-8]	67	300	-	2000	300
Ether [60-29-7]	440	400	-	1,900	-
Ethyl Alcohol [64-17-5]	44	1,000	-	3,300	1,000
Hydrofluoric Acid [7664-39-3]	25	3	-	30	6
Methyl Alcohol [67-56-1]	96	200	250	6,000	200
Nitric Acid [7697-37-2]	48	2	4	25	2
Petroleum distillates (Naphtha) [80002-05-9]	40	500	-	1,100	1,800
Toluene [108-88-3]	21	200	150	500	300

Notes:
PEL—Permissible Exposure Limit; Time Weighted Average (TWA) for up to a 10-hour workday during a 40-hour workweek.
STEL—Short-Term Exposure Limit is a 15-minute TWA exposure that should not be exceeded at any time during a workday.
IDLH—Immediately Dangerous to Life or Health.
Ceiling—Level set by NIOSH or OSHA not to be exceeded in any working exposure.
PPM = parts per million.
Where a hyphen (-) appears there is no recommended corresponding guideline value.

ESTIMATES OF WORST-CASE EMISSION RATES

The dispersion of hazardous chemicals from a spill within a proposed laboratory was analyzed to assess the potential for exposure of the general public and of students and staff within the school to hazardous fumes in the event of an accident. Evaporation rates for volatile hazardous chemicals expected to be used in the proposed laboratories were estimated using the model developed by the Shell Development Company.[1] The Shell model, which was developed specifically to assess air quality impacts from chemical spills, calculates evaporation rates based on physical properties of the material, temperature, and rate of air flow over the spill surface. Room temperature conditions (20 °C) and an air-flow rate of 0.5 meters/second were assumed for calculating evaporation rates.

Based on relative STELs and the vapor pressures of the chemical listed in Table 6-2, the most potentially hazardous chemical, shown in Table 6-3, was selected for the "worst-case" spill analysis. Besides the relative toxicities, other factors such as molecular weight, container size, and frequency of use were also considered. Chemicals with high vapor pressures evaporate most rapidly. The chemical selected also has the lowest STEL. Since the chemical selected for the detailed analysis is most likely to have a relatively higher emission rate and the lowest exposure standards, if the analysis of this chemical resulted in no significant impacts, it would indicate that the other chemicals listed in Table 6-2 would also not present any potential for significant impacts.

[1] Fleischer, M.T., An Evaporation/Air Dispersion Model for Chemical Spills on Land, Shell Development Company, December 1980.

Table 6-3
Chemicals Selected for Worst-Case Spill Analysis

Chemical	Quantity (liters)	Evaporation Rate (gram/meter^2/sec)	Emission Rate* (gram/sec)
Nitric Acid	0.17	0.2597	0.2895
Note: * Average emission rate			

The analysis conservatively assumes that a full container of the chemical would be spilled in a fume hood. For a spill area of approximately 1.1 square meters, the emission rates were determined using the evaporation rates. For modeling purposes, the emission rate shown in Table 6-3 is calculated for a 15-minute time period. The vapor from the spill would be drawn into the fume hood exhaust system and released into the atmosphere via the roof exhaust fans. The high volume of air drawn through this system provides a high degree of dilution for hazardous fumes before they are released above the roof.

RECIRCULATION MODELING

The potential for recirculation of the fume hood emissions back into the building air intakes was assessed using the Wilson method[1]. This empirical procedure, which has been verified by both wind-tunnel and full-scale testing, is a refinement of the 1981 ASHRAE Handbook procedure, and takes into account such factors as plume momentum, stack-tip downwash, and cavity recirculation effects. The procedure determines the worst-case, absolute minimum dilution between exhaust vent and air intake. Three separate effects determine the eventual dilution: internal system dilution, obtained by combining exhaust streams (i.e., mixing in plenum chambers of multiple exhaust streams, introduction of fresh air supplied from roof intakes); wind dilution, dependent on the distance from vent to intake and the exit velocity; and dilution from the stack, caused by stack height and plume rise from vertical exhaust velocity. The critical wind speed for worst-case dilution is dependent on the exit velocity, the distance from vent to intake, and the cross-sectional area of the exhaust stack.

DISPERSION MODELING

The study performed also considered the impact of an accidental spill on nearby receptors, such as open windows on nearby buildings. Maximum concentrations at elevated receptors downwind of the fume exhausts were estimated using the EPA INPUFF model, version 2.0[2]. This is the only EPA model designed to estimate impacts from short-term releases and was used to develop the EPA guidelines[3]. INPUFF assumes a Gaussian dispersion of a pollutant "puff" (a brief release, as opposed to a continuous one) as it is transported downwind of a release point. Stable atmospheric conditions and a 1-meter/second wind speed were assumed. A series of elevated receptors were placed on the buildings to be analyzed. Since the emissions resulting from

[1] D.J. Wilson, A Design Procedure for Estimating Air Intake Contamination from Nearby Exhaust Vents, ASHRAE TRAS 89, Part 2A, pp. 136-152, 1983.

[2] Peterson, W.B., A Multiple Source Gaussian Puff Dispersion Algorithm—Users Guide, EPA, 600/8-86-024, August 1986.

[3] EPA, Chemical Emergency Preparedness Program, Interim Guidance, November 1985.

chemical spills are short-term releases, a worst-case assumption of the wind blowing the exhaust directly to the window or air intake receptors was made for modeling purposes.

E. EXISTING CONDITIONS

The most recent concentrations of all criteria pollutants at NYSDEC air quality monitoring stations nearest to the proposed site are presented in Table 6-4. As shown, the recently monitored levels did not exceed the NAAQS. It should be noted that these values are somewhat different from the background concentrations used in the analyses. For most pollutants the concentrations presented in Table 6-4 are based on recent measurements obtained in 2009, the most recent year for which data are available; the background concentrations are obtained from several years of monitoring data, and represent a conservative estimate of the highest background concentrations for future conditions.

MODELED CO CONCENTRATIONS FOR EXISTING TRAFFIC CONDITIONS

As noted previously, receptors were placed at multiple sidewalk locations next to the intersection selected for the analysis. Table 6-5 shows the maximum modeled existing CO 8-hour average concentration for each peak period analyzed. (No 1-hour values are shown since predicted values are much lower than the 1-hour standard of 35 ppm.) At all receptor sites, the maximum predicted 8-hour average concentrations are well below the national standard of 9 ppm.

Table 6-4
Representative Monitored Ambient Air Quality Data

Pollutant	Location	Units	Averaging Period	Concentration	NAAQS
CO	P.S. 219/Queens College	ppm	8-hour	1.9	9
			1-hour	3.1	35
SO_2	P.S. 219/Queens College [1]	µg/m³	3-hour	92	1,300
			1-hour	86.9	196
PM_{10}	P.S. 219/Queens College	µg/m³	24-hour	56	150
$PM_{2.5}$	P.S. 219/Queens College [2]	µg/m³	Annual	10.7	15
			24-hour	30	35
NO_2	P.S. 219/Queens College [3]	µg/m³	Annual	39	100
			1-hour	126	188
Lead	J.H.S. 126, Brooklyn [4]	µg/m³	3-month	0.019	0.15
Ozone	P.S. 219/Queens College [5]	ppm	8-hour	0.074	0.075

Notes:
(1) The 1-hour value is based on a three-year average (2007-2009) of the 99th percentile of daily maximum 1-hour average concentrations. EPA replaced the 24-hr and the annual standards with the 1-hour standard.
(2) Annual value is based on a three-year average (2007-2009) of annual concentrations. The 24-hour value is based on the 3-year average of the 98th percentile of 24-hour average concentrations.
(3) The 1-hour value is based on a three-year average (2007-2009) of the 98th percentile of daily maximum 1-hour average concentrations.
(4) Based on the highest quarterly average concentration measured in 2009.
(5) Based on the 3-year average (2007-2009) of the 99th percentile of the highest daily maximum 8-hour average concentrations.
Source: NYSDEC, New York State Ambient Air Quality Data.

Table 6-5
Modeled Existing 8-Hour Average CO Concentrations

Location	Time Period	8-Hour Concentration (ppm)
Junction Blvd and 44th Ave	AM	2.4
Junction Blvd and 44th Ave	PM	2.4
Note: 8-hour standard (NAAQS) is 9 ppm.		

F. PROBABLE IMPACTS OF THE PROPOSED SCHOOL

The following sections describe the results of the studies performed to analyze the potential for significant adverse air quality impacts from the vehicle trips generated by the proposed project along with the Primary School (P.S.) one block west at 96-18 43rd Ave. The results of the analyses conducted to assess the potential for impacts on air quality from the proposed school heat and hot water systems and from an accidental chemical spill in the proposed school laboratory fume hoods are presented. In addition, the assessment conducted to determine the potential for impacts from manufacturing district uses on the air quality at the proposed school is discussed.

MOBILE SOURCES

CO concentrations with the proposed project and planned P.S nearby were determined for the 2015 Build Year using the methodology previously described. Table 6-6 shows the future maximum predicted 8-hour average CO concentration with and without the proposed project and the proposed P.S. nearby at the intersection studied. (No 1-hour values are shown, since no exceedances of the NAAQS would occur and the *de minimis* criteria are only applicable to 8-hour concentrations; therefore, the 8-hour values are the most critical for impact assessment.) The values shown represent the highest predicted concentrations for any of the receptors analyzed. The results indicate that the cumulative impact of the proposed project along with the proposed P.S. nearby would not result in any violations of the 8-hour CO standard. In addition, the incremental increases in 8-hour average CO concentrations are very small, and consequently would not exceed the *de minimis* CO criteria. (The *de minimis* criteria are described above in Section C: "Air Quality Regulations, Standards, and Benchmarks.")

Table 6-6
Future Modeled 8-Hour Average CO Concentrations With and Without the Proposed Project and Nearby Primary School

Location	Time Period	8-Hour Concentration (ppm): Without the Proposed Schools	With the Project and Nearby P.S.	Increment	*De Minimis*
Junction Blvd and 44th Ave	AM	2.3	2.4	0.1	5.6
Junction Blvd and 44th Ave	PM	2.3	2.4	0.1	5.6
Note: 8-hour standard (NAAQS) is 9 ppm.					

Using the methodology previously described, PM_{10} concentrations with and without the proposed project and nearby P.S. were predicted for the 2015 Build Year. The values shown in Table 6-7 are the highest predicted concentrations for all locations analyzed and include the PM_{10} ambient background concentration. The results indicate that the cumulative vehicle trips generated by both the proposed project and the nearby P.S. would not result in PM_{10} concentrations that would exceed the NAAQS.

