

FINAL
ENVIRONMENTAL IMPACT STATEMENT

for the

Proposed PS 557

4302 4th Avenue
Brooklyn, New York

July 7, 2017

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Foreword

The Draft Environmental Impact Statement (DEIS) for the proposed PS 557 was accepted as complete by the New York City School Construction Authority (SCA) as lead agency and published for review on May 25, 2017. Its publication marked the beginning of public review under State Environmental Quality Review (SEQR). One public hearing was held during this time on June 13, 2017 at 4201 4th Avenue in Brooklyn. The period for public comment remained open for fourteen days after the public hearing until June 27, 2017.

This document is the Final Environmental Impact Statement (FEIS) for the proposed PS 557 and reflects all substantive comments made on the DEIS during public review. The FEIS identifies the comments during the public review period and provides responses in a new chapter: Chapter 26, "Comments and Responses to the DEIS." No further changes to the DEIS were warranted based on the comments received.

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**Proposed PS 557
4302 4th Avenue
Brooklyn, New York**

FINAL ENVIRONMENTAL IMPACT STATEMENT

Executive Summary

Introduction

On behalf of the New York City Department of Education (DOE), the New York City School Construction Authority (SCA) proposes to create a new, approximately 332-seat primary school (PS) facility, currently known as PS 557, at 4302 4th Avenue in the Sunset Park section of Brooklyn. The proposed new school would serve students in grade levels pre-kindergarten through five within Community School District (CSD) No. 15.

In order to develop the new school facility, the SCA would acquire two privately-owned lots (Lots 34 and 36) on Block 728 for the proposed school site. The western portion of the site (Lot 34) is an unpaved vacant lot currently used for private parking. The eastern portion of the site (Lot 36) contains the approximately 25,000 square foot (sf) (former) 68th Police Precinct Station House and Stable, which are currently vacant. The (former) 68th Police Precinct Station House and Stable, built in 1886, are a designated New York City Landmark and are listed in the State and National Registers of Historic Places by the New York State Office of Parks, Recreation and Historic Preservation (OPRHP). In total, the two lots comprising the proposed school site contain approximately 0.29 acres (12,521 square feet).

The project site is located at the eastern end of the block bounded by 43rd Street to the north, 44th Street to the south, 4th Avenue to the east, and 3rd Avenue/Gowanus Expressway (elevated) to the west. The project site is situated at the southwest corner of 4th Avenue and 43rd Street with approximately 125 feet of frontage on 43rd Street and 100 feet of frontage on 4th Avenue. The portions of the site without street frontage adjoin a three-story mixed use building, which faces onto 4th Avenue, and a three-story residential building which faces onto 43rd Street. The project site is located within both R6B and R7A residential zoning districts, where schools are permitted as-of-right.

Based on the formal consultation process between the SCA and OPRHP, OPRHP has identified a preferred redevelopment scenario for the proposed school facility. This preferred redevelopment scenario, "Option RS2F," would accommodate a student capacity of 332 students. In this redevelopment scenario, the main facades of the existing three-story station house on both 4th Avenue and 43rd Street would be preserved and stabilized, while the balance of the existing station house would be demolished. As such, the majority of the new construction would be arranged in a five-story "L" shape behind the original footprint of the station house and would be set back from both 4th Avenue and 43rd Street. Based on this preliminary design, the proposed new school facility would be a three- to five-story building, plus cellar, and would contain approximately 30,060 square feet (sf). The school's main entrance would be located on 4th

Avenue. The project would also provide an approximately 3,550 sf rooftop playground on the third floor above the gymnasium in the new school facility; the rooftop playground would be located at the northeastern corner of the site at the corner of 4th Avenue and 43rd Street.

The preliminary design program for the proposed school facility includes classrooms for grade levels pre-kindergarten through five, special education classrooms; reading and speech resource classrooms; project and music classrooms; gymnasium; library; student and staff support areas; storage spaces; administration; “cafetorium” with stage; kitchen and server complex; lobby; and custodian’s office, locker room, and workshop/storage space.

Funding for site acquisition, design and construction of the proposed school facility would be provided by DOE’s Proposed Five-Year Capital Plan for Fiscal Years 2015-2019. It is expected that the new PS would open in September 2022.

The new public school facility would serve primary school students and special education students within CSD No. 15. It is estimated that approximately 33 teachers and staff would be employed at the new school facility. Construction of the new approximately 332-seat PS 557 has been proposed to provide additional public school capacity in CSD No. 15 in order to address existing overcrowding and forecast changes in student enrollments, and also to support DOE’s policies regarding class-size reduction, transition from the use of transportable classroom units (TCUs), and the expansion of pre-kindergarten classroom capacity in the City.

This report examines the environmental effects expected to result from the construction and operations of the new PS 557. The following summarizes the expected impacts and their significance.

Probable Impacts of the Proposed Project

A. Land Use, Zoning and Public Policy

LAND USE

The proposed project involves the acquisition of two lots (Lots 34 and 36), demolition of the existing structures on Lot 36 (while maintaining the street-facing facades of the station house), and construction of a new school facility. As described earlier, the New York State Office of Parks, Recreation and Historic Preservation (OPRHP) has identified a preferred redevelopment scenario for the proposed school facility, “Option RS2F,” which would involve preserving and stabilizing the main facades of the existing three-story station house building on both 4th Avenue and 43rd Street, while the balance of the existing station house building would be demolished. As such, the majority of the new construction would be arranged in a five-story “L” shape behind the original footprint of the station house and would be set back from both 4th Avenue and 43rd Street. Based on this preliminary design, the proposed new school facility would be a three- to five-story building, plus cellar, and would contain approximately 30,060 sf. The school’s main entrance would be located on 4th Avenue. The project would also provide an approximately 3,550 sf rooftop playground on the third floor above the gymnasium in the new school facility.

The proposed school would be consistent with surrounding uses in the study area, which are predominantly residential, institutional, and mixed use buildings. The proposed project would replace a vacant lot and a vacant, former community facility use (used historically as a police station and, most recently, as a Youth Center) with a compatible community facility use (school facility). It would be a different building form and active, rather than vacant, but the new school would be compatible with surrounding land uses. No significant adverse impacts to land use would result from the proposed PS 557.

ZONING

The proposed school facility would conform to the requirements of the R6B and R7A zoning districts with respect to use, as schools (Use Group 3) are permitted as-of-right in residential districts. It is expected that, with the proposed design, some zoning overrides would be required for zoning bulk non-compliances and these zoning overrides would be requested by the SCA from the Deputy Mayor for Housing and Economic Development. As the zoning overrides would pertain only to the project site, no significant adverse impacts to zoning would occur.

PUBLIC POLICY

The proposed project would be consistent with the 197-a plan applicable to Brooklyn CD 7. Therefore, no impacts to public policy would be expected as a result of the proposed project.

B. Socioeconomic Conditions

The proposed school would be constructed on a vacant lot, currently used for parking, and a lot containing vacant buildings. The proposed project would introduce approximately 332 primary school students and a total of approximately 32 teachers, administrators, and support staff to the project site. The proposed PS would not result in the displacement of any residents or businesses, as the existing building is currently unoccupied. Additional jobs for teachers and support staff would be created as a result of the new school.

Although the proposed project would result in new construction, the construction activities generally would be contained within the site. In addition, the construction of the new school building would be a localized activity of limited duration, without the potential to affect a larger area or the conditions of any specific industry. Significant adverse impacts to socioeconomic conditions from the proposed project would not result.

C. Community Facilities and Services

The proposed action would create a new public school facility on a site currently comprised of a vacant unpaved lot, currently used for private parking, and a lot containing vacant institutional buildings. The proposed PS would serve approximately 332 students in grades pre-kindergarten through five within CSD No. 15. The proposed project would not introduce new residents to the area, therefore creating little new demand for community facilities and services.

Further, the proposed new school facility would provide an additional community resource for area residents and expand the public school capacity in CSD No. 15; however, the new PS would

not change the service area of this school district. No significant adverse impacts to community facilities and services would occur as a result of the proposed project.

D. Open Space

The construction of a new school facility on the project site would not have any direct or indirect impacts on open space. The need for physical education at the school would be met within the project site itself with the provision of a gymnasium within the proposed school building and an approximately 3,550 sf rooftop playground on the third floor roof above the gymnasium. Therefore, the open space needs of the students and staff associated with the proposed PS 557 would be met on site, and the new school facility would not result in any significant adverse impacts to open space resources.

E. Shadows

Based on the preliminary design currently under consideration, the proposed PS 557 building would include a three-story portion that would stand in the place of a portion of the existing station house, together with an attached "L"-shaped volume that would comprise the remainder of the project site on the southern and western sides of the three story portion. The L-shaped portion of the proposed PS 557 would stand five-stories with cellar and would have an estimated height of 75 feet, and therefore represents new building height with potential to cast shadow that would not otherwise be present in the future without the proposed project. (The shorter, three-story portion of the proposed PS 557 would be constructed behind the historic facades of the three-story station house, and therefore would not cause any substantial new shadow.)

Tier 1 and Tier 2 Shadow Screening Analyses were performed in accordance with the guidelines of the *CEQR Technical Manual* in order to identify potential sunlight sensitive resources that could be reached by the maximum shadow length of the L-shaped volume of the proposed PS 557 building. Based on these tiers of analysis, it was determined that the expected maximum shadow cast by the proposed PS 557 building – attributable to the five-story part of the building – would reach a maximum shadow length of approximately 323 feet.

The four potentially sunlight sensitive resources of concern that are located within 323 feet of the project site and potentially within reach of this maximum shadow, include the following: St. Michael's R.C. Church complex (church and school buildings) and the open space area at the northern edge of the complex; the (former) Sunset Park Court House; and a portion of the Sunset Park Historic District.

A detailed shadow screening analysis was conducted, in accordance with the *CEQR Technical Manual*, in order to determine whether any of these potentially sunlight sensitive resources would experience a significant adverse impact as a result of shadows cast by the proposed PS 557. Specifically, the detailed analysis considers the presence of existing buildings in the context of the potentially sunlight sensitive receptors, as well as shadows they cast, to determine whether there would be a greater extent of shadow ("incremental shadow") that would be specifically attributable to the proposed PS 557, alone.

The detailed shadow screening analysis considers shadows that would be cast on four days determined to be representative of the variability of shadows throughout the year: December 21 (winter solstice), either March 21 or September 21 (equinoxes), June 21 (summer solstice), and either May 6 or August 6 (midway between equinoxes and solstices). The analyses are performed for these days over a time period beginning 1.5 hours after sunrise and ending 1.5 hours before sunset. The results of the detailed shadow analysis are described following for each of the potentially sunlight sensitive receptors:

St. Michael's R.C. Church complex – school buildings (PS 516). The two school buildings, which are part of the St. Michael's R.C. Church complex, are located south of the church building. They stand adjacent to one another and are located directly north of the project site, on the north side of 43rd Street. Based on the detailed shadow analysis, incremental shadows from the proposed PS 557 would extend to these school buildings on three of the analysis dates: March 21st, June 21st, and August 6th.

Because sunlight is not necessary to maintain character-defining features of these buildings, as there is no stained glass or unique sculptural feature to the façade that may depend on sunlight for particular aesthetic effect, the incremental shadow attributable to the proposed PS 557 would not result in a significant adverse impact to these buildings.

St. Michael's R.C. Church complex – church building. Based on the detailed shadow analysis, incremental shadows from the proposed PS 557 would extend onto the paved area immediately east of the church, but not onto the church building itself, on December 21st.

As the incremental shadow would last for a short duration (approximately 11 minutes) and would not extend to any sunlight sensitive portion of the church building (such as stained glass windows) or sunlight sensitive landscaping, it would not result in a significant adverse impact to St. Michael's Church.

St. Michael's R.C. Church complex – open space. The detailed shadow analysis determined that no incremental shadow attributable to the proposed PS 557 would reach this open space area on any analysis date. Therefore the proposed project would not result in any significant adverse impact to this open space area.

(Former) Sunset Park Court House. Based on the detailed shadow analysis, there would be incremental shadows from the proposed PS 557 on three of the analysis dates, March 21st, June 21st, and August 6th.

Because sunlight is not necessary to maintain character-defining features of the (former) Sunset Park Court House, as there is no stained glass or unique sculptural feature to the façade that may depend on sunlight for particular aesthetic effect, the incremental shadow that would be cast by the proposed PS 557 would not result in a significant adverse impact to the (former) Sunset Park Court House, and no further analysis is warranted.

Sunset Park Historic District. Based on the detailed shadow analysis, the proposed PS 557 would cast incremental shadows onto parts of the Sunset Park Historic District on two of the analysis dates, June 21st and August 6th.

Because incremental shadows that reach the historic district on these dates would not be substantial or cast on sunlight-sensitive vegetation or character-defining architectural features of any buildings that may depend on sunlight for particular aesthetic effect, the proposed PS 557 would not result in a significant adverse impact to the Sunset Park Historic District.

F. Historic and Cultural Resources

ARCHAEOLOGICAL RESOURCES

A Preliminary Assessment/Disturbance Record study was completed for the proposed project site in September 2016 to address the archaeological sensitivity of the project site.

It was determined that no further research and study of archaeological resources is warranted, based on a low sensitivity for both precontact and historical period archaeological resources, coupled with significant disturbance to the original ground surface on the project site. Construction of the proposed new school facility on the project site would not result in significant adverse impacts to archaeological resources.

HISTORICAL RESOURCES

The existing (former) 68th Police Precinct Station House and Stable, built in 1886, are a designated New York City Landmark (in 1983) and are also listed in the State and National Registers of Historic Places (in 1982). The police precinct facility, designed by the architect George Ingram, is an important example of Romanesque Revival Style architecture. The facility includes a three-story (plus cellar) station house, two-story stable building, and one-story jail building. The structures are vacant and have experienced extensive deterioration.

The study area also includes St. Michael's R.C. Church complex (church and school buildings), which has been determined eligible for inclusion in the State and National Registers of Historic Places by OPRHP, and the (former) Sunset Park Court House, which is a designated New York City Landmark and is listed in the State and National Registers of Historic Places by OPRHP. The project site is not located within a historic district; however, the project site is located directly west of the Sunset Park Historic District, which comprises a large portion of the study area to the east. The Sunset Park Historic District is listed in the State and National Registers of Historic Places by OPRHP.

The proposed project would require that a majority of the existing on-site structures be demolished to accommodate the minimum Program of Requirements (POR) required for a new primary school facility. As described above, the existing former police precinct facility on the project site is a designated New York City Landmark and is also listed in the State and National Registers of Historic Places. As such, under Section 14.09 of the State Historic Preservation Act of 1980 (SHPA), this is likely to result in an adverse effect to the historic resource, and may constitute a significant adverse impact to historic resources. As required under Section 14.09, consultation with the New York State Office of Parks, Recreation and Historic Preservation (OPRHP) was undertaken by the SCA as part of the proposed development of a new public school facility on the project site. OPRHP, in its letter of September 2, 2016, responded to the SCA's request to initiate the formal consultation process regarding the redevelopment of the project site

for school use. In their response, OPRHP commented that they had “very serious concerns” about the potential for these buildings to be demolished and stated that if the proposed project included the demolition, or partial demolition, of the station house and stable that OPRHP would determine that the project would have an adverse impact on the site. OPRHP also recommended that the SCA explore all alternatives to avoid the adverse impact and outlined the items that should be included as part of the alternatives analysis. Upon OPRHP’s review of the Test-Fit SHPO Report (February 6, 2017), OPRHP commented in its letter of February 24, 2017, that the interior of the on-site police precinct building is in terrible condition and is deteriorated beyond repair but that the exterior walls do not demonstrate wholesale material deficiencies. OPRHP concurred that there are two viable options that meet the project goals: “Option RS2F” (the proposed project) and “Option RS3C” (Full Demolition Alternative), and that the SCA move forward with “Option RS2F,” which includes the preservation of the station house main facades on both 4th Avenue and 43rd Street. OPRHP stated that considering that this building is an important architectural landmark in the neighborhood, retaining these two facades provides important continuity at this corner and preserves much of the architectural art of the façade. OPRHP further stated that the project would result in an Adverse Impact upon historic resources and suggested that the SCA develop a Letter of Resolution (LOR) to document the alternatives considered and to include the mitigation provided in the preferred redevelopment scenario, “Option RS2F.” The SCA has developed a draft LOR outlining the agreement between the SCA and OPRHP to which OPRHP has responded with recommendations and indicated that minor edits may be forthcoming but that the intent of the existing stipulations outlined in the LOR would not be altered or added to. In the draft LOR between the SCA and OPRHP, it is stated that the proposed project may proceed subject to the following stipulations: (1) The historic building shall be photographically documented in accordance with the standards of the Historic American Buildings Survey, Level II Documentation Standards (HABS); (2) The SCA shall continue to consult with OPRHP regarding the design of the new public primary school facility, in accordance with Section 14.09 of the New York State Parks, Recreation and Historic Preservation Law; and (3) Any party to the LOR may propose that the LOR be amended, whereupon the signatories shall consult with each other to consider such an amendment.

G. Urban Design and Visual Resources

The proposed development of the project site as a new school, in accordance with the preliminary design currently considered and the stipulations outlined in the draft LOR between the SCA and OPRHP (dated April 21, 2017), would improve the urban design of the study area and visual quality of the surrounding streetscapes. It would contribute to the urban form characteristic of the 4th Avenue streetscape and be consistent with the nearby institutional uses and visual resources; further, it would result in the improvement of the derelict site, while also preserving and stabilizing the existing street-facing facades of the station house building so that it would contribute to the aesthetic character of the streetscape in a positive way. Therefore, the proposed PS 557 would have a positive effect with regard to the proposed design for the project site; no significant adverse impact to urban design and visual quality would result with the proposed project.

H. Natural Resources

There are no known natural resources (e.g., terrestrial ecological features, wetlands, water bodies, streams, or special flood hazard area) on or adjacent to the project site, and none would be affected by the proposed project. The site is part of a well-developed urban context. Furthermore, the proposed project would not have any impact on endangered or threatened wildlife species, since none are known to inhabit or visit the site. No significant adverse impacts to natural resources would result.

I. Hazardous Materials

Phase I Environmental Site Assessments (ESAs), Phase II Environmental Site Investigations (ESIs), and a Phase I ESA Update were completed for the proposed project site between April 2010 and July 2016. The Phase I ESAs, Phase II ESIs, and a Phase I ESA Update were completed to evaluate the environmental conditions at the proposed project site (identified as Block 728, Lots 34 and 36). A Phase I ESA and Phase II ESI were previously conducted for each lot on behalf of the SCA by Langan Engineering and Environmental Services, P.C (Langan) in April 2010 and July 2010, respectively. A Phase I ESA Update of the site was completed by AKRF Engineering, P.C. (AKRF) on behalf of the SCA in July 2016.

The eastern lot (Lot 36) was vacant until the construction of the existing buildings between circa 1888 and 1906, and was used historically as the 68th Precinct Police Station until approximately 1970, and subsequently as a Youth Center. The western lot (Lot 34) contained a private dwelling from circa 1888 to 1970, and has been vacant and/or used for surface parking since at least 1976. The adjacent properties have included St. Michael's School (currently PS. 516) to the north, and primarily residential and institutional uses on the surrounding blocks, with street-level retail establishments and two drycleaners on the south-adjacent block.

Langan's 2010 Phase I ESAs identified on-site recognized environmental conditions (RECs) related to a potential fuel oil storage tank and a potential historic automotive garage, and off-site RECs, including petroleum storage tanks, dry cleaning facilities, a metals company, industrial facilities, an automobile repair facility, and manufacturing facilities. Suspect asbestos-containing materials (ACM), lead-based paint (LBP), and polychlorinated biphenyl (PCB)-containing materials were identified as environmental concerns. Based on the findings of the 2010 ESAs, Langan completed a Phase II ESI on the lots that included the advancement of soil borings with the collection of soil, groundwater, and soil vapor samples for laboratory analysis.

Based on observations during the 2010 Phase II ESIs, the site is underlain by fill material consisting of fine- to medium-grained sand with some clay, and fragments of brick, concrete, and wood from surface grade to approximately 15 feet below ground surface (bgs), followed by apparent native soil consisting of brown fine- to medium-grained sand with some clay and gravel. Groundwater was encountered between approximately 30 and 37 feet bgs and was assumed to flow in a westerly direction.

The analytical results of Langan's investigations indicated lead and chromium in soil at concentrations above their New York State Department of Environmental Conservation (NYSDEC) 6 NYCRR Part 375 Soil Cleanup Objectives for Unrestricted Use (UUSCOs) and were noted to be attributable to fill materials. Groundwater analytical results for both lots identified

VOCs and metals below their respective NYSDEC Class GA Ambient Water Quality Values (AWQVs). Soil vapor analytical results identified trichloroethene (TCE) in a sub-slab vapor point collected on Lot 36 at a concentration above its current New York State Department of Health Air Guidance Value (AGV) of 2 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). Tetrachloroethene (PCE) was detected in five soil vapor samples on Lot 36 and two samples on Lot 34 at concentrations above its current AGV of 30 $\mu\text{g}/\text{m}^3$. Additional VOCs were detected in soil vapor at concentrations above the published background levels. These detections are attributable to off-site sources.

The 2016 Phase I ESA Update revealed no new RECs or environmental concerns in connection with the site since the original Phase I ESAs, and concluded that the RECs were adequately investigated during Langan's Phase II ESIs.

For the site to be suitable for use as a public school, a vapor barrier and sub-slab depressurization system should be incorporated into the building renovations, and any exposed areas should be covered with two feet of environmentally clean soil. Any dewatering should be minimized during construction to avoid potential off-site contaminated groundwater from migrating toward the site. All soil excavated during building construction should be properly managed in accordance with all applicable regulations. Any underground or aboveground petroleum storage tanks should be properly closed/removed in accordance with applicable regulations. Also, any ACM, LBP and/or polychlorinated biphenyl PCB-containing building components affected by the renovation and construction activities should be identified and properly managed during such activities. 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.

J. Water and Sewer Infrastructure

The project site is located within the Owls Head Wastewater Treatment Plant (WWTP) drainage area, which serves portions of Brooklyn. This WWTP is permitted to treat 120 million gallons per day (mgd). The proposed school would include approximately 332 seats and 33 faculty and staff, and thus, daily water usage would be approximately 3,320 gpd for students and 330 gpd for staff, for a total of 3,650 gpd. The proposed school building would contain approximately 30,060 sf, and thus, would consume an additional 5,110 gpd for air conditioning, for a total of 8,760 gpd during the cooling season. No significant adverse impacts to water supply would result.

K. Solid Waste and Sanitation Services

The new school facility, with a total of approximately 332 students and 33 faculty and staff, would generate approximately 1,425 pounds of solid waste per week, or 6,107 pounds per month. The New York City Department of Sanitation (DSNY) is responsible for collecting and disposing of solid waste from residences and public facilities, including schools. The typical DSNY collection truck for commercial carters typically carries between twelve and fifteen tons of waste material per truck. Therefore, with 1,425 pounds of solid waste per week, or 6,107 pounds per month, to be generated by occupants of the proposed school facility, there would be no significant adverse impact anticipated with solid waste collection and disposal.

L. Energy

It is expected that the new school building would be substantially more energy efficient than the adjacent buildings in the neighborhood. The proposed project would comply with the New York State Energy Conservation Construction Code. The proposed project would also incorporate energy conservation measures.

The proposed project would be designed following the NYC Green Schools Rating System (guidelines specific to the design, construction and operation of New York City public school buildings) and be in compliance with site-related credits to achieve a LEED-certified or higher rating.

The estimated annual usage of energy for the proposed approximately 30,060 sf school facility would be approximately 7.5 billion British Thermal Units (BTUs), or 5.7 billion BTUs for the nine-month academic year. It is expected that no significant adverse impacts would occur with the capacity of both Con Edison and National Grid to provide service to the project site and surrounding area.

M. Transportation

With the proposed project, significant adverse traffic impacts would be expected at two intersections and a pedestrian impact would be expected at two corners and one crosswalk near the proposed school. Improvement measures are recommended to mitigate the significant traffic impacts at the intersections of 43rd Street at 3rd and 4th avenues. These improvement measures include signal timing adjustments and “daylighting” (i.e., temporary removal of parking adjacent to the curbs) to provide a peak period turn lane.

The pedestrian impacts to the south crosswalk at 4th Avenue and 43rd Street may be mitigated by signal timing adjustments. Six-foot curb extensions are recommended at the northwest and southwest corners of 4th Avenue and 43rd Street, extending the corner quadrants into 4th Avenue, subsequently shortening the crosswalk distances and increasing the available corner reservoir space for pedestrians waiting to cross the street.

No significant transit impacts would be expected. Less than 200 incremental peak hour transit trips would be generated by staff, students, and accompanying adults; therefore, the proposed school is unlikely to create a significant transit impact.

No significant parking impacts would be expected. The proposed changes to the school would increase the parking demand by 14 vehicles, which would increase the shortfall in available on-street parking from 42 to 43 percent on the most restrictive days; however, this shortfall may not be considered a significant impact for this project due to the availability and proximity of transit in the area.

N. Air Quality

Based on the air quality screening procedures described in the *CEQR Technical Manual*, the proposed school would not result in a significant number of project-induced traffic, and therefore it would not adversely affect surrounding mobile source air quality conditions. In addition,

existing stationary source emissions in the immediate vicinity of the project site would not have a detrimental effect on the health of students or staff at the proposed school nor would the school's operations result in stationary source impacts within the surrounding community.

The proposed school would be considerably smaller in size than 350,000 sf and is subsequently not considered an energy-intense source, per the guidance of the *CEQR Technical Manual*. Therefore, the proposed project would not result in a significant adverse greenhouse gas (GHG) emissions impact.

O. Noise

Mobile Source Noise. The *CEQR Technical Manual* recommends a detailed technical assessment of potential traffic-related noise impacts if a potential action would result in the doubling of existing passenger car equivalent (PCE) values at any intersection during the peak traffic hour. PCEs are used to account for the different types of motor vehicles (i.e., cars, trucks, buses) and their varying levels of sound. Based on the data obtained from the traffic studies associated with this project, the number of PCEs generated by this project would not double existing PCE values at any location. As a result, traffic-related noise impacts would not occur.

Playground Noise. As part of the proposed project, a rooftop playground area would be provided on the northeast portion of the third floor of the proposed school building. However, based on the geometry of the proposed building, the only noise sensitive property that would have a direct line-of-sight to the proposed playground would be the top floor windows of the former St. Michael's School building at 4222 4th Avenue, which is currently occupied by PS 516 (Sunset Park Avenues Elementary School). The former St. Michael's School building is located across 43rd Street, approximately 57 feet from the northern edge of the proposed rooftop playground at PS 557. As a result, potential future school-related noise impacts related to the proposed school rooftop playground were examined.

Based on the overall playground assessment, the increase in the future project noise levels at the former St. Michael's School building *would* not exceed the five dBA SCA impact criteria during the Midday period. As a result, noise impacts related to the proposed rooftop playground affecting any surrounding sensitive noise receptors are not anticipated.

School Interior Noise Levels. Based on noise monitoring measurements, the maximum L₁₀ noise exposure level in the project area was found to be 72.5 dBA along 4th Avenue. This noise level includes the effect of traffic noise from local streets. As a result, based on the CEQR noise exposure standards, the school's exterior noise exposure would be within the "Marginally Acceptable" category. To reduce the exterior noise exposure level to the required interior noise level of 45 dBA or below, attenuation measures (e.g., double-glazed windows), which are a standard feature of new facilities, would be incorporated into the school building's design and construction. Standard double-glazed windows are available which would result in the required attenuation value of 31 dBA. The walls and doors of the proposed school building would also have to attain a minimum attenuation value of 31 dBA. With these measures, the proposed school building would meet NYCDEP interior noise level requirements, and would not experience any noise exposure impacts.

The proposed school's HVAC equipment, along with any other project-related mechanical devices, would be designed to meet the NYC Noise Code standards.

P. Public Health

No impacts related to air quality, water quality, or noise are anticipated as a result of the proposed project. Hazardous materials are anticipated to be present on site, based on the Phase I ESAs and Phase II ESIs prepared for each lot in 2010, and the Phase I ESA Update prepared for the project site in 2016. However, with the existing on-site contamination appropriately addressed through proper handling and disposal, and other measures, no public health issues are expected with the proposed project. Therefore, the proposed project would not result in significant adverse impacts to public health.

Q. Neighborhood Character

The construction of the proposed PS 557 would be an appropriate land use, and its design would contribute to the established urban design of the study area and the 4th Avenue corridor, in particular. It would introduce a community facility use that would be consistent with neighboring community facility uses along 4th Avenue. Its height and massing would be generally consistent with other community facilities in the area, including the identified visual resources within the study area that include the (former) Sunset Park Court House and St. Michael's R.C. Church complex. Though its overall footprint and street frontage would be less than the (former) Sunset Park Court House and St. Michael's R.C. Church complex, the proposed PS 557 would reinforce the established urban design of the study area and improve the pedestrian experience.

The proposed school would enliven the streetscape in a manner similar to the neighboring institutional uses and it would be in keeping with the residential context to the west and east of the project site. Further, as it would retain the existing street-facing facades of the historic police precinct facility, the proposed school site would likely reinforce a sense of historic identity that may be shared by residents in the study area and surrounding neighborhood. As stipulated in the LOR between the SCA and OPRHP, the SCA would continue to coordinate with OPRHP regarding the design of the new school facility and the use of materials sympathetic to the original station house.

Technical analyses have concluded that with the recommended measures in place, the proposed school at this location would not result in significant adverse impacts related to traffic, air or noise conditions that would alter the character of the neighborhood.

Finally, the proposed new school would introduce new capacity in the school district, thereby representing an improvement to neighborhood character in terms of improved community facilities and services. As such, the proposed PS 557 would be a positive attribute to the educational opportunities in the neighborhood, as well as an improvement to the physical design and character of the project site and surrounding area. Therefore, the proposed PS 557 would have a positive effect on neighborhood character; no significant adverse impact to neighborhood character would result with the proposed project, and no further analysis is warranted.

R. Construction-Related Impacts

The anticipated construction period for the proposed project is expected to include two phases, with Phase 1 estimated to be a period of approximately six to ten months and Phase 2 estimated to be a period of approximately 24 months. Phase 1 would include demolition of the existing structure, and stabilization of existing building façades necessary for preserving the station house historical facades along 4th Avenue and 43rd Street. Phase 2 of construction would include the physical construction of the school (i.e., foundation, superstructure, mechanical installations, and interior finishing work). Impacts that may result from construction of the proposed project include temporary traffic and parking congestion, increased noise from construction activities, fugitive dust and mobile source emissions, soil erosion and sedimentation, and disturbance of potentially hazardous materials. Construction impacts would be temporary and to the extent practicable would be limited to the proposed school site.

Construction activities may result in temporary disruptions to the surrounding community. Various measures would be implemented in order to minimize the temporary disruptions and to ensure the safety of the community during construction. Therefore, it is expected that no significant adverse impacts would occur with construction of the proposed project.

Mitigation Measures

Historic Resources

The SCA has undertaken consultation with the New York State Office of Parks, Recreation and Historic Preservation (OPRHP) regarding the proposed project and will continue, through the consultation process, to identify ways of partially mitigating any impact. Upon OPRHP's review of the Test-Fit SHPO Report (February 6, 2017) provided in Appendix A, OPRHP concurred that there are two viable options that meet the project goals: "Option RS2F" (the proposed project) and "Option RS3C," (Full Demolition Alternative) and that the SCA move forward with "Option RS2F," which includes the preservation of the station house main facades on both 4th Avenue and 43rd Street. OPRHP stated that considering that this building is an important architectural landmark in the neighborhood, retaining these two facades provides important continuity at this corner and preserves much of the architectural art of the façade. OPRHP further stated that the project would result in an Adverse Impact upon historic resources and suggested that the SCA develop a Letter of Resolution (LOR) to document the alternatives considered and to include the mitigation provided in the preferred redevelopment scenario, "Option RS2F." The SCA has developed a draft LOR outlining the agreement between the SCA and OPRHP to which OPRHP has responded with recommendations and indicated that minor edits may be forthcoming but that the intent of the existing stipulations outlined in the LOR would not be altered or added to. In the draft LOR between the SCA and OPRHP, it is stated that the proposed project may proceed subject to the following stipulations: (1) The historic building shall be photographically documented in accordance with the standards of the Historic American Buildings Survey, Level II Documentation Standards (HABS); (2) The SCA shall continue to consult with OPRHP regarding the design of the new public primary school facility, in accordance with Section 14.09 of the New York State Parks, Recreation and Historic Preservation Law; and (3) Any party to the LOR may propose that the LOR be amended, whereupon the signatories shall consult with each other to consider such an amendment.

Transportation

With the proposed project, significant adverse traffic impacts would be expected at two intersections and a pedestrian impact would be expected at two corners and one crosswalk near the proposed school.

Improvement measures are recommended to mitigate the significant traffic impacts at the intersections of 43rd Street and 3rd and 4th avenues. Parking along the north curb of the westbound 43rd Street approach to 3rd Avenue should be “daylighted” (i.e., temporary removal of parking adjacent to the curbs) for approximately 100 feet (a loss of about four parking spaces) during the AM peak hour. Additionally, due to an increase of nearly 60 vehicles in the AM peak hour approaching 4th Avenue on 43rd Street, it is proposed that the parking lane along the south side of 43rd Street be “daylighted” for approximately 100 feet (a loss of about four parking spaces) to create a left-turn lane during the AM peak period. Signal timing adjustments are recommended at both intersections to shift green time during the PM peak periods to mitigate impacts. The pedestrian elements were re-analyzed with the proposed signal timing adjustments. Improvement measures are recommended to mitigate the significant pedestrian impacts at the intersection of 4th Avenue and 43rd Street. Six-foot curb extensions are recommended at the northwest and southwest corners of 4th Avenue and 43rd Street, extending the corner quadrants into 4th Avenue, subsequently shortening the crosswalk distances and increasing the available corner reservoir space for pedestrians waiting to cross the street.

Noise

Based on noise monitoring measurements, the maximum L₁₀ noise exposure level in the project area was found to be 72.5 dBA along 4th Avenue; this noise level includes the effect of traffic noise from local streets. As a result, based on the CEQR noise exposure standards, the school’s exterior noise exposure would be within the “Marginally Acceptable” category. To reduce the exterior noise exposure level to the required interior noise level of 45 dBA or below, attenuation measures (e.g., double-glazed windows), which are a standard feature of new facilities, would be incorporated into the school building’s design and construction. Standard double-glazed windows are available which would result in the required attenuation value of 31 dBA. The walls and doors of the proposed school would also have to attain a minimum attenuation value of 31 dBA. As a result, the proposed school would meet New York City Department of Environmental Protection (NYCDEP) interior noise level requirements, and would not experience any noise exposure impacts.

Alternatives to the Proposed Project

Three alternatives to the proposed project were considered including the No Build Alternative, the Adaptive Reuse Alternative, and the Full Demolition Alternative. As with the proposed project, detailed design information for the Adaptive Reuse Alternative and the Full Demolition Alternative are presented in Appendix A.

No Build Alternative

Under the No Build Alternative, the SCA would not construct a new public school facility on the project site to provide additional public school capacity in CSD No. 15. Accordingly, under this alternative, the existing unpaved vacant lot, currently used for private parking, and the (former) 68th Police Precinct Station House and Stable, which are currently vacant, would remain on the project site.

Unlike the proposed project, the No Build Alternative would not provide additional public school capacity on the project site to accommodate current and future student enrollment in CSD No. 15. Therefore, this alternative would not meet the project's purpose and need.

This alternative would not result in significant adverse impacts related to historic resources, transportation, and noise, which would occur with the proposed project (though impacts related to transportation and noise would be mitigated under the proposed project).

Adaptive Reuse Alternative

Under this alternative, the existing historic structures on the site would be reused and adapted for use as a public school facility (see "Option RS1A" in the Test-Fit SHPO Report, provided in Appendix A). This alternative would preserve the approximately 25,000 sf (former) 68th Police Precinct Station House and Stable currently on the site, which include a three-story (plus cellar) station house, two-story stable building, and one-story jail building, all connected at the cellar level. To preserve the perceived envelope of the existing historic structures, the cellar would be enlarged (because it is not "visible" from the street) in order to accommodate both additional school program area and modern utility services. With this design approach, demolition, though minimal, likely would be inevitable in order to facilitate the proposed new public school facility use. The school's main entrance would be located on 43rd Street via the historic rear court. This alternative would provide an approximately 4,375 sf at-grade playground by utilizing the rear court and the adjacent Lot 34.

Unlike the proposed project, which would retain only the 43rd Street and the 4th Avenue facades of the former station house, the design for the Adaptive Reuse Alternative would preserve the existing volumes of the on-site historic structures, as visible from the street, and would preserve the rear court as a negative volume important to the historical understanding of the site.

Unlike the proposed project, this alternative could not accommodate the POR needed for a student capacity of approximately 332 and would only accommodate approximately 114 students. In addition, key elements of the POR, such as a gymnasium and a "cafetorium," could not be provided within the school facility due to insufficient space within the existing historic

structures; it is DOE and the SCA's strong policy preference to not build new school facilities without the required gymnasium and sufficient public assembly space such as a "cafetorium". This alternative would also present several design issues, in terms of building configuration, for a primary school facility that would lead to inefficient operations and would not provide the amount of school seats needed in CSD No. 15 where there is a deficit of approximately 2,610 school seats in the sub-district of Sunset Park.

Like the proposed project, this alternative would not result in significant adverse impacts related to land use, zoning and public policy; socioeconomic conditions; community facilities and services, open space; shadows; historic and cultural resources; urban design and visual resources; natural resources; hazardous materials; water and sewer infrastructure; solid waste and sanitation services; energy; transportation; air quality; public health; or neighborhood character; or construction-related impacts.

Unlike the proposed project, this alternative would result in significant adverse impacts related to playground noise at a residential property located directly adjacent to the proposed project and, as such, mitigation measures (storm or sound-attenuating windows and alternative ventilation) would be required to significantly reduce the impact of playground noise upon the affected residential property.

Compared to the proposed project, this alternative would have a reduced adverse impact to historic resources since the exterior of the existing historic structures on the project site would remain intact. Under this alternative, the SCA would also consult with OPRHP regarding interior modifications to the historic structures to minimize or mitigate potentially adverse impacts to the historic structures.

Full Demolition Alternative

Under this alternative, the existing historic structures on site would be demolished and a new public school facility would be constructed on the project site (see "Option RS3C" in the Test-Fit SHPO Report, provided in Appendix A). Upon full demolition of the existing structures, a new public school facility would be constructed with particular design consideration and sensitivity to developing a design scheme that is as-of-right and that complies with SCA design standards to the greatest extent possible. Based on preliminary schematic designs, the proposed new school facility would be a four-story building (approximately 60 feet tall¹), plus cellar, and would contain approximately 27,806 sf. In this redevelopment scenario, the gymnasium and rooftop play yard would be located adjacent to the western property lot line, with the balance of the remaining design scheme arranged in a "U" shape around the central core. The school's main entrance would be located on 4th Avenue. This alternative would provide an approximately 2,745 sf rooftop playground on the third floor above the gymnasium in the new school facility.

This alternative, "Option RS3C" was presented by OPRHP as a feasible design approach, since this option would accommodate a student capacity of 332 students and would accommodate the

¹ Estimated using a floor-to-floor height of 15 feet.

functional and operational standards required for a primary school. This redevelopment scenario would also represent as-of-right development on the site.

As with the proposed project, this alternative would accommodate the primary school POR required for a student capacity of 332 and would serve students in CSD No. 15. This alternative would also be designed to provide the same facilities to meet the SCA's school program requirements as the proposed project; both this alternative and the proposed project would provide a gymnasium on the first floor and a "cafetorium" in the cellar. However, unlike the proposed project, which would retain the 43rd Street and the 4th Avenue facades of the station house, or the Adaptive Reuse Alternative, which would preserve the existing volumes of the on-site historic structures, as described previously, the Full Demolition Alternative would result in demolition of all existing on-site structures. As this alternative would not preserve the existing station house street-facing facades like the proposed project would, this alternative would stand four stories above grade, rather than five stories, as would be the case with the proposed project, and this alternative would have approximately 2,254 sf less floor area than the proposed project as it would have a more efficient layout.

Like the proposed project, this alternative would not result in significant adverse impacts related to land use, zoning and public policy; socioeconomic conditions; community facilities and services, open space; shadows; historic and cultural resources; urban design and visual resources; natural resources; hazardous materials; water and sewer infrastructure; solid waste and sanitation services; energy; air quality; noise public health; or neighborhood character; or construction-related impacts.

The Adaptive Reuse Alternative would also result in the same significant adverse impacts related to transportation as would occur with the proposed project and, as such, the same mitigation measures would be required. Compared to the proposed project, this alternative would have a greater adverse impact to historic resources since the existing historic structures on the project site would be fully demolished. Under this alternative, the SCA would consult with OPRHP regarding the demolition of the existing historic structures.

Chapter 1: Project Description

A. Introduction

On behalf of the New York City Department of Education (DOE), the New York City School Construction Authority (SCA) proposes to create a new, approximately 332-seat primary school (PS) facility, currently known as PS 557, at 4302 4th Avenue in the Sunset Park section of Brooklyn. The proposed new school would serve students in grade levels pre-kindergarten through five within Community School District (CSD) No. 15. In order to develop the new school facility, the SCA would acquire Lots 34 and 36 on Block 728 for the proposed school site.

Funding for site acquisition, design, and construction of the proposed school facility would be provided by DOE's Five-Year Capital Plan for Fiscal Years 2015-2019. It is expected that the new PS would open in September 2022.

B. Purpose and Need

The new public school facility would serve primary school students and special education students within CSD No. 15. Construction of the new PS facility has been proposed to provide additional public school capacity in CSD No. 15.

According to school capacity and utilization data for the 2015-2016 school year, CSD No. 15's primary school facilities collectively operated at 122 percent of their target capacity. DOE's Five-Year Capital Plan for Fiscal Years 2015-2019 allocates capital funding for the creation of a total of 1,794 additional seats at the primary school level in CSD No. 15 to address existing overcrowding and forecast changes in student enrollments, and also to support DOE's policies regarding class-size reduction, transition from the use of transportable classroom units (TCUs), and the expansion of pre-kindergarten classroom capacity in the City. CSD No. 15 includes the areas of Sunset Park, Park Slope, Carroll Gardens, Gowanus, and Red Hook.

C. Project Site

The project site is situated at the southwest corner of 4th Avenue and 43rd Street amid a mix of land uses including residential, institutional, and mixed use buildings in the Sunset Park section of Brooklyn, within Community District 7 (see Figure 1-1). The project site is located at the eastern end of the block bounded by 43rd Street to the north, 44th Street to the south, 4th Avenue to the east, and 3rd Avenue/Gowanus Expressway (elevated) to the west. The project site has approximately 125 feet of frontage on 43rd Street and 100 feet of frontage on 4th Avenue. The portions of the site without street frontage adjoin a three-story mixed use building, which faces onto 4th Avenue, and a three-story residential building which faces onto 43rd Street. The project site is approximately 0.29 acres (12,521 square feet) in area and is located within both R6B and R7A residential zoning districts, where schools are permitted as-of-right.

The western portion of the site (Lot 34) is an unpaved vacant lot currently used for private parking. The eastern portion of the site (Lot 36) contains the approximately 25,000 square foot (sf) (former) 68th Police Precinct Station House and Stable, which are currently vacant. This existing facility includes the station house, which stands three stories, plus cellar, at the corner of

4th Avenue and 43rd Street, and also an accessory two-story stable building and one-story jail building. The (former) 68th Police Precinct Station House and Stable, built in 1886, are a designated New York City Landmark and are listed in the State and National Registers of Historic Places by the New York State Office of Parks, Recreation and Historic Preservation (OPRHP).

D. Proposed Action

The proposed action would entail the acquisition of two lots (Lots 34 and 36) on Block 728 for construction of an approximately 332-seat primary school facility.

In accordance with the SCA's Program of Requirements (POR), the preliminary design program for the new school facility would provide approximately 332 seats for grade levels pre-kindergarten through five, and would include the following: classrooms for grade levels pre-kindergarten through five; special education classrooms; reading and speech resource classrooms; project and music classrooms; gymnasium; library; student and staff support areas; storage spaces; administration; "cafetorium" with stage; kitchen and server complex; lobby; and custodian's office, locker room, and workshop/storage space.

Based on the formal consultation process between the SCA and OPRHP, OPRHP has identified a preferred redevelopment scenario for the proposed school facility. This preferred redevelopment scenario, "Option RS2F," would accommodate a student capacity of 332 students. In this redevelopment scenario, the main facades of the existing three-story station house on both 4th Avenue and 43rd Street would be preserved and stabilized (see Photos 1-1 and 1-2), while the balance of the existing station house would be demolished (this scenario is referred to as the "proposed project" in this EIS). As such, the majority of the new construction would be arranged in a five-story "L" shape behind the original footprint of the station house and would be set back from both 4th Avenue and 43rd Street. Based on this preliminary design, the proposed new school facility would be a three- to five-story building, plus cellar, and would contain approximately 30,060 sf. The school's main entrance would be located on 4th Avenue, as shown on Figure 1-2. The proposed action would also provide an approximately 3,550 sf rooftop playground on the third floor above the gymnasium in the new school facility; the rooftop playground would be located at the northeastern corner of the site at the corner of 4th Avenue and 43rd Street.