Table 6-7
Future (2015) Maximum Predicted 24-Hour Average PM_{10} Concentrations ($\mu g/m^3$)

Location	Without the Proposed Schools	With the Project and nearby P.S.
Junction Blvd and 44th Ave	56.75	57.06
Note: The National Ambient Air Quality Standard for PM_{10} is 150 $\mu g/m^3$, for a 24-hour average.		

Future maximum predicted 24-hour and annual average $PM_{2.5}$ concentration increments were calculated for comparison with the interim guidance criteria. The results represent increments between the Scenario Two No Build concentrations and the Scenario One Build concentrations. Based on this analysis, the maximum predicted localized 24-hour average and neighborhood-scale annual average incremental $PM_{2.5}$ concentrations are presented in Table 6-8 and Table 6-9, respectively. Note that since impacts are assessed on an incremental basis, $PM_{2.5}$ concentrations for the two scenarios are not presented.

Table 6-8
Maximum Predicted 24-Hour Average $PM_{2.5}$ Concentration Increments

Location	Increment
Junction Blvd and 44th Ave	0.05
Note: $PM_{2.5}$ interim guidance criteria—24-hour average, 2 $\mu g/m^3$ (5 $\mu g/m^3$ not-to-exceed value).	

Table 6-9
Maximum Predicted Annual Average $PM_{2.5}$ Concentration Increments

Location	Increment
Junction Blvd and 44th Ave	0.02
Note: $PM_{2.5}$ interim guidance criteria—annual (neighborhood scale), 0.1 $\mu g/m^3$.	

The results show that the annual and daily (24-hour) $PM_{2.5}$ cumulative increments are predicted to be well below the interim guidance criteria and, therefore, the proposed project and the nearby P.S. would not result in significant adverse impacts from mobile sources.

HEAT AND HOT WATER SYSTEM SCREENING ANALYSIS

A screening analysis was performed to assess the potential for air quality impacts from the proposed school's heat and hot water system. The analysis was based on the use of natural gas, total square footage (i.e., 100,000 gsf) of the proposed school, and an exhaust height of 80 feet (3 feet above the estimated height of the proposed school). The nearest distance to a building of a similar or greater height was determined to be beyond 400 feet; therefore, in accordance with the guidance provided in the *CEQR Technical Manual,* the 400-foot distance was chosen for the analysis.

The use of natural gas would not result in any significant stationary source air quality impacts because the proposed school would be below the maximum permitted size shown in Figure 17-7 in the Air Quality Appendix of the *CEQR Technical Manual.* Since the proposed Primary School (P.S.) at 96-18 43rd Avenue would be shorter than the proposed project, the heat and hot water system analysis conducted is applicable to both Scenario One and Scenario Two and neither would result in the potential for significant adverse impact on air quality.

INDUSTRIAL SOURCE SCREENING ANALYSIS

A field survey was conducted on January 14, 2010 to determine whether there are any industrial sources in the project study area and to identify potential sites that might have NYCDEP permits. Information was requested from NYCDEP on a business found to be operating within the study area that in the past had a permit with NYSDEC, according to the Envirofacts database. NYCDEP indicated that the business did not have or require any air emissions permits because it no longer engaged in activities that would result in emissions of concern. Therefore, there would be no potential for significant adverse impacts from existing manufacturing district businesses on the proposed school. The conclusions of this assessment are applicable to both Scenario One and Scenario Two.

CHEMICAL SPILL ANALYSIS

RECIRCULATION ANALYSIS

Assuming a 3-foot high 12-inch diameter stack and an exhaust velocity of 1,500 feet per minute, the recirculation analysis indicates that the minimum potential dilution factor between the fan exhausts and the nearest air intake is over 331 (i.e., pollutant concentrations at the nearest intake to the exhaust fan would be 1/331th the concentration at the fan). Thus, a nitric acid spill in a fume hood as described above would produce a maximum concentration at the nearest intake location of about 0.61 parts per million (ppm).

The results of the recirculation analysis are presented in Table 6-10. The results indicate that a spill in a fume hood as described above would produce a maximum concentrations at the nearest intake location below the corresponding STELs set by OSHA and/or NIOSH for any of the chemicals in Table 6-2.

Table 6-10
Fume Hood Recirculation Analysis
Maximum Predicted Concentration (ppm)

Chemical	STEL	15-Minute Average
Nitric Acid	4	0.61

DISPERSION ANALYSIS

The results of the analysis of emissions from the proposed school's fume hood exhaust system are shown below in Table 6-11. The maximum concentration at elevated receptors downwind of the fume hood exhausts was estimated using the methodology previously described. As shown, the maximum concentrations found at the receptor of highest impact would be lower than the corresponding impact threshold. Therefore, there would be no significant impact on air quality from potential chemical spills in the school laboratory hoods.

Table 6-11
Maximum Predicted Concentration (ppm)

Chemical	STEL	15-Minute Average
Nitric Acid	4	0.04

*

A. INTRODUCTION

The proposed school would not generate sufficient traffic to have the potential to cause a significant noise impact (i.e., it would not result in a doubling of passenger car equivalents [PCEs] which would be necessary to cause a 5 dBA increase in noise levels). The principal impacts of the proposed school on ambient noise levels would result from the use of the proposed school's playground. An analysis of these potential impacts is presented, along with an analysis to determine the level of building attenuation necessary to ensure that interior noise levels satisfy applicable interior noise criteria.

B. ACOUSTICAL FUNDAMENTALS

Quantitative information on the effects of airborne noise on people is well documented. If sufficiently loud, noise may adversely affect people in several ways. For example, noise may interfere with human activities, such as sleep, speech communication, and tasks requiring concentration or coordination. It may also cause annoyance, hearing damage, and other physiological problems. Although it is possible to study these effects on people on an average or statistical basis, it must be remembered that all the stated effects of noise on people vary greatly with the individual. Several noise scales and rating methods are used to quantify the effects of noise on people. These scales and methods consider such factors as loudness, duration, time of occurrence, and changes in noise level with time.

"A"-WEIGHTED SOUND LEVEL (DBA)

Noise is typically measured in units called decibels (dB), which are ten times the logarithm of the ratio of the sound pressure squared to a standard reference pressure squared. Because loudness is important in the assessment of the effects of noise on people, the dependence of loudness on frequency must be taken into account in the noise scale used in environmental assessments. Frequency is the rate at which sound pressures fluctuate in a cycle over a given quantity of time, and is measured in Hertz (Hz), where 1 Hz equals 1 cycle per second. Frequency defines sound in terms of pitch components. One of the simplified scales that accounts for the dependence of perceived loudness on frequency is the use of a weighting network known as A-weighting in the measurement system, to simulate response of the human ear. For most noise assessments the A-weighted sound pressure level in units of dBA is used in view of its widespread recognition and its close correlation with perception. In this analysis, all measured noise levels are reported in dBA or A-weighted decibels. Common noise levels in dBA are shown in Table 7-1.

COMMUNITY RESPONSE TO CHANGES IN NOISE LEVELS

The average ability of an individual to perceive changes in noise levels is well documented (see Table 7-2). Generally, changes in noise levels less than 3 dBA are barely perceptible to most listeners, whereas 10 dBA changes are normally perceived as doublings (or halvings) of noise levels. These guidelines permit direct estimation of an individual's probable perception of changes in noise levels.

Table 7-1
Common Noise Levels

Sound Source	(dBA)
Military jet, air raid siren	130
Amplified rock music	110
Jet takeoff at 500 meters	100
Freight train at 30 meters	95
Train horn at 30 meters	90
Heavy truck at 15 meters	
Busy city street, loud shout	80
Busy traffic intersection	
Highway traffic at 15 meters, train	70
Predominantly industrial area	60
Light car traffic at 15 meters, city or commercial areas or residential areas close to industry	
Background noise in an office	50
Suburban areas with medium density transportation	
Public library	40
Soft whisper at 5 meters	30
Threshold of hearing	0

Note: A 10 dBA increase in level appears to double the loudness, and a 10 dBA decrease halves the apparent loudness.
Source: Cowan, James P. Handbook of Environmental, Acoustics. Van Nostrand Reinhold, New York, 1994.
Egan, M. David, Architectural Acoustics. McGraw-Hill Book Company, 1988.

Table 7-2
Average Ability to Perceive Changes in Noise Levels

Change (dBA)	Human Perception of Sound
2-3	Barely perceptible
5	Readily noticeable
10	A doubling or halving of the loudness of sound
20	A dramatic change
40	Difference between a faintly audible sound and a very loud sound

Source: Bolt Beranek and Newman, Inc., *Fundamentals and Abatement of Highway Traffic Noise*, Report No. PB-222-703. Prepared for Federal Highway Administration, June 1973.

It is also possible to characterize the effects of noise on people by studying the aggregate response of people in communities. The rating method used for this purpose is based on a statistical analysis of the fluctuations in noise levels in a community, and integrates the fluctuating sound energy over a known period of time, most typically during 1 hour or 24 hours.

Various government and research institutions have proposed criteria that attempt to relate changes in noise levels to community response. One commonly applied criterion for estimating this response is incorporated into the community response scale proposed by the International Standards Organization (ISO) of the United Nations (see Table 7-3). This scale relates changes in noise level to the degree of community response and permits direct estimation of the probable response of a community to a predicted change in noise level.

Table 7-3
Community Response to Increases in Noise Levels

Change (dBA)	Category	Description
0	None	No observed reaction
5	Little	Sporadic complaints
10	Medium	Widespread complaints
15	Strong	Threats of community action
20	Very strong	Vigorous community action
Source: International Standards Organization, Noise Assessment with Respect to Community Responses, ISO/TC 43 (New York: United Nations, November 1969).		

NOISE DESCRIPTORS USED IN IMPACT ASSESSMENT

Because the sound pressure level unit of dBA describes a noise level at just one moment and very few noises are constant, other ways of describing noise over extended periods have been developed. One way of describing fluctuating sound is to describe the fluctuating noise heard over a specific time period as if it had been a steady, unchanging sound. For this condition, a descriptor called the "equivalent sound level," L_{eq}, can be computed. L_{eq} is the constant sound level that, in a given situation and time period (e.g., 1 hour, denoted by $L_{eq(1)}$, or 24 hours, denoted as $L_{eq(24)}$), conveys the same sound energy as the actual time-varying sound. Statistical sound level descriptors such as L_1, L_{10}, L_{50}, L_{90}, and L_x , are used to indicate noise levels that are exceeded 1, 10, 50, 90 and x percent of the time, respectively. Discrete event peak levels are given as L_1 levels. L_{eq} is used in the prediction of future noise levels, by adding the contributions from new sources of noise (i.e., increases in traffic volumes) to the existing levels and in relating annoyance to increases in noise levels.