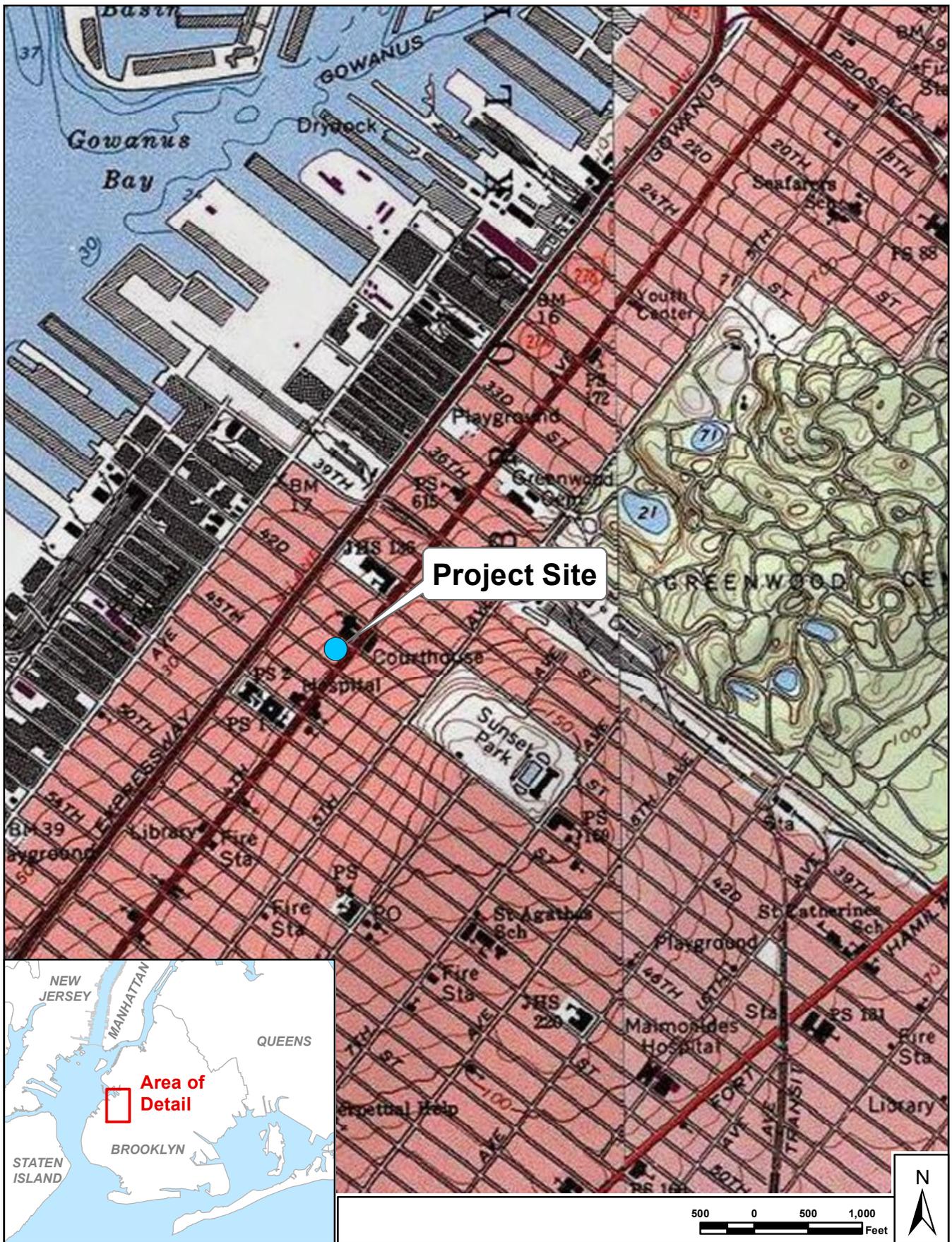
It is estimated that approximately 33 teachers and staff would be employed at the new school facility. The new PS would operate during normal school hours, from September to June.



Photo 1-1: View of Precinct Station House, 4th Avenue building facade.



Photo 1-2: View of Precinct Station House, 43rd Street building facade.



Source: USGS The National Map: National Boundaries Dataset, National Elevation Dataset, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; U.S. Census Bureau - TIGER/Line; HERE Road Data, 2017; STV Incorporated, 2017.

Figure 1-1

Proposed PS 557
4302 4th Avenue, Brooklyn

PROJECT LOCATION



Source: Graves-MMA JV Architects, PLLC; STV Incorporated, 2017.

Figure 1-2

Proposed PS 557
4302 4th Avenue, Brooklyn

SITE PLAN

Chapter 2: Land Use, Zoning and Public Policy

Land use refers to the activity that is occurring on land and within the structures that occupy it. Types of uses include residential, commercial, industrial, community facilities/institutional, vacant land, and parkland/open space. An analysis of land use patterns characterizes the uses and development trends in the area that may be changed or affected by the proposed action. This analysis is then used to determine whether the proposed project is compatible with, or may alter those conditions. Zoning establishes standards and requirements used to regulate and guide development within New York City. Regulatory controls prescribe permitted uses, building coverage and open space standards, setbacks, structure heights and parking requirements. Public policies are those adopted policies, other than zoning, that can affect or define land use.

A. Existing Conditions

LAND USE

The proposed new public school facility would be constructed on a site comprised of two privately-owned lots (Lots 34 and 36) on Block 728 in the Sunset Park section of Brooklyn. The proposed project site has a gross land area of approximately 0.29 acres (12,521 square feet). The western portion of the site (Lot 34) is an unpaved vacant lot, currently used for private parking. The eastern portion of the project site (Lot 36) contains the approximately 25,000 sf (former) 68th Police Precinct Station House and Stable, which are currently vacant. This existing facility includes the station house, which stands three stories, plus cellar, at the corner of 4th Avenue and 43rd Street, and also an accessory two-story stable building and one-story jail building. The existing buildings are currently in a state of disrepair and are surrounded by construction fencing and scaffolding.

The rectangular-shaped project site, shown on Figure 2-1, is situated at the southwest corner of 4th Avenue and 43rd Street. The project site has approximately 125 feet of frontage on 43rd Street (northern boundary) and approximately 100 feet of frontage on 4th Avenue (eastern boundary). The portions of the site without street frontage adjoin a three-story mixed use building, which faces onto 4th Avenue, and a three-story residential building which faces onto 43rd Street.

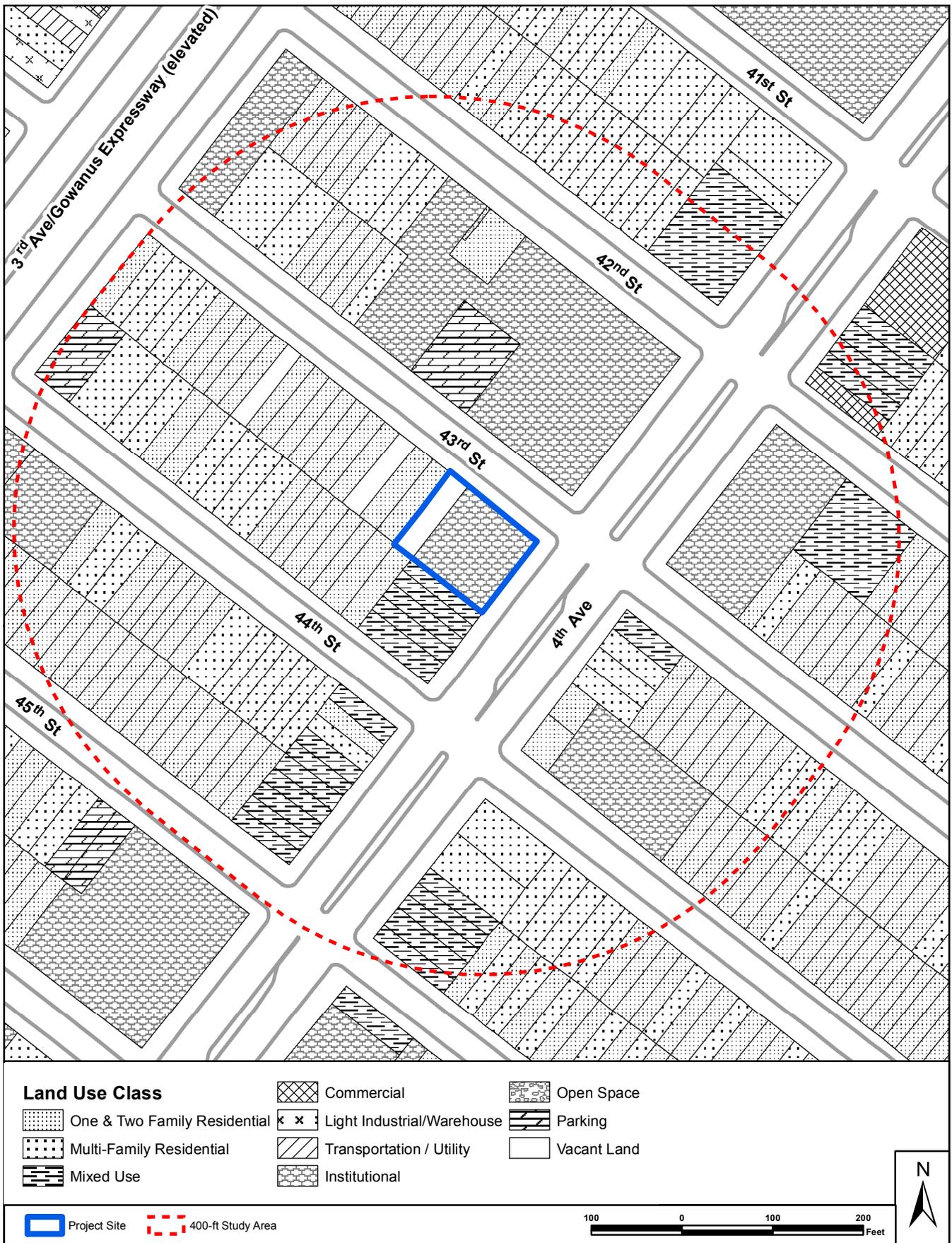
The analysis of land use, zoning, and public policy was conducted within a study area defined in accordance with the *CEQR Technical Manual*. The study area for the proposed project comprises the area within a 400-foot radius surrounding the project site. As illustrated on Figure 2-2, the study area boundary is generally defined by the midblock point north of 42nd Street to the north, 45th Street to the south, the midblock point east of 4th Avenue, and 3rd Avenue/Gowanus Expressway (elevated) to the west.

Within the study area, the land uses are predominantly residential, institutional, and mixed use buildings. A major transportation land use, the multi-lane elevated Gowanus Expressway above 3rd Avenue, is located just outside of the study area and west of the project site.

Figure 2-1: Aerial Photograph of Existing Conditions



Source: Esri, 2017



Source: NYC Department of City Planning MapPLUTO 2016; STV Incorporated, 2017

Figure 2-2

Proposed PS 557
4302 4th Avenue, Brooklyn

LAND USE

The residential uses within the study area include one-, two- and multi-family attached rowhouses and brownstone buildings and detached homes ranging from two to four stories in height located along 42nd, 43rd, 44th, and 45th streets. Some of the homes along 43rd and 44th Streets are set back from the street with small yards or parking in front.

Institutional uses nearest the project site include the three- to four-story St. Michael's R.C. Church complex (church and school buildings), located directly north of and across the street from the project site; the former St. Michael's School buildings and convent are currently occupied by PS 516 (Sunset Park Avenues Elementary School). The three-story (former) Sunset Park Court House is located on the east side of 4th Avenue between 42nd and 43rd streets (northeast of the project site). Other institutional uses present within the study area are healthcare facilities, including the six-story Lutheran Healthcare Sunset Gardens on 44th Street (senior housing), located southeast of the project site, and the New York Center for Specialty Surgery, located partially within the study area and northwest of the project site. Bay Ridge Day Nursery is located near the western boundary of the project site at the corner of 44th Street and 3rd Avenue.

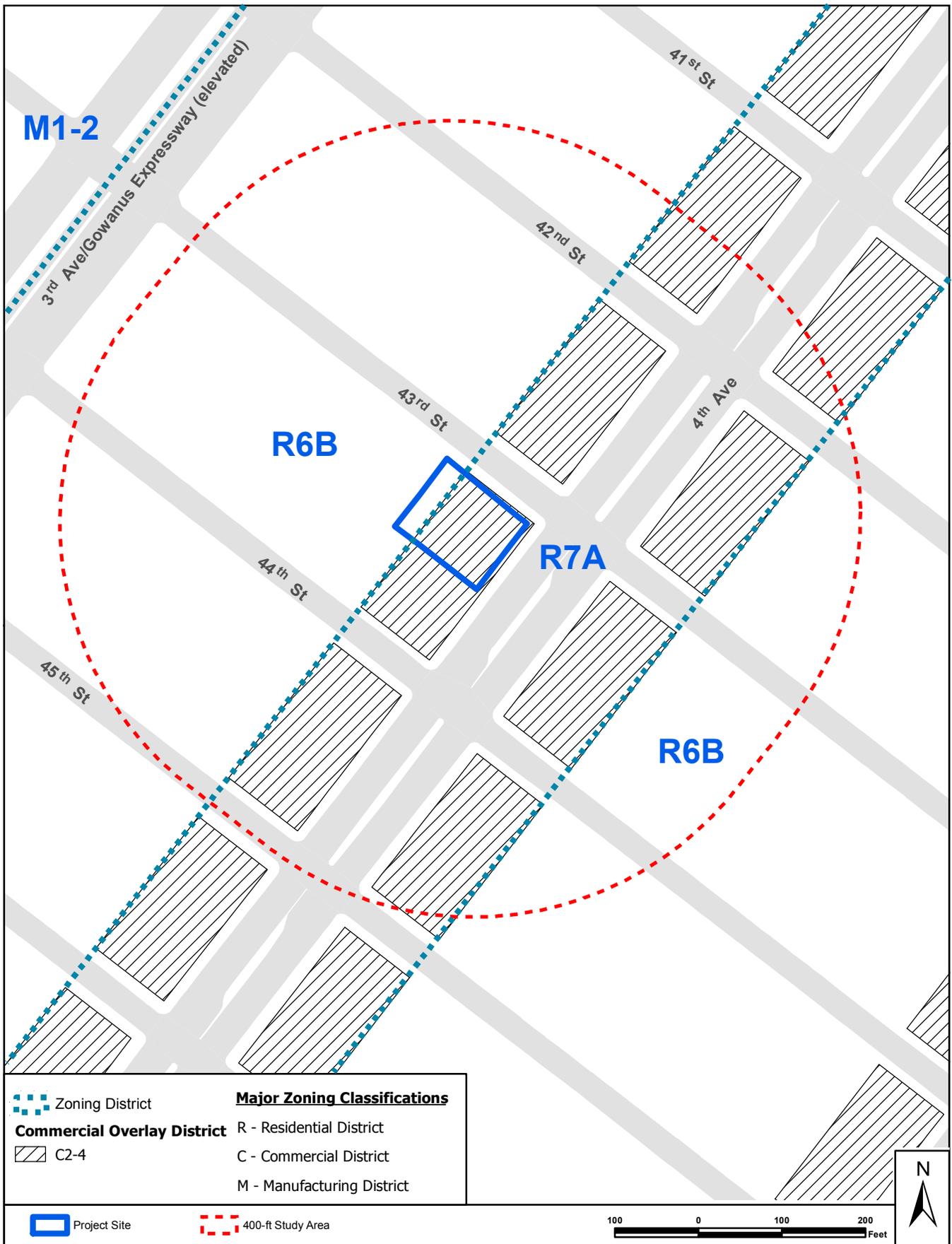
Three-story mixed-use buildings (ground floor commercial and upper floor residential) are found within the study area along 4th Avenue and include commercial uses such as delis, laundromats, restaurants, a barber shop, a laundromat, a pharmacy, and a funeral home. A five-story mixed-use building is located at the northwest corner of 4th Avenue and 42nd Street.

A few vacant lots are present within the study area along the south side of 43rd Street, west of the project site. St. Michael's R.C. Church complex includes an open space area on the south side of 42nd Street (though a portion of the open space contains a paved private parking area).

ZONING

The New York City Council adopted the Sunset Park Rezoning on September 30, 2009, which instituted the zoning districts and regulations that currently govern the project site and the study area. The rezoning aims to preserve neighborhood character and scale by placing height limits throughout the area, allowing for new development where appropriate at a height and scale that is in keeping with the existing context, to create opportunities and incentives for affordable housing through inclusionary zoning, and to support local retail corridors while protecting the residential character of nearby side streets.

As shown on Figure 2-3, the western portion of the project site is located within an R6B contextual medium-density residential zoning district, which is designed to produce traditional rowhouse districts that preserve the scale and harmonious streetscape of neighborhoods of four-story attached buildings developed during the 19th century. Many of these houses are set back from the street with stoops and small front yards. The eastern portion of the project site is located within an R7A contextual medium-density residential zoning district, which is designed to produce high lot coverage, seven- and eight-story apartment buildings, blending with existing buildings in many established neighborhoods. A C2-4 commercial overlay, which allows for neighborhood commercial uses within residential districts, is mapped along 4th Avenue (within the R7A district). A school facility (Use Group 3) is permitted as-of-right in both R6B and R7A districts.



Source: NYC Department of City Planning, 2016; STV Incorporated, 2017.

Figure 2-3

Proposed PS 557
4302 4th Avenue, Brooklyn

ZONING

Within the study area, the R7A zoning district and C2-4 commercial overlay are mapped over the east and west sides of 4th Avenues. The R6B zoning district is mapped over the remainder of the study area, covering the eastern portion of the study area (east of 4th Avenue) and the western portion of the study area (west of 4th Avenue).

PUBLIC POLICY

The *New Connections/New Opportunities – Sunset Park 197-a Plan* applies to the project site and the study area. This 197-a plan, approved by the City Planning Commission in 2009, includes recommendations for the entire Brooklyn Community District (CD) 7, which is bounded by 15th Street, Fort Hamilton Parkway/8th Avenue, 65th Street, and the pierhead line/Upper New York Bay. The plan's primary goals are to (1) promote industrial redevelopment and job creation in Sunset Park while retaining existing industrial jobs; (2) maximize waterfront access and open space opportunities in combination with industrial and waterfront development; (3) preserve existing industrial, commercial and residential uses and fabric in the area east of First Avenue; (4) encourage development that places a minimal environmental burden on adjacent residential communities; and (5) preserve and celebrate Sunset Park's rich maritime and industrial heritage. This 197-a plan sets forth a comprehensive framework for the revitalization of the Sunset Park waterfront as an economically viable and environmentally sustainable resource that is closely related to, and serves the needs of, adjacent upland communities. The plan is built upon a vision of the Sunset Park waterfront as a sustainable mixed-use neighborhood that promotes regional and local economic development, fosters a healthy living and working environment, and reconnects upland residential communities in Brooklyn CD 7 to the water's edge.

Waterfront Revitalization Program. As the proposed project site does not fall within the City's designated coastal zone, the proposed action was not assessed for its consistency with the policies of the City's Local Waterfront Revitalization Program.

The project site and study area are located in Flood Zone X, which is area determined to be outside the 1% annual chance floodplain (100-year flood) and 0.2% annual chance floodplain (500-year flood).

According to the best available flood hazard data for Sandy affected counties in New York and New Jersey, the project site is not located within a flood hazard area (<http://fema.maps.arcgis.com/home/>).

B. The Future Without the Project

LAND USE

If the proposed PS 557 is not built, no changes to the project site are expected to occur by the 2022 Build Year. The existing two lots comprising the project site would remain as a vacant lot and the (former) 68th Police Precinct Station House and Stable, which are currently vacant and in a state of disrepair.

According to a review of the Land Use and CEQR Application Tracking System (LUCATS) data, provided by the New York City Department of City Planning (NYCDCP) and accessed via <http://a030-lucats.nyc.gov/lucats/Welcome.aspx> on March 30, 2017, there are no additional

development projects or rezonings planned to be undertaken with the vicinity of the project site. The Brooklyn Office of NYCDPCP was contacted to identify any other major projects planned for completion in the vicinity of the project site by the 2022 Build Year of the proposed school. No additional development projects or rezonings were identified by NYCDPCP.

ZONING AND PUBLIC POLICY

No changes to zoning or public policy are expected to occur by the 2022 Build Year; zoning and public policy currently in effect for the project site and study area will remain in effect in 2022.

C. Probable Impacts of the Proposed Project

LAND USE

The proposed project involves the acquisition of two lots (Lots 34 and 36), demolition of the existing structures on Lot 36 (while maintaining the street-facing facades of the station house), and construction of a new school facility. As described earlier, OPRHP has identified a preferred redevelopment scenario for the proposed school facility, "Option RS2F," which would involve preserving and stabilizing the main facades of the existing three-story station house building on both 4th Avenue and 43rd Street, while the balance of the existing station house building would be demolished. As such, the majority of the new construction would be arranged in a five-story "L" shape behind the original footprint of the station house and would be set back from both 4th Avenue and 43rd Street. Based on this preliminary design, the proposed new school facility would be a three- to five-story building, plus cellar, and would contain approximately 30,060 sf. The school's main entrance would be located on 4th Avenue. The project would also provide an approximately 3,550 sf rooftop playground on the third floor above the gymnasium in the new school facility.

The proposed school would be consistent with surrounding uses in the study area, which are predominantly residential, institutional, and mixed use buildings. The proposed project would replace a vacant lot and a vacant, former community facility use (used historically as a police station and, most recently, as a Youth Center) with a compatible community facility use (school facility). It would be a different building form and active, rather than vacant, but the new school would be compatible with surrounding land uses. No significant adverse impacts to land use would result from the proposed PS 557.

ZONING

The proposed school facility would conform to the requirements of the R6B and R7A zoning districts with respect to use, as schools (Use Group 3) are permitted as-of-right in residential districts. It is expected that, with the proposed preliminary design, some zoning overrides would be required for zoning bulk non-compliances and these zoning overrides would be requested by the SCA from the Deputy Mayor for Housing and Economic Development. As the zoning overrides would pertain only to the project site, no significant adverse impacts to zoning would occur.

PUBLIC POLICY

The proposed project would be consistent with the 197-a plan applicable to Brooklyn CD 7. Therefore, no impacts to public policy would be expected as a result of the proposed project.

D. Sustainability

Per the guidance of the *CEQR Technical Manual*, large publicly sponsored projects must conduct a sustainability assessment to determine whether the project is consistent with the planning goals and objectives of PlaNYC. As the proposed project would result in the construction of a new approximately 332-seat public school facility to provide additional public school capacity in CSD No. 15, and is not considered to be a large publicly sponsored project, the proposed project was not assessed for its consistency with the goals and objectives established in PlaNYC.

Chapter 3: Socioeconomic Conditions

Socioeconomic impacts may occur when an action would directly or indirectly change population, housing stock, or economic activities in an area. Changes may be substantial but not adverse, or beneficial to some groups and adverse to others. This chapter discusses potential impacts to socioeconomics and identifies their significance.

A detailed socioeconomic analysis is typically conducted if an action would create substantial socioeconomic changes in an area, such as direct displacement of residential population or of substantial numbers of businesses or employees. Other analysis criteria pertain to new development that may be markedly different from existing uses or that would attract substantial residential or worker populations to the area, such as development of 200 or more residential units or more than 200,000 sf of commercial space. Under CEQR, if an action could affect the real estate market over a larger area or if it could adversely affect economic conditions of a specific industry, a socioeconomic analysis may be necessary. The proposed action would include neither residential nor commercial elements; the proposed action is the construction of a new school building, thus increasing school district capacity to address existing overcrowding and meet projected demand. Therefore, no detailed socioeconomic analysis is required.

A. Existing Conditions

The proposed school site is currently comprised of an unpaved vacant lot, currently used for private parking, and the (former) 68th Police Precinct Station House and Stable, which are currently vacant and unoccupied. The immediate uses around the project site primarily consist of residential, institutional, and mixed use buildings. A large institutional use, St. Michael's R.C. Church complex (church and school buildings), is located directly north of and across the street from the project site; the former St. Michael's School buildings and convent are currently occupied by PS 516 (Sunset Park Avenues Elementary School).

B. The Future Without the Project

If the proposed PS is not built, no changes to the project site are expected to occur by the 2022 Build Year. No other developments are anticipated for the study area by the 2022 Build Year, and socioeconomic conditions are generally expected to resemble existing conditions.

C. Probable Impacts of the Proposed Project

The proposed school would be constructed on a vacant lot, currently used for parking, and a lot containing vacant buildings. The proposed project would introduce approximately 332 primary school students and a total of approximately 32 teachers, administrators, and support staff to the project site. The proposed PS would not result in the displacement of any residents or businesses, as the existing building is currently unoccupied. Additional jobs for teachers and support staff would be created as a result of the new school.

Although the proposed project would result in new construction, the construction activities generally would be contained within the site. In addition, the construction of the new school building would be a localized activity of limited duration, without the potential to affect a larger

area or the conditions of any specific industry. Significant adverse impacts to socioeconomic conditions from the proposed project would not result, and no further analysis is required.

Chapter 4: Community Facilities and Services

According to the *CEQR Technical Manual*, "...community facilities are public or publicly funded schools, libraries, child care centers, health care facilities and fire and police protection." The *CEQR Technical Manual* calls for analysis of impacts on community facilities where there are direct effects (a physical alteration or displacement) or indirect effects (addition to population of an area and a concomitant increase in demand for community services). The proposed project would not directly displace a community facility or introduce new resident population or otherwise increase demand on facilities; therefore, no direct or indirect effects to community facilities are expected and a detailed analysis is not required.

A. Existing Conditions

Police Services. Police protection is provided by the City of New York Police Department (NYPD) 72nd Police Precinct, which has jurisdiction over the project site. Its headquarters are located at 830 4th Avenue, approximately 0.7 miles northeast of the site.

The former police precinct standing on the project site is vacant and no longer functions as part of the NYPD, nor is the property owned by the City or under the jurisdiction of the NYPD.

Fire Services. Fire protection services are provided by the City of New York Fire Department (FDNY). The facility closest to the project site that would serve the proposed school is Engine Company 228, located approximately 0.2 miles northeast of the project site at 436 39th Street.

B. The Future Without the Project

Police Services. No significant change in the demand for service or in the provision of service to community residents is expected.

Fire Services. No significant change in the demand for service or in the provision of service to community residents is expected.

C. Probable Impacts of the Proposed Project

The proposed action would create a new public school facility on a site currently comprised of a vacant unpaved lot, currently used for private parking, and a lot containing vacant institutional buildings. The proposed PS would serve approximately 332 students in grades pre-kindergarten through five within CSD No. 15. The proposed project would not introduce new residents to the area, therefore creating little new demand for community facilities and services.

Police Protection. It is expected that the proposed school would have no significant impact on police protection in the community as a result of the project.

Fire Protection. The proposed school would be constructed to meet all existing fire code regulations and would generate a negligible increase to the potential workload of the FDNY. It is expected that the proposed project would not adversely impact the FDNY's ability to provide fire protection to its service area.

Further, the proposed new school facility would provide an additional community resource for area residents and expand the public school capacity in CSD No. 15; however, the new PS would not change the service area of this school district. No significant adverse impacts to community facilities and services would occur as a result of the proposed project, and no further analysis is required.

Chapter 5: Open Space

The *CEQR Technical Manual* calls for analysis of open space impacts if there could be direct effects on an open space (physical loss of public open space by encroachment or displacement); or indirect impacts (increase in demand through the addition of 200 residents or more, or 500 employees or more). As the proposed project would not directly eliminate or alter open space or increase the utilization of neighborhood open spaces (e.g., as through the addition of 200 or more residents or 500 or more employees), a detailed open space analysis is not required.

A. Existing Conditions

Neither the project site nor the 400-foot study area contains any publicly accessible open space. The closest publicly accessible open space to the proposed project site is Sunset Park, which is located one block to the east of the project site. Sunset Park, an approximately 24.5-acre park, is bounded by 41st Street to the north, 44th Street to the south, 7th Avenue to the east, and 5th Avenue to the west. The park features basketball courts, handball courts, a volleyball court, playgrounds, spray showers, outdoor swimming pools, pedestrian walkways, eateries, and a recreation center. St. Michael's R.C. Church complex includes an approximately 3,653 sf open space area on the south side of 42nd Street (though a portion of the open space contains a paved private parking area).

B. The Future Without the Project

In the absence of the proposed project, no significant change is expected regarding open space resources within the study area.

C. Probable Impacts of the Proposed Project

The construction of a new school facility on the project site would not have any direct or indirect impacts on open space. The need for physical education at the school would be met within the project site itself with the provision of a gymnasium within the proposed school building and an approximately 3,550 sf rooftop playground on the third floor roof above the gymnasium. Therefore, the open space needs of the students and staff associated with the proposed PS 557 would be met on site, and the new school facility would not result in any significant adverse impacts to open space resources.

Chapter 6: Shadows

This section discusses the potential impacts of the proposed project with regard to shadows. Per the guidance of the *CEQR Technical Manual*, a shadow is defined as "...the condition that results when a building or other built structure blocks the sunlight that would otherwise directly reach a certain area, space or feature." An adverse impact may occur if a proposed action would result in a new structure (or addition to an existing structure of 50 feet or more) or is located adjacent to, or across the street from, a resource that has been identified as sunlight sensitive.

A. Existing Conditions

The (former) 68th Police Precinct Station House and Stable on the eastern portion of the project site are a designated New York City Landmark and are listed in the State and National Registers of Historic Places by OPRHP. Potentially sunlight sensitive resources in the vicinity of the project site include three historic resources and an open space:

- St. Michael's R.C. Church complex - church and school buildings (PS 516), which has been determined eligible for inclusion in the State and National Registers of Historic Places by OPRHP, is located directly north of the project site, across 43rd Street. As described in the land use and open space analyses, St. Michael's R.C. Church complex includes an approximately 3,653 square foot open space area on the south side of 42nd Street (though a portion of the open space contains a paved parking area, this is conservatively assumed to be a potential sensitive receptor for this analysis);
- The (former) Sunset Park Court House is a designated New York City Landmark and is listed in the State and National Registers of Historic Places by OPRHP. It is located along the east side of 4th Avenue between 42nd Street and 43rd Street (northeast of the project site); and
- Sunset Park Historic District, which is listed in the State and National Registers of Historic Places by OPRHP, is mapped to include the predominantly residential area directly east of the project site, on the east side of 4th Avenue.

B. The Future Without the Project

If the proposed PS 557 is not constructed, then the conditions related to shadows, both on the project site and in the surrounding area generally would remain the same as existing conditions.

C. Probable Impacts of the Proposed Project

Based on the preliminary design currently under consideration, the proposed PS 557 building would include a three-story portion that would stand in the place of a portion of the existing station house, together with an attached "L"-shaped volume that would comprise the remainder of the project site on the southern and western sides of the three story portion. Specifically, the proposed project would preserve and stabilize the existing street-facing facades of the historic three-story station house, while the remainder of it would be demolished and replaced with a similar three-story volume on the same footprint behind the historic façades. The two-story stable

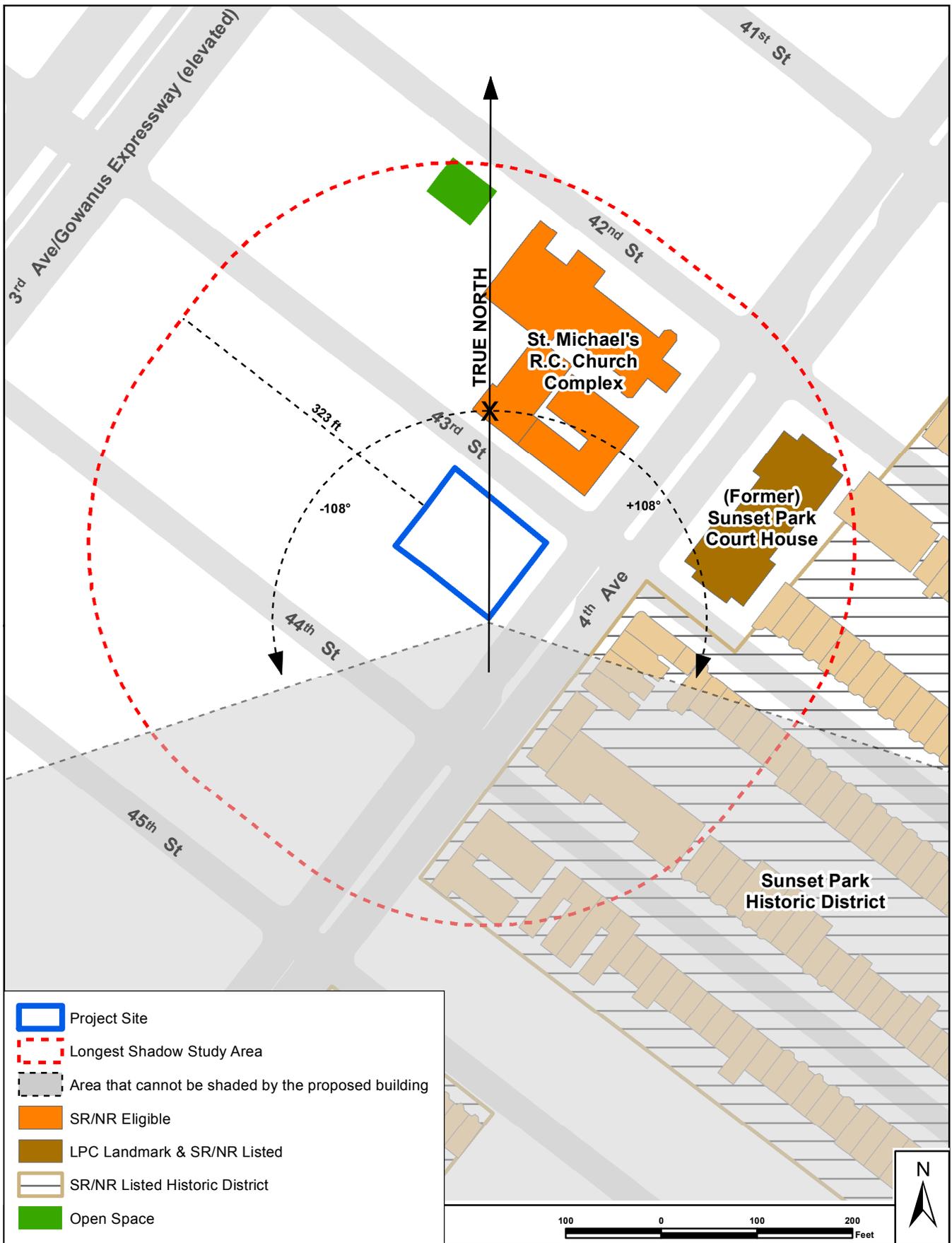
building south of the station house would be demolished, and one “leg” of the L-shaped volume would be constructed on that portion of the site, while the other leg of the L-shaped volume would be built west of the station house. The L-shaped portion of the proposed PS 557 would stand five-stories with cellar and would have an estimated height of 75 feet, and therefore represents new building height with potential to cast shadow that would not otherwise be present in the future without the proposed project. (The shorter, three-story portion of the proposed PS 557 would be constructed behind the historic facades of the existing three-story station house, and therefore would not cause any substantial new shadow.)

Tier 1 and Tier 2 Shadow Screening Analyses were performed in accordance with the guidelines of the *CEQR Technical Manual* in order to identify potential sunlight sensitive resources that could be reached by the maximum shadow length of the L-shaped volume of the proposed PS 557 building. Based on these tiers of analysis, it was determined that the expected maximum shadow cast by the proposed PS 557 building – attributable to the five-story part of the building – would reach a maximum shadow length of approximately 323 feet (see Figure 6-1).

The four potentially sunlight sensitive resources of concern, previously described in this chapter, that are located within 323 feet of the project site and potentially within reach of this maximum shadow, include the following: St. Michael’s R.C. Church complex (church and school buildings) and the open space area at the northern edge of the complex; the (former) Sunset Park Court House; and a portion of the Sunset Park Historic District.

A detailed shadow screening analysis was conducted, in accordance with the *CEQR Technical Manual*, in order to determine whether any of these potentially sunlight sensitive resources would experience a significant adverse impact as a result of shadows cast by the proposed PS 557. Specifically, the detailed analysis considers the presence of existing buildings in the context of the potentially sunlight sensitive receptors, as well as shadows they cast, to determine whether there would be a greater extent of shadow (“incremental shadow”) that would be specifically attributable to the proposed PS 557, alone.

The detailed shadow screening analysis considers shadows that would be cast on four days determined to be representative of the variability of shadows throughout the year: December 21 (winter solstice), either March 21 or September 21 (equinoxes), June 21 (summer solstice), and either May 6 or August 6 (midway between equinoxes and solstices). The analyses are performed for these days over a time period beginning 1.5 hours after sunrise and ending 1.5 hours before sunset.



Source: STV Incorporated, 2017.

Figure 6-1

Proposed PS 557
4302 4th Avenue, Brooklyn

TIER 2 SHADOW SCREENING

The results of the detailed shadow analysis are described following for each of the potentially sunlight sensitive receptors:

St. Michael's R.C. Church complex – school buildings (PS 516). The two school buildings, which are part of the St. Michael's R.C. Church complex, are located south of the church building. They stand adjacent to one another and are located directly north of the project site, on the north side of 43rd Street. Based on the detailed shadow analysis, incremental shadows from the proposed PS 557 would extend to these school buildings on three of the analysis dates: March 21st, June 21st, and August 6th.

- *On March 21st* the incremental shadow would reach both school buildings, and it would move across portions of their southern façades for a total incremental duration of approximately 4 hours and 5 minutes in the spring afternoon, between approximately 12:24 PM and 4:29 PM. At its greatest extent, approximately 4:12 PM, the shadow would stretch across a portion of the façade of the eastern school building from ground level to roof (see Figure 6-2a).
- *On August 6th* the incremental shadow would reach the easternmost school building (only), and it would move across a portion of its southern façade for a total incremental duration of approximately 3 hours and 8 minutes in the summer afternoon, between approximately 2:10 PM and 5:18 PM. At its greatest extent, approximately 4:39 PM, the shadow would cover a portion of this school building façade from ground level to the mid-point to the roof (see Figure 6-2b).
- *On December 21st* the incremental shadow would reach both school buildings, and it would move across portions of their southern façades for a total incremental duration of approximately 3 hours and 43 minutes in the winter afternoon, between approximately 11:10 AM and 2:53 PM. At its greatest extent, approximately 1:45 PM, the shadow would stretch across portions of the façades of both school buildings from ground level to roof (see Figure 6-2c).

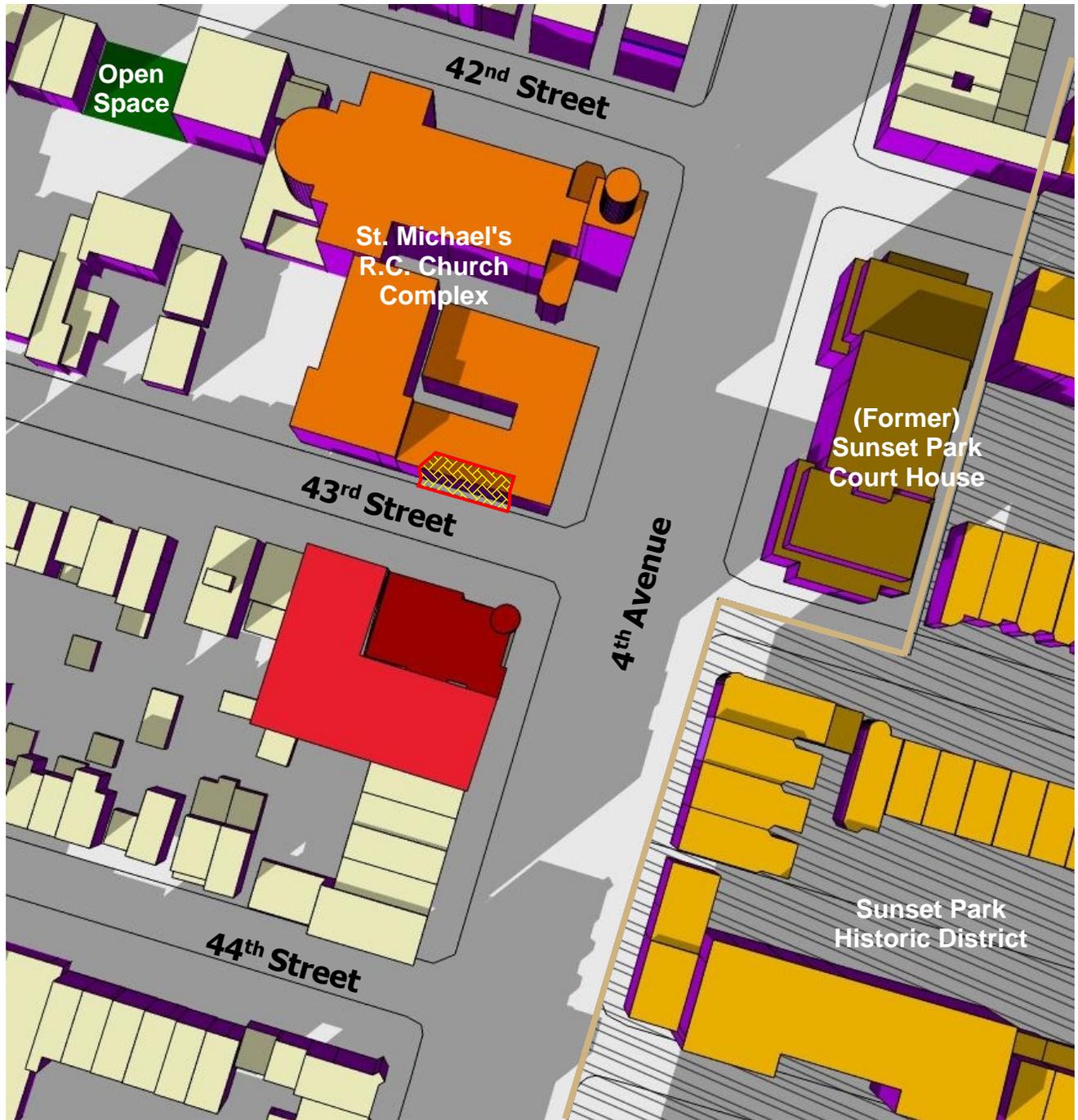
Because sunlight is not necessary to maintain character-defining features of these buildings, as there is no stained glass or unique sculptural feature to the façade that may depend on sunlight for particular aesthetic effect, the incremental shadow attributable to the proposed PS 557 would not result in a significant adverse impact to these buildings, and no further analysis is warranted.

St. Michael's R.C. Church complex – church building. Based on the detailed shadow analysis, incremental shadows from the proposed PS 557 would extend onto the paved area immediately east of the church, but not onto the church building itself, on December 21st (see Figure 6-2c).

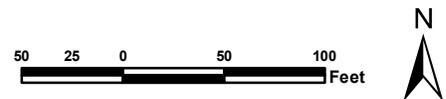
- *On December 21st* the incremental shadow would reach the paved portion of the church grounds at approximately 2:42 PM and remain until approximately 2:53 PM. As the incremental shadow would last for a short duration (approximately 11 minutes) and would not extend to any sunlight sensitive portion of the church building (such as stained glass windows) or sunlight sensitive landscaping, it would not result in a significant adverse impact to St. Michael's Church, and no further analysis is warranted.

St. Michael's R.C. Church complex - open space. The detailed shadow analysis determined that no incremental shadow attributable to the proposed PS 557 would reach this open space area on any analysis date. Therefore the proposed project would not result in any significant adverse impact to this open space area, and no further analysis is warranted.

Maximum Incremental Shadow
 St. Michael's R.C. Church Complex
 March 21st at 4:29 PM



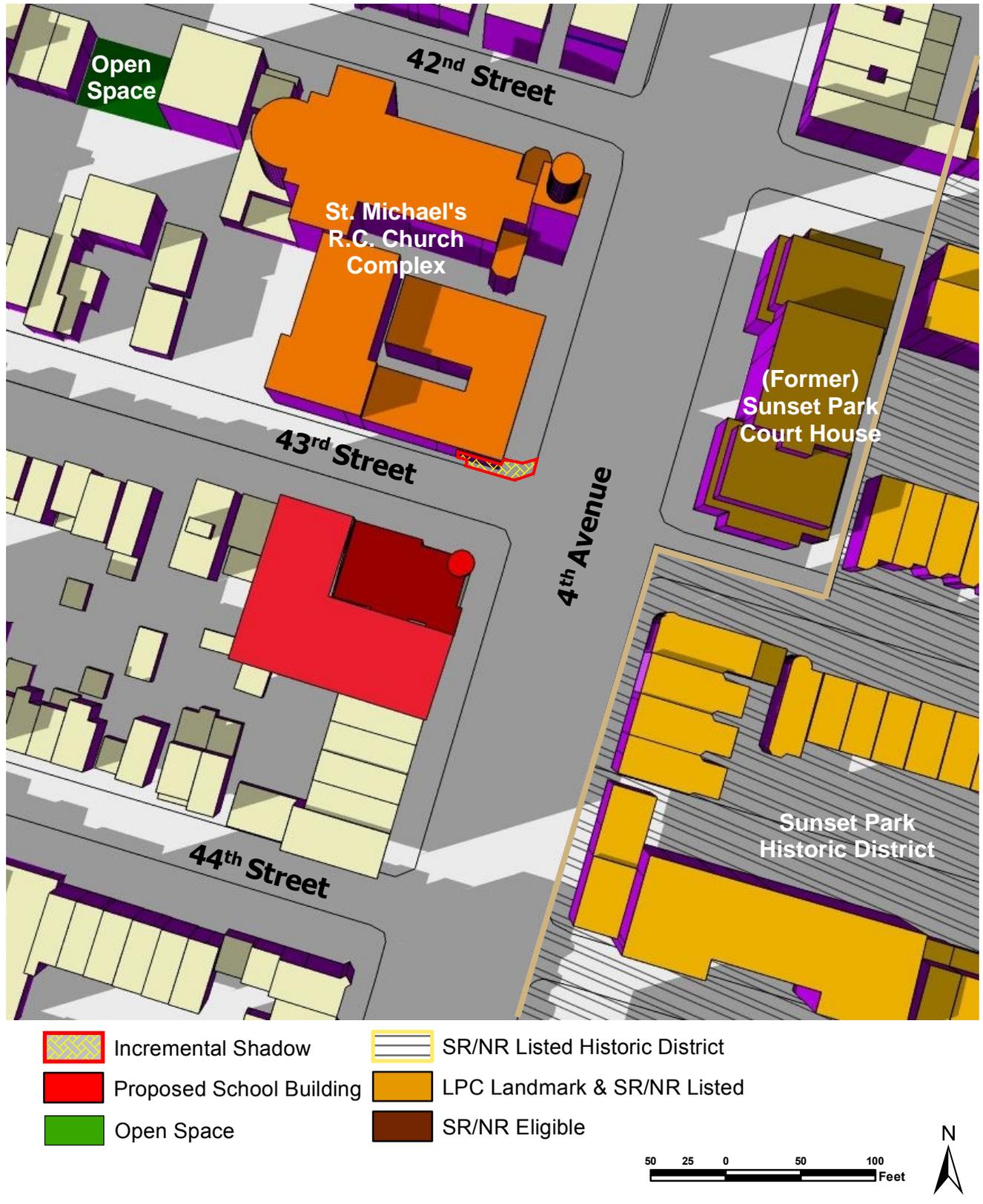
- Incremental Shadow
- SR/NR Listed Historic District
- Proposed School Building
- LPC Landmark & SR/NR Listed
- Open Space
- SR/NR Eligible



Source: STV Incorporated, 2017.