The relationship between L_{eq} and levels of exceedance is worth noting. Because L_{eq} is defined in energy rather than straight numerical terms, it is not simply related to the levels of exceedance. If the noise fluctuates very little, L_{eq} will approximate L_{50} or the median level. If the noise fluctuates broadly, the L_{eq} will be approximately equal to the L_{10} value. If extreme fluctuations are present, the L_{eq} will exceed L_{90} or the background level by 10 or more decibels. Thus the relationship between L_{eq} and the levels of exceedance will depend on the character of the noise. In community noise measurements, it has been observed that the L_{eq} is generally between L_{10} and L_{50}. The relationship between L_{eq} and exceedance levels has been used in this analysis to characterize the noise sources and to determine the nature and extent of their impact at all receptor locations.

For the purposes of this project, the maximum 1-hour equivalent sound level ($L_{eq(1)}$) has been selected as the noise descriptor to be used in the noise impact evaluation. $L_{eq(1)}$ is the noise descriptor used in the City Environmental Quality Review (CEQR) standards for vehicular traffic noise impact evaluation, and is used to provide an indication of highest expected sound levels. $L_{10(1)}$ is the noise descriptor used in the CEQR noise exposure standards for vehicular traffic noise. Hourly statistical noise levels (particularly L_{10} and L_{eq} levels) were used to characterize the relevant noise sources and their relative importance at each receptor location.

C. NOISE STANDARDS AND CRITERIA

NEW YORK CEQR NOISE STANDARDS

The New York City Department of Environmental Protection (NYCDEP) has set external noise exposure standards. These standards are shown in Table 7-4 and 7-5. Noise exposure is classified into four categories: acceptable, marginally acceptable, marginally unacceptable, and clearly unacceptable. The standards shown are based on maintaining an interior noise level for the worst-case hour L_{10} less than or equal to 45 dBA. Mitigation requirements are shown in Table 7-5.

Table 7-4
Noise Exposure Guidelines
For Use in City Environmental Impact Review[1]

Receptor Type	Time Period	Acceptable General External Exposure	Airport[3] Exposure	Marginally Acceptable General External Exposure	Airport[3] Exposure	Marginally Unacceptable General External Exposure	Airport[3] Exposure	Clearly Unacceptable General External Exposure	Airport[3] Exposure
1. Outdoor area requiring serenity and quiet[2]		$L_{10} \leq 55$ dBA	Ldn ≤ 60 dBA						
2. Hospital, Nursing Home		$L_{10} \leq 55$ dBA		$55 < L_{10} \leq 65$ dBA	60 < Ldn ≤ 65 dBA	$65 < L_{10} \leq 80$ dBA	(I) 65 < Ldn ≤ 70 dBA, (II) 70 ≤ Ldn	$L_{10} > 80$ dBA	Ldn ≤ 75 dBA
3. Residence, residential hotel or motel	7 AM to 10 PM	$L_{10} \leq 65$ dBA		$65 < L_{10} \leq 70$ dBA		$70 < L_{10} \leq 80$ dBA		$L_{10} > 80$ dBA	
	10 PM to 7 AM	$L_{10} \leq 55$ dBA		$55 < L_{10} \leq 70$ dBA		$70 < L_{10} \leq 80$ dBA		$L_{10} > 80$ dBA	
4. School, museum, library, court, house of worship, transient hotel or motel, public meeting room, auditorium, out-patient public health facility		Same as Residential Day (7 AM-10 PM)		Same as Residential Day (7 AM-10 PM)		Same as Residential Day (7 AM-10 PM)		Same as Residential Day (7 AM-10 PM)	
5. Commercial or office		Same as Residential Day (7 AM-10 PM)		Same as Residential Day (7 AM-10 PM)		Same as Residential Day (7 AM-10 PM)		Same as Residential Day (7 AM-10 PM)	
6. Industrial, public areas only[4]	Note 4	Note 4		Note 4		Note 4		Note 4	

Notes:
(i) In addition, any new activity shall not increase the ambient noise level by 3 dBA or more;
1 Measurements and projections of noise exposures are to be made at appropriate heights above site boundaries as given by American National Standards Institute (ANSI) Standards; all values are for the worst hour in the time period.
2 Tracts of land where serenity and quiet are extraordinarily important and serve an important public need and where the preservation of these qualities is essential for the area to serve its intended purpose. Such areas could include amphitheaters, particular parks or portions of parks or open spaces dedicated or recognized by appropriate local officials for activities requiring special qualities of serenity and quiet. Examples are grounds for ambulatory hospital patients and patients and residents of sanitariums and old-age homes.
3 One may use the FAA-approved L_{dn} contours supplied by the Port Authority, or the noise contours may be computed from the federally approved INM Computer Model using flight data supplied by the Port Authority of New York and New Jersey.
4 External Noise Exposure standards for industrial areas of sounds produced by industrial operations other than operating motor vehicles or other transportation facilities are spelled out in the New York City Zoning Resolution, Sections 42-20 and 42-21. The referenced standards apply to M1, M2, and M3 manufacturing districts and to adjoining residence districts (performance standards are octave band standards).
Source: New York City Department of Environmental Protection (adopted policy 1983).

Table 7-5
Required Attenuation Values to Achieve Acceptable Interior Noise Levels

	Marginally Unacceptable				Clearly Unacceptable
Noise Level With Proposed Project	$70 < L_{10} \leq 73$	$73 < L_{10} \leq 76$	$76 < L_{10} \leq 78$	$78 < L_{10} \leq 80$	$80 < L_{10}$
Attenuation[A]	(I) 28 dB(A)	(II) 31 dB(A)	(III) 33 dB(A)	(IV) 35 dB(A)	$36 + (L_{10} - 80)^{B}$ dB(A)

Note:
[A] The above composite window-wall attenuation values are for residential dwellings and community facility development. Commercial office spaces and meeting rooms would be 5 dB(A) less in each category. All the above categories require a closed window situation and hence an alternate means of ventilation.
[B] Required attenuation values increase by 1 dB(A) increments for L_{10} values greater than 80 dBA.
Source: New York City Department of Environmental Protection

In addition, the *CEQR Technical Manual* uses the following criteria to determine whether a proposed project would result in a significant adverse noise impact. The impact assessments compare the proposed project's Build condition $L_{eq(1)}$ noise levels to those calculated for the No Build condition, for receptors potentially affected by the project.

If the No Build levels are less than 60 dBA $L_{eq(1)}$ and the analysis period is not a nighttime period, the threshold for a significant impact would be an increase of at least 5 dBA $L_{eq(1)}$. If the No Build noise level is equal to or greater than 62 dBA $L_{eq(1)}$, or if the analysis period is a nighttime period (defined in the CEQR standards as being between 10 PM and 7 AM), the incremental significant impact threshold would be 3 dBA $L_{eq(1)}$. (If the No Build noise level is 61 dBA $L_{eq(1)}$, the maximum incremental increase would be 4 dBA, since an increase higher than this would result in a noise level higher than the 65 dBA $L_{eq(1)}$ threshold.)

IMPACT DEFINITION

For purposes of impact assessment, this report will utilize a relative noise impact criteria which considers project-related increases in $L_{eq(1)}$ noise levels over future conditions without the project of greater than 5.0 dBA as significant impacts. The 5.0 dBA relative criteria is consistent with increases in noise levels that the public considers noticeable and likely to result in complaints. The $L_{eq(1)}$ descriptor is used in this document to quantify and describe both playground and traffic noise.

D. EXISTING NOISE LEVELS

Existing noise levels were measured for 20-minute periods during the two weekday peak periods—AM (7:30– 9:00 AM), and PM (3:00 – 4:30 PM) peak periods on April 22 and 27, 2010 at two receptor sites (i.e., Sites 1 and 2) adjacent to the project site to determine CEQR building attenuation requirements. Existing noise levels were also measured for 20-minute periods throughout the day at Site 2 for the at-grade playground analysis. Due to the elevated Long Island Railroad immediately adjacent to the proposed project site, measurements at Site 1 were performed simultaneously at two microphone heights: 5 feet and 12 feet. Site 1 was located on 44th Avenue between National Street and 97th Place and Site 2 was located on 43rd Avenue between 97th Place and 99th Street (see Figure 7-1).

Measurements were performed using one Brüel & Kjær Sound Level Meter (SLM) Type 2260 (S/N 2001692) and one Brüel & Kjær SLM Type 2270 (S/N 2706757), Brüel & Kjær ½ inch microphones Type 4189 (S/N 2021267 and S/N 2695523), and Brüel & Kjær Sound Level Calibrators Type 4231 (S/N 1800102 and S/N 2688762). The Brüel & Kjær SLM is a Type 1 instrument according to ANSI Standard S1.4-1983 (R2006). The SLMs have a laboratory calibration date of July 22, 2009 and March 11, 2010, respectively which are valid through July of 2010 and March of 2011, respectively. The microphone was mounted at a height of approximately five feet above the ground surface (for the at grade measurement, elevated measurement was approximately 12 feet above the ground surface) on a tripod and at least six feet away from any large, sound-reflecting surface to avoid major interference with sound propagation. The SLM was calibrated before and after readings with a Brüel & Kjær Type 4231 Sound Level Calibrator using the appropriate adaptor. Measurements at each location were made on the A-scale (dBA). The data were digitally recorded by the sound level meter and displayed at the end of the measurement period in units of dBA. Measured quantities included L_{eq}, L_1, L_{10}, L_{50}, and L_{90} levels. A windscreen was used during all sound measurements except for calibration. All measurement procedures were based on the guidelines outlined in ANSI Standard S1.13-2005.

The noise monitoring results used for the building attenuation analysis are summarized in Table 7-6. The noise monitoring results used for the playground impact assessment are summarized in Table 7-7.

Table 7-6
Existing Noise Levels (dBA)

Site	Measurement Location	Time		L_{eq}	L_1	L_{10}	L_{50}	L_{90}
1 (5 foot microphone height)	44th Avenue between National Street and 97th Place	Weekday	AM	72.4*	88.7	69.0	53.1	48.4
			PM	59.3	70.7	63.6	51.9	46.6
1 (12 foot microphone height)	44th Avenue between National Street and 97th Place	Weekday	AM	74.0*	90.4	68.7	54.1	50.1
			PM	61.3*	72.6	59.9	52.3	47.9
2	43rd Avenue between 97th Place and 99th Street	Weekday	AM	62.4	72.5	65.2	59.5	52.5
			PM	66.7	76.4	70.7	61.9	56.5

Notes: Field measurements were performed by AKRF, Inc. on April 22 and 27, 2010.
* L_{eq} values exceed L_{10} values due to train pass-bys.