Figure 6-2a

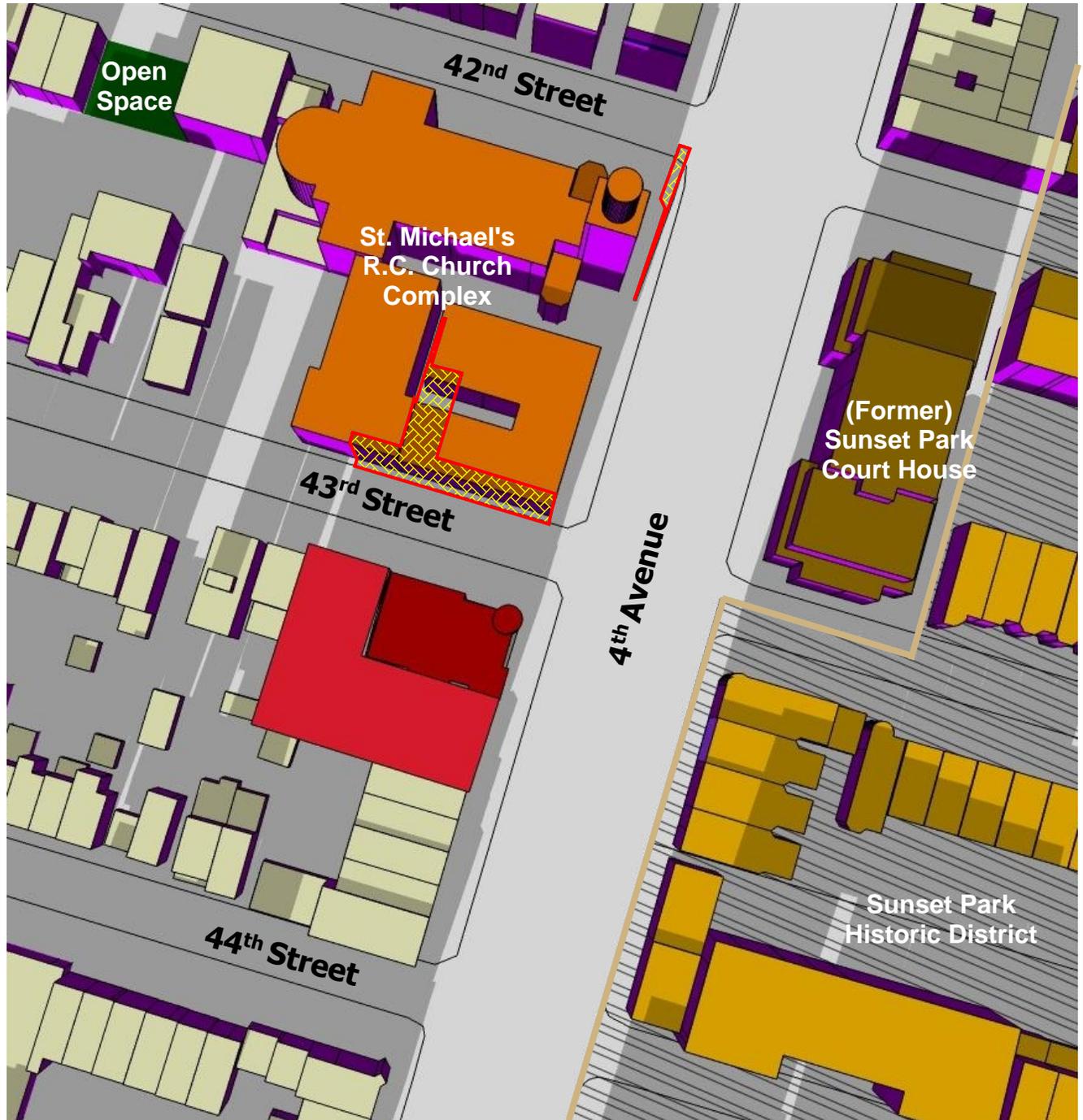
Maximum Incremental Shadow
 St. Michael's R.C. Church Complex
 August 6th at 5:18 PM



Source: STV Incorporated, 2017.

Figure 6-2b

Maximum Incremental Shadow
 St. Michael's R.C. Church Complex
 December 21st at 2:53 PM



- Incremental Shadow
- SR/NR Listed Historic District
- Proposed School Building
- LPC Landmark & SR/NR Listed
- Open Space
- SR/NR Eligible



Source: STV Incorporated, 2017.

Figure 6-2c

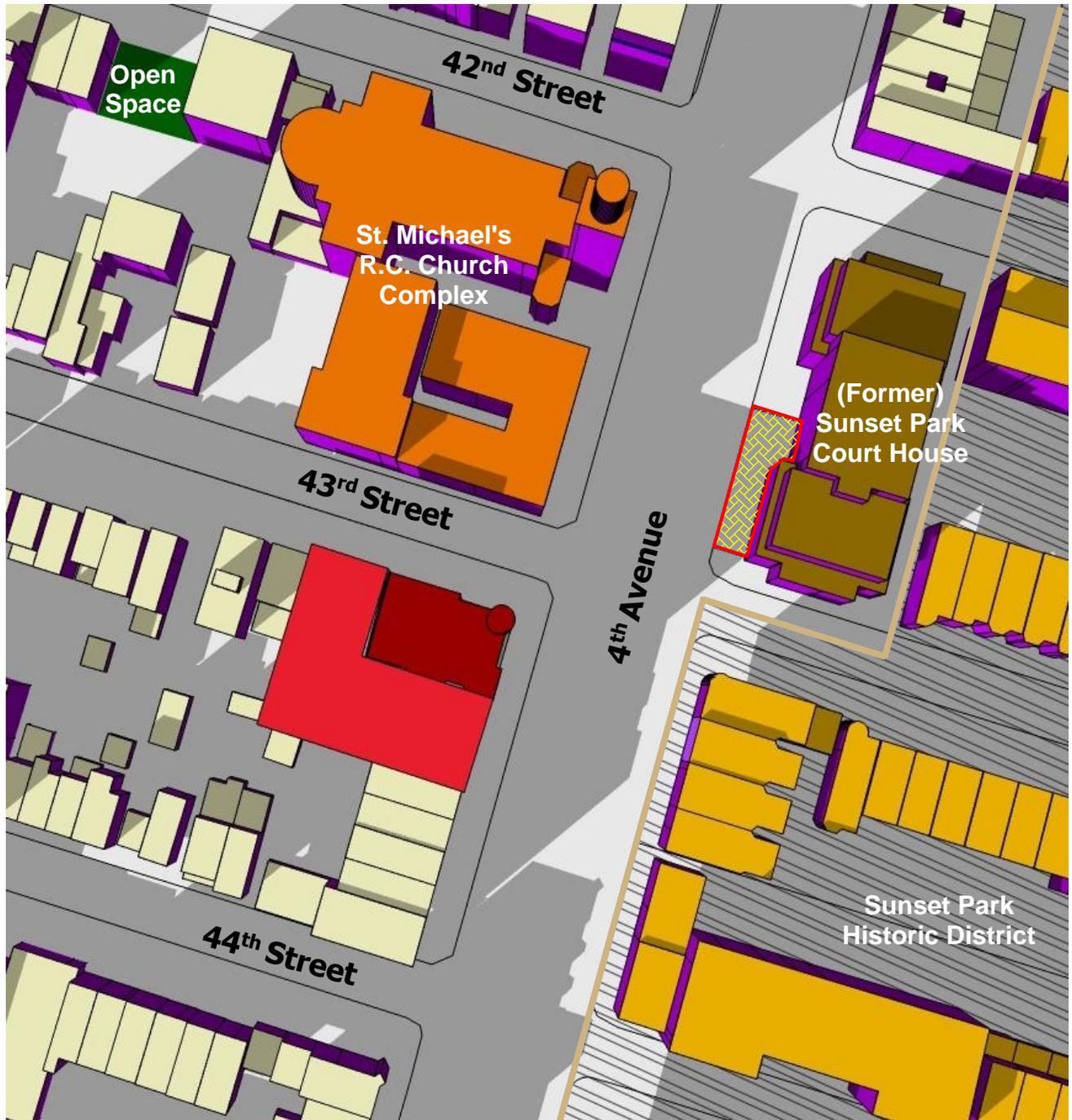
(Former) Sunset Park Court House. Based on the detailed shadow analysis there would be incremental shadows from the proposed PS 557 on three of the analysis dates, March 21st, June 21st, and August 6th.

- *On March 21st* the incremental shadow from the proposed PS 557 would reach the (former) Sunset Park Court House at approximately 4:06 PM and remain until approximately 4:29 PM. During this approximately 23 minute period, the incremental shadow is cast on the paved sidewalk area west of the Court House building and on a portion of its western façade (4th Avenue façade). At its greatest extent, approximately 4:29 PM, the shadow would stretch across a portion of the (former) Sunset Park Court House's western facade (see Figure 6-2d).
- *On June 21st* the incremental shadow would reach the (former) Sunset Park Court House at approximately 5:19 PM and remain until approximately 6:01 PM. During this approximately 42 minute period, the incremental shadow would move across the south and west façades of the (former) Sunset Park Court House, and by 6:01 PM the incremental shadow would have moved to cover a portion of the Court House's southern and western facades, as well as the sidewalk areas to the west and south of the building. At its greatest extent, approximately 5:19 PM, the shadow would stretch across portions of the (former) Sunset Park Court House's southern and western facades, as well as the sidewalk areas to the west and south of the building (see Figure 6-2e).
- *On August 6th* the incremental shadow from the proposed PS 557 would reach the (former) Sunset Park Court House at approximately 4:42 PM and remain until approximately 5:18 PM. During this approximately 26 minute period, the shadow would cross into the southern sidewalk area of the Court House at approximately 4:42 PM, then by approximately 4:50 PM reach the southern façade, and by 5:17 PM reach the western façade. At its greatest extent, approximately 5:18 PM, the shadow would stretch across portions of the (former) Sunset Park Court House's southern and western facades, as well as the sidewalk areas to the west and south of the building (see Figure 6-2f).

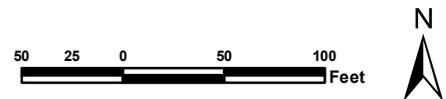
Because sunlight is not necessary to maintain character-defining features of the (former) Sunset Park Court House, as there is no stained glass or unique sculptural feature to the façade that may depend on sunlight for particular aesthetic effect, the incremental shadow that would be cast by the proposed PS 557 would not result in a significant adverse impact to the (former) Sunset Park Court House, and no further analysis is warranted.

Sunset Park Historic District. Based on the detailed shadow analysis, the proposed PS 557 would cast incremental shadows onto parts of the Sunset Park Historic District on two of the analysis dates, June 21st and August 6th.

Maximum Incremental Shadow
 (Former) Sunset Park Court House
 March 21st at 4:29 PM



- | | | | |
|---|--------------------------|---|--------------------------------|
|  | Incremental Shadow |  | SR/NR Listed Historic District |
|  | Proposed School Building |  | LPC Landmark & SR/NR Listed |
|  | Open Space |  | SR/NR Eligible |



Source: STV Incorporated, 2017.

Figure 6-2d

Maximum Incremental Shadow
 (Former) Sunset Park Court House
 June 21st at 6:01 PM



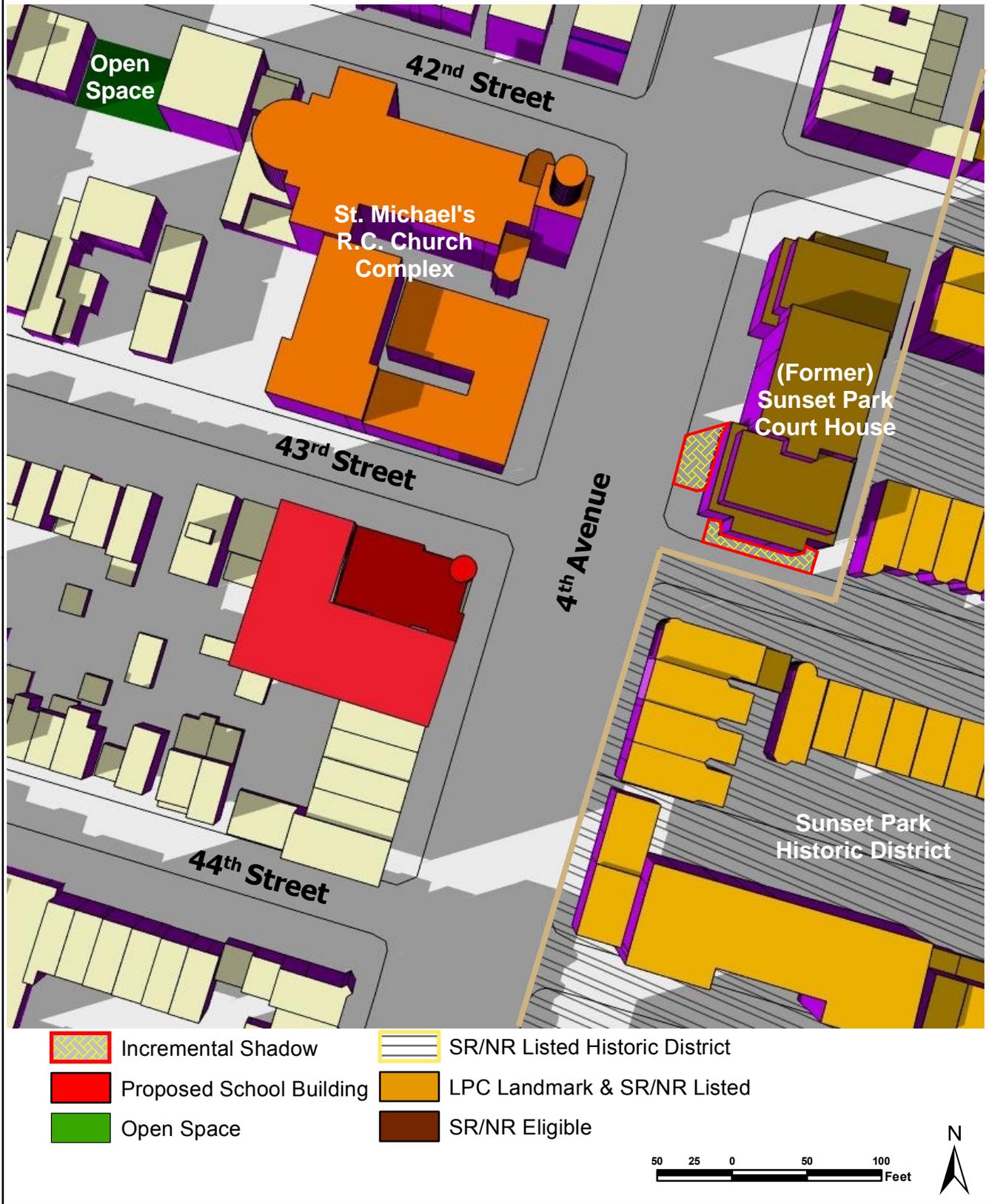
- Incremental Shadow
- SR/NR Listed Historic District
- Proposed School Building
- LPC Landmark & SR/NR Listed
- Open Space
- SR/NR Eligible



Source: STV Incorporated, 2017.

Figure 6-2e

Maximum Incremental Shadow
 (Former) Sunset Park Court House
 August 6th at 5:18 PM



Source: STV Incorporated, 2017.

Figure 6-2f

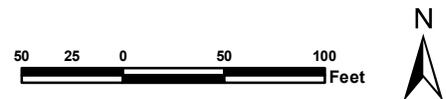
- *On June 21st* the incremental shadow would reach the Sunset Park Historic District by approximately 4:27 PM and remain until approximately 6:01 PM (see Figure 6-2g). During this period of approximately 1 hour and 34 minutes, the incremental shadows would be cast primarily on the roadbed and sidewalks of the historic district. Some incremental shadows would be cast on the facades of three buildings facing 4th Avenue within the historic district beginning at approximately 4:37 PM and lasting until 6:01 PM (approximately 84 minutes). At its greatest extent, approximately 6:01 PM, the shadow would extend across the facades of three buildings facing 4th Avenue within the historic district and surrounding roadbed and sidewalks.
- *On August 6th* the incremental shadow would reach the Sunset Park Historic District at approximately 4:23 PM and remain until approximately 5:18 PM (see Figure 6-2h). During these 55 minutes, the incremental shadow from the proposed PS 557 would reach a small portion of roadbed and sidewalk in the historic district. Incremental shadow would reach the western façade of one building in the historic district, located on the southeast corner of 43rd Street and 4th Avenue, beginning at approximately 4:37 PM and lasting until 5:18 PM (approximately 41 minutes). At its greatest extent, approximately 5:18 PM, the shadow would extend to the western façade of one building in the historic district and surrounding roadbed and sidewalks.

Because incremental shadows that reach the historic district on these dates would not be substantial or cast on sunlight-sensitive vegetation or character-defining architectural features of any buildings that may depend on sunlight for particular aesthetic effect, the proposed PS 557 would not result in a significant adverse impact to the Sunset Park Historic District, and no further analysis is warranted.

Maximum Incremental Shadow
 Sunset Park Historic District
 June 21st at 6:01 PM



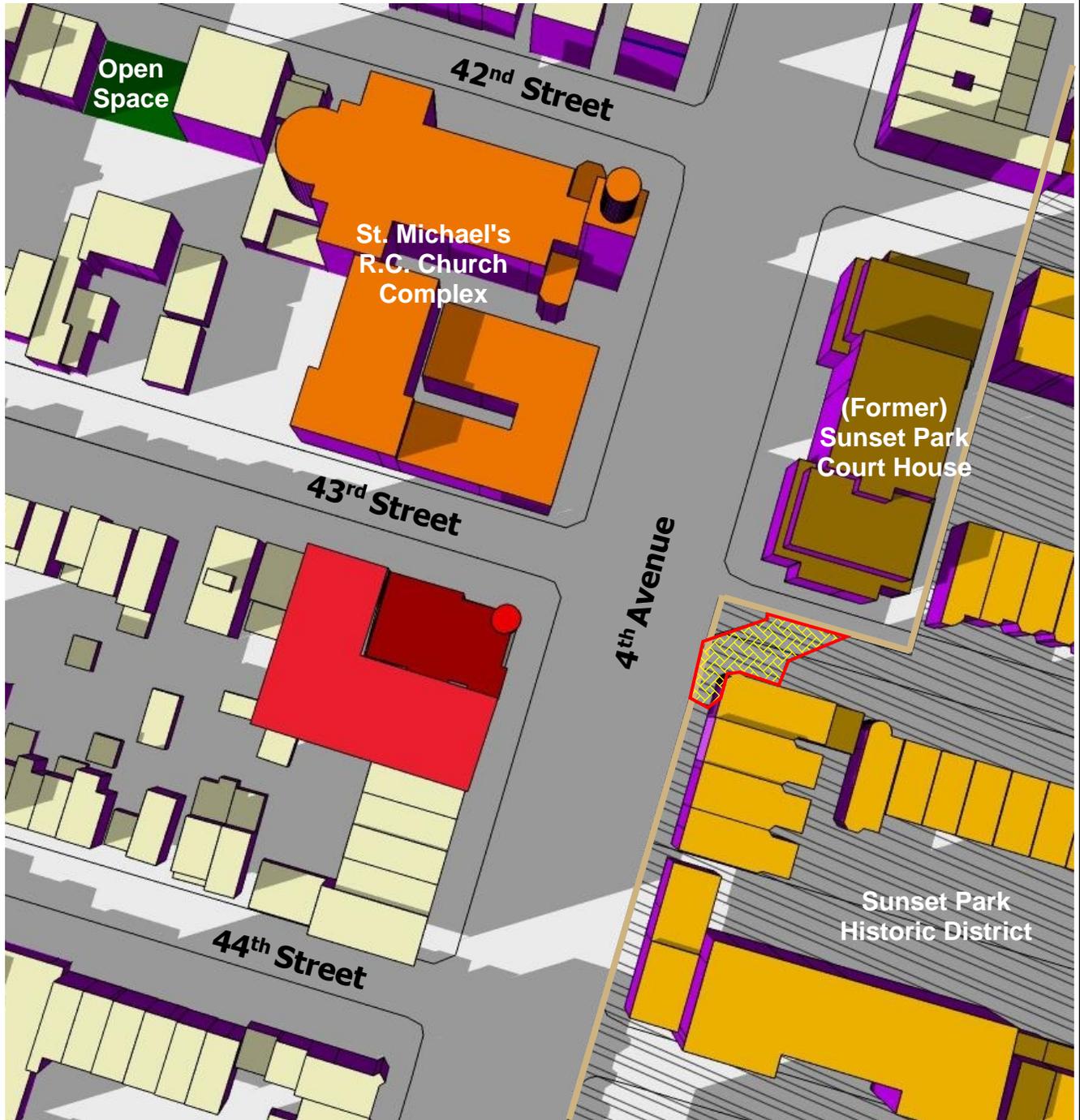
- | | |
|--|--|
|  Incremental Shadow |  SR/NR Listed Historic District |
|  Proposed School Building |  LPC Landmark & SR/NR Listed |
|  Open Space |  SR/NR Eligible |



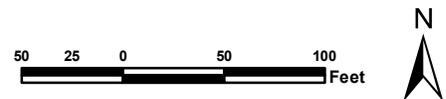
Source: STV Incorporated, 2017.

Figure 6-2g

Maximum Incremental Shadow
 Sunset Park Historic District
 August 6th at 5:18 PM



- Incremental Shadow
- SR/NR Listed Historic District
- Proposed School Building
- LPC Landmark & SR/NR Listed
- Open Space
- SR/NR Eligible



Source: STV Incorporated, 2017.

Figure 6-2h

Chapter 7: Historic and Cultural Resources

This section considers the potential impact of the construction of the proposed PS 557 on archaeological and historic resources on or near the project site. For archaeological resources, the *CEQR Technical Manual* recommends a detailed evaluation if there would be in-ground disturbance of an area not previously excavated. For historic resources, the *CEQR Technical Manual* recommends a detailed assessment if a proposed action would result in an adverse effect on historic buildings, structures, objects, sites or districts.

A. Existing Conditions

ARCHAEOLOGICAL RESOURCES

The project site has been previously disturbed as a result of earthmoving activities associated with construction of the present buildings on Lot 36 and the construction and demolition of former buildings on Lot 34. These activities have destroyed the upper limits of the natural soil column within the project site. Please refer to Appendix B for a Preliminary Assessment/Disturbance Record study, which addresses archaeological sensitivity of the project site.

Precontact Sensitivity. From what is known of precontact period settlement patterns in New York City and on Long Island, most habitation and processing sites are found in sheltered, elevated sites close to wetland features, major waterways, and with nearby sources of fresh water. The nearest water source to the project site is New York Bay, which prior to shoreline extension was approximately 1,800 feet to the west of the project site. There are no precontact period sites recorded within a one mile radius of the project site. Based on the criteria for location of precontact sites, and combined with a general lack of documented precontact period sites in the general vicinity and the level of known disturbance to the property, the project site is considered to have a low potential for hosting precontact cultural remains. Therefore, further research and study concerning precontact archaeological resources is not recommended (see Appendix B).

Historical Sensitivity. Research indicates that the project site remained undeveloped until the 1880s. Lot 34 originally had a one-story dwelling located at the front of the lot with an open rear yard, and later the one-story dwelling was either demolished or moved to the rear of the lot, where a two-story dwelling was shown until the 1970s. The (former) 68th Police Precinct Station House and Stable were constructed in 1886 and are still standing on Lot 36, albeit in a damaged condition. All of the buildings on both project site lots would have been hooked up to municipal water and sewer services when they were originally constructed in the 1880s, negating the need for shaft features such as wells, privies, or cisterns, which often become receptacles for archaeological resources. There is no indication that any significant historic period archaeological resources could be located on either of the two project site lots. Therefore, it is concluded that the project site is not sensitive for historical period archaeological resources (see Appendix B).

Please refer to Appendix B for a Preliminary Assessment/Disturbance Record study, which addresses archaeological sensitivity of the project site.

HISTORICAL RESOURCES

The existing (former) 68th Police Precinct Station House and Stable, built in 1886, are a designated New York City Landmark (in 1983) and are also listed in the State and National Registers of Historic Places (in 1982). The police precinct facility, designed by the architect George Ingram, is an important example of Romanesque Revival Style architecture. The facility includes a three-story (plus cellar) station house, two-story stable building, and one-story jail building. The structures are vacant and have experienced extensive deterioration.

The study area also includes St. Michael's R.C. Church complex (church and school buildings), which has been determined eligible for inclusion in the State and National Registers of Historic Places by OPRHP, and the (former) Sunset Park Court House, which is a designated New York City Landmark and is listed in the State and National Registers of Historic Places by OPRHP. St. Michael's R.C. Church, built in 1905, was designed by the architect Raymond F. Almirall. The church is a notable landmark of the surrounding Sunset Park neighborhood due to its tall tower. St. Michael's R.C. Church complex includes two contributing ancillary buildings: a three story school building, built in 1909, and a four-story school building, built in 1923.² The (former) Sunset Park Court House, built in 1931, was designed by the architect Mortimer D. Metcalfe. The (former) Sunset Park Court House is an impressive Classical Revival style building and is one of the neighborhood's few remaining civic buildings.³

The project site is not located within a historic district; however, the project site is located directly west of the Sunset Park Historic District, which comprises a large portion of the study area to the east (see Figure 6-1). The Sunset Park Historic District, listed in the State and National Registers of Historic Places by OPRHP, features historical examples of two- to three-story Romanesque and Renaissance Revival two-family rowhouses, built as part of a late 19th to early 20th century bedroom community for waterfront workers and their families. Sunset Park Historic District is roughly bounded between 4th and 7th Avenues and between 38th and 64th Streets.⁴

B. The Future Without the Project

In the absence of the proposed construction of the PS facility, there would be no new construction on the project site and no excavation or further disturbance of the project site. No potential cultural resources would be affected.

There are no historic resources within close proximity to the project site that are slated for review or expected to be designated in the future without the project. Therefore, in the future without the project, the only historic resources near the project site would be those described in existing conditions.

² New York State Office of Parks, Recreation and Historic Preservation, St. Michael's R.C. Church complex Determination of Eligibility, November 23, 2011

³ New York City Landmarks Preservation Commission, (Former) Sunset Park Court House Designation Report, June 26, 2001

⁴ Test-Fit SHPO Report, New York City School Construction Authority, February 6, 2017

C. Probable Impacts of the Proposed Project

ARCHAEOLOGICAL RESOURCES

The Preliminary Assessment/Disturbance Record study completed for the proposed project site determined that no further research and study of archaeological resources is warranted based on a low sensitivity for both precontact and historical period archaeological resources, coupled with significant disturbance to the original ground surface on the project site. Construction of the proposed new school facility on the project site would not result in significant adverse impacts to archaeological resources.

HISTORICAL RESOURCES

The proposed project would require that a majority of the existing on-site structures be demolished to accommodate the minimum POR required for a new primary school facility. As described above, the existing former police precinct facility on the project site is a designated New York City Landmark and is also listed in the State and National Registers of Historic Places. As such, under Section 14.09 of the State Historic Preservation Act of 1980 (SHPA), this is likely to result in an adverse effect to the historic resource, and may constitute a significant adverse impact to historic resources. As required under Section 14.09, consultation with the New York State Office of Parks, Recreation and Historic Preservation (OPRHP) was undertaken by the SCA as part of the proposed development of a new public school facility on the project site (see Appendix C). OPRHP, in its letter of September 2, 2016, responded to the SCA's request to initiate the formal consultation process regarding the redevelopment of the project site for school use (see Appendix C). In their response, OPRHP commented that they had "very serious concerns" about the potential for these buildings to be demolished and stated that if the proposed project included the demolition, or partial demolition, of the station house and stable that OPRHP would determine that the project would have an adverse impact on the site. OPRHP also recommended that the SCA explore all alternatives to avoid the adverse impact and outlined the items that should be included as part of the alternatives analysis. Upon OPRHP's review of the Test-Fit SHPO Report (February 6, 2017), OPRHP commented in its letter of February 24, 2017, that the interior of the on-site police precinct building is in terrible condition and is deteriorated beyond repair but that the exterior walls do not demonstrate wholesale material deficiencies (see Appendix C). OPRHP concurred that there are two viable options that meet the project goals: "Option RS2F" (the proposed project) and "Option RS3C" (Full Demolition Alternative), and that the SCA move forward with "Option RS2F," which includes the preservation of the station house main facades on both 4th Avenue and 43rd Street. OPRHP stated that considering that this building is an important architectural landmark in the neighborhood, retaining these two facades provides important continuity at this corner and preserves much of the architectural art of the façade. OPRHP further stated that the project would result in an Adverse Impact upon historic resources and suggested that the SCA develop a Letter of Resolution (LOR) to document the alternatives considered and to include the mitigation provided in the preferred redevelopment scenario, "Option RS2F." The SCA has developed a draft LOR outlining the agreement between the SCA and OPRHP to which OPRHP has responded with recommendations and indicated that minor edits may be forthcoming but that the intent of the existing stipulations outlined in the LOR would not be altered or added to. In the draft LOR between the SCA and OPRHP, it is stated that the proposed project may proceed subject to the following stipulations: (1) The historic

building shall be photographically documented in accordance with the standards of the Historic American Buildings Survey, Level II Documentation Standards (HABS); (2) The SCA shall continue to consult with OPRHP regarding the design of the new public primary school facility, in accordance with Section 14.09 of the New York State Parks, Recreation and Historic Preservation Law; and (3) Any party to the LOR may propose that the LOR be amended, whereupon the signatories shall consult with each other to consider such an amendment.

Chapter 8: Urban Design and Visual Resources

Urban design is the physical appearance of the neighborhood, including building bulk, use and type, building arrangement, block form and street pattern, street hierarchy, streetscape elements, and natural features. Visual resources are the unique or important public view corridors, vistas, or natural or built features of the area. The assessment of urban design is concerned with the potential changes to the pedestrian experience that may result from a proposed action. The *CEQR Technical Manual* recommends a preliminary assessment to determine whether physical changes proposed by the project could rise to the level of potential significant adverse impact. A detailed assessment of urban design and visual resources may be appropriate when a project would have substantially different bulk or setbacks than exist in an area, and when substantial new, above-ground construction would occur in an area that has important views, natural resources or landmark criteria.

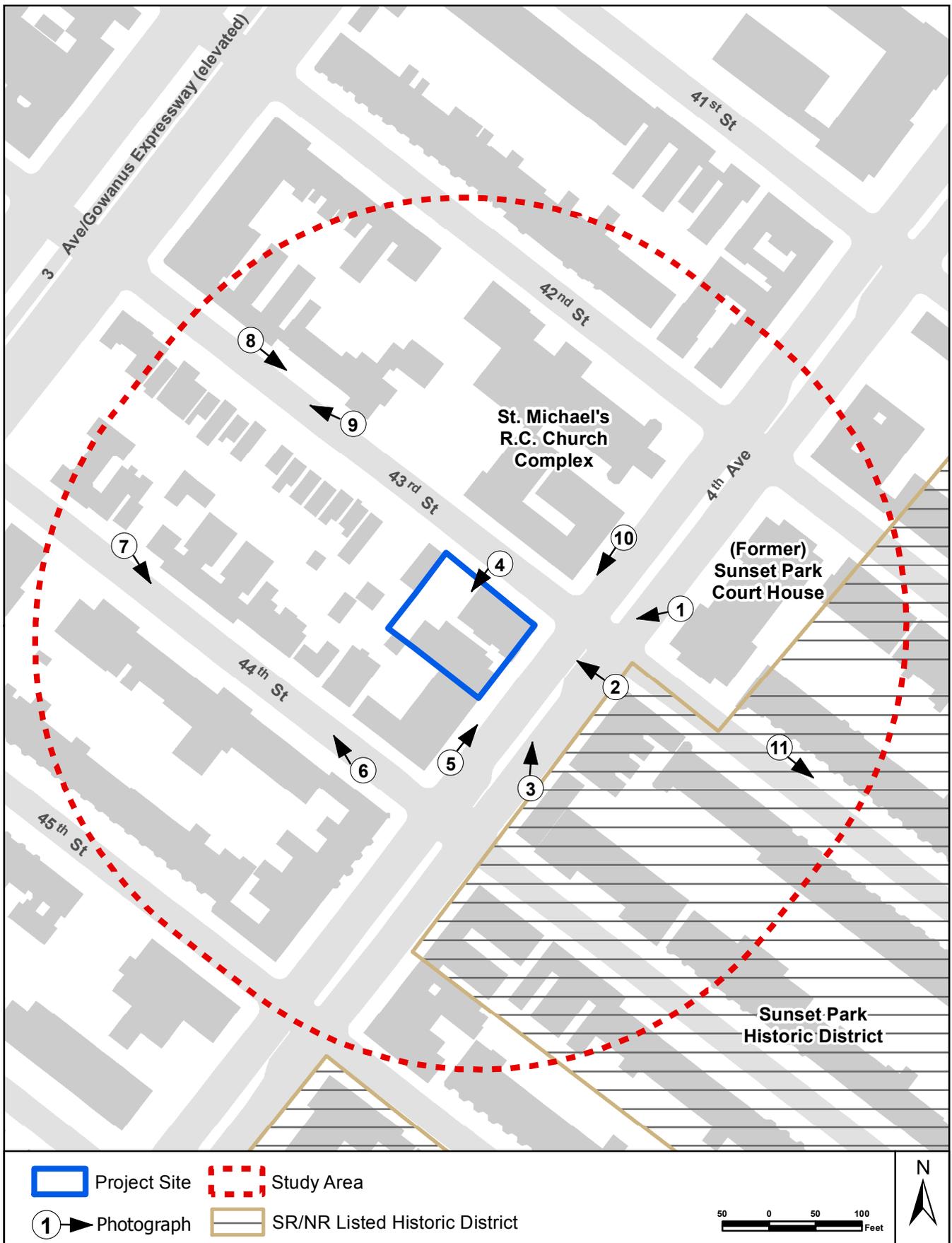
A. Existing Conditions

As described in Chapter 2, “Land Use, Zoning and Public Policy,” the site is located within the neighborhood of Sunset Park, Brooklyn, at the southwest corner of 43rd Street and 4th Avenue. Photographs of the project site and of streetscapes throughout the study area are provided to illustrate the urban design characteristics of the project site and surrounding area. The location from which each photograph was taken is identified on Figure 8-1.

PROJECT SITE

The project site is situated at the northeastern corner of a block bounded by 43rd Street to the north, 44th Street to the south, 4th Avenue to the east, and 3rd Avenue/Gowanus Expressway (elevated) to the west. The project site comprises a privately-owned parcel on which stands a vacant former police precinct facility (known as the 68th Police Precinct Station House and Stable), which fronts onto 4th Avenue. The (former) 68th Police Precinct Station House and Stable were built in 1886; the property is a designated New York City Landmark and is listed in the State and National Registers of Historic Places by OPRHP. This historic facility includes a three-story (former) station house and a two-story (former) stable building (see Photos 8-1 through 8-2), both of which are currently vacant and in deteriorated condition. At three stories, the station house building on the project site is approximately the same height as the surrounding mixed use buildings along 4th Avenue, including the three-story residential building to the south on the same block, and St. Michael’s School, across 43rd Street to the north.

Lot 36, which includes the police precinct facility, is surrounded by chain-link fencing, wooden construction fencing, and scaffolding that currently obscures the ground floor of the historic structure from clear view of the pedestrian on surrounding streetscapes. To the extent that the upper floors of the police precinct facility are visible from the street, however, the building reveals its historic institutional function, as well as visually interesting Romanesque Revival design. The building is constructed of red brick, and it features a corner turret and arched windows, which are visible above the scaffolding.



Source: STV Incorporated, 2017.

Figure 8-1

Proposed PS 557
4302 4th Avenue, Brooklyn

PHOTOGRAPH KEY

The project site to the west of the police precinct facility includes a privately-owned vacant lot (Lot 34), which is currently used to park cars; this lot is surrounded by chain-link fencing that permits visibility into the lot (Photo 8-3). Mature street trees are present along all frontages, though most prominent along 4th Avenue. The street trees, together with the visible portions of the historic police precinct facility, contribute positively to the aesthetic character of the streetscape.

STUDY AREA

Views of the streetscapes the study area are provided in Photos 8-4 through 8-11, and urban design characteristics are described following:



Photo 8-1: View of project site from the (former) Sunset Park Court House, facing southwest from the northeast corner of 4th Avenue and 43rd Street.



Photo 8-2: View of project site (at left), facing west across 4th Avenue, just south of 43rd Street. A portion of St. Michael's R.C. Church complex (school buildings) is visible to the right in the photo.



Photo 8-3: View of streetscape opposite the project site, facing northwest along 4th Avenue; project site is visible in center of photograph. St. Michael's R.C. Church complex are the prominent buildings to the right in the photograph (the church is the building with the tower).



Photo 8-4: View facing south from 43rd Street, into interior of vacant lot (Block 728, Lot 34) that comprises the western part of the project site.



Photo 8-5: View of three-story mixed-use buildings on 4th Avenue directly south of the project site (project site scaffolding over sidewalk is visible near center of photograph in distance).



Photo 8-6: View of one- and two-family residences along 44th Street south of project site, facing northwest.



Photo 8-7: View of two- and three-story multi-family residences along the streetscape south of project site, facing southeast along 44th Street.



Photo 8-8: View of streetscape northwest of project site along 43rd Street, facing east toward project site; one- and two-family residences visible on both sides of the street (project site visible in distance).



Photo 8-9: View of streetscape north of project site along 43rd Street facing west.



Photo 8-10: View toward project site (center of photograph) along 4th Avenue facing south; St. Michael's R.C. Church complex visible at right.



Photo 8-11: View of rowhouses that are part of the Sunset Park Historic District east of the project site, facing east along 43rd Street.

Building bulk, use and type. The study area is developed with several notable community facility buildings along 4th Avenue, including St. Michael's R.C. Church complex, comprising the eastern end of the block directly north of the project site. Directly east of St. Michael's R.C. Church complex, the historic (former) Sunset Park Court House comprises another block end northeast of the project site. The predominantly residential area surrounding the courthouse, east of 4th Avenue, is designated the Sunset Park Historic District, and is characterized by two- and three-story rowhouses. The remainder of the study area, south of and west of the project site is characterized by mixed-used buildings along 4th Avenue, and a mix of primarily one- and two-family houses to the west. The western part of the study area includes a mix of uses, including residential and institutional uses, and the elevated Gowanus Expressway, which follows above 3rd Avenue and dominates its respective streetscape.

Building arrangement. The site has approximately 125 feet of frontage on 43rd Street and 100 feet of frontage on 4th Avenue. Institutional buildings throughout the study area are typically freestanding, particularly those buildings along 4th Avenue. The historic police precinct house and the other buildings in the study area that have frontage on 4th Avenue are built at or near the lot line. St. Michael's R.C. Church complex provides off-street parking, and its buildings are slightly setback from the lot line, affording some minor area along its streetscapes that is partially landscaped with a few shrubs and a small lawn area on its north side.

The residential areas to the east and west of 4th Avenue feature houses constructed with setbacks. A few of the residences west of the project site along the south side of 43rd Street include detached and semi-detached structures with narrow side yards. However, most residential or mixed-use residential buildings throughout the study area feature attached buildings with fairly consistent streetwall and streetscape uniformity, particularly within the Sunset Park Historic District to the east of 4th Avenue, but also along portions of 42nd Street and 43rd Street west of 4th Avenue.

Street hierarchy, block form, and street pattern. The street pattern surrounding the project site forms a rectangular grid of rectangular blocks in the study area. Institutional uses, such as St. Michael's R.C. Church complex, the (former) Sunset Park Court House, and the former police precinct on the project site, occupy large lots. The Gowanus Expressway follows above 3rd Avenue (a principal arterial roadway), defining the western end of the project site block and the western edge of the study area. The Gowanus Expressway follows the western edge of Brooklyn between the Brooklyn Battery Tunnel (into lower Manhattan) at its northern terminus and the Verrazano-Narrows Bridge (connecting to Staten Island) to the south.

Streetscape elements. Well maintained sidewalks front most properties in the study area, though the sidewalks around the project site are covered with scaffolding sheds. The rowhouses in the study area typically do not have front yards with landscaping, but include stoops. Street trees are present throughout the study area, including large and mature trees on the sidewalks surrounding the project site, though they are generally more prevalent among the consistently residential streets in the study area. St. Michael's R.C. Church complex features perimeter landscaping. The public streetscapes of the north-south avenues in the study area are generally not landscaped and feature no notable streetscape elements; although 4th Avenue contains a median, the median is not landscaped.

Street lighting fixtures throughout the study area are utilitarian rather than decorative and do not promote any unique or meaningful design statement. Curbside parking is present along local

(east-west) streets and utilized throughout the study area. There are no benches or other street furniture.

Visual Resources. The historic (former) Sunset Park Court House, located directly northeast of the project site along 4th Avenue, is a designated New York City Landmark and is listed in the State and National Registers of Historic Places by OPRHP. Additionally, St. Michael's R.C. Church complex, located directly north of the project site on 4th Avenue, has been determined eligible for inclusion in the State and National Registers of Historic Places by OPRHP. Much of the study area east of 4th Avenue is within the Sunset Park Historic District, which features consistent streetscapes primarily consisting of two-story residences and four- to five-story mixed use buildings. The project site is only clearly visible to the pedestrian standing within the mapped historic district at points along 43rd Street and 44th Street near or at 4th Avenue, where the streetscapes are otherwise dominated by the large scale institutional uses. The project site and historic police precinct facility, despite condition, are generally consistent in use, bulk and height, and arrangement with these streetscape views.

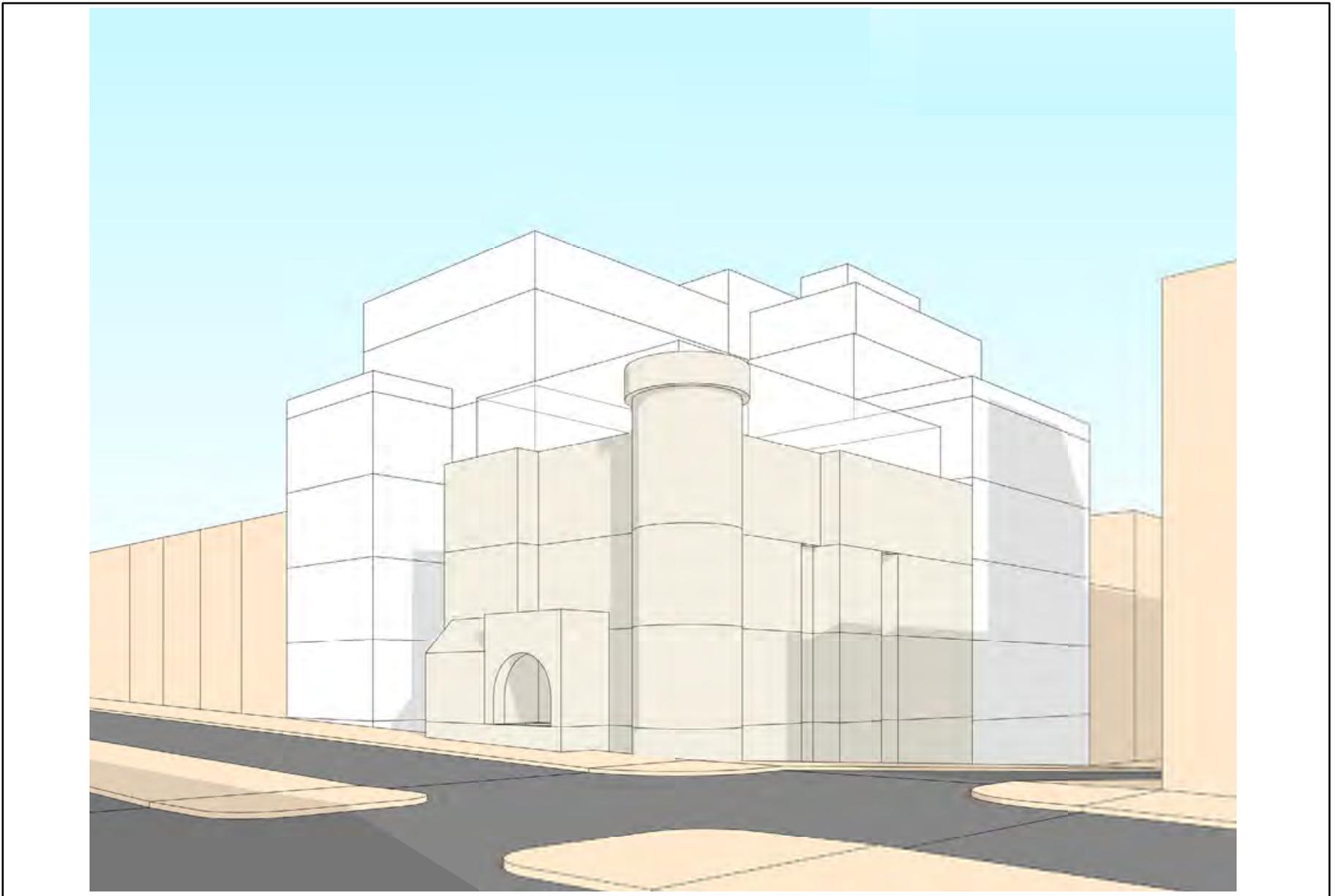
B. The Future Without the Project

If the proposed construction of the new PS 557 does not occur, then it is expected that the proposed project site would resemble current conditions, with the existing structures remaining vacant and in a state of disrepair. No other developments are anticipated for the study area by the 2022 Build Year, and urban design and general visual quality are generally expected to resemble existing conditions. Therefore, future conditions without the project would generally resemble existing conditions.