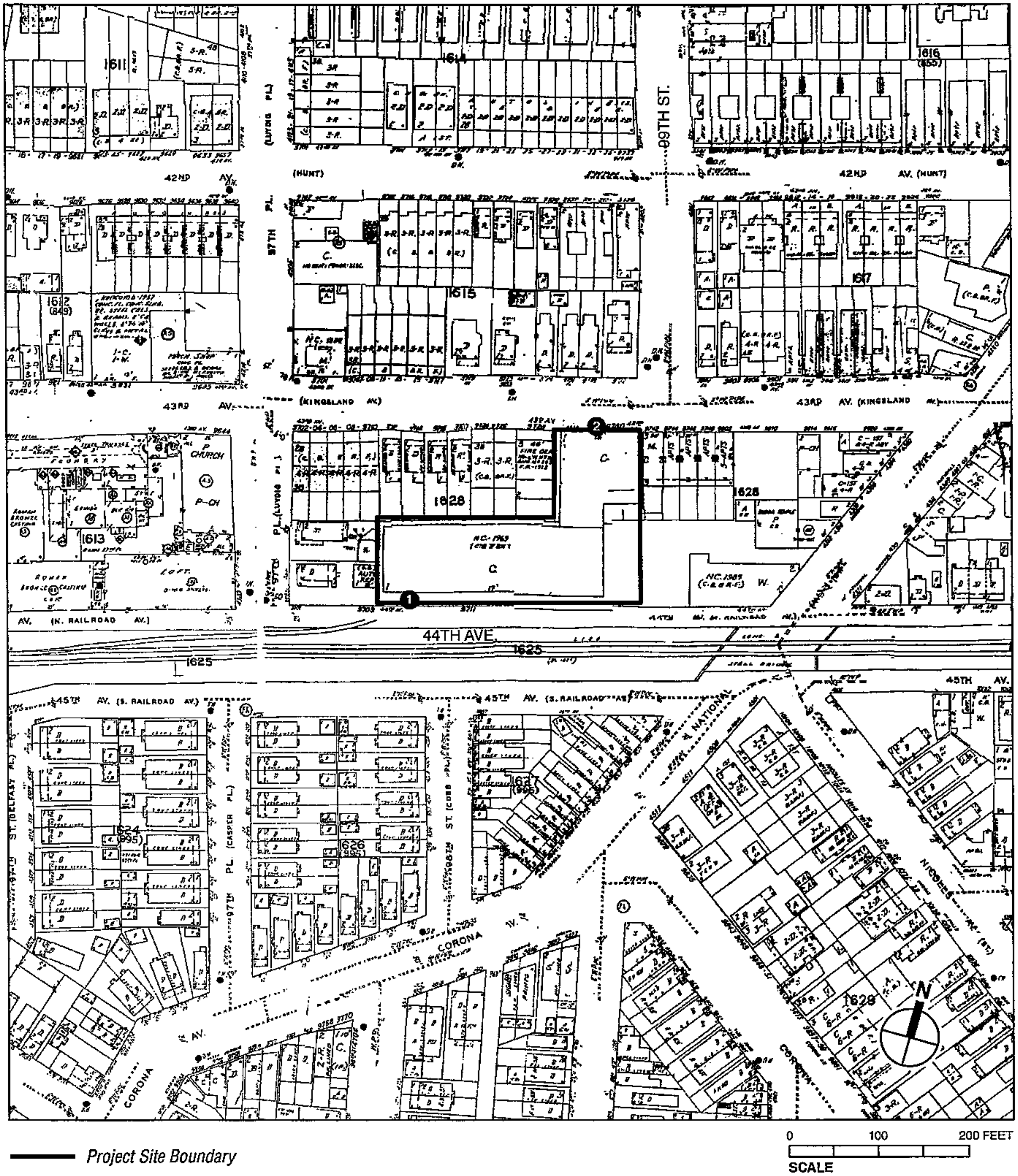
Table 7-7
Lowest Existing Noise Levels for Site 2 (in dBA)

Site	Measurement Location	Time		L_{eq}	L_1	L_{10}	L_{50}	L_{90}
2	43rd Avenue between 97th Place and 99th Street		AM	60.0	68.6	63.1	56.4	49.7
		Weekday	PM	60.7	69.9	63.9	56.3	50.0

Notes: Field measurements were performed by AKRF, Inc. on April 22, 2010

At Site 1, traffic and rail noise were the dominant noise sources. At Site 2, traffic noise was the dominant noise source. Measured noise levels were low to moderate and reflect the level of vehicular activity on the adjacent streets. In terms of the CEQR criteria, the existing noise levels at Sites 1 would be in the "acceptable" category and existing noise levels at Site 2 would be in the "marginally unacceptable" category.

1.27.11



Project Site Boundary

1 Noise Receptor

Noise Receptor Locations

Figure 7-1

E. NOISE FROM THE SCHOOL PLAYGROUND

Table 7-8 shows the maximum hourly playground boundary noise levels for the two time periods analyzed. These values are based upon measurements made at a series of New York City school playgrounds for the New York City School Construction Authority (SCA).[1]

Table 7-8
Maximum Hourly Playground Boundary $L_{eq(1)}$ Noise Levels (dBA)

Time Period	Elementary Schools	Intermediate Schools	High Schools
AM	69.3	64.9	68.2
PM	62.9	64.3	64.3
Source: SCA Playground Noise Study, AKRF, Inc., October 23, 1992.			

Geometric spreading and the consequent dissipation of sound energy with increasing distance from the playground decreases noise levels at varying distances from the playground boundary. Based upon measurements and acoustical principles, hourly noise levels were assumed to decrease by the following values at the specified distances from the playground boundary: 4.8 dBA at 20 feet, 6.8 dBA at 30 feet, and 9.1 dBA at 40 feet. For all distances between 40 and 300 feet, a 4.5-dBA drop-off per doubling of distances from the playground boundary was assumed.

There are two recreational areas for students in the current design of the school. The main playground area is expected to be located at the northern portion of the project site bordering 43rd Avenue and a smaller open space is expected to be located at the western portion of the project site bordering 44th Avenue. As a result, the residences north of the site (near Site 1) and the residences north and east of the site (near Site 2) would have the greatest potential for noise level increase. As a result of the existing noise levels and the small distance between the proposed playground sites and the nearby residences, the levels generated by the playground have the potential to create large noise level increases and therefore could potentially result in a significant adverse impact.

Table 7-9 shows the results of combining the projected main playground noise levels with the measured existing levels. Table 7-10 shows the results of combining the projected noise levels with the smaller open space with the measured existing levels. If these recreational areas were located further from the adjacent residences, the noise levels at the residences would decrease.

With the existing main playground design/layout, the change in noise levels at 97-42 43rd Avenue would be greater than 5 dBA during those portions of the school day when the playground is being used. These noise level increases would be considered significant under SCA criteria. However, predicted interior noise levels associated with the proposed playground would be expected to be less than the CEQR 45 dBA $L_{10(1)}$ interior noise level guideline. As a result, the noise level increases at this location would be considered significant increases but would not constitute a significant impact.

With the smaller open space design/layout, the change in noise levels at 97-12 43rd Avenue would be less than 5 dBA during those portions of the school day when the open space is being used. As a result, the noise level increases at this location would be not be considered a significant impact.

---

[1] SCA Playground Noise Study, AKRF, Inc., October 23, 1992.

Table 7-9
Noise Levels due to the Main School Playground (dBA)

Analysis Location	Time	Existing L_{eq}[1]	Playground L_{eq}[2]	Approximate Distance (feet)	Playground L_{eq} at Receptor	Combined L_{eq}	Predicted L_{10}[3]	Change
97-33 43rd Avenue	AM	60.0	64.9	60	53.6	60.9	63.7	0.9
	PM	60.7	64.3		53.0	61.4	64.2	0.7
97-42 43rd Avenue (windows closest to street)	AM	57.0	64.9	5	63.7	64.5	67.3	7.5
	PM	57.7	64.3		63.1	64.2	67.0	6.5
97-42 43rd Avenue (2nd Floor Windows)	AM	56.0	64.9	16	61.1	62.2	65.1	6.3
	PM	56.7	64.3		60.5	62.0	64.8	5.3
97-42 43rd Avenue (windows furthest from street)	AM	55.2	64.9	5	63.7	64.3	67.1	9.0
	PM	55.9	64.3		63.1	63.9	66.7	7.9
North facade of proposed school	AM	50.8	64.9	0	64.9	65.1	67.9	14.3
	PM	51.5	64.3		64.3	64.5	67.3	13.0

Note: [1] Existing L_{eq} levels were taken from the quietest hour of measurements (see Table 7-7) minus a correction factor to account for the distance from the road.
[2] Playground L_{eq} is at the boundary. The proposed school will be an Intermediate School (See Table 7-8).
[3] Predicted L_{10} is calculated based on SCA Playground Noise Study, AKRF, Inc., October 23, 1992.

F. NOISE ATTENUATION MEASURES

As shown in Table 7-5, the New York City *CEQR Technical Manual* has set noise attenuation quantities for buildings based on exterior $L_{10(1)}$ noise levels in order to maintain interior noise levels of 45 dBA or lower for classroom uses. The results of the building attenuation analysis are summarized in Table 7-10.

Table 7-10
Noise Levels due to the Smaller Open Space (dBA)

Analysis Location	Time	Existing L_{eq} [1]	Open Space L_{eq} [2]	Approximate Distance (feet)	Open Space L_{eq} at Receptor	Combined L_{eq}	Predicted L_{10} [3]	Change
97-12 43rd Avenue	AM	62.0	64.9	30	58.1	63.5	66.3	1.5
	PM	58.4	64.3		57.5	61.0	63.8	2.6
West façade of proposed school	AM	72.4	64.9	0	64.9	73.1	71.4	0.7
	PM	59.3	64.3	0	64.3	65.5	68.7	6.2

Note:
1 Existing L_{eq} levels were taken from the AM and PM measurements (see Table 7-6) minus a correction factor to account for the distance from the road.
2 Open Space L_{eq} is at the boundary. The proposed school will be an Intermediate School (See Table 7-8).
3 Predicted L_{10} is calculated based on SCA Playground Noise Study, AKRF, Inc., October 23, 1992.

The attenuation of a composite structure is a function of the attenuation provided by each of its component parts and how much of the area is made up of each part. Normally, a building façade is comprised of the wall, glazing, and any vents or louvers for HVAC/air conditioning units in various ratios or area. The proposed developments' building façade design would include double-glazed windows. Additionally, the proposed development at 97-36 43rd Avenue would include an alternate means of ventilation (i.e., air conditioning). The proposed building's facades, including these elements would be designed to provide a composite Outdoor-Indoor Transmission Class (OITC) rating greater than or equal to the attenuation requirements listed in Table 7-11. The OITC classification is defined by the American Society of Testing and Materials (ASTM E1332-90 [Reapproved 2003]) and provides a single-number rating that is used for designing a building façade including walls, doors, glazing, and combinations thereof. The OITC rating is designed to evaluate building elements by their ability to reduce the overall loudness of ground and air transportation noise. By adhering to these design requirements, the proposed developments' building facades will thus provide sufficient attenuation to achieve the CEQR interior noise level guideline of 45 dBA L_{10} for classroom uses.