C. Probable Impacts of the Proposed Project

Building bulk, use and type. The proposed new school would expand the presence of institutional uses already present in the area; the existing St. Michael's R.C. Church complex, as well as the (former) Sunset Park Court House, are located on 4th Avenue within the study area. As discussed in Chapter 2, "Land Use, Zoning and Public Policy," it is expected that, with the proposed preliminary design, some zoning overrides would be required for zoning bulk non-compliances.

This proposed height and massing of the new school is consistent with the larger institutional buildings to the north and east of the project site on 4th Avenue. At its tallest, the new school building would stand five stories (approximately 75 feet) tall (see Figure 8-2). As such, the proposed school building would stand as the tallest structure in the area. It would be taller than most of Michael's R.C. Church complex buildings (approximately 60 feet in height) on the block north of the project site, excluding the tower element of St. Michael's R.C. Church which stands much taller. However, the taller portion (five-story section) of the proposed school building would be set back from the street and would be positioned within the interior of the lot surrounding a new three-story building that would follow the original station house footprint and that would retain the massing of the former police precinct facility in its current position at the street corner.



Source: Graves-MMA JV Architects, PLLC; STV Incorporated, 2017.

Figure 8-2

Proposed PS 557
4302 4th Avenue, Brooklyn

MASSING DIAGRAM

Building arrangement. The proposed project would retain the street-facing facades of the existing three-story station house; therefore, the pedestrian experience of the corner building arrangement would not be altered. The proposed project would also replace the former stable building and the vacant lot to the west with new building, which would result in a continuous streetwall on both the 4th Avenue and 43rd Street sides of the project site, thereby improving the definition of the streetscape.

Street hierarchy, block form, and street pattern. The proposed project would not alter the arrangement or configuration of blocks, nor would it affect the current street pattern or alter the street hierarchy of the study area.

Streetscape elements. It is expected that the existing mature street trees along 4th Avenue would be retained and protected during construction; where they must be removed, they would be replaced with new street trees, which would be planted along both the 4th Avenue and 43rd Street sidewalks around the project site. These new trees would enhance the attractiveness of the 43rd Street sidewalk, in particular. The sidewalks contiguous to the project site would be replaced and/or repaired as appropriate as part of the proposed project.

Visual Resources. Visual resources within the study area include the (former) Sunset Park Court House, St. Michael's R.C. Church complex, and the Sunset Park Historic District. The proposed new PS 557 would retain the street-facing facades of the existing police precinct house, which would maintain the visual contribution of this historic resource as part of the streetscape; otherwise, the overall school building would contribute streetwall continuity and additional building height on the project site. Therefore, it would further contribute to the relatively large bulk and that defines the 4th Avenue streetscape in the vicinity of the study area visual resources, though its overall footprint and street frontage would be less than the (former) Sunset Park Court House and St. Michael's R.C. Church complex. As described previously, the views to the project site from the Sunset Park Historic District are limited. Overall, the effect to the streetscape would be positive, and the use, form, arrangement, bulk and height would be consistent with the 4th Avenue streetscape and the (former) Sunset Park Court House and St. Michael's R.C. Church complex properties, in particular.

The proposed development of the project site as a new school, in accordance with the preliminary design currently considered and the stipulations outlined in the draft Letter of Resolution (LOR) between the SCA and OPRHP (dated April 21, 2017), would improve the urban design of the study area and visual quality of the surrounding streetscapes. It would contribute to the urban form characteristic of the 4th Avenue streetscape and be consistent with the nearby institutional uses and visual resources; further, it would result in the improvement of the derelict site, while also preserving and stabilizing the existing street-facing facades of the station house building so that it would contribute to the aesthetic character of the streetscape in a positive way. Therefore, the proposed PS 557 would have a positive effect with regard to the proposed design for the project site; no significant adverse impact to urban design and visual quality would result with the proposed project, and no further analysis is warranted.

Chapter 9: Natural Resources

Under CEQR, a natural resources assessment considers species in the context of the surrounding environment, habitat or ecosystem, and examines a project's potential to impact those resources. The *CEQR Technical Manual* recommends that an assessment may be appropriate if a natural resource is present on or near the site of the project and disturbance of that resource is caused by the project.

A. Existing Conditions

No significant natural resources exist within the disturbed project site, or within the surrounding area. The project is located within an urbanized area and is not in close proximity to any significant terrestrial or aquatic resources. There are no visible wetlands, water bodies or streams located on or near the site. Flood potential is evaluated by the Federal Emergency Management Agency (FEMA), which delineates the floodplain for 100- and 500-year flood events. According to information obtained through the on-line FEMA Map Services Center (www.msc.fema.gov), the area of the project site is not located within a 100- or 500-year flood zone. Therefore, this does not represent an environmental concern for the project site.

Further, the New York State Department of Environmental Conservation (NYSDEC), Division of Fish, Wildlife & Marine Resources, in its letter of September 2, 2016, stated that there are no known occurrences of rare or state-listed animals or plants, significant natural communities, or other significant habitats, on or in the immediate vicinity of the project site (see Appendix C).

B. The Future Without the Project

Without the proposed project, no significant changes are expected with regard to natural resources.

C. Probable Impacts of the Proposed Project

There are no known natural resources (e.g., terrestrial ecological features, wetlands, water bodies, streams, or special flood hazard area) on or adjacent to the project site, and none would be affected by the proposed project. The site is part of a well-developed urban context.

None of the CEQR criteria for detailed natural resources analyses are met; significant adverse impacts to natural resources would not result, and no additional analysis is necessary.

Chapter 10: Hazardous Materials

This section addresses environmental conditions at the location of the proposed PS 557, located at 4302 4th Avenue and 364 43rd Street, Brooklyn, New York, hereafter referred to as the proposed project site. The site is also identified as Block 728, Lots 34 and 36. A Phase I Environmental Site Assessment (ESA) Update of the site was completed by AKRF Engineering, P.C. (AKRF) on behalf of the SCA on July 1, 2016. A Phase I ESA and Phase II Environmental Site Investigation (ESI) were previously conducted for each lot by Langan Engineering and Environmental Services, P.C. (Langan) in April 2010 and July 2010, respectively.

The main objective of the 2016 Phase I ESA Update was to determine whether any new recognized environmental conditions (RECs) had developed since the 2010 assessments that might affect the suitability of the site for use as a public school facility. RECs are defined in American Society of Testing and Materials (ASTM) Standard Practice E 1527-13 as the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or, (3) under conditions that pose a material threat of a future release to the environment. In addition, the potential for other environmental issues or conditions such as radon, asbestos-containing materials (ACM), lead-based paint (LBP), and polychlorinated biphenyl (PCB)-containing equipment was evaluated. The Phase I ESAs and the Phase I ESA Update all 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 nearby areas.

The 2016 Phase I ESA Update identified on-site RECs, including detections of trichloroethene (TCE) and tetrachloroethene (PCE) in soil vapor above their New York State Department of Health (NYSDOH) Air Guideline Values (AGVs) during prior site investigations, a potential fuel oil tank and former automotive repair, and potential historical fill material and/or underground storage tanks (USTs) related to former structures. Off-site RECs included historical gas stations, auto repair facilities, dry cleaners, and manufacturing facilities; and a nearby petroleum bulk storage facility. The RECs identified in the Phase I ESA Update were consistent with the findings of Langan's 2010 Phase I ESAs, which were adequately investigated during the 2010 Phase II ESIs. The Phase I ESA Update also revealed the presence of environmental concerns associated with the potential presence of ACM, LBP, and PCB-containing materials.

A. Existing Conditions

The site consists of two adjacent lots: an approximately 10,000 sf lot on the eastern portion of the site (Lot 36) developed with a vacant, three-story building with a cellar and an adjoining vacant two-story building with exterior landscaped areas; and an approximately 2,500 sf vacant lot on the western portion of the site (Lot 34) used for surface parking. The eastern lot (Lot 36) was vacant until the construction of the existing buildings between circa 1888 and 1906 and was used historically as the 68th Police Precinct Station until approximately 1970, and subsequently as a Youth Center. The western lot (Lot 34) was developed with a private dwelling from circa 1888 to 1970, and has been vacant and/or used for surface parking since at least 1976. The adjacent properties have included St. Michael's School (currently PS 516) to the north, and primarily

residential and institutional uses on the surrounding blocks, with some commercial uses including street-level retail establishments and two drycleaners on the south-adjacent block.

In 2010, a Phase II ESI was conducted on each lot to evaluate whether the RECs identified in the 2010 Phase I ESAs had affected the suitability of the site for use as a school. Each Phase II ESI included a geophysical survey and the advancement of soil borings and the collection of soil, groundwater and soil vapor samples for laboratory analysis. The Phase II ESI for Lot 34 included the advancement of three soil borings (with a temporary well point installed in one of the borings), and the collection and analysis of four soil samples, two soil vapor samples, one groundwater sample, and one ambient air sample. The Phase II ESI for Lot 36 included the advancement of seven soil borings, with the collection and laboratory analysis of nine soil samples, one sub-slab vapor sample, four soil vapor samples and one ambient air sample, one radon sample, and the installation of two temporary monitoring wells with the collection and analysis of two groundwater samples.

Based on observations during the Phase II ESIs, the site is underlain by fill material consisting of fine- to medium-grained sand with some clay, and fragments of brick, concrete, and wood from surface grade to approximately 15 feet below ground surface (bgs), followed by apparent native soil consisting of brown fine- to medium-grained sand with some clay and gravel. Groundwater was encountered between approximately 30 and 37 feet bgs and was assumed to flow in a westerly direction. Bedrock was not encountered in the borings.

Soil and groundwater samples were analyzed for Target Compound List (TCL) and Spill Technology and Remediation Series (STARS) Memorandum No. 1 volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs), Resource Conservation and Recovery Act (RCRA) 8 metals (filtered analysis for groundwater), and PCBs. Soil sample analytical results were compared to NYSDEC 6 NYCRR Part 375 Soil Cleanup Objectives for Unrestricted Use (UUSCOs) and Restricted - Residential Use (RRSCOs). The groundwater samples were compared to the Class GA Ambient Water Quality Values (AWQVs), as listed in NYSDEC Division of Water Technical Operational and Guidance Series (TOGS) 1.1.1. Soil vapor samples were analyzed for 26 select VOCs by EPA Method TO-15 and compared to the indoor air criteria published in the 2006 NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York (NYSDOH Guidance), specifically to NYSDOH AGVs and to background levels of VOCs in indoor air presented in the NYSDOH Guidance. Additionally, three pre-design waste characterization samples were collected by compositing soil from three of the soil borings, and analyzed for pesticides, total cyanide, hexavalent chromium and total petroleum hydrocarbons (TPH) diesel and gasoline range organics (DRO/GRO).

No subsurface anomalies consistent with USTs were identified in the geophysical surveys; however, it was noted that a suspected fuel oil tank was located within the three-story building on Lot 36, which was inaccessible during the investigation due to safety concerns. Soil analytical results indicated VOCs at levels below UUSCOs and RRSCOs. Levels of two metals were above UUSCOs (but not RRSCOs): lead in one sample (from Lot 34) and chromium in one sample (from Lot 36), and were noted to be attributable to fill materials. Groundwater analytical results for both lots indicated VOCs and metals were below AWQVs. SVOCs and PCBs were not detected in the groundwater samples. Soil vapor analytical results identified TCE at a concentration in a sub-slab vapor sample from Lot 36, above its NYSDOH AGV. Tetrachloroethene (PCE) was

detected in five soil vapor samples from Lot 36 and two samples from Lot 34 above its NYSDOH AGV. These TCE and PCE detections were noted to be potentially associated with off-site current/historical dry cleaning facilities located within 300 feet of the site. Additionally, certain VOCs were detected at levels above their published background levels.

The 2016 Phase I ESA Update revealed no new RECs in connection with the site since the original Phase I ESAs, and concluded that the RECs were adequately investigated during Langan's Phase II ESIs.

B. The Future Without the Project

Without the proposed project, the project site is expected to remain in its current condition and it would not be developed with the proposed PS 557 school building.

C. Probable Impacts of the Proposed Project

The proposed project would entail partial reuse of existing site structures, and would include subsurface disturbance associated with construction and renovation activities. Without appropriate controls, these activities could result in adverse effects related to hazardous materials. To minimize the potential for adverse effects related to hazardous materials, the following measures would be incorporated into the proposed project:

- An active sub-slab depressurization system (SSDS) and soil vapor barrier will be incorporated into the building renovations to prevent potential soil vapor intrusion.
- Any suspect ACM, LBP, and/or PCB-containing materials impacted by renovation and construction activities should be identified and properly managed during such activities.
- All soil excavated during building construction would be properly managed in accordance with applicable local, State and Federal regulations.
- Any underground or aboveground petroleum storage tanks would be properly closed/removed in accordance with applicable regulations.
- Any dewatering would be minimized to avoid potential off-site contaminated groundwater from migrating toward the site.
- For areas of the site where exposed soils may exist after the school is constructed (i.e., landscaped areas), a twenty-four (24) inch thick layer of imported environmentally clean fill would be placed over site soils.
- 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.

With the implementation of these measures, there would be no significant potential for significant adverse effects related to hazardous materials.

Chapter 11: Water and Sewer Infrastructure

The *CEQR Technical Manual* sets the following relevant criteria for the preparation of a detailed infrastructure assessment: if an action would have an exceptionally large water requirement (greater than 1 million gallons per day), or is located in a portion of the water supply distribution system known to have limited supply capacity, a detailed analysis is appropriate. For water usage, the proposed action would need to meet the CEQR criteria of demanding a very large quantity of water, which is not typical of school projects. Therefore, no detailed analysis of water supply is needed.

Stormwater management can be a concern if it transmits new or increased levels of pollutants to the City's water bodies, such as may occur as a result of industrial facilities, large impervious surfaces or project activities or construction that would increase the potential for soil erosion and sedimentation of water bodies. The *CEQR Technical Manual* lists industrial activities that may require assessment and indicates that clearing, grading and excavation activities affecting an area of less than five acres (and not also part of a larger plan of development) would not require a State Pollution Discharge Elimination System (SPDES) permit.

A. Existing Conditions

Publicly-supplied infrastructure includes water, sewage, and solid waste services. Privately-supplied infrastructure includes electrical and gas service, as well as telephone service.

Water Supply. Water is supplied to the site from the Delaware and Catskill reservoir systems through New York City's municipal water distribution system, which has a cumulative storage capacity of 550 billion gallons. Within the City, a grid of underground distribution mains provide potable water for both process and sanitary requirements, and also supply fresh water for the proposed school's fire sprinkler system. Water pressure throughout the City system is generally about 20 pounds per square inch (psi), which, according to the *CEQR Technical Manual*, is the minimum pressure acceptable for uninterrupted service.

The existing buildings on the project site are currently unoccupied; therefore, there is currently no on-site water usage.

Storm/Sanitary Sewers. The site is located within the Owls Head Wastewater Treatment Plant (WWTP) drainage area, which serves portions of Brooklyn. The Owls Head WWTP is permitted to treat 120 million gallons per day (mgd). Effluent from the plant is regulated by NYSDEC under SPDES.

Sanitary wastewater generated at the project site would be discharged to the New York City sewer system, which carries wastewater to the Owls Head WWTP.

There is currently no sanitary wastewater generation at the project site since the on-site buildings are unoccupied.

B. The Future Without the Project

Without the proposed action, no substantial change is expected with regard to water usage and sewage flow at the project site.

C. Probable Impacts of the Proposed Project

Water Supply. According to the *CEQR Technical Manual*, each occupied school seat is estimated to consume approximately 10 gallons per day (gpd) of water, and it is assumed each staff member would consume approximately 10 gpd. In addition, 0.17 gpd would be required per square foot of space for air conditioning an educational facility. The proposed school would include approximately 332 seats and 33 faculty and staff, and thus, daily water usage would be approximately 3,320 gpd for students and 330 gpd for staff, for a total of 3,650 gpd. The proposed school building would contain approximately 30,060 sf, and thus, would consume an additional 5,110 gpd for air conditioning, for a total of 8,760 gpd during the cooling season. No significant adverse impacts to water supply would result.

Storm/Sanitary Sewers. The amount of sewage generated by the proposed school would be approximately 3,650 gpd, and would be minimal in comparison to the treatment plant's permitted capacity; no adverse impacts would result, and no further analysis is warranted.

Chapter 12: Solid Waste and Sanitation Services

A solid waste assessment determines whether a proposed project would cause a substantial increase in solid waste production that would overburden available waste management capacity or otherwise be inconsistent with the City's Solid Waste Management Plan (SWMP) or with state policy related to the City's integrated solid waste management system. According to the *CEQR Technical Manual*, if a project's generation of solid waste in the With-Action condition would not exceed 50 tons per week, it may be assumed that there would be sufficient public or private carting and transfer station capacity in the metropolitan area to absorb the increment, and further analysis generally would not be required. The *CEQR Technical Manual* recommends that the solid waste to be generated by a project be disclosed, using the citywide average rates for waste generation.

A. Existing Conditions

Solid waste collection and disposal is the responsibility of the New York City Department of Sanitation (DSNY) and private carters. DSNY is responsible for collecting and disposing of solid waste from public facilities and residences while commercial entities must retain private carters.

As the project site consists of unoccupied structures, there is currently no solid waste generated on the project site.

B. The Future Without the Project

Without the proposed action, no substantial change is expected with regard to solid waste generation at the project site. No solid waste would be generated at the project site without the proposed project.

C. Probable Impacts of the Proposed Project

Using the solid waste generation rates for a public primary school use, which is 3 pounds per pupil per week and 13 pounds per employee (office building rate), the proposed school would generate approximately 1,425 pounds of solid waste per week, or 6,107 pounds per month.

DSNY is responsible for collecting and disposing of solid waste from residences and public facilities, including schools. The typical DSNY collection truck for commercial carters typically carries between twelve and fifteen tons of waste material per truck. Therefore, with 1,425 pounds of solid waste per week, or 6,107 pounds per month, to be generated by occupants of the proposed school facility, there would be no significant adverse impact anticipated with solid waste collection and disposal.

Chapter 13: Energy

Energy analyses are appropriate when an action could significantly affect the transmission or generation of energy, or generate substantial indirect consumption of energy. A detailed assessment of energy impacts would be limited to projects that may significantly affect the transmission or generation of energy. Although significant adverse energy impacts are not anticipated for the great majority of projects analyzed under CEQR, a discussion of the proposed school's projected amount of energy consumption during long-term operation is discussed below.

A. Existing Conditions

The neighborhood surrounding the project site along with other parts of New York City is supplied with electricity by the Consolidated Edison Company of New York (Con Edison), and natural gas by National Grid. Both Con Edison and National Grid are state-regulated and have sufficient capacity to meet the area's electrical and natural gas needs. Both companies can increase their capacities by purchasing from other utility companies. Energy demand for the proposed project consists of the building loads for heating, ventilation, and air conditioning (HVAC) systems, and for lighting and other electrical power.

Currently, the structures on the project site are unoccupied and create no demand for energy.

B. The Future Without the Project

Without the proposed action, no substantial change is expected with regard to energy demand at the project site and, therefore, there would be no demand for energy at the project site in the future without the proposed project.

C. Probable Impacts of the Proposed Project

Electrical utility service would continue to be provided by Con Edison and natural gas from National Grid. The proposed project would be required to comply with the New York State Energy Conservation Construction Code. This code governs performance requirements for heating, ventilation, and air conditioning systems, as well as the exterior building envelope. The code, promulgated on January 1, 1979, pursuant to Article Eleven of the Energy Law of the State of New York, requires that new and recycled buildings (both public and private) be designed to ensure adequate thermal resistance to heat loss and infiltration. Consequently, the proposed school facility is expected to be substantially more energy efficient than conventional pre-code buildings. In addition, it provides requirements for the design and selection of mechanical, electrical, and illumination systems.

The proposed project would incorporate energy conservation measures. The proposed project would be designed following the NYC Green Schools Rating System (guidelines specific to the design, construction and operation of New York City public school buildings) and be in compliance with site-related credits to achieve a LEED-certified or higher rating.

The proposed project would include the creation of new educational space plus support facilities, staff support spaces, food service and related building support services. Following construction, the new school is expected to consume approximately 250,700 BTUs per square foot per year. Therefore, the estimated annual usage of energy for the proposed approximately 30,060 sf school facility would be approximately 7.5 billion BTUs, or 5.7 billion BTUs for the nine-month academic year. Nonetheless, the proposed PS 557 would neither affect transmission or generation of energy, nor generate substantial indirect consumption of energy. It is expected that no significant adverse impacts would occur with the capacity of both Con Edison and National Grid to provide service to the project site and surrounding area.

Chapter 14: Transportation

This chapter analyzes the potential traffic, transit, parking, and pedestrian impacts of the proposed PS 557 located at 4302 4th Avenue in the Sunset Park section of Brooklyn within CSD No. 15. A study area was defined that considered site location, potential access points to the school, primary streets serving the general area, and key intersections likely to be affected by school-generated trips.

A. Existing Conditions

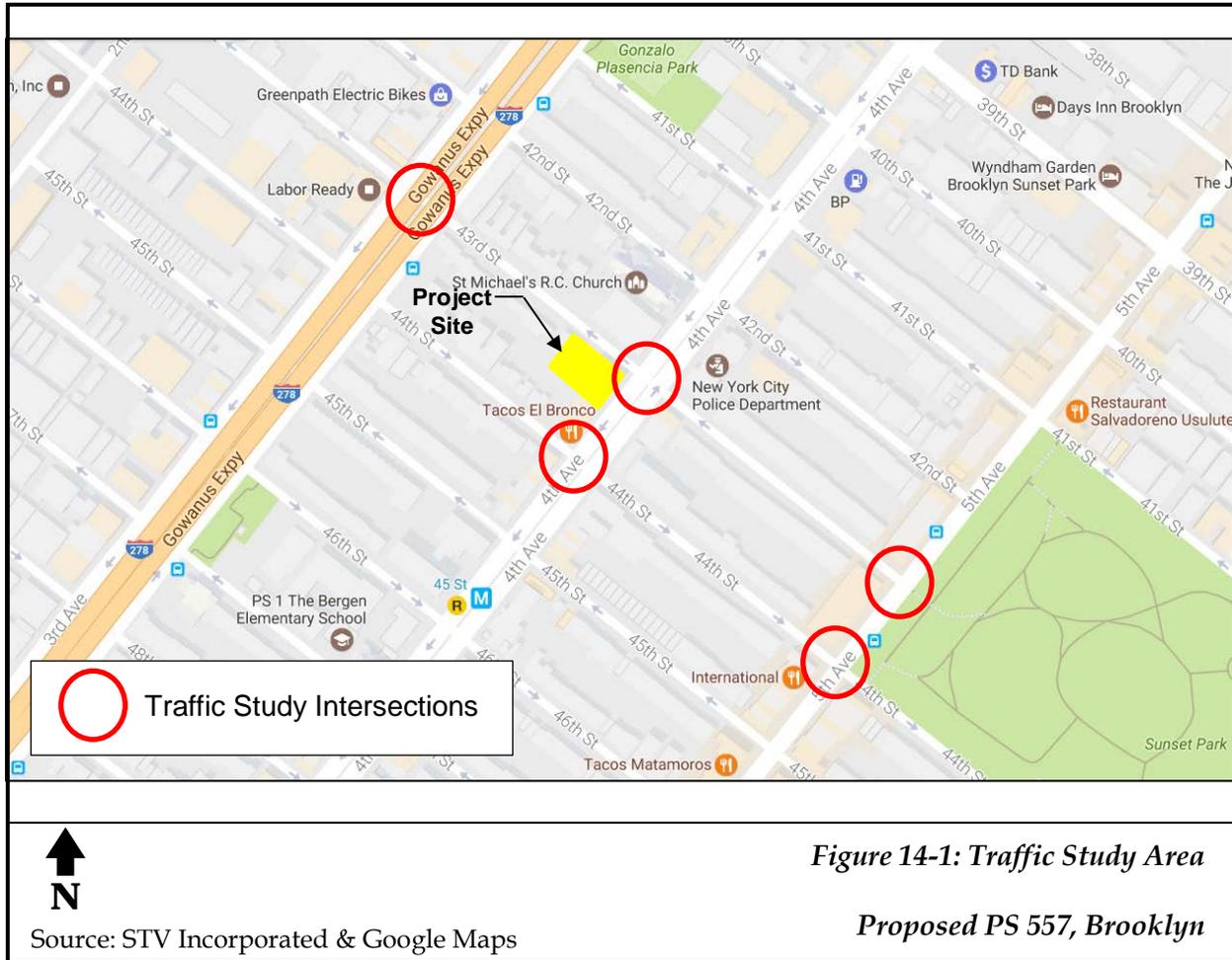
Roadway Network. The traffic study area comprises five intersections (four signalized and one unsignalized) along 43rd and 44th streets in Brooklyn (see Figure 14-1). These include:

- 3rd Avenue at 43rd Street,
- 4th Avenue at 43rd and 44th streets, and
- 5th Avenue at 43rd and 44th streets.

The streets within the traffic study area form a regular grid network, but with the grid rotated such that streets are at diagonals to true north. Most arterials, collectors, and major local streets in the vicinity of the proposed school site are two-way northeast-southwest roadways, while the more minor local streets in the area are typically an alternating series of one-way northwest and southeast roadways. For purposes of the transportation and pedestrian analyses, the northwest-southeast and northeast-southwest roadways are considered east-west and north-south roadways, respectively, and will be referred to as such for the remainder of this chapter.

The following analysis considers the intersections near the site that are most likely to be affected by the project-generated traffic. The main travel routes in the study area are:

- 3rd Avenue is a north-south principal arterial that carries traffic between Shore Road in Bay Ridge and Flatbush Avenue in Boreum, Brooklyn. 3rd Avenue is located beneath the Gowanus Expressway in the vicinity of the proposed school site and provides three mainline travel lanes and one curbside parking lane per direction.
- 4th Avenue is a north-south principal arterial that parallels 3rd Avenue to the east between Shore Road to the south and Flatbush Avenue to the north. In the study area, the street provides two travel lanes and curbside parking in both directions. There is a center median to allow for left-turn pockets.
- 5th Avenue is a north-south arterial that parallels 4th Avenue to the east between 95th Street to the south and Flatbush Avenue to the north. The street provides one travel lane and curbside parking in both directions.
- 43rd and 44th streets are one-way local streets with a single traffic lane and curbside parking on both sides. 44th Street is one-way east and 43rd Street is one way west. In the study area, 43rd Street originates at Sunset Park and begins at a T-intersection with 5th Avenue.



Traffic Conditions. Turning movement counts (TMCs), including manual turning movement and vehicle classification counts, as well as 24-hour automatic traffic recorder (ATR) machine counts, were conducted on:

- 3rd Avenue at 43rd Street,
- 4th Avenue between 43rd and 44th streets, and
- 5th Avenue between 43rd and 44th streets.

Traffic counts were conducted during the week of June 6, 2016 while schools were in session. The peak periods identified for analysis and counted for this project were the weekday AM and mid-afternoon PM peak periods when travel to and from the school would be busiest. A review of the manual count data and the 24-hour ATR data indicated that traffic volumes peak between 7:45 and 8:45 AM, and between 3 and 4 PM (see Appendix D).

There is a substantial range of traffic volumes through the study area on the local and arterial streets during both peak periods (see Figures 14-2 and 14-3). The highest traffic volumes are carried along 3rd Avenue with over to 2,000 vehicles per hour (vph) in the northbound direction

during the AM peak hour and nearly 1,600 vph in the southbound direction during the PM peak hour. 4th Avenue generally processes between 680 and 1,100 vph per direction during the peak hours. Fifth Avenue generally processes between 220 and 430 vph per direction during the peak hours. The remaining roadways in the study area carry less than 200 vph per direction during the AM and PM peak hours.

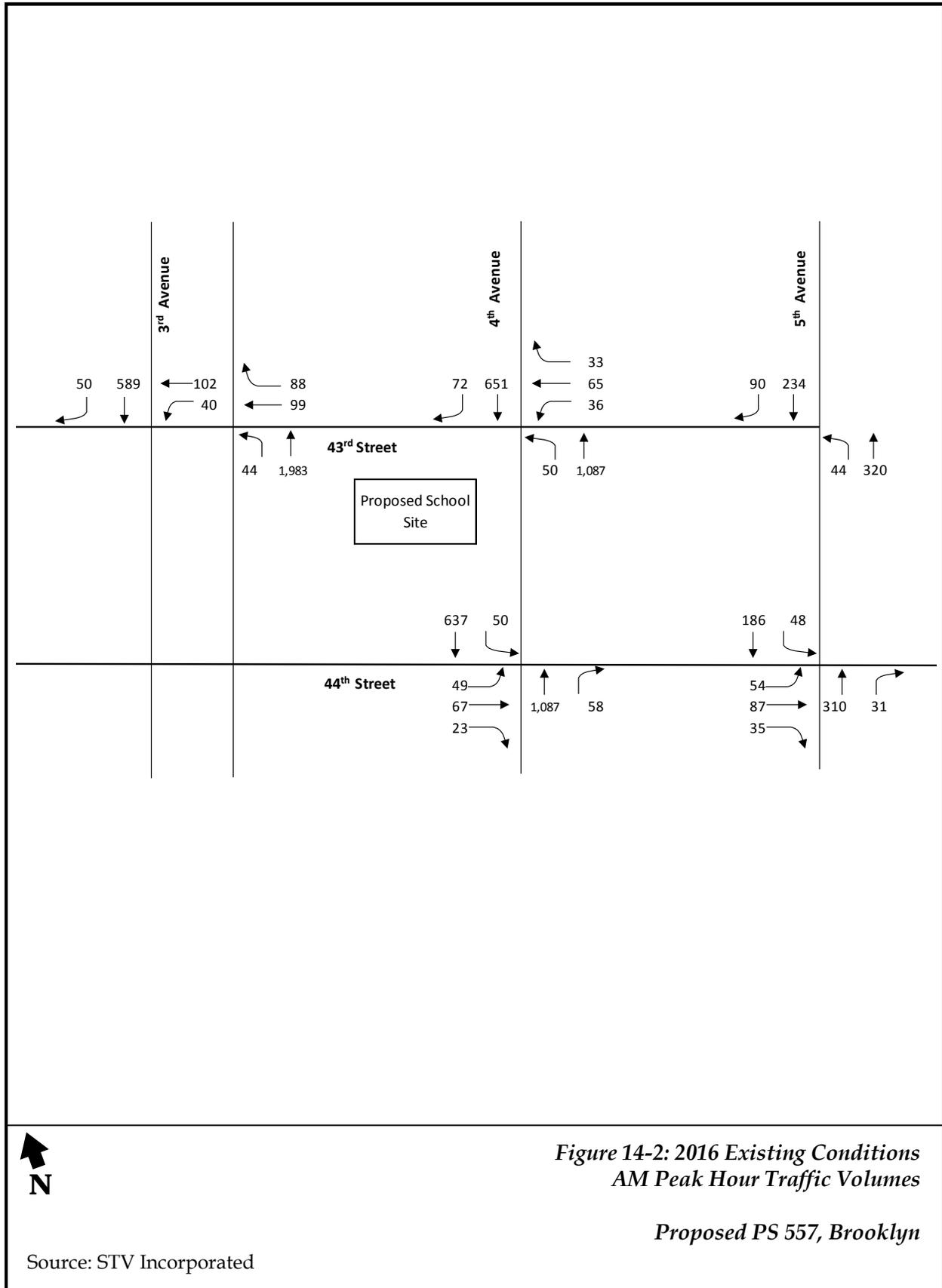
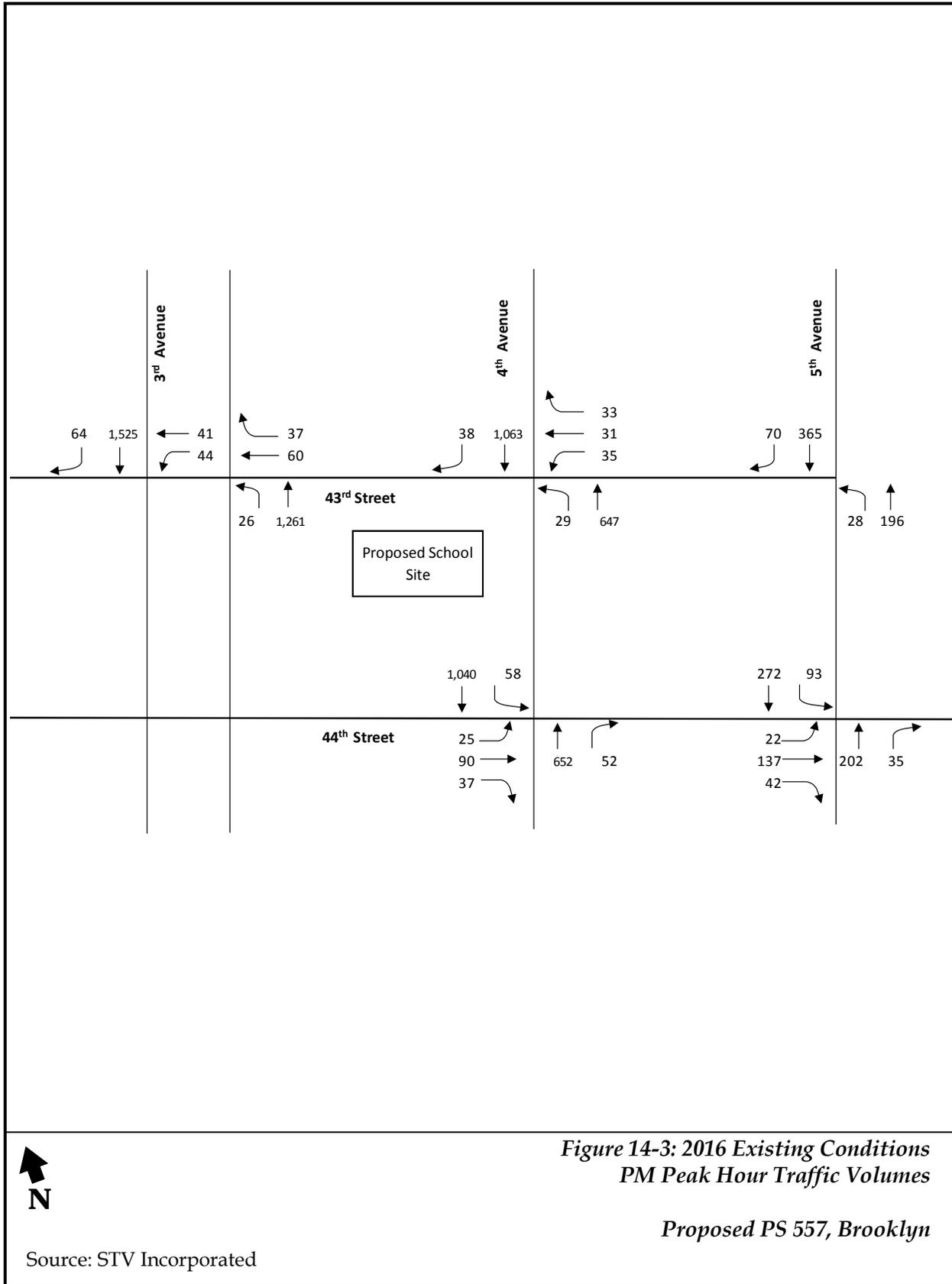


Figure 14-2: 2016 Existing Conditions AM Peak Hour Traffic Volumes

Proposed PS 557, Brooklyn



Analysis Methodology and Results. The *Highway Capacity Manual 2000 (HCM2000)* procedures were used to determine the capacities and levels of service for each of the intersections comprising the traffic study area. For a signalized intersection, levels of service are determined for the intersection and its individual lane groups and are defined in terms of the average control delays experienced by all vehicles that arrive in the analysis period, including delays incurred beyond the analysis period when the intersection or lane group is saturated.

The delay levels for signalized intersections are detailed below.

- LOS A describes operations with very low delay, i.e., up to 10 seconds per vehicle. This occurs when signal progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all.
- LOS B describes operations with delay in the range of 10 to 20 seconds per vehicle. This generally occurs with good progression and/or short cycle lengths. Again, most vehicles do not stop at the intersection.
- LOS C describes operations with delay in the range of 20 to 35 seconds per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. The number of vehicles stopping at an intersection is significant at this level, although many still pass through without stopping.
- LOS D describes operations with delay in the range of 35 to 55 seconds per vehicle. At LOS D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume-to-capacity (v/c) ratios. Many vehicles stop, and the proportion of vehicles that do not stop declines.
- LOS E describes operations with delay in the range of 55 to 80 seconds per vehicle. These high delay values generally indicate poor progression, long cycle lengths, and high volume-to-capacity ratios.
- LOS F describes operations with delay in excess of 80.0 seconds per vehicle. This is considered to be unacceptable to most drivers. This condition often occurs with over-saturation, i.e., when arrival flow rates exceed the capacity of the intersection. It may also occur at high volume-to-capacity ratios with cycle failures. Poor progression and long cycle lengths may also be contributing to such delays. Often, vehicles do not pass through the intersection in one signal cycle.

The LOS thresholds for unsignalized intersections differ slightly from those for signalized intersections. Delay levels for unsignalized intersections are detailed below.

- LOS A describes operations with very low delay, i.e., up to 10 seconds per vehicle. This generally occurs when little or no delay is experienced at the intersection.
- LOS B describes operations with delay in the range of 10 to 15 seconds per vehicle. This generally occurs when short traffic delays are experienced at the intersection.
- LOS C describes operations with delay in the range of 15 to 25 seconds per vehicle. This generally occurs when average traffic delays are experienced at the intersection.
- LOS D describes operations with delay in the range of 25 to 35 seconds per vehicle. At LOS D, the influence of congestion becomes more noticeable, and longer traffic delays are experienced.

- LOS E describes operations with delay in the range of 35 to 50 seconds per vehicle. At LOS E, there is obvious congestion, and very long traffic delays are experienced at the intersection.
- LOS F describes operations with delay greater than 50 seconds per vehicle. At LOS F, there is heavy congestion, and excessive traffic delays are experienced at the intersection.

For both signalized and unsignalized intersections, LOS A, B, and C are considered acceptable; LOS D is considered marginally acceptable/unacceptable for delays shorter than or equal to/longer than those at mid-LOS D; and LOS E and F are considered unacceptable.

Each of the intersections comprising the traffic study area was analyzed in terms of its capacity to accommodate existing traffic volumes as defined by the resulting levels of service (see Appendix D for HCS analyses). The analyses showed that most of the intersections in the project study area operate at acceptable levels during both the AM and PM peak analysis hours – with overall operations at LOS mid-D or better (see Table 14-1); however, the following movement operates with some congestion:

- Westbound 43rd Street at 3rd Avenue operates worse than a LOS mid-D during the AM peak hour, with a 52-second delay. This slightly poor LOS condition is primarily attributed to 43rd Street receiving 30 percent of the available green time within a long 135-second signal cycle.

Table 14-1: 2016 Existing Conditions Traffic Operations

INTERSECTION & APPROACH	Mvt.	AM			PM			
		V/C	Control Delay	LOS	V/C	Control Delay	LOS	
<u>Signalized</u>								
3rd Avenue and 43rd Street								
43 rd Street	WB	LTR	0.67	52.0	D	0.44	44.4	D
3 rd Avenue	NB	LT	0.95	33.7	C	0.64	16.1	B
	SB	TR	0.30	11.7	B	0.68	16.5	B
Overall Intersection		-	29.9		C	17.4		B
4th Avenue and 43rd Street								
43 rd Street	WB	LTR	0.58	43.9	D	0.39	37.7	D
4 th Avenue	NB	L	0.25	11.8	B	0.19	11.4	B
		T	0.88	24.9	C	0.54	13.8	B
	SB	TR	0.61	15.5	B	0.71	17.8	B
Overall Intersection		-	22.4		C	17.4		B
4th Avenue and 44th Street								
44 th Street	EB	LTR	0.58	44.1	D	0.54	42.0	D
4 th Avenue	NB	TR	0.88	24.6	C	0.55	14.0	B
	SB	L	0.36	17.2	B	0.20	11.1	B
		T	0.42	12.3	B	0.64	15.8	B
Overall Intersection		-	21.9		C	17.2		B
5th Avenue and 44th Street								
44 th Street	EB	LTR	0.61	33.5	C	0.60	32.0	C
5 th Avenue	NB	TR	0.66	18.3	B	0.49	14.3	B
	SB	LT	0.38	12.9	B	0.60	17.1	B
Overall Intersection		-	20.3		C	19.8		B
<u>Unsignalized</u>								
5th Avenue and 43rd Street								
5 th Avenue	NB	LT	0.06	9.9	A	0.06	12.2	B

- "Mvt." refers to the specific intersection approach lane(s) and how the lane(s) operate and/or specific pavement striping. TR is a combined through- right turn lane(s), R or L refers to exclusive right- or left-turn movement lane(s), and LTR is a mixed lane(s) that allows for all movement types.
- V/C is the volume-to-capacity ratio for the Mvt. listed in the first column. Values above 1.0 indicate an excess of demand over capacity.
- Level of service (LOS) for signalized intersections is based upon average control delay per vehicle (sec/veh) for each lane group listed in the Mvt. Column as noted in the 2000 HCM - TRB.
- The delay calculations for signalized intersections represent the average control delay experienced by all vehicles that arrive in the analysis period, including delays incurred beyond the analysis period when the lane group is saturated.
- LOS for unsignalized intersections is based upon total average delay per vehicle (sec/veh) for each lane group listed in the Mvt. column as noted in the 2000 HCM -TRB.

Parking. The parking study area within a quarter-mile (a typical “walkable” radius) of the proposed school site is bounded by 39th Street to the north, 5th Avenue to the east, 47th Street to the south, and 2nd Avenue to the west. Alternate-side curbside parking restrictions are posted throughout most of the study area, with metered curbside parking in effect along two blocks of 4th Avenue. No metered parking spaces were included in the parking capacity of the area since the allowable time in these spaces is typically limited to two hours or less, and therefore, these spaces would be unavailable to school-generated traffic.

On-street parking surveys were conducted on two representative midweek days to determine the number of spaces within an acceptable walking distance (i.e., a quarter-mile radius) of the proposed school site (see Appendix D). Two surveys were conducted – one when the most parking restrictions are in effect on Friday mornings between 9:30 and 11 AM, and the other when most regulations are not in effect (Monday mornings). Based on the surveys, there are approximately 1,562 legal on-street parking spaces within a reasonable walking distance of the project site on days when few alternate-side regulations are in effect resulting in a shortfall of 27 spaces (about two percent over existing curb parking capacity). On the most restrictive regulation days, the number of available on-street parking spaces is reduced to 1,121, resulting in a shortfall of 417 spaces (about 37 percent over existing curb parking capacity) (see Table 14-2).

Table 14-2: 2016 Existing On-Street Parking Supply and Demand

Parking Parameter	w/Regs	w/o Regs
Parking-Space Supply	1,121	1,562
Demand (Occupancy Rate)	1,538 (137%)	1,589 (102%)
Spaces Available (Rate)	-417 (-37%)	-27 (-2%)

Transit and Pedestrians. The area is served by New York City Transit (NYCT), with two bus routes and one subway station serving two subway lines (see Figure 14-4). The local B63 bus route operates along 5th Avenue, servicing passengers between Fort Hamilton and Brooklyn Bridge Park, providing operational frequencies of approximately ten to fifteen minutes in either direction during both peak periods. The local B37 bus route operates along 3rd Avenue, serving passengers between Fort Hamilton and Boreum Hill, providing operational frequencies of approximately twenty minutes in either direction during both peak periods.

The nearest subway station is the N/R station located on 4th Avenue at 45th Street, two blocks south of the proposed school site. The N line provides service from Coney Island/Stillwell Avenue in Brooklyn through Manhattan to Ditmars Boulevard in Queens, and only stops at this station during the evening late night hours. The R line provides service from Bay Ridge-95th Street in Brooklyn through Manhattan to Forest Hills-71st Avenue in Queens, and operates every five to ten minutes in each direction during the peak hours.



Pedestrian flow operating conditions were evaluated using *HCM2000* methodologies and the NYCDOT-approved Excel spreadsheet (see Appendix D). The congestion levels of a pedestrian facility are determined by considering pedestrian volumes; measuring the sidewalk, passageway, or crosswalk width; determining the available pedestrian capacity; and developing a ratio of volume flows to capacity (v/c) conditions. The resulting ratio is then compared with the LOS standards for flow, measured in terms of either pedestrian space or delay.

At interrupted-flow facilities, such as signalized and stop-controlled intersections, crosswalk and corner operations are often based on crosswalk time-space and pedestrian space, respectively, which are the average effective area per pedestrian of the analyzed element, measured in square feet per pedestrian (sf/ped). The levels of service for all crosswalk elements at a signalized intersection and for all corner elements at both a signalized and unsignalized intersection are defined in terms of these spaces. LOS A occurs when the average time or pedestrian space is greater than 60 sf/ped . LOS B, C, and D occur when the space is in the range of 40 to 60, 24 to 40, and 15 to 24 sf/ped , respectively. LOS E is capacity for a space from eight to 15 sf/ped . LOS F describes jammed conditions with an average space of eight sf/ped or less.

Pedestrian counts were performed in 15-minute intervals during the AM and PM peak periods for the pedestrian movements along the east and west sidewalks of 4th Avenue between 43rd and 44th streets and 4th Avenue between 42nd and 43rd streets as these would be the likely walk routes

for students to and from the proposed school site. In addition, counts were performed at all corners and crosswalks at 4th Avenue at 43rd Street and 4th Avenue at 44th Streets, where both intersections are signalized and provide crosswalk markings.

Pedestrian counts at the study intersections indicate that existing volumes are low to moderate during the peak study periods. During the AM peak, the west crosswalk at 4th Avenue and 43rd Street was the most utilized, processing 570 pedestrians during the AM peak hour and processing 450 during the PM peak hour. During the PM peak, the west crosswalk at 4th Avenue and 44th Street was the most utilized, processing 469 pedestrians during the PM peak hour and processing 429 during the AM peak hour. The other crosswalks processed 330 or fewer pedestrians during the peak hours. Many of the pedestrians are students, staff, and parents walking to/from PS 516 (Sunset Park Avenues Elementary School), which is across the street from the proposed PS 557 site and is currently occupying the former St. Michael's School buildings and convent. All crosswalks, corners, and sidewalks at the study intersections currently operate at acceptable LOS conditions (see Table 14-3).

Table 14-3: 2016 Existing Pedestrian Conditions

Intersection and Element	AM Peak		PM Peak	
	Average Space (sf/ped)	LOS	Average Space (sf/ped)	LOS
4th Avenue and 43rd Street				
Northeast Corner	149	A	235	A
Southeast Corner	127	A	167	A
Southwest Corner	48	B	50	B
Northwest Corner	33	C	28	C
North Crosswalk	48	B	53	B
East Crosswalk	109	A	206	A
South Crosswalk	136	A	61	A
West Crosswalk	82	A	128	A
4th Avenue and 44th Street				
Northeast Corner	98	A	143	A
Southeast Corner	45	B	76	A
Southwest Corner	130	A	142	A
Northwest Corner	171	A	171	A
North Crosswalk	105	A	116	A
East Crosswalk	88	A	147	A
South Crosswalk	138	A	169	A
West Crosswalk	118	A	120	A
4th Avenue b/w 42nd and 43rd streets				
East Sidewalk	142	A	239	A
West Sidewalk	65	A	91	A
4th Avenue b/w 43rd and 44th streets				
East Sidewalk	212	A	258	A
West Sidewalk	80	A	81	A

Safety. A review of the crash data provided from NYCDOT for the most recent three-year period of 2012 through 2014 indicated that the intersections along the predominant school walk routes to/from the proposed school site experienced fewer than five pedestrian/bicycle-type crashes in any consecutive twelve-month period. According to the *CEQR Technical Manual*, a high-crash location is one where there were 48 or more total crashes or five or more pedestrian/bicycle injury crashes in any consecutive twelve month period. None of the study area intersections are high-crash locations (see Tables 14-4 and 14-5). 4th Avenue from Flatbush Avenue to Belt Parkway is identified by NYCDOT as a Vision Zero Priority Corridor, and the study area is located within a

Vision Zero Priority Area; however, none of the analyzed intersections are cited as Vision Zero Priority Intersections. A pedestrian safety assessment has been prepared and is included in Appendix E.

Table 14-4: 2012-2014 Crash Summary

Intersection		Crashes, 2012-2014				Injuries	Fatalities
		Total	Motor Vehicle	Pedestrian	Bicycle		
2nd Avenue at	42nd Street	2	1	1	0	1	0
	43rd Street	2	1	0	1	2	0
3rd Avenue at	42nd Street	17	12	4	1	20	0
	43rd Street	2	1	1	0	1	0
4th Avenue at	42nd Street	5	4	1	0	8	0
	43rd Street	9	7	1	1	10	0
	44th Street	6	2	3	1	5	0
	45th Street	11	6	5	0	12	0
	46th Street	10	8	1	1	11	0
5th Avenue at	42nd Street	7	3	2	2	7	0
	43rd Street	9	6	2	1	8	0
	44th Street	6	4	1	1	6	0
	45th Street	5	2	3	0	4	0
	46th Street	4	2	1	1	5	0
6th Avenue at	44th Street	5	3	1	1	2	0
	45th Street	4	2	0	2	6	0
	46th Street	3	2	1	0	3	0

Table 14-5: 2012-2014 Detailed Crash Summary by Year

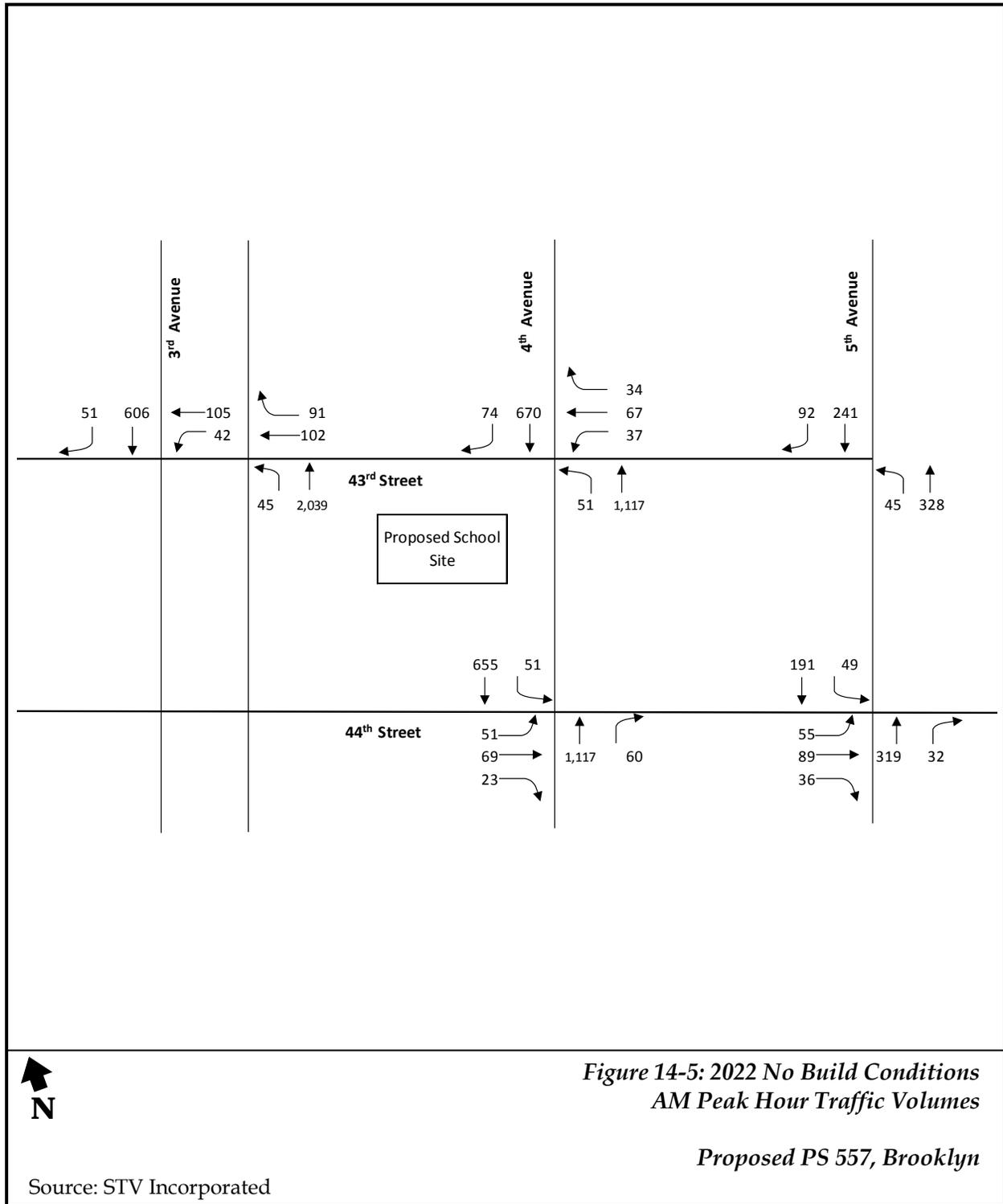
Intersection		Crashes												Injuries			Fatalities			
		Total			Motor Vehicle			Pedestrian			Bicycle									
		2012	2013	2014	2012	2013	2014	2012	2013	2014	2012	2013	2014	2012	2013	2014	2012	2013	2014	
2nd Avenue at	42nd Street	1	1	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0
	43rd Street	0	1	1	0	1	0	0	0	0	0	0	1	0	1	1	0	0	0	0
3rd Avenue at	42nd Street	7	4	6	5	1	6	2	2	0	0	1	0	11	4	5	0	0	0	0
	43rd Street	0	1	1	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	0
4th Avenue at	42nd Street	1	3	1	0	3	1	1	0	0	0	0	0	2	3	3	0	0	0	0
	43rd Street	5	2	2	4	2	1	1	0	0	0	0	1	6	1	3	0	0	0	0
	44th Street	1	2	3	0	1	1	1	0	2	0	1	0	1	2	2	0	0	0	0
	45th Street	3	5	3	2	3	1	1	2	2	0	0	0	3	6	3	0	0	0	0
	46th Street	5	1	4	4	0	4	1	0	0	0	1	0	3	1	7	0	0	0	0
5th Avenue at	42nd Street	4	0	3	2	0	1	2	0	0	0	0	2	4	0	3	0	0	0	0
	43rd Street	1	3	5	1	3	2	0	0	2	0	0	1	1	1	6	0	0	0	0
	44th Street	3	1	2	3	0	1	0	1	0	0	0	1	2	1	3	0	0	0	0
	45th Street	0	1	4	0	0	2	0	1	2	0	0	0	0	1	3	0	0	0	0
	46th Street	0	0	4	0	0	2	0	0	1	0	0	1	0	0	5	0	0	0	0
6th Avenue at	44th Street	4	0	1	2	0	1	1	0	0	1	0	0	2	0	0	0	0	0	0
	45th Street	1	1	2	0	1	1	0	0	0	1	0	1	1	1	4	0	0	0	0
	46th Street	2	1	0	1	1	0	1	0	0	0	0	0	2	1	0	0	0	0	0

B. The Future Without the Project

The analysis of the future traffic conditions without the proposed school (i.e., the future No Build condition) serves as the baseline against which impacts of the project are compared. The future No Build analysis includes the traffic volume increases expected due to an overall growth in background traffic through and within the study area, and major real-estate developments and roadway system changes scheduled to be occupied or implemented by the future 2022 Build Year. A background growth rate of one-half percent per year for the first five years and one-quarter percent for the sixth year, resulting in an overall growth of approximately three percent by 2022, was assumed for this area of Brooklyn, per *CEQR* standards.

No major real estate developments are planned for the study area. NYCDOT is currently contemplating plans to replace existing medians and buffer markings along 4th Avenue by installing 19'-wide raised medians. The raised medians will raise subway vents as anti-flood mitigation, and provide pedestrians a wider and safer median. These NYCDOT Capital Project improvements would not affect traffic operations.

Future No Build Traffic Conditions. There would be an increase in traffic volumes along the roadways included in the project study area based on the approximate three percent background growth (see Figures 14-5 and 14-6); however, no study intersections would experience significant LOS changes due to these No Build adjustments (see Table 14-6).



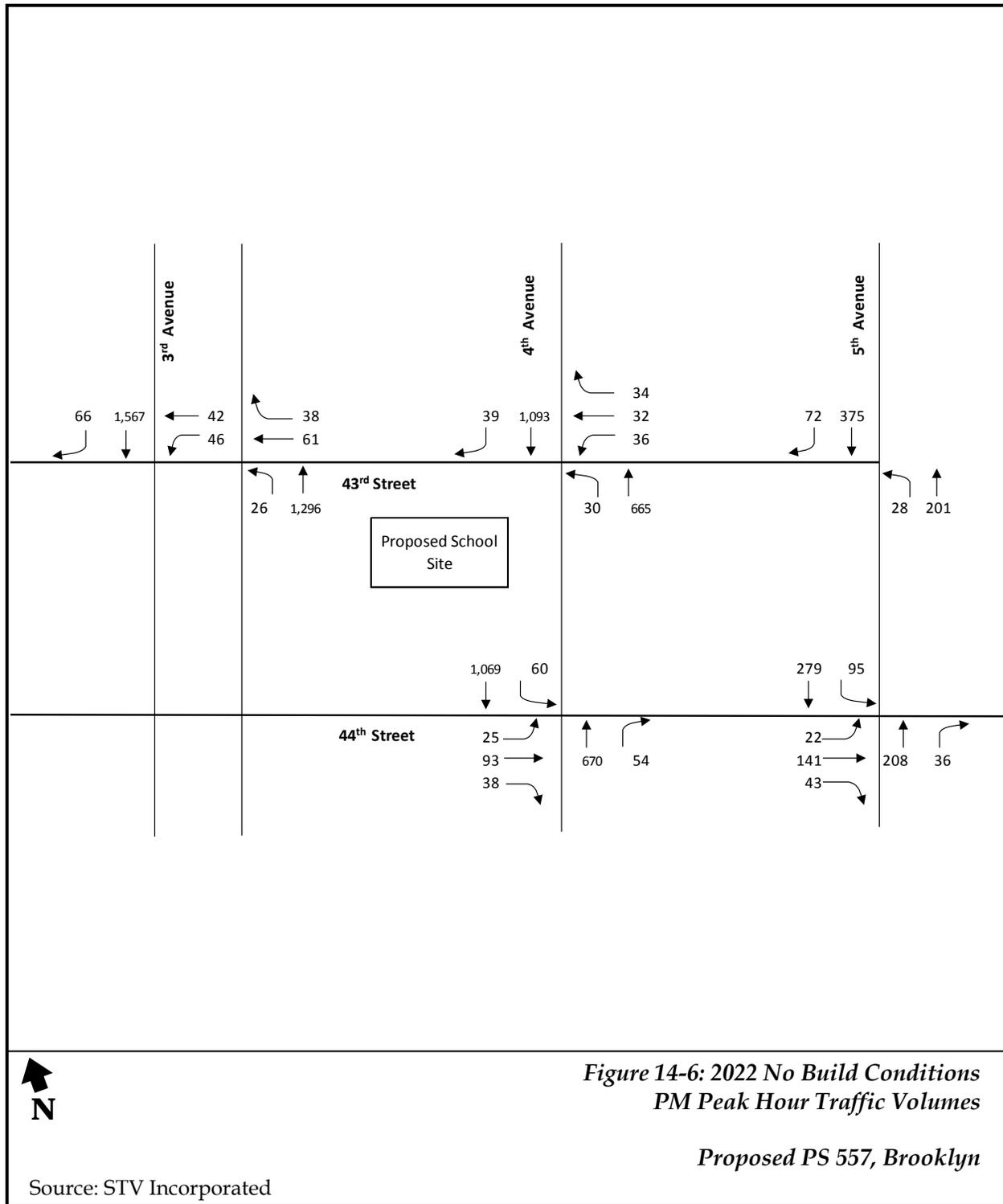


Table 14-6: 2022 No Build Conditions Traffic Operations

INTERSECTION & APPROACH	Mvt.	AM			PM				
		V/C	Control Delay	LOS	V/C	Control Delay	LOS		
<u>Signalized</u>									
3rd Avenue and 43rd Street									
43 rd Street	WB	LTR	0.71	54.4	D	0.45	44.7	D	
3 rd Avenue	NB	LT	0.98	39.3	D	0.66	16.5	B	
	SB	TR	0.31	11.8	B	0.70	17.0	B	
Overall Intersection		-	34.0		C	17.8		B	
4th Avenue and 43rd Street									
43 rd Street	WB	LTR	0.60	44.9	D	0.40	38.0	D	
4 th Avenue	NB	L	0.26	12.1	B	0.21	11.8	B	
		T	0.91	26.9	C	0.56	14.1	B	
	SB	TR	0.60	15.2	B	0.73	18.4	B	
Overall Intersection		-	23.4		C	17.9		B	
4th Avenue and 44th Street									
44 th Street	EB	LTR	0.59	44.7	D	0.55	42.5	D	
4 th Avenue	NB	TR	0.90	26.7	C	0.57	14.3	B	
	SB	L	0.39	18.5	B	0.21	11.4	B	
		T	0.44	12.4	B	0.65	16.2	B	
Overall Intersection		-	23.2		C	17.6		B	
5th Avenue and 44th Street									
44 th Street	EB	LTR	0.63	34.1	C	0.61	32.7	C	
5 th Avenue	NB	TR	0.68	19.0	B	0.50	14.6	B	
	SB	LT	0.38	13.0	B	0.61	17.4	B	
Overall Intersection		-	20.8		C	20.2		C	
<u>Unsignalized</u>									
5th Avenue and 43rd Street									
5 th Avenue	NB	LT	0.07	10.0	B	0.06	12.5	B	

Parking. Demand for parking was assumed to increase proportionally to the traffic growth in the study area by one-half percent per year for the first five years and one-quarter percent for the sixth year, resulting in an approximate increase of three percent in occupancy rate of the available on-street parking, from the existing 37 percent shortfall on the most restrictive days to a 41 percent shortfall in the future No Build condition (see Table 14-7).

Table 14-7: 2022 No Build On-Street Parking Supply and Demand

Parking Parameter	w/Regs	w/o Regs
Parking-Space Supply	1,121	1,562
Demand (Occupancy Rate)	1,581 (141%)	1,633 (105%)
Spaces Available (Rate)	-460 (-41%)	-71 (-5%)

Transit and Pedestrians. The numbers of transit riders and pedestrians in the study area were also assumed to increase by one-half percent per year for the first five years and one-quarter percent for the sixth year, in proportion to traffic volumes. Transit service and operational conditions were expected to remain similar to the current conditions, since there are no major planned developments in the area and the applied growth factor would not significantly alter conditions from existing conditions. Pedestrian activity near the project site and in the study area was also anticipated to remain similar to existing conditions, and no pedestrian element would experience significant LOS changes due to these No Build adjustments (see Table 14-8).

Table 14-8: 2022 No Build Pedestrian Conditions for Crosswalks and Corners

Intersection and Element	AM Peak		PM Peak	
	Average Space (sf/ped)	LOS	Average Space (sf/ped)	LOS
4th Avenue and 43rd Street				
Northeast Corner	145	A	229	A
Southeast Corner	124	A	163	A
Southwest Corner	46	B	48	B
Northwest Corner	32	C	27	C
North Crosswalk	47	B	51	B
East Crosswalk	106	A	201	A
South Crosswalk	133	A	59	B
West Crosswalk	79	A	124	A
4th Avenue and 44th Street				
Northeast Corner	95	A	139	A
Southeast Corner	43	B	74	A
Southwest Corner	126	A	138	A
Northwest Corner	166	A	166	A
North Crosswalk	102	A	113	A
East Crosswalk	85	A	142	A
South Crosswalk	133	A	165	A
West Crosswalk	114	A	117	A
4th Avenue b/w 42nd and 43rd streets				
East Sidewalk	138	A	233	A
West Sidewalk	63	A	89	A
4th Avenue b/w 43rd and 44th streets				
East Sidewalk	207	A	251	A
West Sidewalk	78	A	79	A

C. Probable Impacts of the Proposed Project

The analysis of future conditions with the project in place requires the determination of the number of trips by travel mode expected to be generated by the proposed school, the assignment of these vehicle trips to the street network approaching the site, and the determination of projected levels of service at the critical locations analyzed.

Trip Generation: The proposed PS 557 would provide a total capacity of 332 students. For trip generation purposes, it was conservatively assumed that the new school would be filled to capacity (i.e., no absentee rate was applied).

Trip generation estimates were developed based on the trip generation rates used for the proposed PS/IS 746, which is located approximately one mile from the proposed PS 557. Students would arrive at and depart from school by a number of travel modes, including private autos, public transit, school buses, and walking from nearby residences. The school catchment area was estimated based on a review of DOE school boundary maps and appears to indicate that a majority of students attending the school would live in nearby residential areas, within a half-mile distance to the proposed school; therefore, the school catchment area was assumed to be generally bounded by 4th Avenue to the west, 42nd Street to the north, 6th Avenue to the east, and 46th Street to the south. Consequently, in the AM and PM peak hours, the majority of these students would walk to/from school (68 percent), while about 22 percent would be driven to/from school by their parents. The remaining ten percent of students would commute to school by public transit (i.e., local buses, subways) and school buses (see Tables 14-9 and 14-10).

It is expected that the new school facility would employ 33 staff members. Using the PS/IS 746 trip generation data, 37 percent of the staff would utilize public transit, 58 percent would travel in private automobile, and the remaining five percent would walk.

School bus and auto drop-off trips were assumed to make a complete in-and-out cycle within the AM and PM peak hours, i.e., arrive full and depart empty within the AM study peak hour and arrive empty and depart full in the PM study peak hour. Based on NYCDOT travel survey data, private auto vehicle occupancy rates of 1.3 for students and 1.0 for staff were applied.

Temporal Distribution: It is assumed that all students would arrive at the school during the AM peak hour. Approximately 89 percent of students would depart during the PM peak hour with the remaining students staying later at the school site for after-school activities. This would result in 57 student vehicle arrivals and 57 vehicle departures (autos and buses) during the AM peak hour, and 51 student vehicle arrivals and 51 vehicle departures during the PM peak hour.

All staff were assumed to arrive during the AM and PM peak analysis hours, resulting in 19 staff vehicle arrivals and five vehicle departures during the AM peak hour, and five staff vehicle arrivals and 19 vehicle departures during the PM peak hour.

Tables 14-9 and 14-10 summarize the modal split and trip generation data. The total number of new school-generated vehicle trips (autos and school buses) is projected to be 76 arrivals and 62 departures during the AM peak hour, and 56 arrivals and 70 departures during the PM peak hour.

Table 14-9: Modal Split and Trip Generation Data (AM Peak Hour)

Travel Mode		Student			Parent			Staff		
		%	Person Trips	Vehicle Trips	%	Person Trips	Vehicle Trips	%	Person Trips	Vehicle Trips
Walk		68	226	N/A	N/A	348	N/A	5	2	N/A
Auto	Drop-off	22	73	112	N/A	N/A	N/A	14	5	10
	Self-drove	N/A	N/A	N/A	N/A	N/A	N/A	44	14	14
General Ed. School Bus		2	6	2	N/A	N/A	N/A	N/A	N/A	N/A
Public Transit / Other		8	27	N/A	N/A	42	N/A	37	12	N/A
TOTAL		100	332	114	N/A	390	N/A	100	33	24

1. No absentee rate was applied for the proposed school. The school was assumed to be at full capacity during both the AM and PM peak hours.
2. The number of parent walk trips assumes one parent walking per 1.3 students (per NYDCOT guidance). The parent walk trips include two trips, a roundtrip to and from the school.
3. The number of student auto trips consist of 56 arrivals and 56 departures during the AM analysis hour, assuming a vehicle occupancy of 1.3 per auto.
4. The staff auto trips consists of 19 arrivals and five departure to and from the area during the AM analysis hour, assuming a vehicle occupancy rate of 1.0 persons per auto.

Table 14-10: Modal Split and Trip Generation Data (PM Peak Hour)

Travel Mode		Student			Parent			Staff		
		%	Person Trips	Vehicle Trips	%	Person Trips	Vehicle Trips	%	Person Trips	Vehicle Trips
Walk		68	201	N/A	N/A	310	N/A	5	2	N/A
Auto	Pick-up	22	65	100	N/A	N/A	N/A	14	5	10
	Self-drove	N/A	N/A	N/A	N/A	N/A	N/A	44	14	14
General Ed. School Bus		2	6	2	N/A	N/A	N/A	N/A	N/A	N/A
Public Transit / Other		8	24	N/A	N/A	36	N/A	37	12	N/A
TOTAL		100	296	102	N/A	346	N/A	100	33	24

1. No absentee rate was applied for the proposed school. The school was assumed to be at full capacity during both the AM and PM peak hours.
2. Approximately 89 percent of students would depart during the PM peak hour with the remaining students staying later at the school site for after-school activities.
3. The number of parent walk trips assumes one parent walking per 1.3 students (per NYCDOT guidance). The parent walk trips include two trips, a roundtrip to and from the school.
4. The number of student auto trips consist of 50 arrivals and 50 departures during the PM analysis hour, assuming a vehicle occupancy of 1.3 per auto.
5. The staff auto trips consists of five arrivals and 19 departure to and from the area during the PM analysis hour, assuming a vehicle occupancy rate of 1.0 persons per auto.

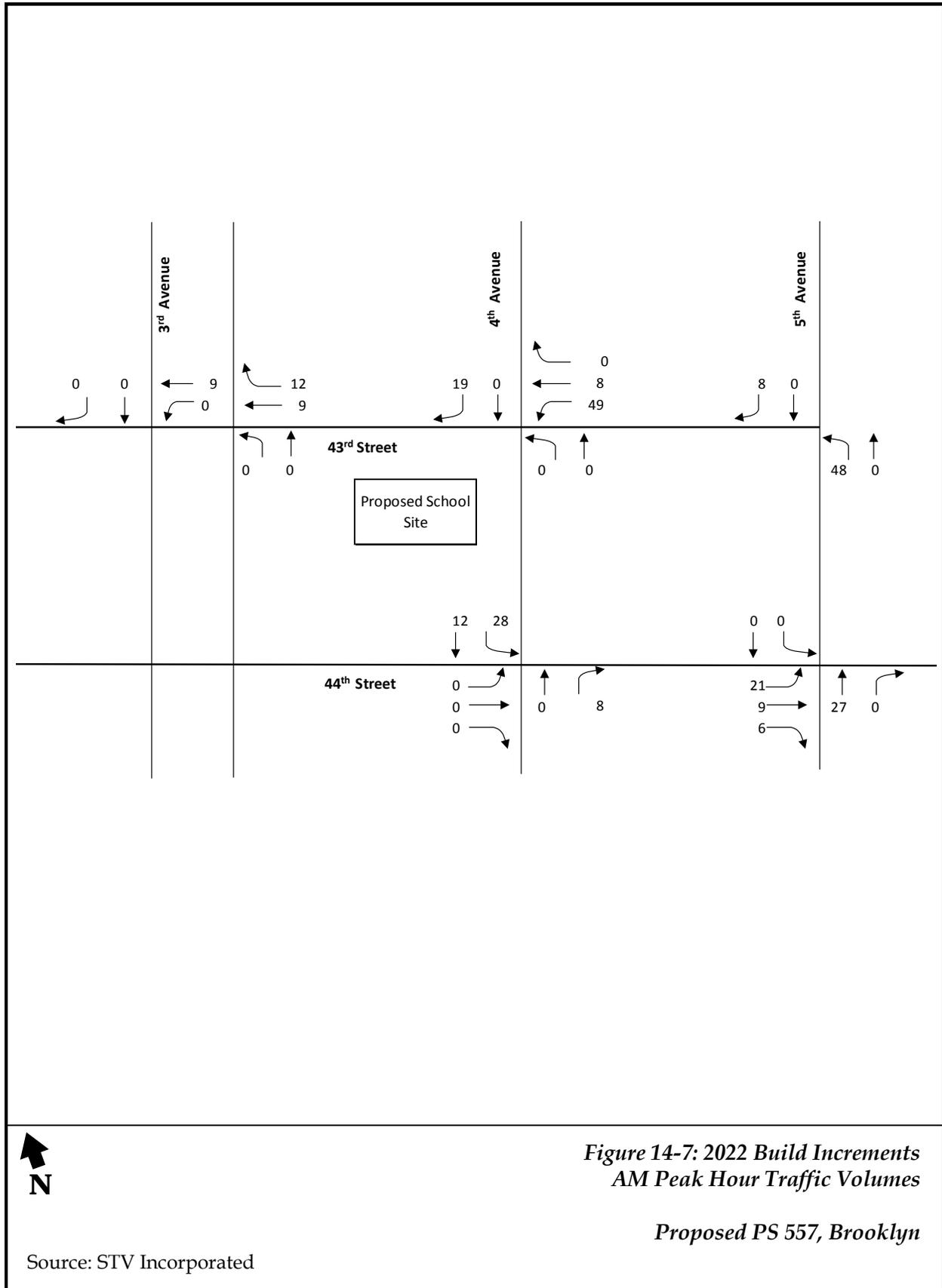
Project Vehicle Assignment. The distribution of new vehicle trips to the proposed school site is developed based on the concentration of residential developments within the school's catchment area, which is skewed to residential areas southeast of the school. The student drop-offs and pick-ups were assumed to take place in front of the new PS on 4th Avenue and 43rd Street. The majority of student vehicle trips would originate south and east of the school and would likely use northbound 5th Avenue to westbound 43rd Street to 4th Avenue adjacent to the proposed school site. These return trips would continue south on 4th Avenue and turn left on 44th or 46th streets to return east. It is expected that the majority of students attending the proposed school

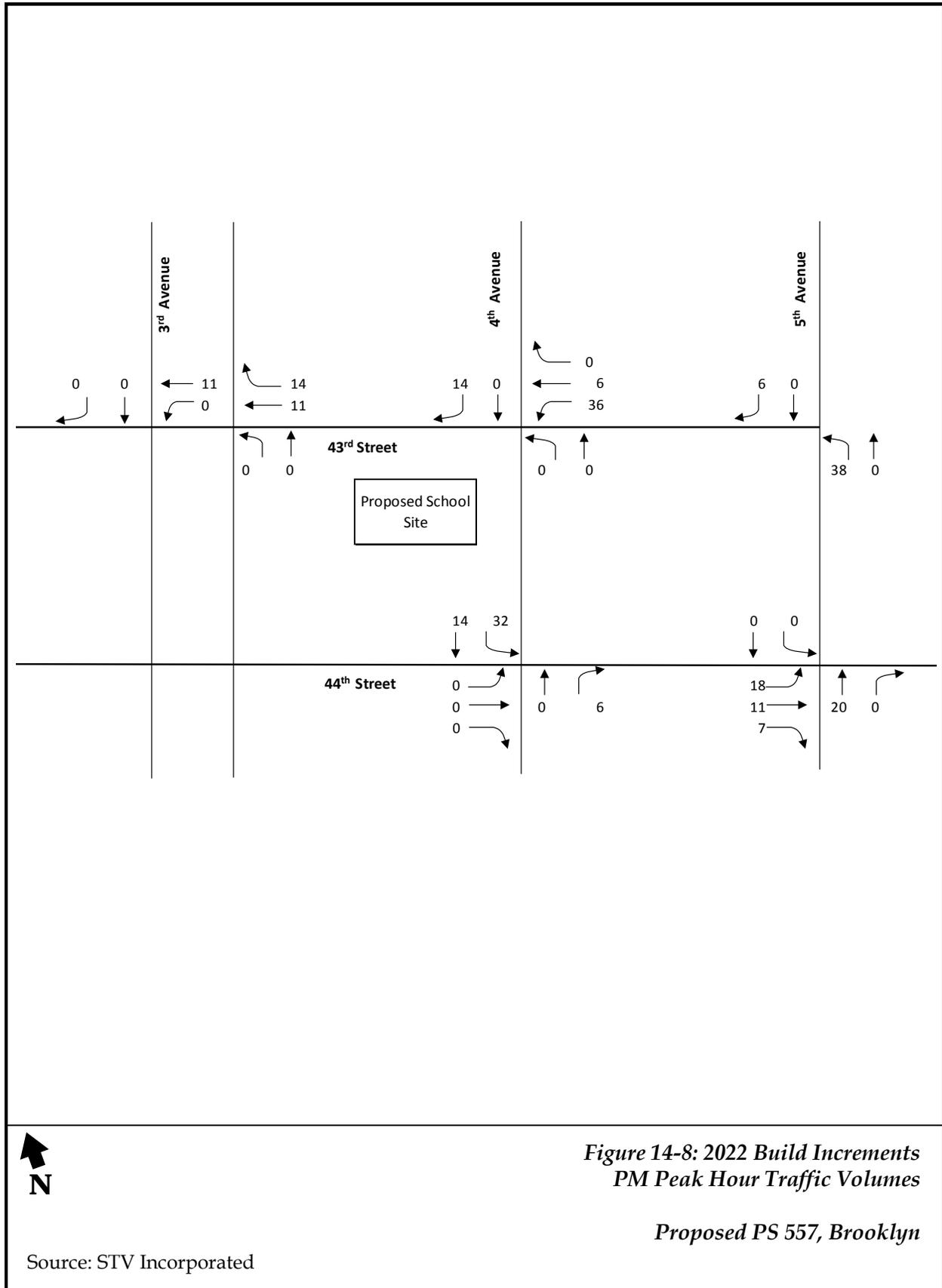
would live in the area east of 3rd Avenue, which has a higher concentration of residential properties, as compared to the area west of 3rd Avenue, which has a higher concentration of light industrial uses and fewer residential properties.

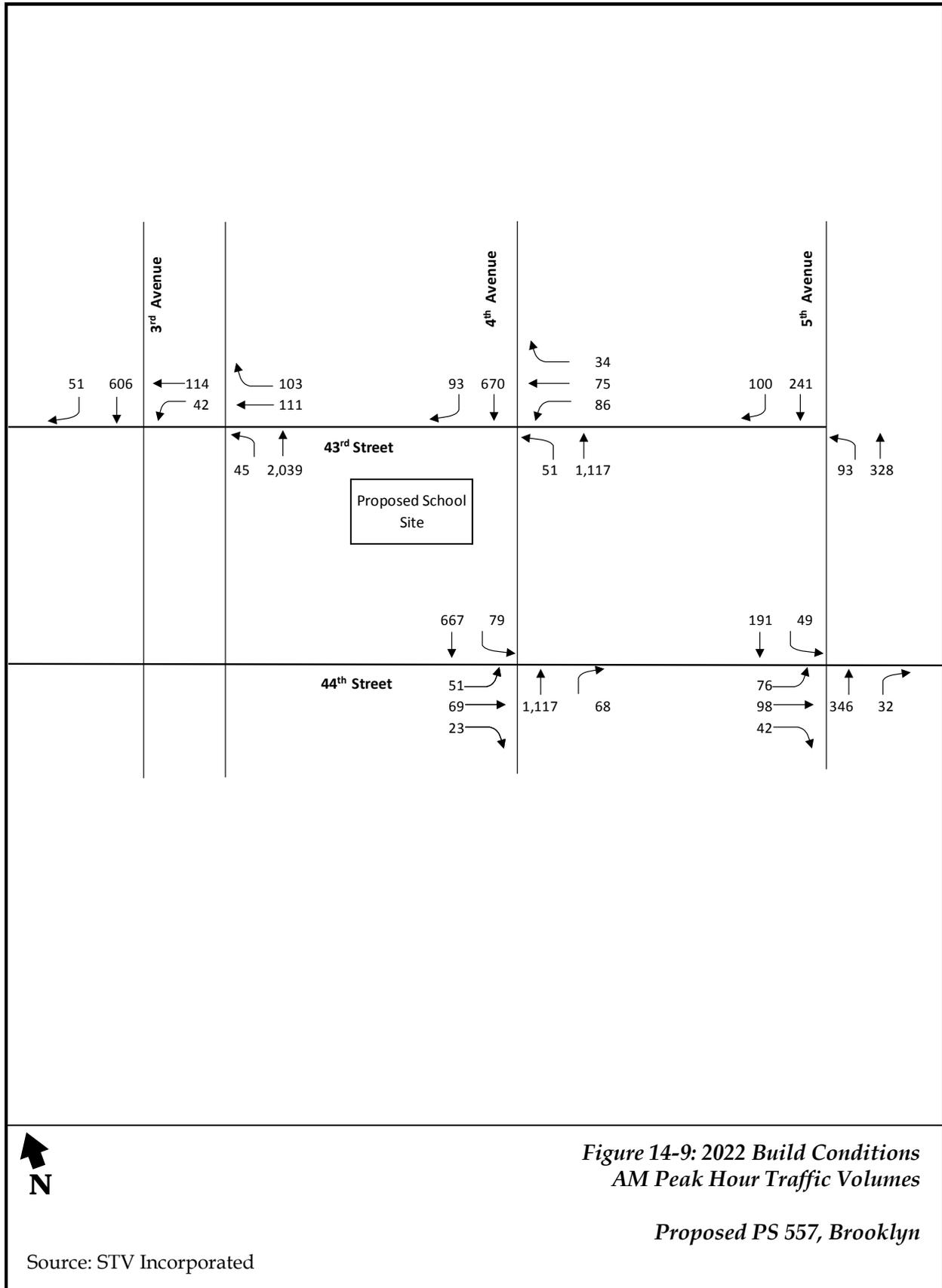
Approximately 75 percent of new vehicle trips to drop off students would approach from the east along 43rd Street and turn left on 4th Avenue. The return trip (to pick up students) would be completed via 44th and 46th streets. The remaining twenty-five percent of new vehicle trips are expected to come from north and west of the project site, utilizing 4th Avenue southbound and 43rd Street westbound to drop off students.

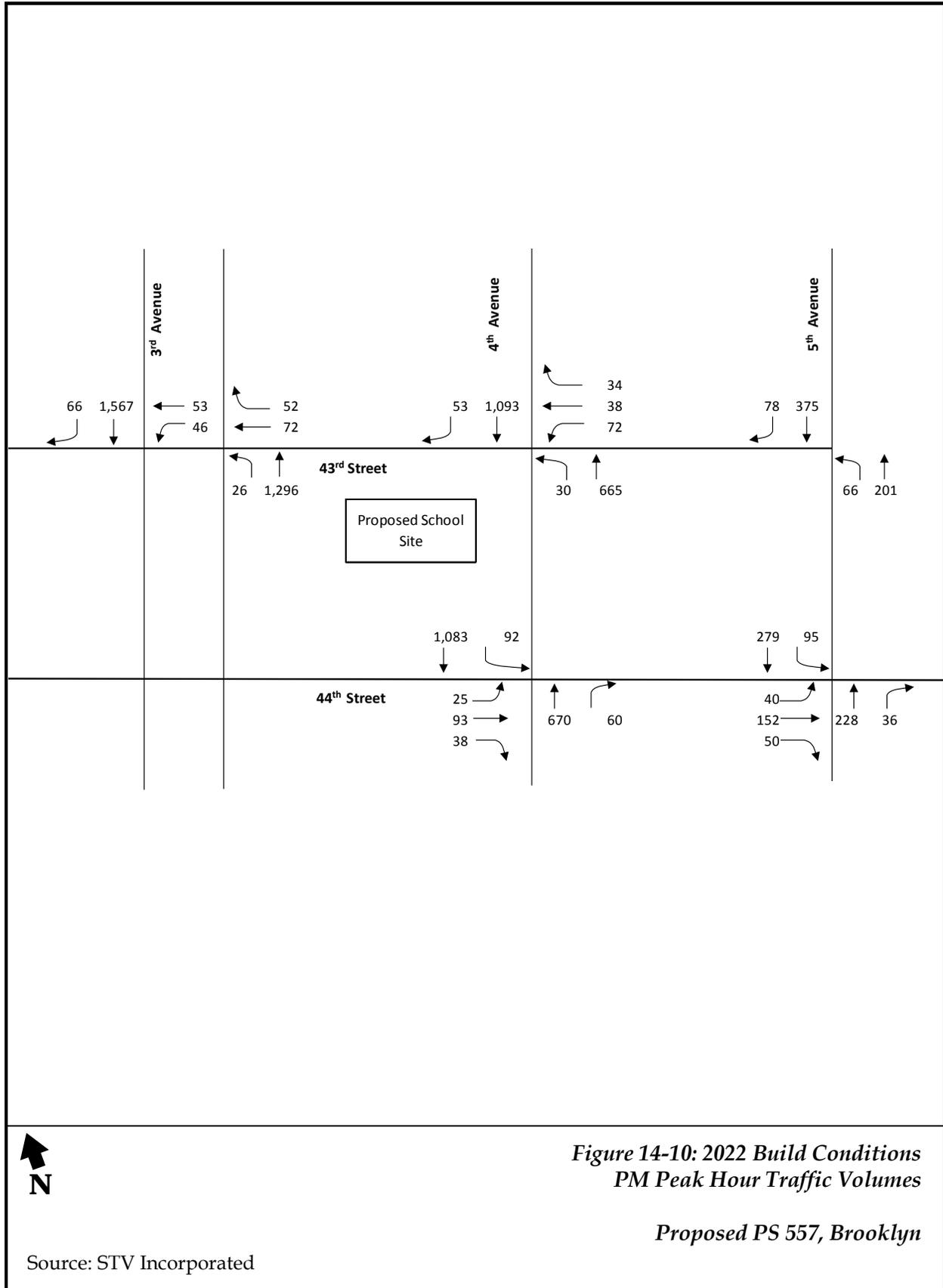
New staff vehicle trips were assumed to access the school via 43rd Street westbound and 4th Avenue north and southbound, following the same vehicle arrival patterns as student drop-offs and pick-ups. It is expected that the majority of staff would park within five blocks of the school; therefore, all new staff trips were assumed to pass through the school vicinity.

Figures 14-7 and 14-8 show the volumes of vehicle trips that would be generated by the proposed school during the AM and PM peak hours, respectively. Figures 14-9 and 14-10 indicate the total Build volumes during the AM and PM peak hours, respectively.









Significant Impact Criteria. The identification of potential significant traffic impacts was based on criteria for signalized intersections defined in the *CEQR Technical Manual*. A deterioration from LOS A, B, or C No Build conditions to unacceptable LOS D, E, or F Build conditions is considered a significant impact. Improvements must be made such that the unacceptable levels of service operate at mid-LOS D or better (with delays per vehicle of 45 and 30 seconds or less for signalized and unsignalized intersections, respectively). A deterioration from No Build LOS D conditions to unacceptable LOS D, E, or F Build conditions and an increase of five or more seconds of delay is also considered significant. For No Build LOS E conditions, an increase of four or more seconds of Build delay is significant. For No Build LOS F conditions, an increase of three or more seconds of Build delay is considered significant. However, if the No Build LOS F conditions already have delays in excess of 120 seconds, an increase of one or more seconds of Build delay is significant, unless the proposed action would generate less than five vehicles through a signalized intersection in the peak hour. In addition to these requirements, for the minor-street of an unsignalized intersection to create a significant impact, at least 90 passenger car equivalents (PCEs) must be identified in the future Build condition. If significant impacts are identified for movements that operated as LOS D, E, or F for No Build conditions, improvements must be made to achieve the same or better delays as for the No Build conditions.

Future Build Traffic Conditions. The level-of-service analysis for the Build conditions (see Table 14-11) indicated that a significant traffic impact would be expected at the following locations:

- The westbound approach on 43rd Street at 3rd Avenue in both the AM (LOS D, No Build; LOS E, Build) and PM peak hours (deteriorates within LOS D).
- The westbound approach on 43rd Street at 4th Avenue in both the AM (LOS D, No Build; LOS F, Build) and PM peak hours (deteriorates within LOS D).

Table 14-11: 2022 Build Conditions Traffic Operations

INTERSECTION & APPROACH	Mvt.	AM			PM				
		V/C	Control Delay	LOS	V/C	Control Delay	LOS		
<u>Signalized</u>									
3rd Avenue and 43rd Street									
43 rd Street	WB	LTR	0.81	63.2	E	0.58	49.9	D	
3 rd Avenue	NB	LT	0.98	39.3	D	0.66	16.5	B	
	SB	TR	0.31	11.8	B	0.70	17.0	B	
	Overall Intersection	-		34.9	C		18.3	B	
4th Avenue and 43rd Street									
43 rd Street	WB	LTR	0.94	82.8	F	0.63	47.7	D	
4 th Avenue	NB	L	0.27	12.4	B	0.22	12.0	B	
		T	0.91	26.9	C	0.56	14.1	B	
	SB	TR	0.62	15.5	B	0.74	18.7	B	
	Overall Intersection	-		27.9	C		19.3	B	
4th Avenue and 44th Street									
44 th Street	EB	LTR	0.61	45.4	D	0.56	43.0	D	
4 th Avenue	NB	TR	0.91	27.4	C	0.57	14.4	B	
	SB	L	0.62	32.1	C	0.34	14.0	B	
		T	0.44	12.5	B	0.66	16.4	B	
	Overall Intersection	-		24.1	C		17.7	B	
5th Avenue and 44th Street									
44 th Street	EB	LTR	0.77	43.6	D	0.74	39.4	D	
5 th Avenue	NB	TR	0.73	20.9	C	0.54	15.3	B	
	SB	LT	0.38	13.0	B	0.61	17.3	B	
	Overall Intersection	-		24.8	C		22.5	C	
<u>Unsignalized</u>									
5th Avenue and 43rd Street									
5 th Avenue	NB	LT	0.13	10.5	B	0.15	13.3	B	

Parking. The estimated number of new staff vehicle trips (self-drove) generated by the proposed school would increase the parking demand by 14 vehicles. Given the small lot size and in order to fit the POR, parking would not be provided on-site. The shortfall in available parking would increase to 42 percent (474 spaces) on the most restrictive days. Additionally, the increased demand would result in a five percent shortfall (85 spaces) on days with no parking regulations (see Table 14-12). The parking shortfall exceeds more than half of the available on-street and off-

street parking spaces within 0.25 miles of the site. This shortfall may not be considered a significant impact for this project due to the availability and proximity of transit in the area. Multiple alternative travel modes are available for school staff including two local bus routes and one subway station within two blocks of the proposed school, which could encourage non-auto travel to and from the school and reduce the parking demand.

Table 14-12: 2022 Build On-Street Parking Supply and Demand

Parking Parameter	w/Regs	w/o Regs
Parking-Space Supply	1,121	1,562
Demand (Occupancy Rate)	1,595 (142%)	1,647 (105%)
Spaces Available (Rate)	-474 (-42%)	-85 (-5%)

Transit and Pedestrian Assignment. It is expected that up to 81 new peak hour transit trips would be generated during the AM and PM peak periods. According to general thresholds used by the *CEQR Technical Manual* and NYCT, if the proposed action is projected to result in fewer than 200 peak hour transit riders, the action is considered unlikely to create a significant transit impact. Thus, no further analyses are needed.

Pedestrian trips to the proposed school site include walk trips as well as other modes that have a pedestrian component, such as subway trips from the subway stop and bus trips from a bus stop. The 45th Street Station of the R Line is located two blocks south of the proposed school site on 4th Avenue. The B63 bus travels along 5th Avenue, one block east of the proposed school site and bus riders would walk to/from the school along 43rd Street. The B37 bus travels along 3rd Avenue, one block west of the proposed school site. The southbound bus stop is located on the west side of 3rd Avenue between 43rd and 44th streets; southbound bus riders would need to cross 3rd Avenue to enter the school and northbound bus riders would walk to/from the school along 43rd Street without crossing any streets.

It is estimated that approximately 226 and 201 students would walk to and from the proposed school during the AM and PM peak hours, respectively. Students walking to the proposed school may be accompanied by an adult. NYCDOT estimates one parent walking with every 1.3 students. The parent walk trips include two trips, a roundtrip to and from the school. Total student, parent, and staff walk trips are projected to be 576 and 513 during the AM and PM peak hours, respectively. According to the *CEQR Technical Manual*, an increase of 200 or more pedestrians per hour at any pedestrian element would typically be considered a significant impact. The majority of walk trips to the proposed school would walk north on the east and west sidewalks of 4th Avenue and utilize the south crosswalk of 4th Avenue and 43rd Street.