Table 7-11
CEQR Building Attenuation Requirements

Façade	Attenuation Required (in dBA)
North (facing 43rd Avenue)	NA
South (facing 44th Avenue)	NA
West (facing Smaller Open Space)	28

Note: The attenuation requirement for the North and West Façades accounts for both the measured existing noise and noise associated with the proposed outdoor playgrounds.

Based upon the $L_{10(1)}$ values measured at the proposed development site (shown in Table 7-6), designing the proposed development based on the measures outlined in this report would provide sufficient attenuation to achieve the CEQR interior noise level requirements.

In addition, the building mechanical system (i.e., heating, ventilation, and air conditioning systems) would be designed to meet all applicable noise regulations (i.e., Subchapter 5, §24-227 of the New York City Noise Control Code and the New York City Department of Buildings and Mechanical Codes) and to avoid producing levels that would result in any significant increase in ambient noise levels. *

A. INTRODUCTION

This section addresses environmental conditions at the location of the proposed public school, hereafter referred to as the proposed project site. A Phase I Environmental Site Assessment (ESA) of 97-36 43rd Avenue was completed by Langan Engineering and Environmental Services, P.C. (Langan) on behalf of the New York City School Construction Authority (NYCSCA), in June 2009. The main objective of the Phase I ESA was to identify the presence or likely presence, use, or release of hazardous substances or petroleum products which are defined in American Society of Testing and Materials (ASTM) Standard Practice E 1527-05 as recognized environmental conditions (RECs). In addition, other environmental issues or conditions such as radon, asbestos-containing materials (ACM), lead-based paint (LBP), and polychlorinated biphenyl (PCB) containing equipment were evaluated. The Phase I ESA included a site inspection, a review of the existing data on geology and hydrology of the area, and a review of historical maps, local agency records, and other documents to assess past and current uses of the proposed project site and adjacent areas.

The Phase I ESA identified on-site RECs related to a dry well, a suspect underground storage tank (UST) and historic use of the site for a rail road spur with coal storage areas. Several off-site RECs were also identified, including an adjoining New York City Fire Department Station with petroleum storage, an adjoining active auto repair shop, several nearby registered dry cleaners, a nearby gasoline station, several nearby historic auto repair facilities, an historic Corona Town Garage with gasoline tanks, and several historic manufacturing activities (glass making, a foundry, printing, clothing, woodworking and varnishing) near the site. In addition, environmental concerns were identified at the site, including potential asbestos-containing material (ACM), suspect polychlorinated biphenyl (PCB)-containing caulking material and light ballasts, and suspect lead-based paint (LBP) on interior and exterior painted surfaces. A Phase II Environmental Site Investigation (ESI) was completed by Langan on behalf of the NYCSCA in December 2009 to assess the RECs identified in the Phase I ESA.

B. EXISTING CONDITIONS

The proposed project site is located at 97-36 43rd Avenue (Block 1628, Lot 21) in Corona, Queens, and consists of a 40,000-square-foot L-shaped lot that fronts 43rd and 44th Avenues. A one-story warehouse building, owned by W & R Associates, with a 27,560-square-foot footprint occupies the proposed project site. The warehouse is used for the storage and distribution of building materials, which include PVC pipe, floor tiles, and plumbing fixtures. Prior to the construction of the warehouse building in 1969, the proposed project site contained a lumber yard, a coal storage yard, and a spur of the Long Island Railroad (LIRR).

A Phase II was conducted to determine if the RECs identified in the Phase I ESA have affected the site's suitability as a public school facility. Phase II ESI field activities included a geophysical survey, a limited asbestos survey, the advancement of three sub-slab soil vapor points, five soil vapor points, seven soil borings, eight temporary monitoring wells, and the collection and laboratory analysis of soil, groundwater and soil vapor samples from these locations. In addition, two ambient air samples and a dry well sediment sample were collected for laboratory analysis.

Based on observations during the Phase II ESI, the proposed project site is underlain by historic urban fill material, consisting of fine-to-coarse grained sand, some silt and gravel and wood, brick and glass fragments, to a maximum depth of six feet below ground surface (bgs). Native material consisting of fine to coarse sand and gravel underlies the historic fill material and extends to the groundwater table, approximately 28 to 32.5 feet bgs. The anticipated groundwater flow direction is in a south-southeasterly direction towards Meadow Lake, approximately 5,500 feet from the proposed project site. Geophysical anomalies indicative of USTs were not identified during a geophysical survey performed at the proposed project site.

The collected soil and dry-well sediment samples were analyzed for a combination of the following analytical parameters: volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), PCBs, metals, total petroleum hydrocarbons (TPH), pesticides, herbicides and cyanide. 10 soil samples were analyzed for Target Compound List (TCL) VOCs plus tentatively identified compounds (TICs) in accordance with United States Environmental Protection Agency (USEPA) Method 8260, TCL SVOCs plus TICs in accordance with USEPA Method 8270, PCBs in accordance with USEPA Method 8082, and Resource Conservation and Recovery Act (RCRA) metals plus cobalt and copper in accordance with USEPA 6000/7000 method series. Two soil samples where the total lead concentration was greater than 100 milligrams per kilogram (mg/kg) were analyzed for lead utilizing the Toxicity Characteristic Leaching Potential (TCLP). Four of the soil samples were also analyzed for TPH diesel-range organics (DRO) and gasoline-range organics (GRO) in accordance with USEPA Method 8015-modified, pesticides in accordance with Method 8081A, herbicides in accordance with USEPA Method 8151A, hexavalent chromium in accordance with USEPA Method 7196A, and cyanide in accordance with USEPA Method 9010B/9012A.

Each of the eight groundwater samples was analyzed for TCL VOCs and SVOCs plus TICs, PCBs and RCRA metals. One of the groundwater samples was also analyzed for the New York City Department of Environmental Protection (NYCDEP) Sewer Discharge Parameters. The 3 sub-slab soil vapor samples, 5 soil vapor samples and both ambient air samples were analyzed for 26 select VOCs in accordance with USEPA Method TO-15.

A review of the soil VOC analytical results indicated that no VOCs were detected at concentrations above the corresponding NYSDEC Part 375 soil cleanup objectives (SCO) for unrestricted use.

A review of the soil analytical results indicate that SVOCs were greater than the corresponding SCOs for unrestricted use in one of the nine collected soil samples. Benzo*(a)*anthracene, benzo*(b)*fluoranthene, benzo*(k)*fluoranthene, chrysene, and indeno *(1,2,3-cd)*pyrene, were detected at concentrations above the corresponding SCOs for unrestrictive use at boring SS-3 in the central portion of the proposed project site. The presence of the above SVOCs at this location is attributable to the presence of historic fill. Concentrations of at least one PCB aroclor was detected above the unrestricted use SCOs in two of the seven completed soil borings (SS-6 & SS-8). A review of the metals analytical results indicate that one or more of the following five metals, arsenic, cadmium, copper, lead and mercury, were detected at concentrations greater than the Unrestricted Use SCOs in four of the seven completed soil borings (SS-2, SS-3, SS-6, and SS-8). The presence of PCBs and metals is attributable to historic use of the proposed project site as a railroad spur and/or the urban fill material.

A review of the analytical results for the composite soil samples revealed that three pesticides, endrin, 4,4'-DDT and 4,4'-DDE, were detected in one of the four soil samples (COMP1-0-4) at concentrations greater than the corresponding Unrestricted Use SCOs. These pesticides are commonly found in the environment due to their persistent nature and former widespread use for the control of mosquitoes and other insects.

TPH GRO was not detected in any of the four analyzed composite soil samples. TPH DRO was detected in one of the four composite samples (COMP1 0-4) at a concentration of 724 mg/kg. There are no local, New York State or federal regulatory criteria for either TPH GROs or DROs in soil.

The VOC (acetone), an SVOC (indeno(*1,2,3-cd*) pyrene), PCB aroclor 1260, and mercury were detected in the dry well sediment at concentrations above the NYSDEC Unrestricted Use SCOs. These contaminants may be related to historic facility discharges at the proposed project site to the dry well and/or past use of the proposed project site as a railroad spur.

Groundwater sample analysis revealed that the VOC trichloroethene (TCE) was detected at concentrations greater than the NYSDEC Class GA groundwater standard in three of the eight ground water sampling locations. The presence of TCE was limited to the northern and hydraulically upgradient portion of the proposed project site. In addition, TCE was not detected in any of the nine soil samples collected at the proposed project site. The distribution of TCE in ground water along the up-gradient perimeter of the site and the lack of TCE reported in soil suggest that the presence of TCE in groundwater is attributed to an off-site source.

Metals and PCBs in the groundwater samples were either not detected by the laboratory, or were detected at concentrations below the corresponding State ground water quality standards. Select SVOCs were detected in only one (TMW-3) of the eight groundwater samples. Benzo*(a)*anthracene, benzo*(b)*fluoranthene, benzo*(k)*fluoranthene, chrysene, and indeno(*1,2,3-cd*)pyrene were detected at well (TMW-3) at concentrations above the corresponding State groundwater standards or guidelines. The sample was cloudy with a turbidity measurement of 247 Nephelometric Turbidity Units (NTUs). The detected SVOCs are lipophilic organic compounds (soluble in oil and not water) and the occurrence of these virtually insoluble compounds in the groundwater sample may be due to entrained sediment and not actual groundwater conditions. All of the analyzed NYCDEP discharge parameters were reported below the respective effluent limits.

A review of the soil vapor sample analytical results indicate that 10 of the 26 analyzed VOCs were detected in sub-slab and soil vapor samples. The VOCs 1,1,1-trichloroethane (1,1,1-TCA), benzene, chloromethane, ethylbenzene, *m,p*-xylenes, *o*-xylenes, tetrachloroethene (PCE), (TCE) and toluene were detected in soil vapor at concentrations above the anticipated background concentrations at one or more of the eight sampled locations. The New York State Department of Health (NYSDOH) has established Air Guidance Values (AGVs) for three of the VOCs analyzed: methylene chloride, PCE and TCE. Methylene Chloride was not detected at in any of the eight soil vapor samples. The detected concentrations of PCE range from 25 to 152 micrograms per cubic meter (µg/m3) with two of the sampled locations (SV-2 and SV-8) slightly above the AGV of 100 µg/m3. The detected concentrations of TCE were above the corresponding AGV of 5 µg/m3 at five locations (SV-2, SV-5, SV-6, SV-7, and SV-8). The maximum detected concentration of TCE in soil vapor was 54.3 µg/m3 at soil sample SV-7.