In addition, CEQR guidelines further dictate that, for corner, crosswalk, and sidewalk analyses, the proposed action should not create a significant impact unless analyses resulted in average occupancies of less than 24 SF/ped (mid-LOS D). As shown in Table 14-13, all pedestrian elements would continue to function at acceptable levels with the proposed action, except for the northwest corner, southwest corner, and south crosswalk at 4th Avenue and 43rd Street, which all operate at LOS D during the PM peak and would experience a significant impact.

Table 14-13: 2022 Build Pedestrian Conditions for Crosswalks and Corners

Intersection and Element	AM Peak		PM Peak	
	Average Space (sf/ped)	LOS	Average Space (sf/ped)	LOS
4th Avenue and 43rd Street				
Northeast Corner	125	A	186	A
Southeast Corner	79	A	92	A
Southwest Corner	27	C	17	D
Northwest Corner	24	C	20	D
North Crosswalk	37	C	38	C
East Crosswalk	98	A	180	A
South Crosswalk	36	C	22	D
West Crosswalk	64	A	97	A
4th Avenue and 44th Street				
Northeast Corner	71	A	96	A
Southeast Corner	31	C	52	B
Southwest Corner	91	A	104	A
Northwest Corner	119	A	119	A
North Crosswalk	75	A	79	A
East Crosswalk	62	A	91	A
South Crosswalk	96	A	120	A
West Crosswalk	79	A	86	A
4th Avenue b/w 42nd and 43rd streets				
East Sidewalk	135	A	224	A
West Sidewalk	58	B	82	A
4th Avenue b/w 43rd and 44th streets				
East Sidewalk	164	A	180	A
West Sidewalk	60	A	59	B

D. Proposed Improvement Measures

Improvement measures are recommended to mitigate the significant traffic impacts at the intersections of 43rd Street and 3rd and 4th avenues (see Table 14-14). Parking along the north curb of the westbound 43rd Street approach to 3rd Avenue should be “daylighted” for approximately 100 feet (a loss of about four parking spaces) during the AM peak hour. Additionally, due to an increase of nearly 60 vehicles in the AM peak hour approaching 4th Avenue on 43rd Street, it is proposed that the parking lane along the south side of 43rd Street be “daylighted” for approximately 100 feet (a loss of about four parking spaces) to create a left-turn lane during the AM peak period. “Daylighting” is a simple traffic improvement measure achieved by removing parking spaces adjacent to the curb at an intersection approach to provide an additional travel lane or enhance safety by increasing visibility for pedestrians and drivers. Signal timing adjustments are recommended at both intersections to shift green time during the PM peak periods to mitigate impacts (see Table 14-15).

The pedestrian elements were re-analyzed with the proposed signal timing adjustments (see Table 14-16). Improvement measures are recommended to mitigate the significant pedestrian impacts at the intersection of 4th Avenue and 43rd Street (see Table 14-16). Six-foot curb extensions are recommended at the northwest and southwest corners of 4th Avenue and 43rd Street, extending the corner quadrants into 4th Avenue, subsequently shortening the crosswalk distances and increasing the available corner reservoir space for pedestrians waiting to cross the street.

The removal of eight parking spaces in the AM peak hour decreases the number of available parking spaces and the parking shortfall increases from 42 to 43 percent on the most restrictive parking days.

Table 14-14: 2022 Improved Build Conditions Traffic Operations

INTERSECTION & APPROACH	Mvt.	No Build			Build			Mitigated Build			Improvement Measures	
		V/C	Control Delay	LOS	V/C	Control Delay	LOS	V/C	Control Delay	LOS		
AM Peak												
3rd Avenue and 43rd Street												
43rd Street	WB	LTR	0.71	54.4	D	0.81	63.2	E	0.76	57.3	E	- Daylight the northeast corner, adjacent to the westbound approach on 43 rd Street.
3rd Avenue	NB	LT	0.98	39.3	D	0.98	39.3	D	0.98	39.3	D	
	SB	TR	0.31	11.8	B	0.31	11.8	B	0.31	11.8	B	
				34.0	C		34.9	C		34.4	C	
4th Avenue and 43rd Street												
43rd Street	WB	LTR	0.60	44.9	D	0.94	82.8	F	--	--	--	- Daylight the southeast corner, adjacent to the westbound approach on 43 rd Street, creating a left-turn lane at the intersection.
		L	--	--	--	--	--	--	0.37	37.2	D	
		TR	--	--	--	--	--	--	0.46	39.4	D	
4th Avenue	NB	L	0.26	12.1	B	0.27	12.4	B	0.27	12.4	B	
		T	0.91	26.9	C	0.91	26.9	C	0.91	26.9	C	
	SB	TR	0.60	15.2	B	0.62	15.5	B	0.66	16.6	B	
				23.4	C		27.9	C		23.8	C	
PM Peak												
3rd Avenue and 43rd Street												
43rd Street	WB	LTR	0.45	44.7	D	0.58	49.9	D	0.56	48.3	D	- Shift 1.0 second of green time from 3 rd Avenue to 43 rd Street.
3rd Avenue	NB	LT	0.66	16.5	B	0.66	16.5	B	0.67	17.2	B	
	SB	TR	0.70	17.0	B	0.70	17.0	B	0.70	17.7	B	
				17.8	B		18.3	B		18.9	B	
4th Avenue and 43rd Street												
43rd Street	WB	LTR	0.40	38.0	D	0.63	47.7	D	0.59	43.9	D	- Shift 2.0 seconds of green time from 4 th Avenue to 43 rd Street.
4th Avenue	NB	L	0.21	11.8	B	0.22	12.0	B	0.23	13.2	B	
		T	0.56	14.1	B	0.56	14.1	B	0.57	15.4	B	
	SB	TR	0.73	18.4	B	0.74	18.7	B	0.78	21.3	C	
				17.9	B		19.3	B		20.9	C	

Table 14-15: 2022 Proposed Signal Timing Changes

INTERSECTION & APPROACH	No Build			Proposed Build			Net Change			
	G	A	R	G	A	R	G	A	R	
PM Peak										
3rd Avenue and 43rd Street										
43rd Street	WB	38	3	2	39	3	2	+1	-	-
3rd Avenue	NB / SB	87	3	2	86	3	2	-1	-	-
4th Avenue and 43rd Street										
43rd Street	WB	35	3	2	37	3	2	+2	-	-
4th Avenue	NB / SB	75	3	2	73	3	2	-2	-	-

Note: G=Green; A=Amber; R=Red

Table 14-16: 2022 Improved Build Conditions Pedestrian Operations

Intersection and Element	PM Peak	
	Average Space (sf/ped)	LOS
4th Avenue and 43rd Street		
Northeast Corner	186	A
Southeast Corner	92	A
Southwest Corner	58	B
Northwest Corner	48	B
North Crosswalk	43	B
East Crosswalk	174	A
South Crosswalk	25	C
West Crosswalk	94	A
4th Avenue b/w 42nd and 43rd streets		
East Sidewalk	224	A
West Sidewalk	82	A
4th Avenue b/w 43rd and 44th streets		
East Sidewalk	180	A
West Sidewalk	59	B

E. Conclusions

In summary, with the proposed project, significant adverse traffic impacts would be expected at two intersections and a pedestrian impact would be expected at two corners and one crosswalk near the proposed school. Improvement measures are recommended to mitigate the significant traffic impacts at the intersections of 43rd Street at 3rd and 4th avenues. These improvement measures include signal timing adjustments and “daylighting” (i.e., temporary removal of parking adjacent to the curbs) to provide a peak period turn lane.

The pedestrian impacts to the south crosswalk at 4th Avenue and 43rd Street may be mitigated by signal timing adjustments. Six-foot curb extensions are recommended at the northwest and southwest corners of 4th Avenue and 43rd Street, extending the corner quadrants into 4th Avenue, subsequently shortening the crosswalk distances and increasing the available corner reservoir space for pedestrians waiting to cross the street.

No significant transit impacts would be expected. Less than 200 incremental peak hour transit trips would be generated by staff, students, and accompanying adults; therefore, the proposed school is unlikely to create a significant transit impact.

No significant parking impacts would be expected. The proposed changes to the school would increase the parking demand by 14 vehicles, which would increase the shortfall in available on-street parking from 42 to 43 percent on the most restrictive days; however, this shortfall may not be considered a significant impact for this project due to the availability and proximity of transit in the area.

The SCA will continue to consult with NYCDOT regarding these recommended measures to mitigate traffic and pedestrian impacts and recommendations provided to address any potential pedestrian safety issues along primary walk corridors to and from the proposed PS 557.

Chapter 15: Air Quality

The *CEQR Technical Manual* requires an assessment of air quality for projects that would increase traffic volumes or increase concentrations of air pollutants, especially where they may affect residential or other sensitive uses (such as a school). In this area of Brooklyn, a mobile source analysis is required if 170 or more project-generated vehicles would pass through a signalized intersection in any given peak period. In addition, the New York City Department of Environmental Protection (NYCDEP) has established a screening threshold limit for particulate matter, for which a detailed analysis is required if more than 23 project-generated diesel trucks or buses would pass through a signalized intersection in any given peak period. Analyses are also required if new sensitive land uses 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 the proposed project).

According to the *CEQR Technical Manual*, a greenhouse gas (GHG) emissions assessment is required for projects that would result in development of 350,000 sf or greater unless the building usage is particularly energy-intensive, such as a data processing center or a healthcare facility.

SCREENING ASSESSMENT

Mobile Sources. The proposed school is located in the Sunset Park section of Brooklyn at the eastern end of the block bounded by 43rd Street to the north, 44th Street to the south, 4th Avenue to the east, and 3rd Avenue/Gowanus Expressway (elevated) to the west. The surrounding area consists primarily of a mixture of both single- and multi-family residential housing. A mix of uses, including commercial and mixed use buildings, are present along 4th Avenue. As outlined in the *CEQR Technical Manual*, in this area of the City, actions that would result in the generation of 170 or more peak-hour vehicle trips at an intersection may cause adverse air quality impacts and require a detailed air quality analysis for carbon monoxide (CO) and particulate matter (PM₁₀). Based on the data obtained from the traffic studies associated with this project, the project is not expected to add more than 170 vehicle trips at any intersection in the project area. The traffic data also shows that the number of project-generated heavy-duty diesel vehicles (trucks & buses) would not exceed 23 during the peak hour. Therefore, no further analysis for CO or PM₁₀ is required.

Stationary Sources. According to the *CEQR Technical Manual*, stationary source air quality screening assessments should take into consideration information such as land use, fuel type, stack height, and square footage of the development, to determine if a project has the potential to create any air quality impacts. Based on the future operation of the proposed school's heating and hot water systems, the school was evaluated as a stationary source pollutant emitter. Since there are large residential apartment buildings in the vicinity of the proposed school structure, as per guidance in the *CEQR Technical Manual*, emissions from the proposed school's heating and hot water systems must be assessed to determine the likelihood of an impact on the surrounding community.

The proposed school would be five stories high and have a total area of approximately 30,060 sf. It is assumed that the proposed school would use natural gas to run its heating and hot water systems and is assumed to have rooftop stacks at a height of approximately 75 feet above ground

level. Based on the application of these assumptions to the *CEQR Technical Manual* screening nomographs for non-residential buildings, it was determined that buildings both taller than the proposed school and within approximately 75 feet of the proposed project site could be potentially impacted. However, since there are no buildings taller than the proposed school (of equal or greater height to that of the proposed school's emission stacks) within this screening distance in the area immediately surrounding the proposed project site, as per guidance in the *CEQR Technical Manual*, it is unlikely that emissions from the proposed school's heating system would negatively impact the surrounding neighborhood. As a result, no impacts from project-related stationary sources are anticipated.

Also of concern are existing emission sources (such as manufacturing, processing plants or large emission sources) in the study area which could potentially impact the proposed project. However, field reconnaissance of the surrounding area did not find any manufacturing or processing plant emission sources within 400 feet of the proposed project. In addition, there are no major pollutant sources within 1,000 feet of the proposed project site. As a result, no impacts on the proposed project are expected and no further analysis is required.

Conformity with the State Implementation Plan. Impacts to air quality from the proposed school facility are not expected, and therefore, the project as formulated would be consistent with the New York SIP for the control of carbon monoxide.

The proposed school would not result in a significant number of project-induced traffic, and therefore it would not adversely affect surrounding mobile source air quality conditions. In addition, existing stationary source emissions in the immediate vicinity of the project site would not have a detrimental effect on the health of students or staff at the proposed school nor would the school's operations result in stationary source impacts within the surrounding community.

Greenhouse Gas Emissions. The proposed school would be considerably smaller in size than 350,000 sf and is subsequently not considered an energy-intense source. Therefore, the proposed project would not result in a significant adverse GHG emissions impact, and no additional analysis is required.

Chapter 16: Noise

An analysis was conducted to assess potential noise impacts which could result from the construction and operation of the proposed PS 557. This new facility would be located in the Sunset Park section of Brooklyn. The analysis was performed in accordance with guidelines contained in the *CEQR Technical Manual*.

Issues of concern include the potential for existing noise sources (in particular from vehicular activity) to affect student activities within the proposed educational facility. Also, potential noise impacts to the surrounding community resulting from project-related increases in vehicular activity, noise from the school play yard area, and stationary components of the mechanical systems of the facility are of concern.

Noise Fundamentals. Noise within a community can come from man-made sources such as automobiles, trucks, buses, aircraft, and construction equipment, as well as industrial, commercial, transportation, and manufacturing facilities. Additional noise within the community environment can also include natural sources such as animals, insects and wind. Table 16-1 lists some typical activities, their noise levels, and the effects that they have on humans.

Noise levels, which are measured in units called decibels (dB), simply relate the magnitude of a noise source's sound pressure to a standard reference value. While the noise values of certain loud activities can approach 135 dB, normally encountered sounds lie in the range of 40 to 120 dB.

Noise of any kind contains sound energy at several different frequencies the range of which depends on what the individual noise source is. Human hearing does not register the sound levels of all noise frequencies equally, and automatically reduces the impression of high and low-pitched sounds. Over the normal range of hearing, humans are most *sensitive* to sounds produced with frequencies in the range of 200 Hz to 10,000 Hz. To replicate this response of the human ear to noise, the noise levels at different frequencies must be adjusted using a process referred to as A-weighting. Under such a process, the resulting noise level commonly expressed as an A-weighted decibel (dBA) will automatically compensate for the non-flat frequency response of human hearing.

Noise levels from human activities also vary widely over time. The equivalent noise level, characterized by the L_{eq} descriptor, represents the time-varying noise level produced over a random period of time, as a single number over a specified period of time. This represents the equivalent steady noise level, which, over a given period, contains the same energy as the time-varying noise during the same period. The most common time period used for the equivalent noise level is one hour, represented as $L_{eq}(h)$. This descriptor is commonly used to express readings and results from noise measurements, predictions, and impact assessments. Other descriptors often used in noise analyses are L_{10} and L_{dn} . L_{10} is defined as the sound pressure level exceeded ten percent of the time and is often used to describe noise generated from traffic sources. It is also used as a noise descriptor for the CEQR Noise Exposure standards shown in Table 16-1. L_{dn} is the day-night equivalent sound level, defined as a 24-hour continuous L_{eq} with a 10dB adjustment added to all hourly noise levels recorded between the hours of 10 PM and 7 AM. L_{dn} is often used in the analysis of both aircraft and train noise. However, as described in the *CEQR*

Technical Manual, since the proposed project is a school facility with no overnight usage, the one-hour L_{eq} or L_{10} descriptors are used as they would be most appropriate in describing the study area's noise environment.

Table 16-1: Common Noise Levels

COMMON OUTDOOR NOISES	Sound Pressure Level (dBA)	COMMON INDOOR NOISES
Jet Flyover at 1000 ft	110	Rock Band at 15 feet
Gas lawnmower at 3 feet	100	Inside NYC Subway Train
Diesel truck at 50 feet	90	Food Blender at 3 feet Garbage disposal at 3 feet
Noisy urban setting - daytime	80	Shouting at 3 feet Vacuum cleaner at 10 feet Normal speech at 3 feet
Gas lawnmower at 100 feet Commercial area	70	
	60	Large business office
Quiet urban setting - daytime	50	Dishwasher - next room Small theater
Quiet urban setting - nighttime Quiet suburban setting - nighttime	40	Large conference room and library
	30	
Quiet rural - nighttime	20	Bedroom at night Large concert hall (background)
	10	Broadcast and recording studio
	0	Threshold of hearing

A few general relationships with respect to noise levels may be helpful in understanding the decibel scale:

- Doubling of the noise energy produces a three dB increase in noise level. A three dB increase is normally the smallest change in sound levels that are perceptible to the human ear.
- A ten dB increase in noise level corresponds to a tenfold increase in noise energy; however, a listener would only judge a ten dB increase as being twice as loud.
- A 20 dB increase would result in a “dramatic change” in how a listener would perceive the sound.

CEQR Noise Impacts Thresholds. NYCDEP has established standards for noise exposure at sensitive receptors resulting from the implementation of a project. These standards are based on a daytime threshold noise level of 65dBA which should not be significantly exceeded. The impact thresholds are described below:

- A significant impact would occur if the daytime period noise level significantly exceeds 65 dBA.
- An increase of *five* dBA or greater over the No Build noise level would be an impact if the No Build noise level is 60 dBA or less.
- If the No Build noise level is 62 dBA or more, a *three* dBA increase or greater would be considered significant.
- A significant impact would occur during the nighttime period (defined by CEQR standards as being between 10 PM and 7 AM) if there is a change in noise levels of *three* dBA or more.

CEQR Noise Exposure Standards. NYCDEP has also promulgated standards that apply to a proposed project if it is also a sensitive receptor such as a residence, hospital, or school. In addition, NYCDEP has established four categories of acceptability based on receptor type and land use for vehicular traffic, rail, and aircraft-related noise sources. The categories include “generally acceptable,” “marginally acceptable,” “marginally unacceptable,” and “clearly unacceptable.” Identified in Table 16-2 are attenuation values and external noise exposure standards as they relate to traffic, aircraft, and rail noise.

SCA Noise Criteria. The SCA has developed a specific criterion for noise from playgrounds. This criterion defines impact when the future noise level with project operations would result in an increase of five dBA over the existing noise level. The level of five dBA was selected because it is an increase that is clearly perceptible to the public, and represents a change at which sporadic complaints about excessive noise may be registered.

Table 16-2: Noise Exposure Standards for Use in City Environmental Impact Review¹

Receptor type	Time Period	Acceptable General External Exposure	Airport Exposure ³	Marginally Acceptable General External Exposure	Airport Exposure ³	Marginally Unacceptable General External Exposure	Airport Exposure ³	Clearly Unacceptable General External Exposure	Airport Exposure ³
1. Outdoor area requiring serenity and quiet ²		$L_{10} \leq 55$ dBA	----- $L_{dn} \leq 60$ dBA -----						
2. Hospital, Nursing Home		$L_{10} \leq 55$ dBA		$55 < L_{10} \leq 65$ dBA		$65 < L_{10} \leq 80$ dBA	-- (i) $65 < L_{dn} \leq 70$ dBA, (ii) 70 dBA $\leq L_{dn}$ -----	$L_{10} > 80$ dBA	----- $L_{dn} \leq 75$ dBA -----
3. Residence, residential hotel or motel	7 AM - 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 - 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 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		
<p>Source: New York City Department of Environmental Protection (adopted by DEP for use in CEQR-1983)</p> <p>Notes: In addition, any new activity shall not increase the ambient noise level by 3 dBA or more:</p> <ol style="list-style-type: none"> 1. Measurements and projections of noise exposures are to be made at appropriate heights above site boundaries as given by 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 of the area to serve its intended purpose. Such areas could include amphitheatres, 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 FAA-approved Land 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). 									

New York City Noise Code. Shown in Table 16-3 are allowable noise levels by octave band. According to the New York City Noise Code, no person shall cause or permit a sound source operating within any commercial or business enterprise to exceed these designated decibel levels within the assigned octave bands. These criteria, as they relate to the proposed project, would apply to noise from the project's HVAC systems or other outdoor machinery.

Table 16-3: New York City Noise Code

Octave Band Frequency (Hz)	Maximum Sound Pressure Levels (dB) as measured within a receiving property as specified below	
	Residential Receiving Property for mixed-use buildings and residential buildings (as measured within any room of the residential portion of the building with windows open, if possible).	Commercial Receiving Property (as measured within any room containing offices within the building with windows open, if possible).
31.5	70	74
63	61	64
125	53	56
250	46	50
500	40	45
1000	36	41
2000	34	39
4000	33	38
8000	32	37

Source: Section 24-232 of the Administrative Code of the City of New York, as amended December 2005.

A. Existing Conditions

The proposed school site is located on the northeast corner of the block bounded by 43rd Street on the north, 44th Street on the south, 3rd Avenue on the east, and 4th Avenue on the west. The surrounding area primarily consists of a mixture of one-, two- and multi-family homes with mixed use buildings and institutional uses present along 4th Avenue. St. Michael's R.C. Church complex (church and school buildings) is located directly across from the proposed project site; St. Michael's School building at 4222 4th Avenue is currently occupied by PS 516 (Sunset Park Avenues Elementary School). There are no major stationary sources of noise in the study area. As a result, the major source of existing community noise nearby the proposed school site comes primarily from automobile traffic. The majority of traffic noise would come from the heavily trafficked 4th Avenue.

Noise Monitoring. To determine the influence of existing traffic noise, noise measurements were conducted at three locations representative of existing or future sensitive locations and were situated along roadways where the greatest project-generated increases in traffic volumes are likely to occur (see Figure 16-1). Noise monitors were situated at or near property lines of residential land uses. Locations were monitored for the AM and PM peak time periods between the dates of June 1st and June 6th, 2016. The AM and PM peak periods were defined as 8:00-9:00

AM and 3:00-4:00 PM, respectively. These time periods are the peak hours when the majority of existing and future project-generated traffic would be passing these locations. Weekday AM and PM noise monitoring takes into account the peak work week and school traffic. One additional period monitoring was also conducted at one site for the midday peak period to represent when children would be playing in the proposed playground. The duration of all measurements was 20 minutes to ensure that a representative one-hour measurement was obtained.

During measurements, simultaneous traffic counts were taken. The noise descriptors recorded during field measurements included L_{eq} and L_{10} . Table 16-4 shows the results of the noise monitoring program. Figure 16-1 shows the location of all three noise monitoring locations in relationship to the project site and the surrounding area.

Noise measurements were taken with a Larson & Davis Model LxT Type I sound level meter. A windscreen was placed over the microphone for all measurements. The meter was properly calibrated for all measurements using a Larson & Davis Model Cal250 calibrator. There were no significant variances between the beginning and ending calibration measurements. Weather conditions during the measurement periods on the three days consisted of temperatures ranging from approximately 75 to 85 degrees Fahrenheit.

Traffic and classification counts at each location were conducted concurrently with the noise monitoring. Traffic and classification counts are used to calculate the maximum hourly Passenger Car Equivalents (PCEs). PCEs are used to account for the different types of motor vehicles (i.e., cars, trucks etc.) and their varying levels of sound. According to the *CEQR Technical Manual*, the relationships used for calculating PCEs are as follows: 1 automobile is equivalent to 1 PCE; 1 medium truck is equivalent to 13 PCEs; 1 bus is equivalent to 18 PCEs; and 1 heavy truck is equivalent to 47 PCEs. In other words, the noise level produced by a medium truck would be the same as that from 13 cars, and the noise level from a heavy truck would be equivalent to that of 47 cars.

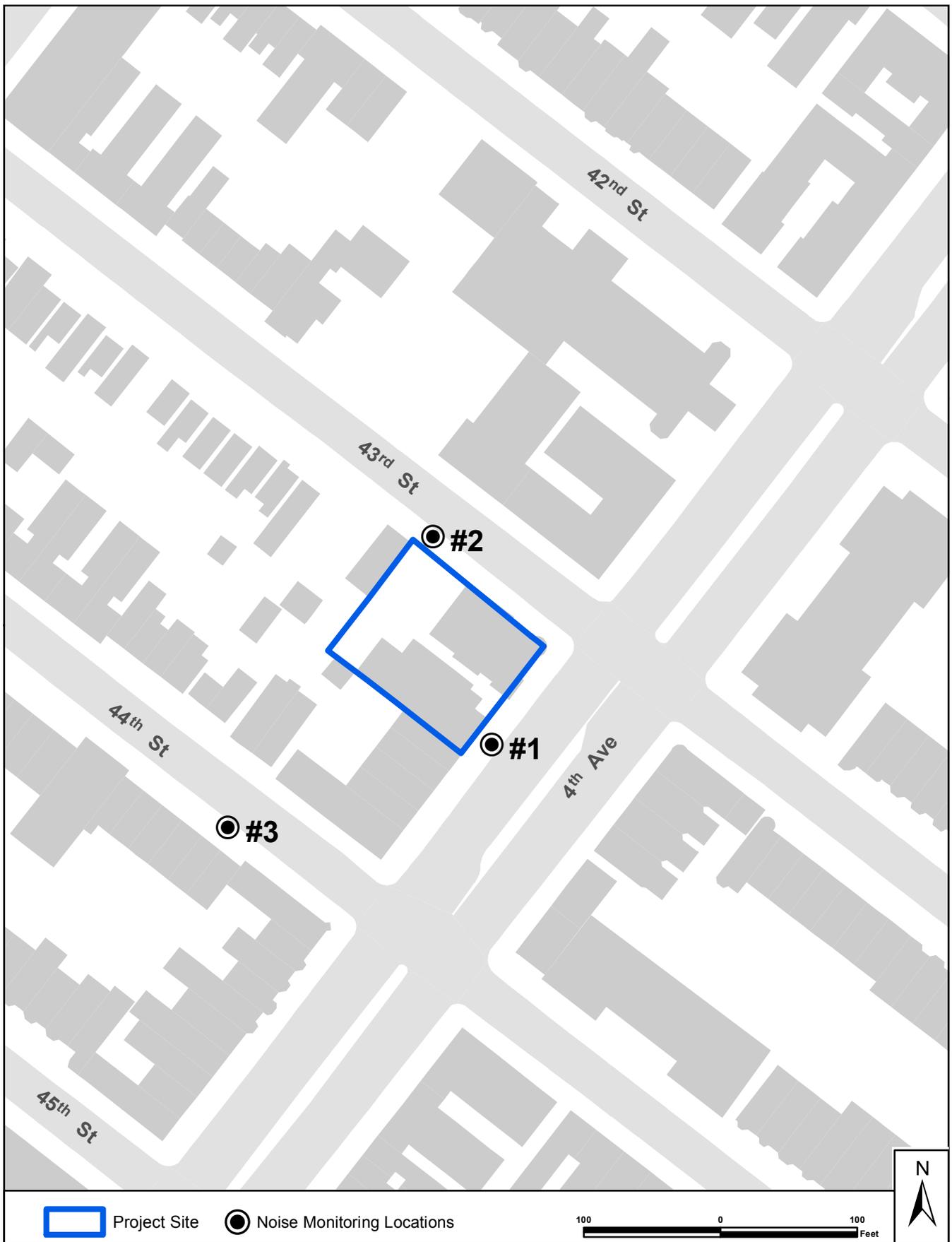


Figure 16-1

Proposed PS 557
4302 4th Avenue, Brooklyn

NOISE MONITORING LOCATIONS

Table 16-4: Proposed PS 557 Monitored Peak Hour Noise Levels

Site #1: 4314 4th Avenue (Mixed Use Building)		
Time of Day	L _{eq} (dBA)	L ₁₀ (dBA)
AM	67.7	71.0
PM	69.7	72.5
Site #2: 362 43rd Street (Private Residence)		
Time of Day	L _{eq} (dBA)	L ₁₀ (dBA)
AM	61.3	64.2
Midday	65.6	67.7
PM	62.3	63.9
Site #3: 360 44th Street (Private Residence)		
Time of Day	L _{eq} (dBA)	L ₁₀ (dBA)
AM	63.6	66.5
PM	66.8	69.5

Based on Table 16-2, the noise monitoring results in Table 16-4 indicate that noise levels for the studied peak traffic periods generally are within the “Marginally Acceptable” range for nearby sensitive noise receptors. However, for the monitoring location along 4th Avenue (Site #1), both the AM and PM traffic periods are within the “Marginally Unacceptable” range for nearby sensitive noise receptors.

B. The Future Without the Project

In the No Build condition, as noted in the traffic analysis, there would not be a sufficient number of new vehicular trips to double the passenger car equivalents through any intersection. The *CEQR Technical Manual* threshold for detailed analysis would not be met. Therefore, the No Build condition is not expected to result in any substantial change to noise levels over the existing conditions.

C. Probable Impacts of the Proposed Project

Mobile Source Noise Impact Screening. To determine whether a significant noise impact would occur (requiring the implementation of a rigorous noise analysis), a screening analysis (as per CEQR guidelines) for noise impacts was conducted for the AM and PM traffic periods. According to CEQR guidelines, to cause a significant noise impact, the project would have to induce traffic that would at least double the existing Passenger Car Equivalent (PCE) near any sensitive receptor. If the PCEs more than doubled along studied traffic routes from the Existing to the Build scenario, the site was selected for further analysis. This doubling of PCEs is the minimum increase in traffic volume that would result in a three dB increase in the corresponding noise level.

According to the traffic studies conducted for the proposed school, the addition of future project traffic would not result in a doubling of the existing PCEs within the traffic network. Therefore, no further analysis of peak hour traffic related noise is required.

Stationary Source - Playground Noise Assessment. As part of the proposed project, a rooftop playground area would be provided on the northeast portion of the third floor of the proposed school building. However, based on the geometry of the proposed building, the only noise sensitive property that would have a direct line-of-sight to the proposed playground would be the top floor windows of the former St. Michael's School building at 4222 4th Avenue, which is currently occupied by PS 516 (Sunset Park Avenues Elementary School). The former St. Michael's School building is located across 43rd Street, approximately 57 feet from the northern edge of the proposed rooftop playground at PS 557. As a result, potential future school-related noise impacts related to the proposed school rooftop playground were determined using methodology outlined in the "SCA Playground Noise Study"⁵ produced for the SCA. The methodology is based on assumed worst case noise levels of 69.3 dBA for the AM period, 71.4 dBA for the Midday (recess) period, and 62.9 dBA for the PM period; all measured at the property line of a typical elementary school playground. These noise levels were derived from numerous monitoring programs conducted for the SCA at several playgrounds within New York City. The noise prediction methodology also takes into account the geometric spreading and consequent dissipation of sound energy with increasing distance from a typical playground noise source to a sensitive noise receiver. Based on this methodology, the potential impact of playground noise was considered at sensitive noise receivers located closest to the playground; only the Midday (recess) period was analyzed as the assessment locations would not be influenced by fluctuations in peak hour traffic noise.

The future playground noise at the proposed PS 557 would only potentially impact the former St. Michael's School building located across the street on the north side of 43rd Street. For analysis purposes, this building is approximately 57 feet from the property line of the proposed rooftop playground. Potential noise impacts could occur at the 13 top floor windows on the south façade of the former St. Michael's School building. It was assumed that windows on the lower floors would not have a sufficient line-of-sight to the rooftop playground to be potentially impacted.

⁵ AKRF - *SCA Playground Noise Study* (1992) and *Development of Noise Assessment Method for School Playground Noise* (2006)

Subsequently, future school-related noise impacts from the rooftop playground were considered at the former St. Michael's School building.

The assessment for the sensitive receptor location mentioned above was performed for the Midday peak period to determine potential noise impacts. The Midday peak period represents the most sensitive period with respect to potential playground noise impacts. Ambient noise conditions at these potentially affected properties were represented by the existing noise measurement shown in Table 16-4.

Based upon measurements and acoustical principles, noise levels are assumed to decrease by the following values at 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. As shown in Table 16-5, the total Build noise level at the representative residential receiver was calculated by logarithmically adding the adjusted future playground noise to the No Build traffic noise level. As described above in the traffic noise screening section, future No Build traffic levels would result in an insignificant increase in future noise levels over the existing ambient noise levels. Therefore, future No Build noise levels were assumed to be identical to existing noise levels. Based on the overall playground assessment, the increase in the future project noise levels at the former St. Michael's School building *would* not exceed the five dBA SCA impact criteria during the Midday period.

**Table 16-5: Expected Noise Impact Summary
(noise levels are L_{eq} reported in dBA)**

Representative Location	Time of Day	Existing Traffic Noise	Total No Build Noise	Build Playground Noise ¹	Total Build Noise	Decibel Change in Noise Due to School
362 43 rd Street	Midday	65.6	65.6	60.9 (-10.5db) ²	66.8	1.2

¹ Traffic analyses were not conducted for a Midday traffic period, however, it is anticipated that future induced Midday traffic volumes would not be significant. As a result, the traffic-related existing Midday noise level is not expected to increase under both the No Build and Build conditions.

² Playground noise levels were reduced by 10.56dB to account for distance drop-off.
71.4dB-10.5dB (drop-off) =60.9dB

As a result, noise impacts related to the proposed rooftop playground affecting any surrounding sensitive noise receptors are not anticipated.

NYC Noise Code. The proposed school's HVAC equipment, along with any other project-related mechanical devices, would be designed to meet the NYC Noise Code Standards described in Table 16-3.

School Interior Noise Levels. Based on noise monitoring measurements, the maximum L_{10} noise exposure level in the project area was found to be 72.5 dBA along 4th Avenue, as shown in Table 16-4. This noise level includes the effect of traffic noise from local streets. As a result, based on the CEQR noise exposure standards, the school's exterior noise exposure would be within the

“Marginally Acceptable” category. To reduce the exterior noise exposure level to the required interior noise level of 45 dBA or below, attenuation measures (e.g., double-glazed windows), which are a standard feature of new facilities, would be incorporated into the school building’s design and construction. Standard double-glazed windows are available which would result in the required attenuation value of 31 dBA.⁶ The walls and doors of the proposed school building would also have to attain a minimum attenuation value of 31 dBA. With these measures, the proposed school building would meet NYCDEP interior noise level requirements, and would not experience any noise exposure impacts.

⁶ U.S. Department of Housing and Urban Development - *The Noise Guidebook*

Chapter 17: Public Health

Public health includes the activities that society undertakes to create and maintain conditions in which people can be healthy. The goal of CEQR with respect to public health is to determine whether adverse impacts on public health may occur as a result of a proposed project, and if so, to identify measures to mitigate such effects.

For most proposed projects, a public health analysis is not necessary. 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.

No impacts related to air quality, water quality, or noise are anticipated as a result of the proposed project. Hazardous materials are anticipated to be present on site, based on the Phase I ESAs and Phase II ESIs prepared for each lot in 2010, and the Phase I ESA Update prepared for the project site in 2016. However, with the existing on-site contamination appropriately addressed through proper handling and disposal, and other measures described earlier in this document, no public health issues are expected with the proposed project. Therefore, the proposed project would not result in significant adverse impacts to public health, and no additional analysis is necessary.

Chapter 18: Neighborhood Character

The *CEQR Technical Manual* defines neighborhood character as the amalgam of various elements that give neighborhoods their distinct personality, including land use, urban design, visual resources, historic resources, socioeconomic conditions, traffic, and noise. The *CEQR Technical Manual* recommends an assessment of potential impact on neighborhood character when the proposed project has the potential to result in any significant adverse impacts in the following areas: land use, zoning, and public policy; socioeconomic conditions; open space; historic and cultural resources; urban design and visual resources; shadows; transportation; or noise. An assessment of neighborhood character is also a means of summarily describing whether the proposed school facility would be compatible with its surroundings.

A. Existing Conditions

As described in Chapter 1, “Project Description,” the project site is located in the Sunset Park neighborhood of Brooklyn. Broadly considered, Sunset Park retains industrial development concentrated along the waterfront, while areas further inland (east) tend to be more residential. The north-south avenues, such as 4th Avenue in the study area, are a series of arterial roadways. These roadways carry consistently higher traffic volumes than the remainder of the street network in the study area.

As described in Chapter 8, “Urban Design and Visual Resources,” the project site is located on the southwest corner of 43rd Street and 4th Avenue amid a mix of land uses including residential, institutional, and mixed use buildings. The project site contains historic structures that stand in derelict condition, which prevents the site from contributing positively to the aesthetic character of the surrounding streetscapes. Rather, the presence of scaffolding and the condition of the former police precinct facility, together with the vacant lot comprising the western part of the project site, detract notably from the streetscape and diminish the quality of the pedestrian experience in the vicinity of the project site. Further, given its underutilized state, it does not contribute to neighborhood activity. Overall, in its current condition, the project site does not contribute positively to any aspect of neighborhood character in the immediate area or the larger study area or surrounding neighborhood.

The study area includes 4th Avenue, a prominent commercial and institutional corridor in Sunset Park. The neighborhood study area surrounding the project site includes St. Michael’s R.C. Church complex and the (former) Sunset Park Court House, located on 4th Avenue to the north and northeast of the site, respectively. The remainder of the blocks in the study area are residential in character, with one- and two-family residential buildings prevalent to the east and west of 4th Avenue. The project site is on a wide avenue and part of a corridor with institutional and community facility buildings, and it is also notable for the degree to which its dilapidated conditions detract from the aesthetic character of this corridor and from the pedestrian experience in its vicinity.

B. The Future Without the Project

If the proposed construction of the new PS 557 does not occur, then it is expected that the project site would resemble its current conditions, with the on-site historic structures vacant and in a state of disrepair. No other developments are anticipated for the study area by the 2022 Build Year, and so it is expected that the character of the neighborhood surrounding the project site would generally resemble existing conditions.

C. Probable Impacts of the Proposed Project

The construction of the proposed PS 557 would be an appropriate land use, and its design would contribute to the established urban design of the study area and the 4th Avenue corridor, in particular. It would introduce a community facility use that would be consistent with neighboring community facility uses along 4th Avenue. Its height and massing would be generally consistent with other community facilities in the area, including the identified visual resources within the study area that include the (former) Sunset Park Court House and St. Michael's R.C. Church complex. Though its overall footprint and street frontage would be less than the (former) Sunset Park Court House and St. Michael's R.C. Church complex, the proposed PS 557 would reinforce the established urban design of the study area and improve the pedestrian experience, as described previously in the analysis of urban design and visual resources.

The proposed school would enliven the streetscape in a manner similar to the neighboring institutional uses and it would be in keeping with the residential context to the west and east of the project site. Further, as it would retain the existing street-facing facades of the historic police precinct facility, the proposed school site would likely reinforce a sense of historic identity that may be shared by residents in the study area and surrounding neighborhood. As stipulated in the LOR between the SCA and OPRHP, the SCA will continue to coordinate with OPRHP regarding the design of the new school facility and the use of materials sympathetic to the original station house.

Technical analyses have concluded that with the recommended measures in place, the proposed school at this location would not result in significant adverse impacts related to traffic, air or noise conditions that would alter the character of the neighborhood.

Finally, the proposed new school would introduce new capacity in the school district, thereby representing an improvement to neighborhood character in terms of improved community facilities and services. As such, the proposed PS 557 would be a positive attribute to the educational opportunities in the neighborhood, as well as an improvement to the physical design and character of the project site and surrounding area. Therefore, the proposed PS 557 would have a positive effect on neighborhood character; no significant adverse impact to neighborhood character would result with the proposed project, and no further analysis is warranted.

Chapter 19: Construction-Related Impacts

The anticipated construction period for the proposed project is expected to include two phases, with Phase 1 estimated to be a period of approximately six to ten months and Phase 2 estimated to be a period of approximately 24 months.

Phase 1 would include demolition of the existing structure, and stabilization of existing building façades necessary for preserving the station house historical facades along 4th Avenue and 43rd Street. Phase 1 would require an average of 15 workers on average that may peak at 25 workers. An estimated average of five trucks per day would be expected during this first phase, primarily for transporting construction debris. One cherry-picker type machine may be on site for hand-held demolition purposes.

Phase 2 of construction would include the physical construction of the school (i.e., foundation, superstructure, mechanical installations, and interior finishing work). During this phase of construction, an average of 50 workers would be on site each day, which could peak at 75 workers on peak construction days. An estimated average of ten trucks per day would be expected during the second phase for delivering building materials. Three cherry-picker type vehicles and one crane would likely be on site during Phase 2 of construction.

The assessment of construction-related impacts is related to build conditions for the proposed project. This section summarizes the potential impacts that could result from the construction of a new school facility. To minimize overall adverse impacts during construction activities, the project would be planned, scheduled and staged to minimize disruption to existing traffic, the abutting neighborhoods and the environment. To the maximum extent practicable, construction staging would take place within the project site. Some adverse impacts related to construction activities may be unavoidable, but the duration and severity of such impacts would be minimized by utilizing best management practices during construction. Materials and practices that are typically used during construction activities to minimize impacts are briefly described below.

Construction Materials and Equipment. Standard construction equipment such as pavers, haul trucks, scrapers, loaders, spreaders, and rollers would be used to move and consolidate soil, pave, and supply and remove construction materials from the site. Backhoes and cranes may be needed to install drainage facilities and other utilities, and dig footings for structures, as well as for relocation of any on-site utilities.

Construction Impacts on Traffic and Transportation, Pedestrians, and Parking. Traffic and transportation operations in the study area may be affected by the movement of construction equipment, materials, and construction workers to and from the site on a daily basis. Movement and repositioning of oversized machinery and/or materials may result in temporary lane or street closures. There could be limited short-term increased congestion within the vicinity of the project site. To avoid unnecessary construction-related traffic within the project area, construction vehicles would be limited to designated routes and would be kept in the designated staging area.

In accordance with City laws and regulations, construction work at the project site would generally begin at 7 AM on weekdays, with workers arriving to prepare work areas between 6 and 7 AM, which would be before the school arrival peak hour for PS 516. Construction work

activities would typically finish around 3:30 PM, and depart the site thereafter, which would be after the school dismissal peak hour for PS 516. The temporal distribution for employee vehicle trips was based on typical work shift allocations and conventional arrival/departure patterns for construction workers, which indicate that 80 percent of the construction workers would arrive during the AM construction peak hour and depart during the PM construction peak hour.

Modal split and vehicle occupancy rates for construction workers based on 2011-2015 American Community Survey journey-to-work data for New York City indicates that approximately 40 percent of construction workers are expected to travel by personal automobile at an average occupancy rate of approximately 1.11 persons per vehicle. In total, an estimated eight and 22 construction worker vehicle trips are projected to be made during the peak hour for construction-related trips for construction phases 1 and 2, respectively (see Table 19-1).

Table 19-1: Construction Worker Peak Hour Vehicle Trips

Construction Workers	Construction Phase	
	1	2
Peak Number of Person Trips	25	75
Percent Traveling in Peak Hour	80	
Percent Traveling by Private Auto	40	
Average Auto Occupancy	1.11	
Total Vehicle Trips	8	22

Each worker vehicle would be expected to arrive in the morning and depart in the afternoon or early evening; whereas, truck deliveries would occur throughout the construction day. To avoid congestion and ensure that materials are on-site for the start of each shift, construction truck deliveries would be expected to peak during the hour before the regular day shift, overlapping with construction worker arrival traffic. Two construction vehicle deliveries have been assumed during the AM construction peak hour for construction phases 1 and 2. Each truck delivery was assumed to result in two truck trips during the same hour (one inbound and one outbound), resulting in a total of four truck trips during the peak hour. For analysis purposes, truck trips were converted into Passenger Car Equivalents (PCEs) based on one truck being equivalent to an average of two PCEs thereby resulting in a total of eight PCE trips during the peak hour for construction traffic. Adding the eight PCEs from truck trips to the eight and 22 PCE trips from constructions workers would total 16 and 30 PCE trips during the peak hour for construction.

Overall, the construction peak hour would generate fewer than 50 vehicle trips (presented in PCEs); therefore, no detailed traffic analysis for construction activities is needed, as per the *CEQR Technical Manual*.

The construction workers would increase the parking demand in the project area by an estimated 22 vehicles, which would increase the shortfall in available on-street parking. As discussed in Chapter 14, "Transportation," this parking shortfall may not be considered a significant impact for this project due to the availability and proximity of transit in the area. Multiple alternative travel modes are available for construction workers including two local bus routes and one

subway station within two blocks of the proposed school, which could encourage non-auto travel to and from the construction site and reduce the parking demand.

Less than 200 incremental peak hour walk trips would be generated by construction workers during the school construction; therefore, the construction phase is unlikely to create a significant pedestrian impact. Similarly, less than 200 incremental peak hour transit trips would be generated by construction workers during the school construction; therefore, the construction phase is unlikely to create a significant transit impact.

Construction staging areas, also referred to as “laydown areas,” are sites that would be used for the storage of materials and equipment and other construction-related activities. Work zones are those areas where the construction is occurring. Field offices for contractors and construction managers would be situated in temporary job site trailers at staging areas or existing office space near the work areas. Staging areas would typically be fenced and lit for security and would adhere to New York City Building Codes. Construction staging for PS 557 would most likely occur within the curb lanes on 43rd Street between 3rd and 4th Avenues adjacent to the project site.

No rerouting of traffic is anticipated during construction activities and all moving lanes on streets are expected to be available to traffic at all times. At times, the sidewalks adjacent to the project site may need to close for construction-related activities. Pedestrians would either use a temporary walkway in a sectioned-off portion of the street or be diverted to walk on the opposite side of the street. Detailed Maintenance and Protection of Traffic (MPT) plans for each construction site would be submitted for approval to the DOT Office of Construction Mitigation and Coordination (OCMC), the entity that insures critical arteries are not interrupted, especially in peak travel periods. Appropriate protective measures for ensuring pedestrian safety surrounding each of the projected development sites would be implemented under these plans.

Materials deliveries would approach the project site along designated NYCDOT truck routes, such as 3rd Avenue. Closer to the project site, trucks would use local streets, including 4th Avenue and 43rd Street. It is expected that there would be adequate storage available on the project site for the storage of construction materials, and that the public thoroughfares adjacent to the project site would not be closed or impeded for significant periods of time for construction.