C. THE FUTURE WITHOUT THE PROJECT

This analysis assumes that without the proposed project, the existing warehouse use on the site would remain.

D. PROBABLE IMPACTS OF THE PROPOSED PROJECT

The proposed project would not result in impacts from contaminated media and building materials if the following measures are followed.

- Prior to the construction of the project, the extent of PCB-impacted soil will be delineated as part of a pre-design investigation.
- Any PCB-impacted soil identified during the pre-design investigation will be removed in accordance with all applicable regulations.
- The existing dry well and its contents will be removed and managed in accordance with all applicable regulations.
- As a preventative measure, a soil vapor barrier and a sub slab depressurization system would be installed below the building to prevent the potential for soil vapor intrusion into the proposed school building.
- Prior to construction, any ACM, LBP, and PCB-containing materials affected by the preparation of the site for use as a public school will be identified and properly managed during construction activities.
- For areas of the site where exposed soils may exist (i.e., landscaped areas), a 24- inch thick layer of environmentally clean fill will be placed over the soils.
- In addition, to minimize the potential for construction workers' exposure, standard industry practices, including appropriate health and safety measures, will be utilized. *

A. INTRODUCTION

Construction activities, although temporary in nature, can sometimes result in significant adverse environmental impacts. This chapter summarizes the construction plan for the proposed project and assesses the potential for construction-period impacts. The stages of construction and their associated activities and equipment are described first, followed by the types of impacts likely to occur. The assessment also describes methods that may be employed to minimize construction-period impacts.

As described below, the analysis concludes that the proposed project would not result in extensive construction-related effects with respect to any of the analysis areas of concern. Therefore, no significant adverse impacts are expected to occur as a result of construction.

B. DESCRIPTION OF CONSTRUCTION ACTIVITIES

It is anticipated that construction of the proposed project would require a total of approximately 36 months to complete, although the major external construction activities are expected to be completed within approximately 31 months. Based on current plans, construction would begin in 2012 and be completed in 2015. A breakdown of the anticipated construction program is shown below in Table 9-1.

Table 9-1
On-Site Construction Activities

Construction Activity	Months of Construction
Mobilization, Demolition, Excavation and Foundation	Months 6
Superstructure and Exterior Work	Months 9
Interior Construction and Fit-out	Months 12
Exterior Finishing and Landscaping	Months 3
Source: New York City School Construction Authority	

Construction would begin with the fencing and screening of the site followed by site demolition, excavation and grading. First any economically salvageable materials are removed. Then the building is deconstructed using large equipment. Typical demolition requires solid temporary walls around the building to prevent accidental dispersal of building materials into areas accessible to the general public. As the building is being deconstructed, bulldozers and front-end loaders would be used to load materials into dump trucks. The demolition debris would be sorted prior to being disposed at landfills to maximize recycling opportunities. Soil would be excavated from the project site and removed by truck to a licensed landfill or recycling facility. If soil containing petroleum or other contaminated materials is discovered during excavation activities, it would be segregated and disposed of in accordance with all applicable Federal, State, and local regulations and guidelines. Additionally, all material that needs to be removed from the site would be disposed of in accordance with applicable requirements. Where bedrock is shallow it is likely that solid rock excavation would be necessary. While the specific methods used for rock excavation cannot be determined until a subcontractor is selected, excavation typically includes rock drilling and/or controlled blasting, and the use of heavy excavation equipment and cranes to remove broken rock from the site. During this period, piles would be driven, as necessary, to support the building, and pile caps would be formed and concrete poured to build the foundations for the building. Next, the project's structural frame and exterior façade would be erected. Construction of the exterior enclosure, or "shell" of the building would include construction of the building's framework (installation of beams and columns), floor decks, facade (exterior walls and cladding), and roof construction. In the final year one to two years of construction, interior finishing would proceed, including electrical work, plumbing, wall and ceiling construction, painting, floorwork, and other finishing items along with the completion of the remaining exterior work, such as utility and façade work. During this time, most work would occur inside, and operation of heavy on-site equipment would be infrequent. As construction nears completion on the interior of the project, final site work would commence and would include construction of the outdoor play yards and landscaping.

The estimated average number of workers on site by phase would be: 40 workers for mobilization, demolition, excavation and foundation; 60 workers for superstructure and exterior work; 120 workers for interior construction and fit-out; and 40 workers for exterior finishing and landscaping.

Typical equipment used for demolition, excavation, and foundation work would include excavators, bulldozers, backhoes, compaction equipment, tractors, jackhammers, and concrete pumping trucks. Other equipment that would be used include hoist complexes, dump trucks and loaders, concrete trucks, and back hoes. Trucks would deliver concrete and other building materials, and remove excavated material as well as demolition and construction debris. The construction equipment likely to be used during erection of the superstructure would include compressors, cranes, derricks, hoists, bending jigs, and welding machines. During facade and roof construction, hoists may continue to be used. Trucks would remain in use for material supply and construction waste removal. Interior and finishing work would employ a large number of construction workers, and a wide variety of fixtures and supplies would have to be delivered to the site. It is anticipated that trucks would access the project site from 43rd Avenue (if accessing the project area from Junction Boulevard) and 44th Avenue (if accessing the project area from National Street).

The majority of construction activities would take place Monday through Friday, although if necessary, the delivery or installation of certain equipment could occur on weekend days. Hours of construction are regulated by the New York City Department of Buildings (DOB) and apply in all areas of the City. These requirements are reflected in the collective bargaining agreements with major construction trade unions. In accordance with those regulations, almost all work could occur between 7 AM and 6 PM on weekdays, although some workers would arrive and begin to prepare work areas before 7 AM. Occasionally, Saturday or overtime hours would be required to complete time-sensitive tasks. Weekend work requires a permit from the DOB and, in certain instances, approval of a noise mitigation plan from the New York City Department of Environmental Protection (NYCDEP) under the City's Noise Code. The New York City Noise Control Code, as amended in December 2005 and effective July 1, 2007, limits construction (absent special circumstances as described below) to weekdays between the hours of 7 AM and 6 PM, and sets noise limits for certain specific pieces of construction equipment. Construction activities occurring after hours (weekdays between 6 PM and 7 AM and on weekends) may be permitted only to accommodate: (1) emergency conditions, (2) public safety, (3) construction projects by or on behalf of City agencies, (4) construction activities with minimal noise impacts, and (5) undue hardship resulting from unique site characteristics, unforeseen conditions, scheduling conflicts and/or financial considerations. 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, beginning with worker arrival and site preparation at 7 AM, and ending with site cleanup at 5 PM. Movement of certain oversized materials, to comply with the requirements of the New York City Department of Transportation (NYCDOT), would occur at night.

Much of the proposed project's construction staging would occur within the project site, thereby limiting any effects on surrounding roadways and pedestrian elements. However, certain construction activities may require the temporary closing, narrowing, or otherwise impeding of 44th Avenue, the sidewalk along 44th Avenue, as well as the sidewalk and parking lane immediately adjacent to the project site along 43rd Avenue.

As described in Chapter 1, "Project Description," a new 1,110-seat P.S. may be constructed at 96-18 43rd Avenue, one block west of the proposed project. The environmental analysis considers two analysis scenarios for the future without the proposed project—Scenario One includes construction of the 1,110-seat P.S. by 2015, and Scenario Two assumes that the new P.S. is not constructed by 2015.

Under Scenario One, construction of the new P.S. at 96-18 43rd Avenue would proceed along the same timeframe with the construction schedule of the proposed project. It is assumed that while the major external construction activities associated with the two projects would occur at similar times, they would be short-term in nature (lasting less than two years). SCA would coordinate construction activities of the two projects to ensure that access is provided to nearby residences, businesses, and community facilities at all times.

Under Scenario Two, construction of the new P.S. at 96-18 43rd Avenue would proceed at some point in the future. While the construction timetable for P.S. in this Scenario is unknown under this scenario, it is unlikely that the major external construction activities associated with the two projects would overlap (i.e. last longer than two consecutive years). Furthermore, as described below, the construction activities for both projects will be subject to New York City Local Law 77, which would require the use of best available technology (BAT) for equipment at the time of construction. Therefore, once one of the planned schools is operational, no construction–related impacts associated with the other planned school would occur with these measures in place.

C. PROBABLE IMPACTS DURING CONSTRUCTION

As with most development in New York City, construction of the proposed project may be disruptive to the surrounding area for limited periods of time throughout the construction period. The following analyses describe the proposed project's temporary effects on transportation systems, air quality, noise, historic resources, hazardous materials, natural resources, land use and neighborhood character, socioeconomic conditions, community facilities, open space, and infrastructure, as well as the economic benefits associated with the construction.

TRANSPORTATION

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.

As described above, much of the proposed project's construction staging would occur within the project site, thereby limiting any affects on surrounding roadways and pedestrian elements. However, certain construction activities may require the temporary closing, narrowing, or otherwise impeding of 44th Avenue, the sidewalk along 44th Avenue, as well as the sidewalk and parking lane immediately adjacent to the project site along 43rd Avenue. These potentially affected locations are not along New York City Transit bus routes, nor are they areas of high vehicular or pedestrian activity. As detailed in Chapter 5, "Transportation," the analyzed intersections and studied pedestrian elements immediately surrounding the project site operate at acceptable levels of service, and would continue to operate at acceptable levels of service under the No-Action conditions except for the westbound approach at the intersection of 44th Avenue and National Street, which operates at congested conditions (beyond mid-LOS D) during the PM peak hour under the existing conditions ,as well as during the AM and PM peak hours under the Scenario One No Build conditions, and during the PM peak hour under the Scenario Two No Build conditions. Construction-related closures are anticipated to be the type of routine closure typically addressed by a permit (and pedestrian access plan) required by New York City Department of Transportation (DOT) Office of Construction Mitigation and Coordination (OCMC) at the time of closure. Additionally, the potentially-affected roadways and pedestrian elements are not located near sensitive land uses such as a hospital or school. The potential effects of construction activities on access to and from the New York City Fire Department's (FDNY's) firehouse located at 97-28 43rd Avenue are addressed under "Community Facilities" below. In the event that construction of the new P.S. at 96-18 43rd Avenue overlaps with the construction schedule of the proposed project (Scenario One), SCA would coordinate construction activities of the two projects to ensure that access is provided to nearby residences and businesses at all times. Furthermore, as described below, the SCA would develop Maintenance and Protection of Traffic Plans (MTP Plans) for both projects and consult with FDNY and DOT's OCMC to ensure that any street and sidewalk closures on 43rd Avenue would not impede access to or from the firehouse. Also, in the event that construction of the new P.S. at 96-18 43rd Avenue occurs after I.S. 311 is operational, SCA would coordinate construction activities to ensure that safe vehicular and pedestrian access is provided to I.S. 311 during the hours of operation. Furthermore, as described below, the SCA would develop Maintenance and Protection of Traffic Plans (MTP Plans) for both projects and consult with FDNY and DOT's OCMC to ensure that any street and sidewalk closures on 43rd Avenue would not impede access to or from the firehouse.

Throughout the construction process, construction workers would travel to and from the site by personal vehicle, bus, and subway. Given that construction worker commuting trips generally occur during off-peak hours, and that there would not be a substantial number of construction workers at the project site on any given day, the construction worker trips are not expected to result in significant adverse impacts to the area's traffic operations, parking supply and utilization, bus loading, or subway station conditions. Therefore, the proposed project's construction activities are not expected to result in significant adverse transportation impacts.

AIR QUALITY AND NOISE

Air quality and noise impacts can be generated by construction vehicles and delivery vehicles traveling to and from a site, as well as by stationary equipment used for on-site construction activities. According to the *CEQR Technical Manual*, an assessment of air quality or noise impacts from construction vehicles is warranted only when quantified transportation analysis is needed for construction activities. As described above, the proposed project's construction activities are not anticipated to result in extended impacts to any transportation systems requiring quantified analysis, and therefore, an assessment of air quality or noise impacts from construction vehicles is not warranted.

With regard to the air quality and noise impacts of other construction activities (such as demolition, rock drilling, and pile driving), the *CEQR Technical Manual* suggests that potential impacts should be analyzed only when construction activities would affect a sensitive receptor over a long period of time. Construction duration as defined by the *CEQR Technical Manual* is broken down into short-term (less than two years) and long-term (two or more years). As described above, the proposed project's major external construction activities, which generate the greatest potential for air quality and noise impacts, would be short-term in nature (lasting less than two years). Since the proposed project would not cause noisy and/or diesel-powered construction equipment to be operating within 1,500 feet of a receptor for a period of time exceeding two years, significant adverse air quality and noise impacts are not anticipated, and quantified analyses are not warranted. The following sections qualitatively discuss the likely effects of on-site construction activities on air quality and noise, and describe measures to minimize construction-period impacts.

STATIONARY SOURCE AIR QUALITY IMPACTS

Most construction engines are diesel-powered, and produce relatively high levels of sulfur oxides (SO_2), nitrogen oxides (NO_X) and particulate matter ($PM_{2.5}$ and PM_{10}). Construction activities also emit fugitive dust.

Technologies have been developed to substantially reduce SO_2 and PM emissions. These include ultra low-sulfur diesel fuel (ULSD), diesel particulate filters (DPFs), and cleaner engines (Tier 2 or better). These technologies have become more readily available in New York City as they are required for large, ongoing public projects. The construction activities will be subject to New York City Local Law 77, which would require the use of best available technology (BAT) for equipment at that time of construction.[1] Based on estimates calculated for construction of other projects, the diesel particulate emission reduction measures can reduce emissions by more than 93 percent, on average, as compared with construction emissions without such controls.

Furthermore, as early in the construction period as practicable, diesel-powered equipment would be replaced with electrical-powered equipment, such as electric scissor lifts and electric articulating forklifts (i.e., early electrification). It is expected that the SCA would employ best

---

[1] New York City Administrative Code § 24-163.3, adopted December 22, 2003, also known as Local Law 77, requires that any diesel-powered non-road engine with a power output of 50 hp or greater that is owned by, operated by or on behalf of, or leased by a city agency shall be powered by ultra low sulfur diesel fuel (ULSD), and utilize the best available technology (BAT) for reducing the emission of pollutants, primarily particulate matter and secondarily nitrogen oxides. NYCDEP is charged with defining and periodically updating the definition of BAT.

available technologies and utilize ultra low-sulfur diesel fuel for construction equipment and vehicles, following the requirements for New York City sponsored projects.

All necessary measures would be implemented to ensure that the New York City Air Pollution Control Code regulating construction-related dust emissions is followed. Appropriate fugitive dust control measures would be employed and would include:

- watering off trucks and excavation equipment prior to exiting the site;
- watering the areas surrounding the site (sidewalks, streets, etc.) at the end of every work day;
- watering truck routes within the site as needed or, in cases where a route would remain in the same place for an extended duration, stabilizing, covering with gravel, or temporarily paving the route to avoid the resuspension of dust;
- equipping all trucks hauling loose material with tight fitting tailgates and covering the load prior to leaving the site;
- the use of closed chutes leading to covered bins for material drops during demolition;
- enforcement of an on-site vehicular speed limit of 5 mph;
- the use of water sprays for all excavation, demolition, and transfer of spoils to ensure that materials are dampened as necessary to avoid the suspension of dust into the air; and
- watering or covering loose materials, or stabilizing them with a biodegradable suppressing agent.

To reduce the resulting concentration increments at sensitive receptors, large emissions sources and activities, such as concrete trucks and pumps, would be located away from sensitive receptors to the extent practicable. Additional measures would be taken in accordance with applicable laws, regulations, and building codes. These include the restriction of on-site vehicle idle time to three minutes for all vehicles not using the engine to operate a loading, unloading, or processing device (e.g., concrete mixing trucks).

Under both New York State Environmental Quality Review Act (SEQRA) and New York City Environmental Quality Review (CEQR) requirements, the determination of the significance of impacts is based on an assessment of the predicted intensity, duration, geographic extent, and the number of people who would be affected by the predicted impacts. Guidelines for assessing potential impacts from NO_X, CO, and $PM_{2.5}$ are discussed in Chapter 6, "Air Quality." While it is possible that the construction activities may exceed certain thresholds used for assessing the potential for significant adverse air quality impacts, any exceedance would be limited in extent, duration, and severity. Based on the limited duration of these potential exceedances of threshold values, there would be no potential for significant adverse impacts from construction activities.

STATIONARY SOURCE NOISE IMPACTS

Noise and vibration levels at a given location are dependent on the kind and number 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), the distance from the construction site, and any shielding effects (from structures such as buildings, walls, or barriers). Noise levels caused by construction activities would vary widely, depending on the phase of construction and the location of the construction relative to receptor locations.

A wide variety of measures can be used to minimize construction noise and reduce potential noise impacts. A noise mitigation plan is required as part of the New York City Noise Control Code, and would include:

- Source controls;
- Path controls; and
- Receptor controls.

In terms of source controls (i.e., reducing noise levels at the source or during most sensitive time periods), the following measures for construction would be implemented:

- The contractors would use equipment that meets the sound level standards for equipment (specified in Subchapter 5 of the New York City Noise Control Code) from the start of construction activities and use a wide range of equipment, including construction trucks, that produce lower noise levels than typical construction equipment.
- Where feasible, the project sponsors would use construction procedures and equipment (such as generators, concrete trucks, delivery trucks, and trailers) that are quieter than that required by the New York City Noise Control Code.
- As early in the construction period as practicable, diesel-powered equipment would be replaced with electrical-powered equipment, such as electric scissor lifts and electric articulating forklifts (i.e., early electrification).
- All contractors and subcontractors would be required to properly maintain their equipment and have quality mufflers installed.

In terms of path controls (e.g., placement of equipment and implementation of barriers between equipment and sensitive receptors), the following measures for construction would be implemented:

- Perimeter noise barriers would be constructed that satisfy New York City Noise Control Code requirements.
- To the extent feasible, noisy equipment, such as generators, cranes, trailers, concrete pumps, concrete trucks, and dump trucks, would be located away from and shielded from sensitive receptor locations.

For impact determination purposes, significant adverse noise impacts are based on whether maximum predicted incremental noise levels at sensitive receptor locations off-site would be greater than the impact criteria suggested in the *CEQR Technical Manual* for two consecutive years or more. The impact criteria are explained in detail in Chapter 7, "Noise." While increases exceeding the CEQR impact criteria for two years or less may be noisy and intrusive, they are not considered to be significant adverse noise impacts. The residential and institutional buildings in the immediate vicinity of the project site generally contain double-glazed windows and/or alternative ventilation (i.e., air conditioning), which would greatly reduce interior noise levels compared with exterior noise levels and may result in interior noise levels of 45 dBA or less. In addition, except under special circumstances night work is not expected, and any exceedences of the CEQR criteria at sensitive locations would occur during day. Therefore, no long-term, significant adverse noise impacts are expected from construction activities.

HISTORIC AND CULTURAL RESOURCES

The assessment of construction impacts on historic and cultural resources considers the possibility of physical damage to any architectural or archaeological resources. Impacts on archaeological resources from construction are assessed as part of the overall evaluation of the proposed project's effect on archaeological resources (see Chapter 3, "Historic and Cultural Resources").

As detailed in Chapter 3, "Historic and Cultural Resources," construction of the proposed project does not have the potential to adversely affect any archaeological resources. There are two known architectural resources within 400 feet of the project site: Fire Engine Company 289/Ladder Company 138, located at 97-28 43rd Avenue immediately west of the project site; and the former Tiffany Studios Complex, which occupies the eastern end of the block bounded by 97th Place and 43rd, 44th, and Junction Avenues. The former Tiffany Studios Complex is located approximately 170 feet west of the project site and at that distance would not be affected by construction-related vibrations. However, the former Tiffany Studios Complex will be demolished in the future without the proposed project, as described above in "Description of Construction Activities." To avoid potential adverse physical effects on Fire Engine Company 289/Ladder Company 138, a Construction Protection Plan (CPP) would be developed and implemented prior to the commencement of any demolition or construction activities on the project site. The CPP would follow DOB's *TPPN #10/88,* regarding procedures for the avoidance of damage to historic structures resulting from adjacent construction, and would be prepared in consultation with SHPO and LPC. *TPPN #10/88* requires a monitoring program to reduce the likelihood of construction damage to adjacent NYCLs and S/NR-listed properties (within 90 feet) and to detect at an early stage the beginnings of damage so that construction procedures can be changed. As requested by OPRHP and to meet the conditions specified in OPRHP's April 29, 2010 findings letter, the CPP would be submitted to OPRHP for review.

HAZARDOUS MATERIALS

Chapter 8, "Soil and Groundwater Conditions," describes the findings of the Phase I Environmental Site Assessment (ESA) and the Phase II Environmental Site Investigation (ESI) that were conducted for the project site.