Construction Impacts on Air Quality and Noise. For construction related air quality and noise studies, the CEQR Technical Manual recommends detailed analysis of construction when construction activities would last for more than two years. However, for projects that do not involve construction of multiple buildings where there is a potential for on-site receptors on buildings to be completed before the final build-out, a more qualitative approach is acceptable. In addition, a portion of the construction duration would be associated with low-intensity activities. This low-intensity but complex construction work related to preservation, abatement, temporary stabilization and demolition work add significantly to the construction duration.

Air Quality. During construction, particulate emissions would temporarily increase due to the generation of fugitive dust and mobile source emissions.

Fugitive Dust Emissions. Fugitive dust is airborne particulate matter, generally of a relatively large particle size. Construction-related fugitive dust would be generated by concrete demolition, haul trucks, concrete trucks, delivery trucks and earth-moving vehicles operating

around construction sites. This would be due primarily to particulate matter being resuspended (“kicked up”) by vehicle movement over paved and unpaved roads and other surfaces, dirt tracked onto paved surfaces from unpaved areas at access points, and material blown from areas of exposed soils.

Generally, the distance particles drift from their sources depends on their size, emission height, and wind speed. Small particles (30- to 100-microns) can travel several hundred feet before settling to the ground, depending on wind speed. Most fugitive dust, however, is made up of relatively large particles (greater than 100 microns in diameter). Given this relatively large size, these particles tend to settle within 20 to 30 feet of their source. The application of various control measures during construction demolition activities would be employed to minimize the amount of construction dust generated. These measures would include applying water or other suitable moisture-retaining agents on dirt roads, covering haul trucks carrying loose materials, or treating materials likely to become airborne and contribute to air pollution if left untreated.

Mobile Source Emissions. CO is the principal pollutant of concern when considering localized air quality impacts of motor vehicles. Since emissions of CO from motor vehicles increase with decreasing vehicle speed, disruption of traffic during construction could result in short-term elevated concentrations of CO from the temporary reduction of roadway capacity and the increased queue lengths. To minimize the amount of emissions generated, maintenance and protection of traffic patterns would be implemented during construction to limit disruption of traffic and to ensure that adequate roadway capacity is available to general traffic during peak travel periods. It is also noted that peak movement of construction workers to and from the site would coincide with shift changes, and would precede most traffic movements by about one hour, thus minimizing the potential for mobile source emissions.

During construction activities for the proposed PS 557, the primary pollutant of concern would be PM related to soil disturbance and demolition, as well as emissions from heavy duty diesel engines. Other pollutants of concern typically include CO related to on-street traffic diversions and NO_x from fuel combustion of diesel and gas fueled equipment.

With respect to mobile sources for both phases of construction, the maximum number of off-site vehicle trips would be less than the 170 trip CEQR threshold for the detailed CO assessment of mobile sources. In addition, the CEQR PM_{2.5} screening threshold of 23 HDDVs would not be surpassed at any of the studied traffic intersections as there would only be a maximum of four peak hour construction-related truck trips during the worst construction phase for trucks trips. Finally, there would be no traffic diversions from construction. As a result, the school construction would not result in construction-related air quality impacts from mobile sources.

With respect to stationary sources, the construction of the proposed PS 557 would involve one building structure that would involve stabilizing existing building facades and integrating them with new construction. The building would have a maximum height of five floors and approximately 30,000 square feet of space. The first phase would involve six to ten months of moderate intensity construction activities including soil removal and the demolition of the existing buildings using handheld tools. The construction equipment would include one cherry

picker. Phase 2 of the construction would involve the erection of the superstructure and mechanicals. The most intense construction would utilize a crane for steel, and three cherry pickers; however, this work would only last for a limited period of time during Phase 2. Interior work would encompass the remaining months of construction such that the most intense part of Phase 2 construction work would not be expected to comprise the entire two years of Phase 2.

During the construction of the school, pollutant emissions would temporarily increase at times due to the operation of construction equipment, mobile sources and the generation of fugitive dust in close proximity to adjacent sensitive receptors. To minimize these emissions during construction, specific mitigation measures based on NYCDEP requirements for city projects would be undertaken as necessary. Examples include but are not limited to the following:

- Minimizing the period and extent of area being exposed or re-graded at any one time;
- Spraying construction areas and haul roads with water, especially during periods of high wind or high levels of construction activity;
- Wheel washing;
- Minimizing the use of vehicles on unpaved surfaces;
- Covering or spraying material stockpiles and truck loads;
- Keep equipment maintained and operating efficiently in a clean manner to mitigate any exhaust impacts;
- Using ultra-low sulfur diesel (“ULSD”) fuel in all non-road diesel construction equipment;
- Banning the idling of diesel-powered construction equipment for longer than three minutes, with some exceptions;
- Protect air intakes for buildings from diesel exhaust fumes; and
- Including more measures to control dust at the project site.

Noise. As with air quality, noise emissions in the vicinity of the school construction would be elevated at times during the two construction phases. Noise during construction would include on-site construction equipment operation and the operation of construction vehicles traveling in and out of the project site. It is expected that most construction workers would travel by automobile. The potential for construction noise impact on sensitive receptors near the project site depends upon the type and amount of construction equipment as well as the distance from a sensitive receptor to the construction activities. Typical noise levels of construction equipment are given in Table 19-2. The noise emission levels for construction equipment are measured at 50 feet (15.2 meters), and decrease over distance.

Table 19-2: Typical Noise Emission Levels for Construction Equipment

Equipment Description	L_{max} @ 50 Feet
All Other Equipment > 5 HP	85
Auger Drill Rig	85
Backhoe	80
Bar Bender	80
Blasting	94
Boring Jack Power Unit	80
Chain Saw	85
Clam Shovel (dropping)	93
Compactor (ground)	80
Compressor (air, less than or equal to 350 cfm)	53
Compressor (air, greater than 350 cfm)	58
Concrete Batch Plant	83
Concrete Mixer Truck	85
Concrete Pump Truck	82
Concrete Saw	90
Crane	85
Dozer	85
Drill Rig Truck	84
Drum Mixer	80
Dump Truck	84
Dumpster / Rubbish Removal	78
Excavator	85
Flat Bed Truck	84
Front End Loader	80
Generator	82
Generator (< 25 KVA, VMS signs)	70
Gradall	85
Grader	85
Grapple (on Backhoe)	85
Horizontal Boring Hydr. Jack	80
Hydra Break Ram	90
Impact Pile Driver	95
Jackhammer	73
Man Lift	85
Mounted Impact Hammer (Hoe Ram)	90
Pavement Scarafier	85
Paver	85
Pickup Truck	55
Pneumatic Tools	85
Pumps	77
Refrigerator Unit	82
Rivet Buster / Chipping Gun	85
Rock Drill	85

Equipment Description	L _{max} @ 50 Feet
Roller	85
Sand Blasting	85
Scraper	85
Shears (on Backhoe)	85
Slurry Plant	78
Slurry Trenching Machine	82
Soil Mix Drill Rig	80
Tractor	84
Vacuum Excavator (Vac-truck)	85
Vacuum Street Sweeper	80
Ventilation Fan	85
Vibrating Hopper	85
Vibratory Concrete Mixer	80
Vibratory Pile Driver	95
Warning Horn	85
Water Jet Deleading	85
Welder / Torch	73

Notes: As per Local Law 113 §24-228(a)(1) *Construction, Exhausts, and other Devices*, "Sound, other than impulsive sound, attributable to the source or sources, that exceeds 85 dBA as measured 50 or more feet from the source or sources at a point outside the property line where the source or sources are located or as measured 50 or more feet from the source or sources on a public right-of-way" is prohibited.

Sources: Local Law 113 and the New York City Department of Environmental Protection Notice of Adoption of Rules for Citywide Construction Noise Mitigation: Chapter §28-109, Appendix

For construction-related mobile sources, construction vehicles accessing the site are expected to utilize designated NYCDOT truck routes, such as 3rd Avenue. Closer to the project site, trucks would use local streets, including 4th Avenue and 43rd Street. Based on worst-case AM traffic projections for Phase 1 and Phase 2 of construction, vehicles accessing the site would not result in a doubling of peak hour noise PCEs along any of these roadways. Therefore, significant noise impacts from construction vehicles are not expected.

For on-site construction that occurs within a defined construction zone, construction noise can be intermittent and responsible for a variety of impulsive, discontinuous noise sources. Resulting noise levels are dependent upon the type of operation, the distance to sensitive receptors, the location and function of the equipment, and the extent to which the equipment is used (expressed as the equipment usage factor). The equipment usage factor represents the percent of time that equipment is assumed to be running at full power while working on site. Some sensitive receptors would be located directly adjacent to the construction zone. Potentially affected noise receptors include a nearby residential building to the immediate west of the site on 43rd Street and the rear of several residential and mixed-use buildings located on 43rd and 44th Streets and on 4th Avenue.

For construction projects such as the proposed action, the noisiest phase of construction tends to be the demolition phase where numerous pieces of equipment are involved in land clearing and loading activities. For the proposed action, the Phase 1 demolition phase would last six to ten months, but the majority of on-site work would be low intensity since construction equipment for building demolition would be primarily limited to one cherry picker and handheld tools. Once Phase 2 begins, noise levels would be expected to decrease in comparison to Phase 1 as the building superstructure is erected. The remaining portion of Phase 2 would include less noisy activities (several cherry pickers and one crane) as the building mechanical and interior fitting process is completed. As a result, the heaviest construction for the project would only last for a portion of the overall construction period. Given that the major noise source during construction - heavy machinery - would move unpredictably within the site and would not be stationary within one portion of the site, no one receptor is expected to be exposed to elevated levels of construction noise for long periods.

Because some noise from construction is inevitable, construction noise for the proposed project would be regulated by the NYCDEP Noise Code and by the USEPA noise emission standards for construction equipment. These requirements mandate that certain classifications of construction equipment and motor vehicles meet specified noise emissions standards; that except under exceptional circumstances, construction activities be limited to weekdays between the hours of 7:00 AM and 6:00 PM; and that construction material be handled and transported in such a manner as to not create unnecessary noise. It is understood that the proposed construction site is located in a predominantly residential neighborhood. All reasonable means would be undertaken to avoid unnecessary noise. These measures include the use of perimeter fencing to shield on-site activities. Other measures to reduce noise include but are not limited to the following:

- Limits on engine idling in accordance with NYC Administrative Code 24-163;
- Dump trucks shall be equipped with thick rubber bed liners;
- Minimal use of backup alarm devices and when necessary, use of only approved back up devices; and
- Construction material must be handled and transported in such a manner as to not create unnecessary noise.

Sensitivity to the residential buildings on the project block and the nearby residences in the project study area would be maintained to the maximum extent practicable for the duration of the construction period. For the proposed school facility, construction impacts would be temporary. As a result, significant adverse noise impacts would not result.

Construction Impacts on Water Quality. The foremost potential construction impacts on water resources are soil erosion and sedimentation, which could occur due to grading activities. Exposed soils from these activities could erode during rainfall events, and possibly affect the existing storm sewer systems located on and adjacent to the site. A soil erosion control plan would be implemented during construction activities. Potential contamination of groundwater could possibly occur as a result of leaking construction equipment and/or temporary on-site sanitary storage facilities. Proper maintenance procedures on the construction site would avoid most leaks and mishaps. Any spills (oil, gasoline, brake fluid, transmission fluid) would be contained immediately and disposed of properly, off-site.

Hazardous Waste. Local, state, and federal regulations governing hazardous waste, particularly the Resource Conservation and Recovery Act (RCRA) and the New York Standards Applicable to Generators of Hazardous Waste, would be implemented during construction of the proposed project.

Asbestos Removal. The Phase I ESAs identified suspect asbestos-containing materials (ACM) as environmental concerns. Regulations as per the New York City Asbestos Control Program require that all applicants for demolition and/or building permits must determine whether friable ACM would be disturbed or removed as a result of construction or demolition activities. If asbestos is present, the applicant must submit an asbestos inspection report and an abatement plan. A New York City-certified asbestos handler must perform all work in accordance with stringent procedures to avoid the emission of asbestos in the air.

Chapter 20: Mitigation Measures

Historic Resources

The SCA has undertaken consultation with the New York State Office of Parks, Recreation and Historic Preservation (OPRHP) regarding the proposed project and will continue, through the design process, to identify ways of partially mitigating any impact. Upon OPRHP's review of the Test-Fit SHPO Report (February 6, 2017) provided in Appendix A, OPRHP concurred that there are two viable options that meet the project goals: "Option RS2F" and "Option RS3C" (Full Demolition Alternative), and that the SCA move forward with "Option RS2F," (the proposed project) which includes the preservation of the police precinct main facades on both 4th Avenue and 43rd Street. OPRHP stated that considering that this building is an important architectural landmark in the neighborhood, retaining these two facades provides important continuity at this corner and preserves much of the architectural art of the façade. OPRHP further stated that the project would result in an Adverse Impact upon historic resources and suggested that the SCA develop a Letter of Resolution (LOR) to document the alternatives considered and to include the mitigation provided in the preferred redevelopment scenario, "Option RS2F." The SCA has developed a draft LOR outlining the agreement between the SCA and OPRHP to which OPRHP has responded with recommendations and indicated that minor edits may be forthcoming but that the intent of the existing stipulations outlined in the LOR would not be altered or added to. In the draft LOR between the SCA and OPRHP, it is stated that the proposed project may proceed subject to the following stipulations: (1) The historic building shall be photographically documented in accordance with the standards of the Historic American Buildings Survey, Level II Documentation Standards (HABS); (2) The SCA shall continue to consult with OPRHP regarding the design of the new public primary school facility, in accordance with Section 14.09 of the New York State Parks, Recreation and Historic Preservation Law; and (3) Any party to the LOR may propose that the LOR be amended, whereupon the signatories shall consult with each other to consider such an amendment.

Transportation

Improvement measures are recommended to mitigate the significant traffic impacts at the intersections of 43rd Street and 3rd and 4th avenues. Parking along the north curb of the westbound 43rd Street approach to 3rd Avenue should be "daylighted" for approximately 100 feet (a loss of about four parking spaces) during the AM peak hour. Additionally, due to an increase of nearly 60 vehicles in the AM peak hour approaching 4th Avenue on 43rd Street, it is proposed that the parking lane along the south side of 43rd Street be "daylighted" for approximately 100 feet (a loss of about four parking spaces) to create a left-turn lane during the AM peak period. "Daylighting" is a simple traffic improvement measure achieved by removing parking spaces adjacent to the curb at an intersection approach to provide an additional travel lane or enhance safety by increasing visibility for pedestrians and drivers. Signal timing adjustments are recommended at both intersections to shift green time during the PM peak periods to mitigate impacts.

The pedestrian elements were re-analyzed with the proposed signal timing adjustments. Improvement measures are recommended to mitigate the significant pedestrian impacts at the intersection of 4th Avenue and 43rd Street. Six-foot curb extensions are recommended at the

northwest and southwest corners of 4th Avenue and 43rd Street, extending the corner quadrants into 4th Avenue, subsequently shortening the crosswalk distances and increasing the available corner reservoir space for pedestrians waiting to cross the street.

Noise

Based on noise monitoring measurements, the maximum L_{10} noise exposure level in the project area was found to be 72.5 dBA along 4th Avenue; this noise level includes the effect of traffic noise from local streets. As a result, based on the CEQR noise exposure standards, the school's exterior noise exposure would be within the "Marginally Acceptable" category. To reduce the exterior noise exposure level to the required interior noise level of 45 dBA or below, attenuation measures (e.g., double-glazed windows), which are a standard feature of new facilities, would be incorporated into the school building's design and construction. Standard double-glazed windows are available which would result in the required attenuation value of 31 dBA. The walls and doors of the proposed school building would also have to attain a minimum attenuation value of 31 dBA. With these measures, the proposed school building would meet NYCDEP interior noise level requirements, and would not experience any noise exposure impacts.

Chapter 21: Alternatives to the Proposed Project

This chapter considers three alternatives to the proposed project – the No Build Alternative, “Option RS1A” (Adaptive Reuse Alternative), and “Option RS3C” (Full Demolition Alternative) – and compares the environmental effects of these alternative to those of the proposed project.

NO BUILD ALTERNATIVE

Under the No Build Alternative, the SCA would not construct a new public school facility on the project site to provide additional public school capacity in CSD No. 15. Accordingly, under this alternative, the existing unpaved vacant lot, currently used for private parking, and the (former) 68th Police Precinct Station House and Stable, which are currently vacant, would remain on the project site.

Unlike the proposed project, the No Build Alternative would not provide additional public school capacity on the project site to accommodate current and future student enrollment in CSD No. 15. Therefore, this alternative would not meet the project’s purpose and need.

A. Land Use, Zoning and Public Policy

Under this alternative, the existing unpaved vacant lot, currently used for private parking, and the (former) 68th Police Precinct Station House and Stable, which are currently vacant, would remain on the project site. Compared to the proposed project, there would be no increase in the density of development or intensity of land use for public school purposes under this alternative. The zoning overrides that are expected for the proposed project would not be needed since there would be no new development under this alternative. Neither this alternative nor the proposed project, as discussed in Chapter 2, “Land Use, Zoning and Public Policy,” would result in significant adverse impacts to land use and zoning.

B. Socioeconomic Conditions

Neither the proposed project nor this alternative would result in substantial socioeconomic changes in the study area. Neither the proposed project nor this alternative would directly displace any residents or businesses, nor would either introduce a new residential population that could indirectly affect socioeconomic conditions in the area. Compared to the proposed project, additional jobs for teachers and support staff would not be created under this alternative.

C. Community Facilities and Services

Neither this alternative nor the proposed project would introduce new residents to the area, who could create new demand for community facilities and services. However, unlike the proposed project, this alternative would not provide additional public school capacity in CSD No. 15 through creation of a new public school on the project site, and would not provide an additional community resource for area residents.

D. Open Space

As with the proposed project, this alternative would not have any direct or indirect impacts on open space. The proposed project would include a gymnasium within the new school building and a rooftop playground on the third floor roof above the gymnasium, both for school use, which would not be provided under this alternative. Neither the proposed project nor this alternative would result in any significant adverse impacts to open space resources.

E. Shadows

Under this alternative, there would be no change to conditions related to shadows, both on the project site and in the surrounding area. Unlike the proposed project, there would be no increase in incremental shadows attributable to the construction of a new school building. Neither this alternative nor the proposed project, as discussed in Chapter 6, "Shadows," would result in a significant adverse shadow impact.

F. Historic and Cultural Resources

ARCHAEOLOGICAL RESOURCES

Based on the findings of the Preliminary Assessment/Disturbance Record study completed for the proposed project site, the project site is not considered likely to contain archaeological resources. Therefore, neither this alternative nor the proposed project would affect archaeological resources.

HISTORICAL RESOURCES

Unlike the proposed project, this alternative would have no adverse impact to historic resources since the historic structures on the project site would remain but in a state of disrepair. No mitigation measures would be required with this alternative as would be the case with the proposed project.

G. Urban Design and Visual Resources

Under this alternative, there would be no change to the urban design and aesthetic character of the project site. Unlike the proposed project, which involves the construction of a new school facility and demolition of a majority of the existing on-site structures, there would be no new development on the site and the existing (former) 68th Police Precinct Station House and Stable would remain in their current built form with the existing structures remaining vacant and in a state of disrepair. Neither this alternative nor the proposed project, as discussed in Chapter 8, "Urban Design and Visual Resources," would result in a significant adverse impact related to urban design and aesthetics.

H. Natural Resources

There are no known natural resources on or adjacent to the project site. No threatened or endangered species or critical habitats have been identified on the site or in the immediate

vicinity. The site is part of a well-developed urban context. Therefore, neither the proposed project nor this alternative would result in a significant adverse impact to natural resources.

I. Hazardous Materials

This alternative would not result in any construction or ground disturbance on the project site and, therefore, would not result in any potential exposure pathways to contaminants on the project site. Therefore, the measures that would be taken to avoid exposure to potential hazardous materials contamination with construction would not be necessary under this alternative; however, with the implementation of such measures, the proposed project would not result in any significant adverse impacts. Therefore, neither this alternative nor the proposed project would result in significant adverse impacts related to hazardous materials.

J. Water and Sewer Infrastructure

Under this alternative, the existing buildings on the project site would be expected to remain vacant and unoccupied, and there would continue to be no on-site water usage. As with the proposed project, this alternative would have no significant effect on the City's water supply system or wastewater treatment facilities.

K. Solid Waste and Sanitation Services

Under this alternative, the existing buildings on the project site would be expected to remain vacant and unoccupied, and there would continue to be no solid waste generated at the project site. As with the proposed project, this alternative would not affect the delivery of sanitation services or place a significant burden on the City's solid waste management system.

L. Energy

Under this alternative, the existing buildings on the project site would be expected to remain vacant and unoccupied, and would continue to create no demand for energy. As with the proposed project, this alternative would have no effect on the transmission or generation of energy, nor would it generate substantial indirect energy consumption.

M. Transportation

Unlike the proposed project, no additional vehicle or pedestrian trips would be generated under this alternative. Therefore, the proposed project's traffic impacts at the intersections of 43rd Street and 3rd and 4th avenues and pedestrian impacts at the intersection of 4th Avenue and 43rd Street would not occur under this alternative. However, as described in Chapter 20, "Mitigation," the project's traffic and pedestrian impacts at these two intersections could be fully mitigated with the implementation of signal timing adjustments, "daylighting" (i.e., temporary removal of parking adjacent to the curbs) to provide a peak period turn lane, and six-foot curb extensions at the northwest and southwest corners of 4th Avenue and 43rd Street, extending the corner quadrants into 4th Avenue and subsequently shortening the crosswalk distances and increasing

the available corner reservoir space for pedestrians waiting to cross the street. As with the proposed project, there would be no significant impact to parking or transit conditions.

N. Air Quality

Under this alternative, since there would be no increase in trip generation and no expected change in the existing building's heating plant operations, there would be no violations of applicable standards or thresholds described in Chapter 15, "Air Quality." As with the proposed project, this alternative would not have any significant stationary or mobile source air quality impacts.

O. Noise

Under this alternative, there would be no significant increase or change in noise levels from mobile or stationary sources in existing conditions. Unlike the proposed project, any potential noise exposure impacts to the proposed school's exterior would not occur as the proposed school building would not be constructed under this alternative. However, as described in Chapter 20, "Mitigation," with the use of attenuation measures (e.g., double-glazed windows), which are a standard feature of new facilities, incorporated into the school building's design and construction, the proposed project would meet New York City Department of Environmental Protection (NYCDEP) interior noise level requirements, and would not experience any noise exposure impacts.

P. Public Health

Like the proposed project, this alternative would not generate any public health concerns. Neither the proposed project nor this alternative would result in mobile or stationary source air quality impacts, unmitigated noise impacts, or significant adverse hazardous material impacts.

Q. Neighborhood Character

The No Build Alternative would not affect neighborhood character as there would be no change to any of the various elements that together comprise the character of a neighborhood, including: land use, urban design, visual resources, historic resources, socioeconomic conditions, traffic, and noise levels. Under this alternative, the existing (former) 68th Police Precinct Station House and Stable would remain in a deteriorated condition and continue to detract from the aesthetic character of the 4th Avenue corridor and from the pedestrian experience in its vicinity. Unlike the proposed project, under this alternative, the historically significant (former) 68th Police Precinct Station House and Stable would not be demolished; however, as discussed in Chapter 18, "Neighborhood Character," the proposed project would retain the existing street-facing facades of the historic station house on the project site and would not result in a significant adverse impact to neighborhood character. Similarly, the proposed project's adverse effects on transportation and noise would not occur under this alternative; however, the proposed project's transportation and noise impacts could be fully mitigated and, therefore, would not adversely affect the character of the neighborhood. Therefore, neither the proposed project nor this alternative would result in a significant adverse impact to neighborhood character.

R. Construction-Related Impacts

This alternative would have no construction-related effects since no construction would occur on the site. Therefore, the temporary disruptive effects on the site and immediate environs resulting from construction of the proposed project would not occur under this alternative. However, as discussed in Chapter 19, "Construction-Related Impacts," the proposed project would not result in significant adverse construction impacts.

ADAPTIVE REUSE ALTERNATIVE

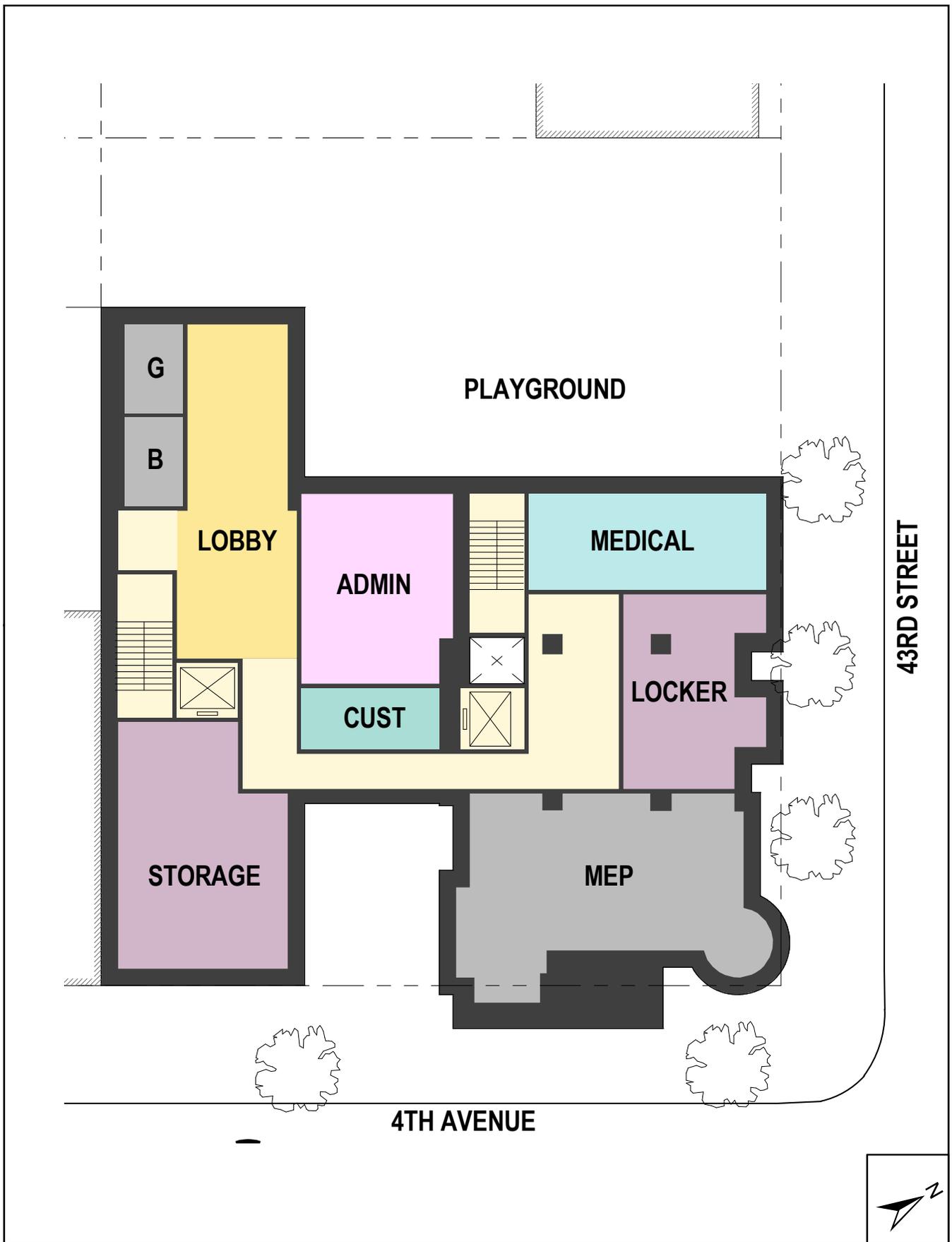
Under this alternative, the existing historic structures on the site would be reused and adapted for use as a public school facility (see "Option RS1A" in the Test-Fit SHPO Report, provided in Appendix A). This alternative would preserve the existing approximately 25,000 sf (former) 68th Police Precinct Station House and Stable, which include a three-story (plus cellar) station house, two-story stable building, and one-story jail building, all connected at the cellar level. To preserve the perceived envelope of the existing historic structures, the cellar would be enlarged (and, therefore, would not be visible from the street) in order to accommodate both additional school program area and modern utility services. With this design approach, demolition, though minimal, likely would be inevitable in order to facilitate the proposed new public school facility use. The school's main entrance would be located on 43rd Street via the historic rear court. This alternative would provide an approximately 4,375 sf at-grade playground by utilizing the rear court and the adjacent Lot 34, as shown on Figure 21-1.

Unlike the proposed project, which would retain only the 43rd Street and the 4th Avenue facades of the former station house building, the design for the Adaptive Reuse Alternative would preserve the existing volumes of the on-site historic structures, as visible from the street, and would preserve the rear court as a negative volume important to the historical understanding of the site, as shown on Figure 21-2.

Unlike the proposed project, this alternative could not accommodate the POR needed for a student capacity of approximately 332 and would only accommodate approximately 114 students. In addition, key elements of the POR, such as a gymnasium and a "cafetorium" could not be provided within the school facility due to insufficient space within the existing historic structures. This alternative would also present several design issues, in terms of building configuration, for a primary school facility that would lead to inefficient operations and would not provide the amount of school seats needed in CSD No. 15 where there is a deficit of approximately 2,610 school seats in the sub-district of Sunset Park.

A. Land Use, Zoning and Public Policy

As with the proposed project, this alternative would maintain the predominant land use on the project site (though changing it from vacant community facility to an active community facility). This alternative would be consistent with surrounding uses in the study area, which are predominantly residential, institutional, and mixed use buildings, and as with the proposed project, this alternative would not result in significant adverse impacts to land use.

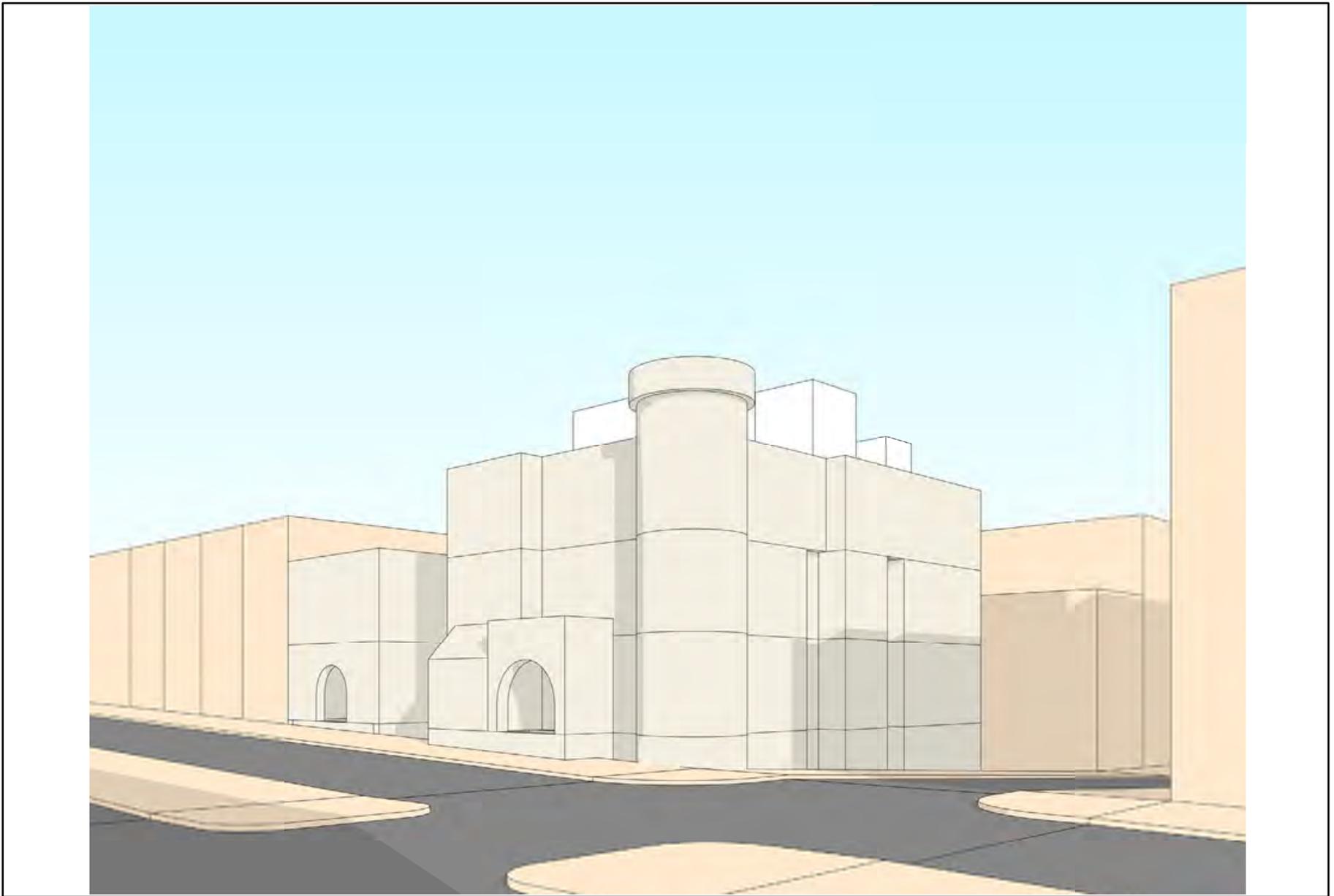


Source: Graves-MMA JV Architects, PLLC; STV Incorporated, 2017.

Figure 21-1

Proposed PS 557
4302 4th Avenue, Brooklyn

**ADAPTIVE REUSE ALTERNATIVE
SITE PLAN**



Source: Graves-MMA JV Architects, PLLC; STV Incorporated, 2017.

PS 557
4302 4th Avenue, Brooklyn

Figure 21-2
**ADAPTIVE REUSE ALTERNATIVE
MASSING DIAGRAM**

As with the proposed project, this alternative would conform to the requirements of the R6B and R7A zoning districts with respect to use, as schools (Use Group 3) are permitted as-of-right in residential districts. It is likewise expected that, with the proposed design, some zoning overrides would be required for zoning bulk non-compliances and these zoning overrides would be requested by the SCA from the Deputy Mayor for Housing and Economic Development for this alternative, as well as for the proposed project. As the zoning overrides would pertain only to the project site with the proposed project, no significant adverse impacts to zoning would occur with either the proposed project or this alternative.

As with the proposed project, this alternative would be consistent with the 197-a plan applicable to Brooklyn CD 7. Therefore, no impacts to public policy would be expected as a result of the proposed project or this alternative.

Per the guidance of the *CEQR Technical Manual*, large publicly sponsored projects must conduct a sustainability assessment to determine whether the project is consistent with the planning goals and objectives of PlaNYC. Similar to the proposed project, as this alternative would not be considered to be a large publicly sponsored project, this alternative was not assessed for its consistency with the goals and objectives established in PlaNYC.

B. Socioeconomic Conditions

Neither the proposed project nor this alternative would result in the displacement of any residents or businesses, as the existing buildings on the site are currently unoccupied, though additional jobs for teachers and support staff would be created with either the proposed project or this alternative. Therefore, neither the proposed project nor this alternative would result in significant adverse impacts to socioeconomic conditions, and no further analysis is required.

C. Community Facilities and Services

As with the proposed project, this alternative would have no significant impact on police protection in the community as a result of the project, and it would be constructed to meet all existing fire code regulations. Like the proposed project, this alternative would generate a negligible increase to the potential workload of the FDNY and would not adversely impact the FDNY's ability to provide fire protection to its service area.

As with the proposed project, this alternative would not introduce new residents to the area, therefore creating little new demand for community facilities and services. It would provide an additional community resource for area residents and expand the public school capacity in CSD No. 15; however, the new PS would not change the service area of this school district. Therefore, as with the proposed project, this alternative would result in no significant adverse impacts to community facilities and services, and no further analysis is required.

D. Open Space

This alternative would provide an approximately 4,375 sf at-grade playground by utilizing the rear court and the adjacent Lot 34, which would provide approximately 825 sf more outdoor recreational space than the proposed project. Therefore, the open space needs of the students and

staff associated with this alternative would be met on site. However, unlike the proposed project, a gymnasium would not be provided within the school facility under this alternative due to insufficient space within the existing historic structures. Neither the proposed project nor this alternative would result in a significant adverse impact to publicly accessible open space and recreational facilities.

E. Shadows

Under this alternative, there would be no change to conditions related to shadows, both on the project site and in the surrounding area, as the existing volumes of the on-site structures would be maintained. Unlike the proposed project, there would be no increase in incremental shadows attributable to the construction of a new school building as with the proposed project. However, as discussed in Chapter 6, "Shadows," the proposed project would not result in any significant adverse shadows impact. Therefore, as with the proposed project, no significant adverse impacts would result, and no further analysis is warranted.

F. Historic and Cultural Resources

Based on the findings of the Preliminary Assessment/Disturbance Record study prepared for the site, the project site is not considered likely to contain archaeological remains. Therefore, neither this alternative nor the proposed project would affect archaeological resources.

Unlike the proposed project, which would retain only the 43rd Street and the 4th Avenue facades of the former station house building, this alternative would preserve the existing volumes of the on-site historic structures, as visible from the street, and would preserve the rear court as a negative volume important to the historical understanding of the site. Therefore, compared to the proposed project, this alternative would result in a lesser effect to the on-site historic resources, but it would result in some likely demolition, though minimal, in order to facilitate the proposed new public school facility use (including interior modifications to the cellar). As with the proposed project, consultation with OPRHP would be undertaken by the SCA.

G. Urban Design and Visual Resources

Building, bulk, use and type. This alternative would be similar to the proposed project in that it would retain historic elements comprising the on-site structures. However, whereas the proposed project would retain only the 43rd Street and 4th Avenue facades of the former station house, this alternative would retain the entirety of the (former) 68th Police Precinct Station House and Stable. In addition, this alternative would retain the rear court as a negative volume, unlike the proposed project, which would place new building volume in that location (see Figure 21-2).

Building use and type would be similar to the proposed project, as this alternative, too, would expand the presence of institutional uses already present in the area; the existing St. Michael's R.C. Church complex, as well as the (former) Sunset Park Court House, are located on 4th Avenue within the study area. As with the proposed project, the bulk and height of this alternative would be consistent with the larger institutional buildings to the north and east of the project site on 4th Avenue.

Building arrangement. Unlike the proposed project, which would retain only the 43rd Street and the 4th Avenue facades of the former station house, the design for this alternative would preserve the existing volumes of the on-site historic structures, as visible from the street, and also would preserve the rear court as a negative volume important to the historical understanding of the site.

Street hierarchy, block form, and street pattern. As with the proposed project, this alternative would not alter the arrangement or configuration of blocks, nor would it affect the current street pattern or alter the street hierarchy of the study area.

Streetscape elements. As with the proposed project, it is expected that the existing mature street trees along 4th Avenue would be retained and protected during construction of this alternative; where they must be removed, they would be replaced with new street trees, which would be planted along both the 4th Avenue and 43rd Street sidewalks around the project site. These new trees would enhance the attractiveness of the 43rd Street sidewalk, in particular. The sidewalks contiguous to the project site would be replaced and/or repaired as appropriate as part of the proposed project.

Visual Resources. Visual resources within the study area include the (former) Sunset Park Court House, St. Michael's R.C. Church complex, and the Sunset Park Historic District. As described previously, the views to the project site from the Sunset Park Historic District are limited. Overall, the effect to the streetscape would be positive, and the use, form, arrangement, bulk and height would be consistent with the 4th Avenue streetscape and the (former) Sunset Park Court House and St. Michael's R.C. Church complex properties, in particular.

Unlike the proposed project, which would retain only the 43rd Street and the 4th Avenue facades of the former station house building, the design for this alternative would preserve the existing volumes of the on-site historic structures, as visible from the street, and also would preserve the rear court as a negative volume important to the historical understanding of the site. Overall, however the visible components of the historic former station house, as experienced by the pedestrian, would be similar to the proposed project – and like the proposed project, would also represent an improvement over No-Action conditions.

The proposed development of the project site as a new school, in accordance with the designs currently considered for this alternative, would improve the urban design of the study area and visual quality of the surrounding streetscapes. It would contribute to the urban form characteristic of the 4th Avenue streetscape and be consistent with the nearby institutional uses and visual resources; further, it would result in the improvement of the derelict site. Therefore, this alternative, like the proposed project, would have, overall, a positive effect with regard the urban design of the neighborhood; no significant adverse impact to urban design and visual quality would result with this alternative, and no further analysis is warranted.

H. Natural Resources

There are no known natural resources on or adjacent to the project site, and none would be affected by the proposed project. The site is part of a well-developed urban context. Therefore, as with the proposed project, none of the CEQR criteria for detailed natural resources analyses

are met, and so, as with the proposed project, this alternative would result in no significant adverse impacts to natural resources; no further analysis is warranted.

I. Hazardous Materials

Neither the proposed project nor this alternative would result in significant adverse impacts resulting from hazardous materials on the project site provided appropriate measures are taken during construction. As with the proposed project, this alternative would entail demolition activities and would include subsurface disturbance associated with construction and renovation activities. Without appropriate controls, these activities could result in adverse effects related to hazardous materials. As with the proposed project, to minimize the potential for adverse effects related to hazardous materials, the following measures would be incorporated:

- An active sub-slab depressurization system (SSDS) and soil vapor barrier will be incorporated into the building renovations to prevent potential soil vapor intrusion.
- Any suspect ACM, LBP, and/or PCB-containing materials impacted by renovation and construction activities should be identified and properly managed during such activities.
- All soil excavated during building construction would be properly managed in accordance with applicable local, State and Federal regulations.
- Any underground or aboveground petroleum storage tanks would be properly closed/removed in accordance with applicable regulations.
- Any dewatering would be minimized to avoid potential off-site contaminated groundwater from migrating toward the site.
- For areas of the site where exposed soils may exist after the school is constructed (i.e., landscaped areas), a twenty-four (24) inch thick layer of imported environmentally clean fill would be placed over site soils.
- 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.

Therefore, as with the proposed project, with the implementation of these measures, there would be no significant potential for significant adverse effects related to hazardous materials with this alternative.

J. Water and Sewer Infrastructure

This alternative would provide fewer school seats than would the proposed project and, therefore, water usage and sewage generation rates would be less than those of the proposed project.

Water Supply. This alternative would include approximately 114 seats and 11 faculty and staff, and thus, daily water usage would be approximately 1,140 gpd for students and 110 gpd for staff, for a total of 1,250 gpd. This alternative would contain approximately 25,000 sf, and thus, would consume an additional 4,250 gpd for air conditioning, for a total of 5,500 gpd during the cooling season. No significant adverse impacts to water supply would result.

Storm/Sanitary Sewers. The amount of sewage generated by this alternative would be approximately 1,250 gpd, and would be minimal in comparison to the treatment plant's permitted capacity; no adverse impacts are expected.

Therefore, as with the proposed project, this alternative would result in no significant adverse impacts to water and sewer infrastructure, and no further analysis is necessary.

K. Solid Waste and Sanitation Services

This alternative would provide fewer school seats than would the proposed project and, therefore, the solid waste generation rate would be less than that of the proposed project.

This alternative would generate approximately 485 pounds of solid waste per week, or 2,079 pounds per month.

DSNY is responsible for collecting and disposing of solid waste from residences and public facilities, including schools. The typical DSNY collection truck for commercial carters typically carries between twelve and fifteen tons of waste material per truck. Therefore, as with the proposed project, there would be no significant adverse impact related to solid waste collection and disposal that would result with this alternative, and no further analysis is necessary.

L. Energy

Like the proposed project, this alternative is expected to be substantially more energy efficient than conventional pre-code buildings and would also comply with the New York State Energy Conservation Construction Code, and would incorporate energy conservation measures.

In addition, as with the proposed project, this alternative would be designed following the NYC Green Schools Rating System (guidelines specific to the design, construction and operation of New York City public school buildings) and is in compliance with site-related credits to achieve a LEED-certified or higher rating.

Like the proposed project, this alternative would include the creation of new educational space plus support facilities, staff support spaces, food service and related building support services. Following construction, this alternative would be expected to consume approximately 250,700 BTUs per square foot per year. Therefore, the estimated annual usage of energy for the proposed approximately 25,000 sf school facility would be approximately 6.3 billion BTUs, or 4.7 billion BTUs for the nine-month academic year, which would be a lesser energy requirement at the site than the proposed project. Nonetheless, as with the proposed project, this alternative, would neither affect transmission or generation of energy, nor generate substantial indirect consumption of energy. It is expected that, as with the proposed project, no significant adverse impacts would occur with the capacity of both Con Edison and National Grid to provide service to the project site and surrounding area with this alternative. No further analysis is warranted.

M. Transportation

As this alternative would only provide approximately 114 school seats for primary students at the project site (and an assumed staff size of approximately 11 teachers and staff), this alternative would generate a lower volume of vehicle and pedestrian trips. Unlike the proposed project, traffic impacts at the intersections of 43rd Street and 3rd and 4th avenues and pedestrian impacts at the intersection of 4th Avenue and 43rd Street would not occur under this alternative. However, as described in Chapter 20, “Mitigation,” the project’s traffic and pedestrian impacts at these two intersections could be fully mitigated with the implementation of signal timing adjustments, “daylighting” (i.e., temporary removal of parking adjacent to the curbs) to provide a peak period turn lane, and six-foot curb extensions at the northwest and southwest corners of 4th Avenue and 43rd Street, extending the corner quadrants into 4th Avenue and subsequently shortening the crosswalk distances and increasing the available corner reservoir space for pedestrians waiting to cross the street. As with the proposed project, there would be no significant impact to parking or transit conditions with this alternative.

N. Air Quality

This alternative would differ from the proposed project in that this alternative would only stand three stories above grade, rather than three to five stories under the proposed project, and would provide fewer school seats resulting in fewer vehicle and pedestrian trips. Assuming a worst case scenario for this alternative’s heating plant operations and stack height, the *CEQR Technical Manual* screening would not result in any violations of applicable NAAQS standards or thresholds. Therefore, as with the proposed project, this alternative would not have any significant stationary or mobile source air quality impacts.