Demolition and excavation activities could disturb hazardous materials and increase pathways for human exposure. The SCA and/or its contractors would develop management plans (e.g., soil management plan, groundwater management plan, construction health and safety plan, etc.) to address any hazardous materials that may be encountered during construction of the school. The management plans prepared or reviewed by SCA would include measures to protect the health and safety of construction workers, school staff and students, and the public in general during construction and at the time of occupancy. Specific measures that would be implemented to avoid impacts are as follows:

- Procedures would be developed for managing any potential underground storage tanks and any encountered contamination (including procedures for stockpiling and off-site transportation and disposal) and appropriate health and safety procedures including the need for dust and organic vapor monitoring.
- Any unregistered tanks discovered prior to or during demolition activities would be registered with the New York State Department of Environmental Conservation (NYSDEC).

If applicable, spill reporting would be conducted, and contaminated soil/groundwater handled and disposed of in accordance with applicable requirements.

- A comprehensive asbestos survey of the affected areas would be conducted prior to demolition. If materials prove to contain asbestos, they would be properly removed and disposed of in accordance with all applicable regulations by a licensed asbestos abatement contractor.
- Any demolition activities with the potential to disturb lead-based paint would be performed in accordance with the applicable Occupational Safety and Health Administration regulation (OSHA 29 CFR 1926.62 - Lead Exposure in Construction).
- Prior to demolition, fluorescent light fixtures and other electrical equipment requiring disposal would be managed in accordance with applicable requirements.
- Any excavated soil requiring off-site disposal would be managed in accordance with applicable requirements, and, as necessary, tested in accordance with the requirements of the intended receiving facility. Transportation of all material leaving the site would be in accordance with applicable requirements covering licensing of haulers and trucks, placarding, truck routes, manifesting, etc.

In addition, to minimize the potential for construction workers' exposure, standard industry practices, including appropriate health and safety measures, will be utilized.

NATURAL RESOURCES

According to the 2010 *CEQR Technical Manual*, a construction assessment is needed for natural resources only if the construction activities would disturb a site or be located adjacent to a site containing natural resources. The project site and adjacent sites do not contain any natural resources, and therefore, no further assessment is warranted.

LAND USE AND NEIGHBORHOOD CHARACTER

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 site. There would also be noise, sometimes intrusive, from building construction as well as trucks and other vehicles backing, loading, and unloading.

While the predominant land use in the area is residential, the project site is within an M1-1 manufacturing zoning district, and there are several manufacturing and industrial uses located nearby. To the extent that construction activities are industrial in nature, the proposed project's construction activities would not present a new land use to the study area. There would be periods during which construction activities would be more obtrusive than what is typical of a light manufacturing district; however, those periods of time would be limited, and would not result in significant or long-term adverse impacts on the local land use patterns or character of the nearby area. In the event that construction of the new P.S. at 96-18 43rd Avenue (a No Build project) overlaps with the construction schedule of the proposed project, construction activities may be more obtrusive to the immediately surrounding uses; however, the construction periods would be limited, and would not result in significant or long-term adverse impacts.

SOCIOECONOMIC CONDITIONS

The *CEQR Technical Manual* suggests that if a project entails construction of a long duration that could affect the access to and therefore viability of a number of businesses, and the failure of those businesses has the potential to affect neighborhood character, then a preliminary assessment for construction impacts on socioeconomic conditions should be conducted. The proposed project would not have such effects. There are no commercial businesses at locations where construction activities could result in the temporary closing, narrowing, or otherwise impeding of roadways and sidewalks. The proposed project's construction activities would not impede access to any businesses, and therefore would not have any significant adverse impacts on socioeconomic conditions.

The proposed project's construction would create major direct benefits resulting from expenditures on labor, materials, and services, as well as substantial indirect benefits created by expenditures by material suppliers, construction workers, and other employees involved in the direct activity. Construction would also contribute to increased tax revenues for the City and State, including those from personal income taxes. Local businesses may also expect increased sales from construction worker spending (i.e., coffee, food, convenience products).

COMMUNITY FACILITIES AND SERVICES

According to the *CEQR Technical Manual*, a construction impact assessment should be conducted for any community facility that would be directly affected by construction (e.g., if construction would disrupt services provided at the facility or close the facility temporarily). There is one community facility that could potentially be affected by construction activities: Fire Engine Company 289/Ladder Company 138, which is located at 97-28 43rd Avenue, immediately west of the project site. Prior to construction of the proposed project, the SCA would coordinate with FDNY and DOT's OCMC to develop MTP Plans to ensure that any street and sidewalk closures on 43rd Avenue would not impede access to or from the firehouse. In the event that construction of the new P.S. at 96-18 43rd Avenue (a No Build project) overlaps with the construction schedule of the proposed project, the SCA would coordinate the MTP Plans for both projects and consult with FDNY and DOT's OCMC to ensure that any street and sidewalk closures on 43rd Avenue would not impede access to or from the firehouse. With these measures in place, the proposed project's construction activities would not have direct effects on community facilities, and no further analysis is warranted.

OPEN SPACE

According to the *CEQR Technical Manual*, a construction impacts analysis for open space should 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 for an extended period during construction activities. The proposed project would not have such effects. The proposed project's construction activities would not require the use of public open space, nor would construction affect access to or from a public open space. Therefore, there would be no significant adverse impacts to open space resources from construction, and no further assessment is warranted.

INFRASTRUCTURE

Prior to the start of construction, all utilities that may be present on site and that may be affected by construction activities would be relocated in accordance with all applicable New York City regulations.

The proposed project would receive some combination of electric and gas service via extensions of the existing Con Edison distribution system. During the superstructure stage of construction, some sidewalk and on-street construction activities would be required to connect the proposed buildings to existing utility networks. This may require short-term sidewalk excavations ranging from approximately 50 to 150 feet in length. The construction activities that would be required to connect the proposed project to existing energy systems are part of Consolidated Edison's normal operations for providing services to new customers, and occur on a regular basis throughout the city. *

APPENDIX A

OFFICE OF PARKS, RECREATION, HISTORIC PRESERVATION
NEW YORK STATE

New York State Office of Parks, Recreation and Historic Preservation

Historic Preservation Field Services Bureau • Peebles Island, PO Box 189, Waterford, New York 12188-0189
518-237-8643
www.nysparks.com

David A. Paterson
Governor

Carol Ash
Commissioner

April 26, 2010

Amy Diehl Crader
AKRF Environmental & Planning Consultants
440 Park Avenue South
7th Floor
New York, New York 10016

Re: NYCSCA
Construct new PS/IS School/97-36 43rd St
Corona/QUEENS, Queens County
10PR01294

Dear Ms. Diehl Crader:

Thank you for requesting the comments of the Field Services Bureau of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the project in accordance with the New York State Historic Preservation Act of 1980 (Section 14.09 of the New York Parks, Recreation and Historic Preservation Law). These comments are those of the Field Services Bureau and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8) and its implementing regulations (6 NYCRR Part 617).

Based upon this review, OPRHP has no further archaeological concerns regarding this project. Please continue to consult with our technical staff regarding their concerns.

If further correspondence is required regarding this project, please be sure to refer to the OPRHP Project Review (PR) number noted above. Please contact me at extension 3291, or by e-mail at douglas.mackey@oprhp.state.ny.us, if you have any questions regarding these comments.

Sincerely

Douglas P. Mackey

Douglas P. Mackey
Historic Preservation Program Analyst
Archaeology

NEW YORK STATE
OFFICE OF PARKS, RECREATION, HISTORIC PRESERVATION

New York State Office of Parks, Recreation and Historic Preservation

Historic Preservation Field Services • Peebles Island, PO Box 189, Waterford, New York 12188-0189
518-237-8643
www.nysparks.com

David Paterson
Governor

Carol Ash
Commissioner

April 29, 2010

Chris Perscheff
Site Selection Manager, Real Estate Services
New York City School Construction Authority
30-30 Thomson Avenue
Long Island City, New York 11101

Re: NYCSCA
New Construction – PS/IS School
97-36 43rd Avenue
Corona, Queens County
10PR01294

Dear Mr. Perscheff:

Thank you for requesting the comments of the Office of Parks, Recreation and Historic preservation regarding the proposed construction of a new school at 97-36 43rd Avenue in Queens.. Our office has completed its review of the project under Section 14.09 of the New York State Parks, Recreation and Historic Preservation Law and the Letter of Resolution between the New York City School Construction Authority and OPRHP dated April 2007.

Based on the information provided, it is our understanding that the building at 97-36 43rd Avenue is not eligible for listing on the National Register of Historic Places; however, there are a number of National Register-listed or –eligible properties within the APE: the nearby Tiffany Studios and the Fire House located at 97-28 43rd Avenue. It is our opinion that the proposed work will have No Adverse Impact on cultural and historic resources eligible for or listing in the National Register of Historic Places. The determination is based on the following conditions:

1. A construction protection plan is developed for the two above-mentioned structures in the APE and submitted for OPRHP review.
2. OPRHP will review the design of the proposed new construction to determine its effects on the NRe and NR-listed structures in the neighborhood.

While not eligible for listing on the register, the building at 97-36 43rd Avenue appears to be viable. We respectfully request that the NYCSCA explore the opportunity to re-use the existing building. Should you have any questions or not be able to fulfill the condition, please feel free to contact me at (518)237-8643, ext. 3287. When corresponding with the OPRHP regarding this project, please be sure to refer to the OPRHP Project Review (PR) number noted above. The number has changed for the new project.

Sincerely,

Elizabeth Martin

Elizabeth Martin
Historic Sites Restoration Coordinator

Cc: Amy Diehl Crader

Via email only

THE COUNCIL
THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on Int. No. ______ Res. No. ______

☒ in favor ☐ in opposition

20105361SCQ 20125005SCM
20115806SCM 20125006SCQ

Date: 7/25/11

(PLEASE PRINT)

Name: KENRICK OU

Address: 3030 THOMSON AVE

I represent: NYCSCA

Address:

THE COUNCIL
THE CITY OF NEW YORK

Appearance Card 20125005

I intend to appear and speak on Int. No. ______ Res. No. ______

☐ in favor ☐ in opposition

Date: 07/25/11

(PLEASE PRINT)

Name: COREY JOHNSON

Address: 220 W. 15th ST., 2R, NY, NY 10011

I represent: MANHATTAN COMMUNITY BOARD 4

Address:

THE COUNCIL
THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on Int. No. ______ Res. No. ______

☒ in favor ☐ in opposition

Date: 07/25/11

(PLEASE PRINT)

Name: CHARLES GUDER

Address: 430 BROADWAY, NY, NY

I represent: NYCSCA

Address: 30-30 THOMSON AVE, LONG ISLAND CITY, NY

Please complete this card and return to the Sergeant-at-Arms