O. Noise

Under this alternative, an approximately 4,375 sf at-grade playground would be provided on the project site by utilizing the rear court and the adjacent Lot 34.

This alternative would have a similar effect on traffic generated noise levels as the proposed project and, as such, would not result in mobile source noise impacts. While noise generating playground activities would be within the line-of-sight to a few residences on 44th Street and the St. Michael’s R.C. Church complex, noise impacts would not occur at these properties under this alternative. However, the property at 362 43rd Street, which is directly adjacent to the proposed playground site would be potentially impacted and require mitigation. Therefore, unlike the proposed project, this alternative would result in significant adverse impacts related to playground noise and, as such, mitigation measures (storm or sound-attenuating windows and alternative ventilation) would be required to significantly reduce the impact of playground noise upon the affected residential property.

Table 21-1: Expected Noise Impact Summary
(noise levels are L_{eq} reported in dBA)

Representative Location	Time of Day	Existing Traffic Noise	Total No Build Noise	Build Playground Noise ¹	Total Build Noise	Decibel Change in Noise Due to School
362 43 rd Street	Midday	65.6	65.6	71.4 ²	71.4	6.8

¹ Traffic analyses were not conducted for a Midday traffic period, however, it is anticipated that future induced Midday traffic volumes would not be significant. As a result, the traffic-related existing Midday noise level is not expected to increase under both the No Build and Build conditions.

² Playground noise levels were not reduced to account for distance drop-off since the edge of the playground is adjacent to the property windows.

To address the potential playground noise impacts where playground activities would increase noise levels by more than five dBA, the SCA would make available storm or sound-attenuating windows and alternative ventilation to the owners of the residence at 362 43rd Street for the two windows on the eastern façade of the building. These measures would significantly reduce the impact of playground noise upon the affected residential property.

As with the proposed project, attenuation measures (e.g., double-glazed windows), which are a standard feature of new facilities, would be incorporated into the school building's design and construction to reduce the exterior noise exposure level to the required interior noise level of 45 dBA or below. With these measures, the proposed school building would meet NYCDEP interior noise level requirements, and would not experience any noise exposure impacts.

P. Public Health

As with the proposed project, no impacts related to air quality, water quality, or noise are anticipated as a result of this alternative. Hazardous materials are anticipated to be present on site, based on the Phase I ESAs and Phase II ESIs prepared for each lot in 2010, and the Phase I ESA Update prepared for the project site in 2016. However, with the existing on-site contamination appropriately addressed through proper handling and disposal, and other measures described earlier in this document, no public health issues are expected with the proposed project. Therefore, as would be the case with the proposed project, this alternative would not result in significant adverse impacts to public health, and no additional analysis is necessary.

Q. Neighborhood Character

As with the proposed project, and for the same reasons as for the proposed project (detailed in Chapter 18, "Neighborhood Character"), the construction of this alternative would be an appropriate land use, and its design would contribute to the established urban design of the study area and the 4th Avenue corridor, in particular. Like the proposed project, this alternative would enliven the streetscape in a manner similar to the neighboring institutional uses and it would be in keeping with the residential context to the west and east of the project site.

Unlike the proposed project, which would retain only the 43rd Street and the 4th Avenue facades of the former station house, the design for this alternative would preserve the existing volumes of the on-site historic structures, as visible from the street, and also would preserve the rear court as a negative volume important to the historical understanding of the site. Thus, this alternative would also contribute to the aesthetic character of the streetscape in a positive way. Similar to the proposed project, this alternative would have the potential to maintain a sense of historic identity that may be enjoyed by residents in the study area and surrounding neighborhood.

Technical analyses have concluded that with the recommended measures in place, this alternative would not result in significant adverse impacts related to traffic, air or noise conditions that would alter the character of the neighborhood.

Finally, as with the proposed project, this alternative would introduce new capacity in the school district, thereby representing an improvement to neighborhood character in terms of improved community facilities and services. As such, this alternative would be a positive attribute to the educational opportunities in the neighborhood, as well as an improvement to the physical design and character of the project site and surrounding area. Therefore, as with the proposed project, this alternative would have a positive effect on neighborhood character, and it would result in no significant adverse impact to neighborhood character; no further analysis is warranted.

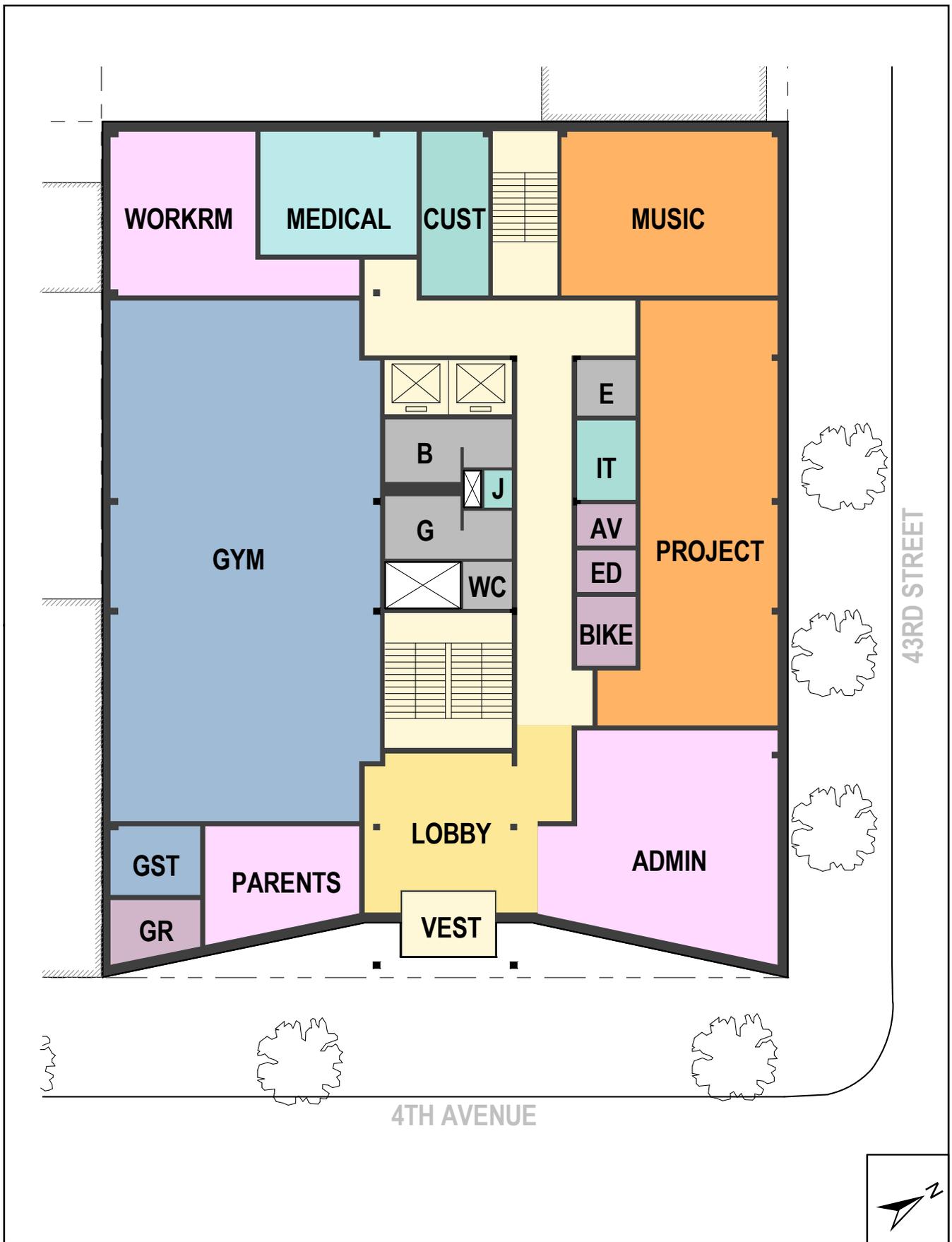
R. Construction-Related Impacts

The anticipated construction period for this alternative is expected to be up to approximately 34 months, which would be the same as the approximately 34 months estimated for the proposed project. However, construction period effects resulting from the development of this alternative would be similar to the proposed project, and neither would be expected to result in significant adverse construction impacts.

FULL DEMOLITION ALTERNATIVE

Under this alternative, the existing historic structures on site would be demolished and a new public school facility would be constructed on the project site (see “Option RS3C” in the Test-Fit SHPO Report, provided in Appendix A). Upon full demolition of the existing structures, a new public school facility would be constructed with particular design consideration and sensitivity to developing a design scheme that is as-of-right and that complies with SCA design standards to the greatest extent possible. Based on preliminary schematic designs, the proposed new school facility would be a four-story building (approximately 60 feet high⁷), plus cellar, and would contain approximately 27,806 sf. In this redevelopment scenario, the gymnasium and rooftop play yard would be located adjacent to the western property lot line, with the balance of the remaining design scheme arranged in a “U” shape around the central core. The school’s main entrance would be located on 4th Avenue, as shown on Figure 21-3. This alternative would provide an approximately 2,745 sf rooftop playground on the third floor above the gymnasium in the new school facility.

⁷ Estimated using a floor-to-floor height of 15 feet.



Source: Graves-MMA JV Architects, PLLC; STV Incorporated, 2017.

Figure 21-3

Proposed PS 557
4302 4th Avenue, Brooklyn

**FULL DEMOLITION ALTERNATIVE
SITE PLAN**

This alternative, “Option RS3C,” was presented by OPRHP as a feasible design approach, since this option would accommodate a student capacity of 332 students and would accommodate the functional and operational standards required for a primary school. This redevelopment scenario would also represent as-of-right development on the site.

As with the proposed project, this alternative would accommodate the primary school POR required for a student capacity of 332 and would serve students in CSD No. 15. This alternative would also be designed to provide the same facilities to meet the SCA’s school program requirements as the proposed project; both this alternative and the proposed project would provide a gymnasium on the first floor and a “cafetorium” in the cellar. However, unlike the proposed project, which would retain the 43rd Street and the 4th Avenue facades of the station house building, or the Adaptive Reuse Alternative, which would preserve the existing volumes of the on-site historic structures, as described previously, the Full Demolition Alternative would result in demolition of all existing on-site structures. As this alternative would not preserve existing station house street-facing facades like the proposed project would, this alternative would stand four stories above grade, rather than five stories, as would be the case with the proposed project, and this alternative would have approximately 2,254 sf less floor area than the proposed project as it would have a more efficient layout (see Figure 21-4).

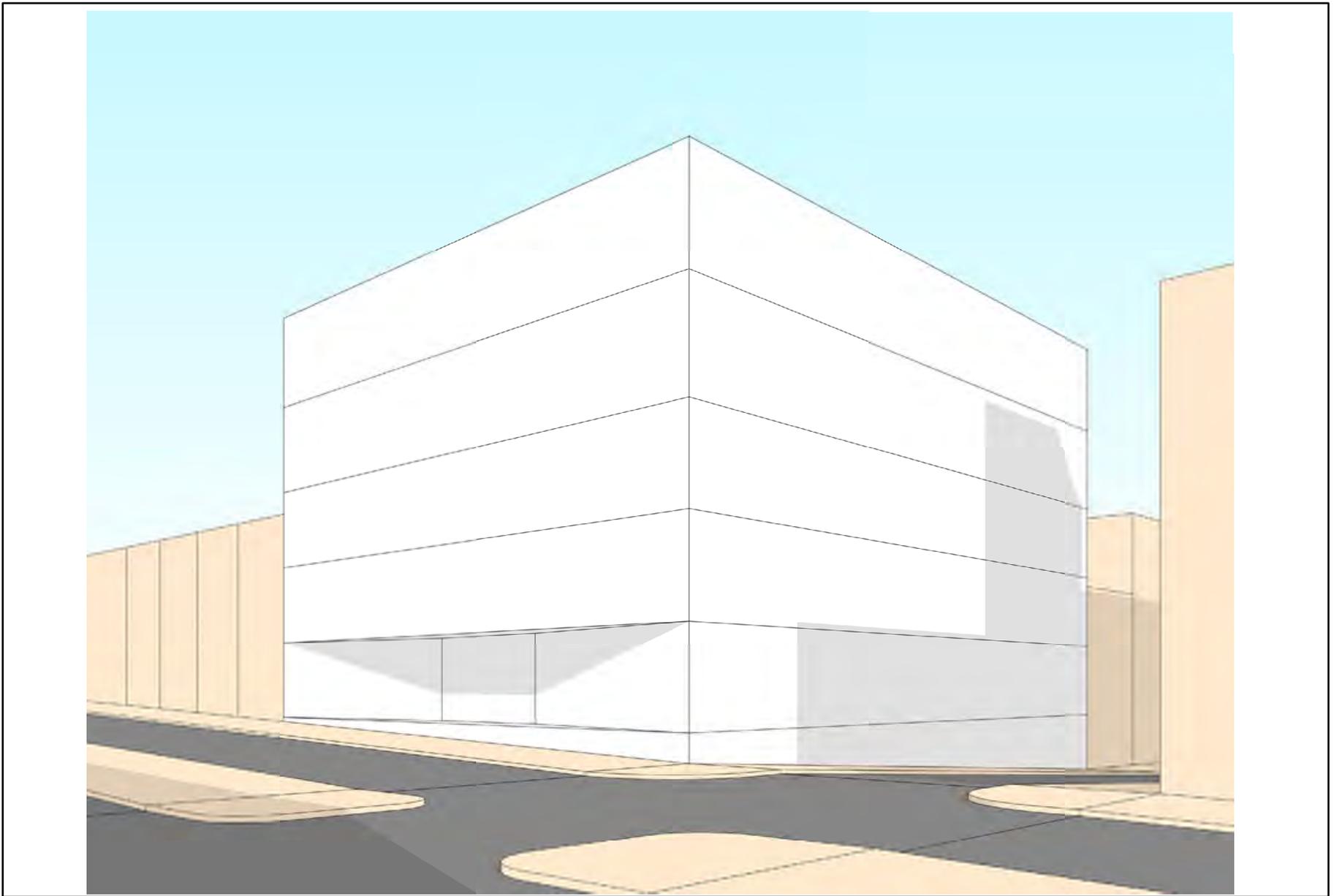
A. Land Use, Zoning and Public Policy

As with the proposed project, this alternative would maintain the predominant land use on the project site (though changing it from vacant community facility to active community facility). This alternative would be consistent with surrounding uses in the study area, which are predominantly residential, institutional, and mixed use buildings, and as with the proposed project, this alternative would not result in significant adverse impacts to land use.

As with the proposed project, this alternative would conform to the requirements of the R6B and R7A zoning districts with respect to use, as schools (Use Group 3) are permitted as-of-right in residential districts. Unlike the proposed project, based on the proposed preliminary design, this alternative would comply with all applicable zoning bulk regulation and zoning overrides would not be required as they would be under the proposed project. However, as discussed in Chapter 2, “Land Use, Zoning and Public Policy,” the proposed project would not result in any significant adverse impact to zoning. Therefore, no significant adverse impacts to zoning would occur with either the proposed project or this alternative.

As with the proposed project, this alternative would be consistent with the 197-a plan applicable to Brooklyn CD 7. Therefore, no impacts to public policy would be expected as a result of the proposed project or this alternative.

Per the guidance of the *CEQR Technical Manual*, large publicly sponsored projects must conduct a sustainability assessment to determine whether the project is consistent with the planning goals and objectives of PlaNYC. Similar to the proposed project, this alternative would not be considered to be a large publicly sponsored project, the proposed project was not assessed for its consistency with the goals and objectives established in PlaNYC.



Source: Graves-MMA JV Architects, PLLC; STV Incorporated, 2017.

PS 557
4302 4th Avenue, Brooklyn

Figure 21-4
FULL DEMOLITION ALTERNATIVE
MASSING DIAGRAM

B. Socioeconomic Conditions

Neither the proposed project nor this alternative would result in the displacement of any residents or businesses, as the existing buildings on the site are currently unoccupied, though additional jobs for teachers and support staff would be created with either the proposed project or this alternative. Therefore, neither the proposed project nor this alternative would result in significant adverse impacts to socioeconomic conditions, and no further analysis is required.

C. Community Facilities and Services

As with the proposed project, this alternative would have no significant impact on police protection in the community as a result of the project, and it would be constructed to meet all existing fire code regulations. Like the proposed project, this alternative would generate a negligible increase to the potential workload of the FDNY and would not adversely impact the FDNY's ability to provide fire protection to its service area.

As with the proposed project, this alternative would not introduce new residents to the area, therefore creating little new demand for community facilities and services. It would provide an additional community resource for area residents and expand the public school capacity in CSD No. 15; however, the new PS would not change the service area of this school district. Therefore, as with the proposed project, this alternative would result in no significant adverse impacts to community facilities and services, and no further analysis is required.

D. Open Space

This alternative would provide an approximately 2,745 sf rooftop playground on the third floor above the gymnasium in the new school facility, which would provide approximately 805 sf less outdoor recreational space than the proposed project. Like the proposed project, this alternative would provide a gymnasium on the first floor and a "cafetorium" in the cellar. Therefore, the open space needs of the students and staff associated with this alternative would be met on site. Neither the proposed project nor this alternative would result in a significant adverse impact to publicly accessible open space and recreational facilities.

E. Shadows

Given its four-story height at the project northeastern site corner, the Full Demolition Alternative was evaluated as the reasonable worst case condition for alternatives, with regard to shadows, and as described following, it would not result in significant adverse shadow impacts.

Tier 1 and Tier 2 Shadow Screening Analyses were performed in accordance with the guidelines of the *CEQR Technical Manual* in order to identify potential sunlight sensitive resources that could be reached by the maximum shadow length of the rectangle-shaped volume of the new building. Based on these tiers of analysis, it was determined that the expected maximum shadow cast by the new building would reach a maximum shadow length of approximately 258 feet.

The four potentially sunlight sensitive resources of concern, previously described in Chapter 6, Shadows, are located within 258 feet of the project site and potentially within reach of this maximum shadow, and include the St. Michael's R.C. Church complex (church and school

buildings) and the open space area at the northern edge of the complex; the (former) Sunset Park Court House; and a portion of the Sunset Park Historic District (see Figure 21-5).

A detailed shadow screening analysis was conducted, in accordance with the *CEQR Technical Manual*, in order to determine whether any of these potentially sunlight sensitive resources would experience a significant adverse impact as a result of shadows cast by the building constructed with this alternative. Specifically, the detailed analysis considers the presence of existing buildings in the context of the potentially sunlight sensitive receptors, as well as shadows they cast, to determine whether there would be a greater extent of shadow (“incremental shadow”) than would be specifically attributable to the new building, alone.

As described previously in Chapter 6, “Shadows,” the detailed shadow screening analysis considers shadows that would be cast on four days determined to be representative of the variability of shadows throughout the year: December 21 (winter solstice), either March 21 or September 21 (equinoxes), June 21 (summer solstice), and either May 6 or August 6 (midway between equinoxes and solstices). The analyses are performed for these days over a time period beginning 1.5 hours after sunrise and ending 1.5 hours before sunset. The results of the detailed shadow analysis for this alternative are described following for each of the potentially sunlight sensitive receptors:

St. Michael’s R.C. Church complex – school buildings (PS 516). The two school buildings, which are part of the St. Michael’s R.C. Church complex, are located south of the church building. They stand adjacent to one another and are located directly north of the project site, on the north side of 43rd Street. Based on the detailed shadow analysis, incremental shadows from the new building with this alternative would extend to these school buildings on three of the analysis dates: March 21st, June 21st, and August 6th.

- *On March 21st* the incremental shadow would cross over the school’s property line at approximately 12:57 PM and remain until approximately 4:29 PM, for a total duration of 3 hours and 32 minutes. By approximately 1:33 PM the incremental shadow would reach the facades of both school buildings. The shadow would remain on the façade of the western building until approximately 3:40 PM, for a total duration of 2 hours and 7 minutes. The shadow would remain on the façade of the eastern building until approximately 4:29 PM, for a total duration of 2 hours and 49 minutes. At its greatest extent, approximately 4:29 PM, the shadow would stretch across most of the façade of the western school building (see Figure 21-6a).
- *On June 21st* the incremental shadow would cross over the school’s property line at 4:10 PM and remain until approximately 4:54 PM, for a total duration of 44 minutes. The incremental shadow would reach the lower corner of the school’s southern façade at approximately 4:41 PM and remain until approximately 4:54 PM, for a total duration of 13 minutes. At its greatest extent, approximately 4:54 PM, the shadow would stretch across the lower corner of the school’s façade and the sidewalk immediately outside (see Figure 21-6b).
- *On August 6th* the incremental shadow would reach the easternmost school building (only), and it would move across a portion of its southern façade for a total incremental

duration of approximately 2 hours and 19 minutes in the summer afternoon, between approximately 2:59 PM and 5:18 PM. At its greatest extent, approximately 5:18 PM, the shadow would cover a portion of this school building's lower façade (see Figure 21-6c).

- *On December 21st* the incremental shadow would reach both school buildings, and it would move across portions of their southern façades for a total incremental duration of approximately 4 hours and 55 minutes in the winter afternoon, between approximately 9:58 AM and 2:53 PM. At its greatest extent, approximately 2:53 PM, the shadow would stretch across portions of the façades of both school buildings from ground level to roof (see Figure 21-6d).

Because sunlight is not necessary to support character-defining features of these buildings, as there is no stained glass or unique sculptural feature to the façade that may depend on sunlight for particular aesthetic effect, the incremental shadow attributable to the new building with this alternative would not result in a significant adverse impact to these buildings, and no further analysis is warranted.

St. Michael's R.C. Church complex - church building. The detailed shadow analysis determined that no incremental shadow attributable to the new building with this alternative would reach the church building on any analysis date. Therefore this alternative would not result in any significant adverse impact to this church building, and no further analysis is warranted.

St. Michael's R.C. Church complex - open space. The detailed shadow analysis determined that no incremental shadow attributable to the new buildings with this alternative would reach this open space area on any analysis date. Therefore this alternative would not result in any significant adverse impact to this open space area, and no further analysis is warranted.

(Former) Sunset Park Court House. Based on the detailed shadow analysis there would be incremental shadows from the new building with this alternative on three of the analysis dates, March 21st, June 21st, and August 6th.

- *On March 21st* the incremental shadow from the new building with this alternative would reach the (former) Sunset Park Court House at approximately 4:20 PM and remain until approximately 4:29 PM. During this approximately 9 minute period, the incremental shadow is cast on the paved sidewalk area west of the Court House building, not reaching the Court House façade (4th Avenue façade). At its greatest extent, approximately 4:29 PM, the shadow would stretch across the paved sidewalk area west of the Court House building (see Figure 21-6e).
- *On June 21st* the incremental shadow would reach the (former) Sunset Park Court House at approximately 4:47 PM and remain until approximately 6:01 PM. During this approximately 1 hour and 14 minute period, the incremental shadow would move across the south and west façade of the (former) Sunset Park Court House, and by 6:01 PM the incremental shadow would have moved to cover a portion of the Court House's southern and western facades, as well as the sidewalk areas to the west and south of the building. At its greatest extent, approximately 6:01 PM, the shadow would stretch across portions of the (former) Sunset Park Court House's southern and western facades, as well as the sidewalk areas to the west and south of the building. (see Figure 21-6f).

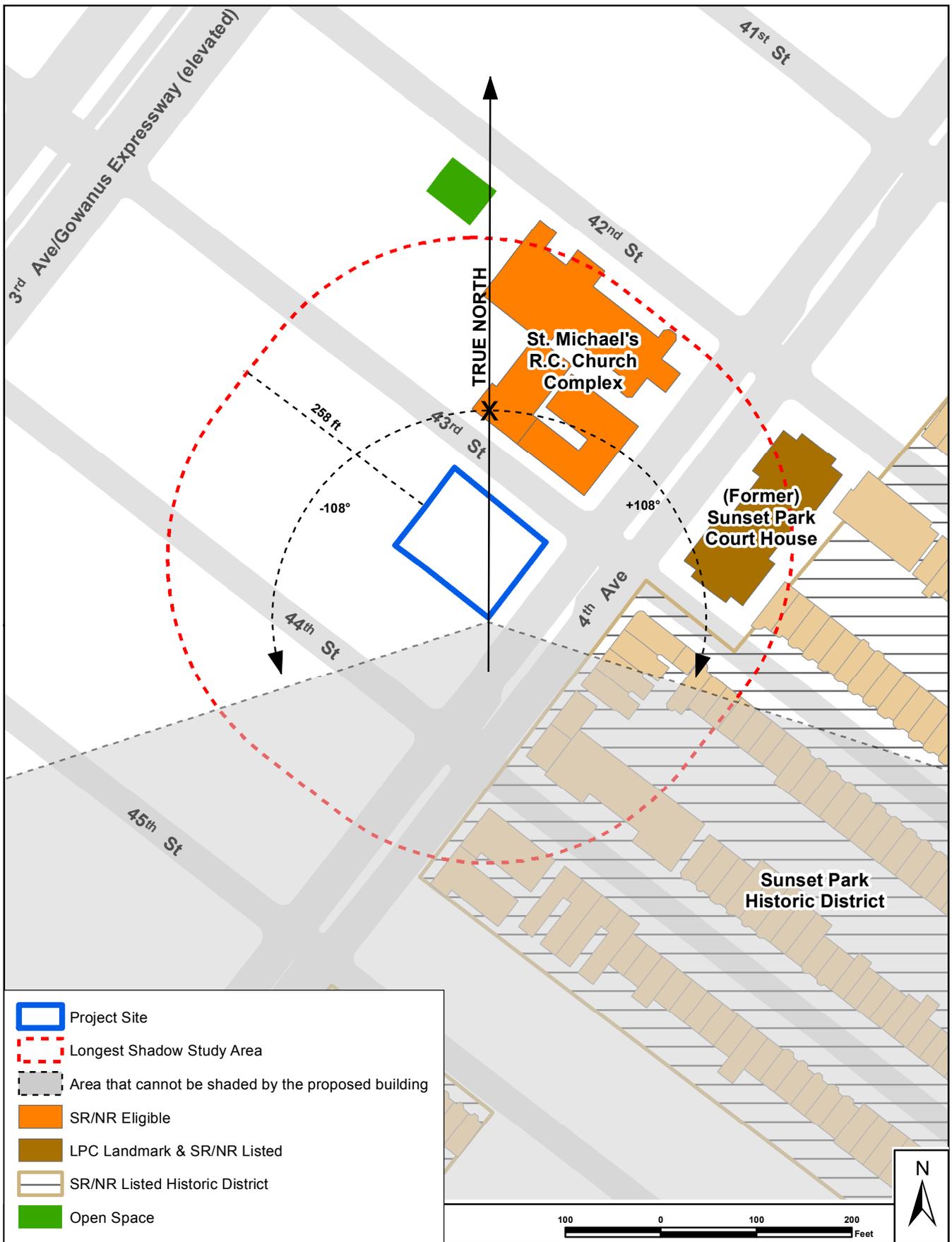
- *On August 6th* the incremental shadow from the new building with this alternative would reach the (former) Sunset Park Court House at approximately 4:39 PM and remain until approximately 5:18 PM. During this approximately 28 minute period, the shadow would cross into the southern sidewalk area of the Court House and gradually covers portions of the southern and western facades of the Court House. At its greatest extent, approximately 5:18 PM, the shadow would stretch across the southern and eastern facades of the (former) Sunset Park Court House (see Figure 21-6g).

Because sunlight is not necessary to maintain character-defining features of the (former) Sunset Park Court House, as there is no stained glass or unique sculptural feature to the façade that may depend on sunlight for particular aesthetic effect, the incremental shadow that would be cast by the new building with this alternative would not result in a significant adverse impact to the (former) Sunset Park Court House, and no further analysis is warranted.

Sunset Park Historic District. Based on the detailed shadow analysis, the new building with this alternative would cast incremental shadows onto parts of the Sunset Park Historic District on two of the analysis dates, June 21st and August 6th.

- *On June 21st* the incremental shadow would reach the Sunset Park Historic District by approximately 4:48 PM and remain until approximately 6:01 PM (see Figure 21-6h). During this period of approximately 1 hour and 13 minutes, the incremental shadows would be cast primarily on the roadbed and sidewalks of the historic district. Some incremental shadows would be cast on the facades of three buildings facing 4th Avenue within the historic district beginning at approximately 5:00 PM and lasting until 6:01 PM (approximately 1 hour and 1 minute). Additionally, a shadow would reach a building in the historic district on 43rd Street at approximately 5:55 PM and lasting until 6:01 PM (approximately 6 minutes). At its greatest extent, approximately 6:01 PM, the shadow would stretch to the facades of three buildings facing 4th Avenue within the historic district, a building in the historic district on 43rd Street, and surrounding roadbed and sidewalks.
- *On August 6th* the incremental shadow would reach the Sunset Park Historic District at approximately 4:42 PM and remain until approximately 5:18 PM (see Figure 21-6i). During these 36 minutes, the incremental shadow from this alternative would reach a small portion of roadbed and sidewalk in the historic district. Incremental shadow would reach the western façade of one building in the historic district, located on the southeast corner of 43rd Street and 4th Avenue, beginning at approximately 4:52 PM and lasting until 5:18 PM (approximately 20 minutes). At its greatest extent, approximately 5:18 PM, the shadow would stretch to the western façade of one building in the historic district, located on the southeast corner of 43rd Street and 4th Avenue and surrounding roadbed and sidewalks.

Because incremental shadows that reach the historic district on these dates would not be substantial or cast on sunlight-sensitive vegetation or character-defining architectural features of any buildings that may depend on sunlight for particular aesthetic effect, the new building with this alternative would not result in a significant adverse impact to the Sunset Park Historic District, and no further analysis is warranted.



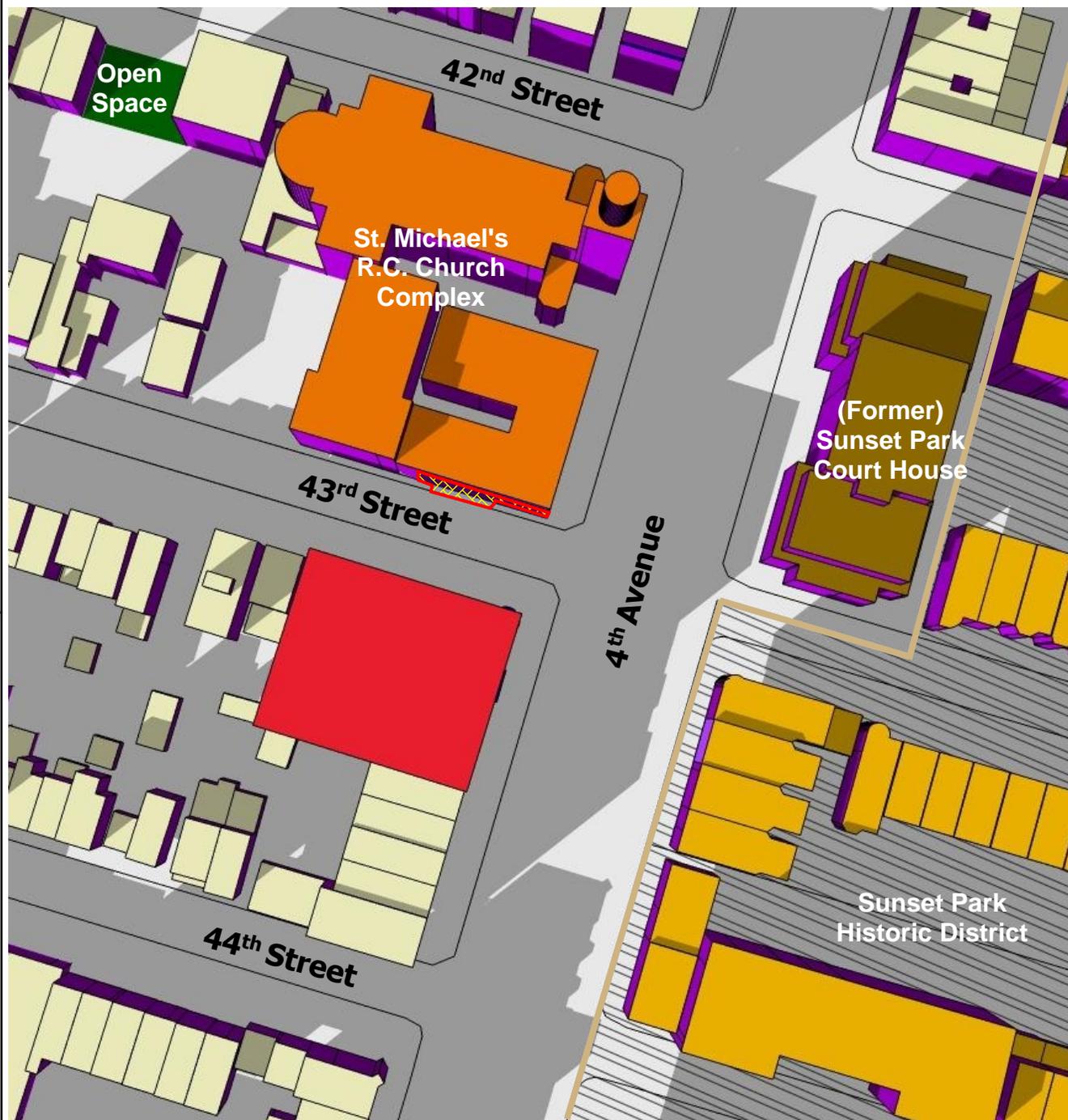
Source: STV Incorporated, 2017.

Figure 21-5

Proposed PS 557
4302 4th Avenue, Brooklyn

**FULL DEMOLITION ALTERNATIVE
TIER 2 SHADOW SCREENING**

Maximum Incremental Shadow
 St. Michael's R.C. Church Complex
 March 21st at 4:29 PM



- | | |
|--|--|
|  Incremental Shadow |  SR/NR Listed Historic District |
|  Proposed School Building |  LPC Landmark & SR/NR Listed |
|  Open Space |  SR/NR Eligible |

50 25 0 50 100 Feet



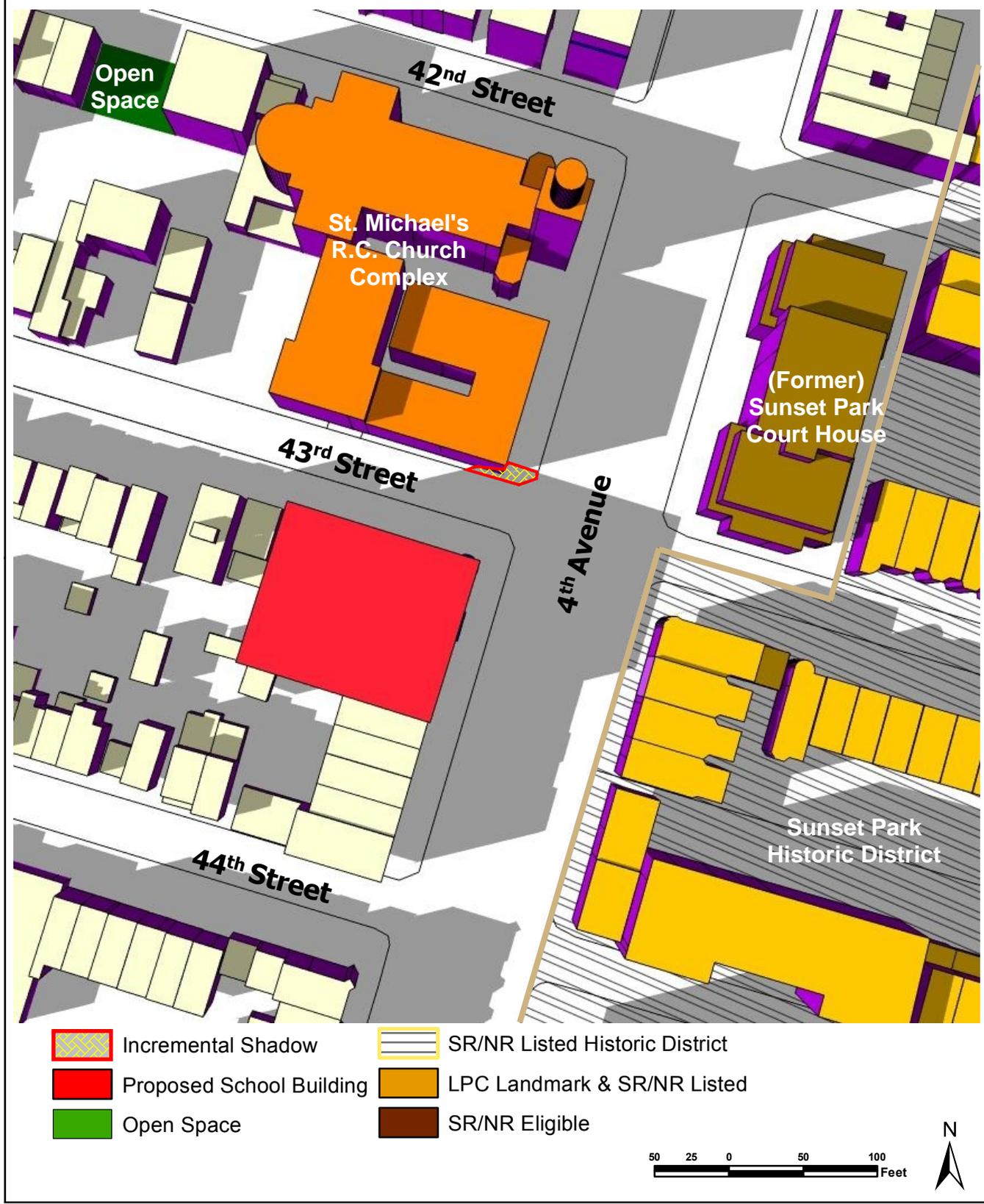
Source: STV Incorporated, 2017.

Figure 21-6a

Proposed PS 557
 4302 4th Avenue, Brooklyn

**FULL DEMOLITION ALTERNATIVE
 DETAILED SHADOW ANALYSIS**

Maximum Incremental Shadow
 St. Michael's R.C. Church Complex
 June 21st at 4:54 PM



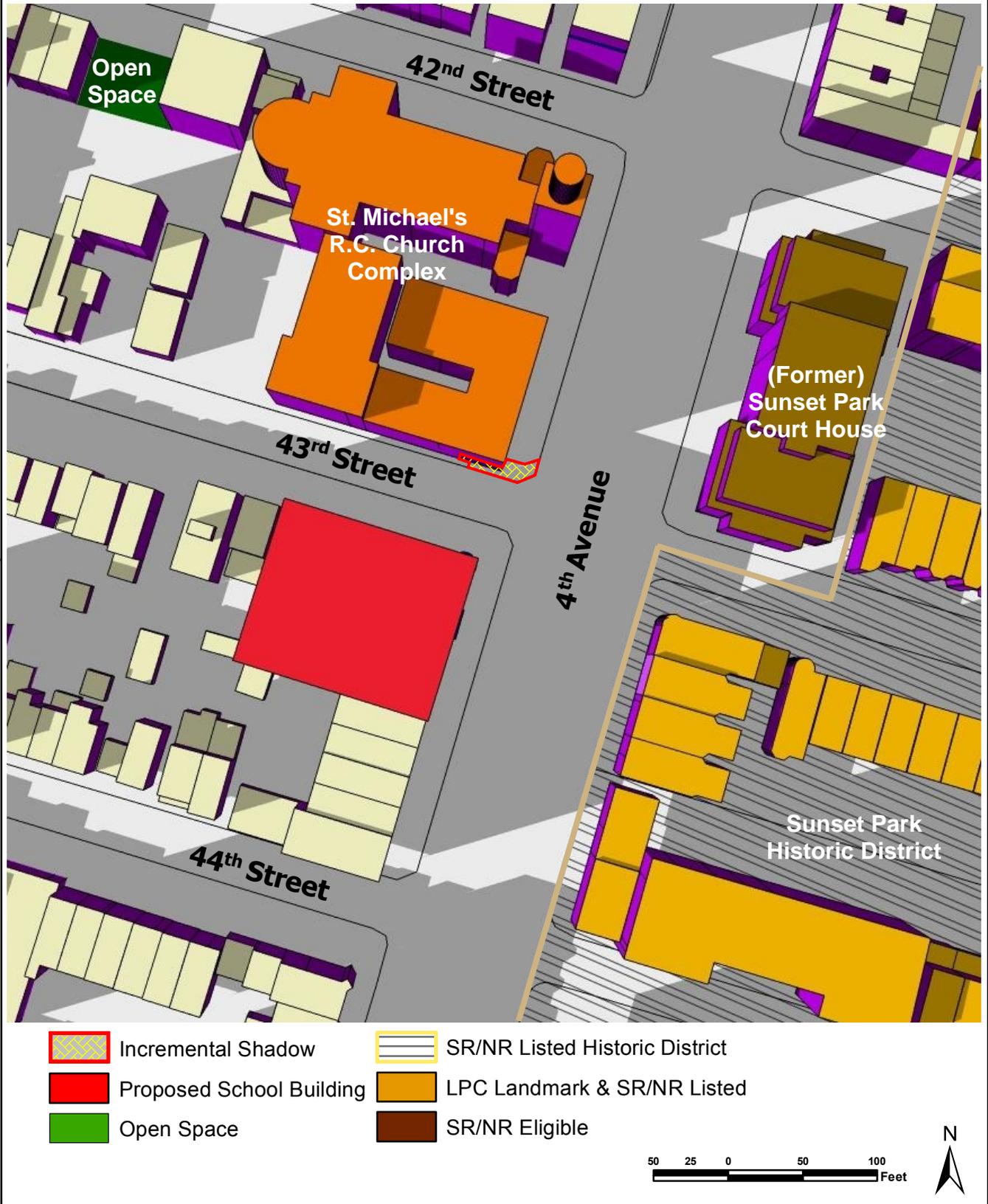
Source: STV Incorporated, 2017.

Figure 21-6b

Proposed PS 557
 4302 4th Avenue, Brooklyn

**FULL DEMOLITION ALTERNATIVE
 DETAILED SHADOW ANALYSIS**

Maximum Incremental Shadow
 St. Michael's R.C. Church Complex
 August 6th at 5:18 PM



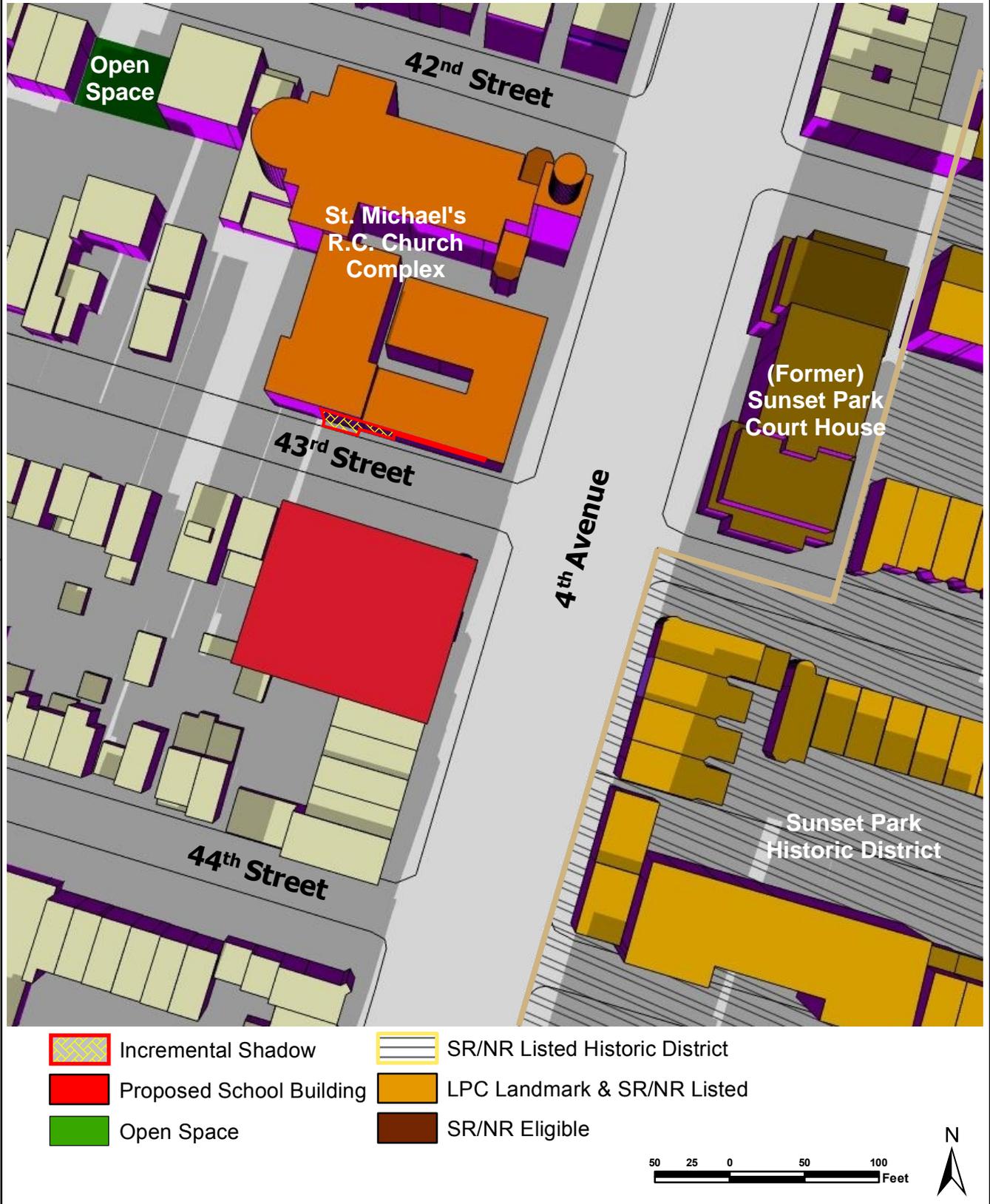
Source: STV Incorporated, 2017.

Figure 21-6c

Proposed PS 557
 4302 4th Avenue, Brooklyn

**FULL DEMOLITION ALTERNATIVE
 DETAILED SHADOW ANALYSIS**

Maximum Incremental Shadow
 St. Michael's R.C. Church Complex
 December 21st at 2:53 PM



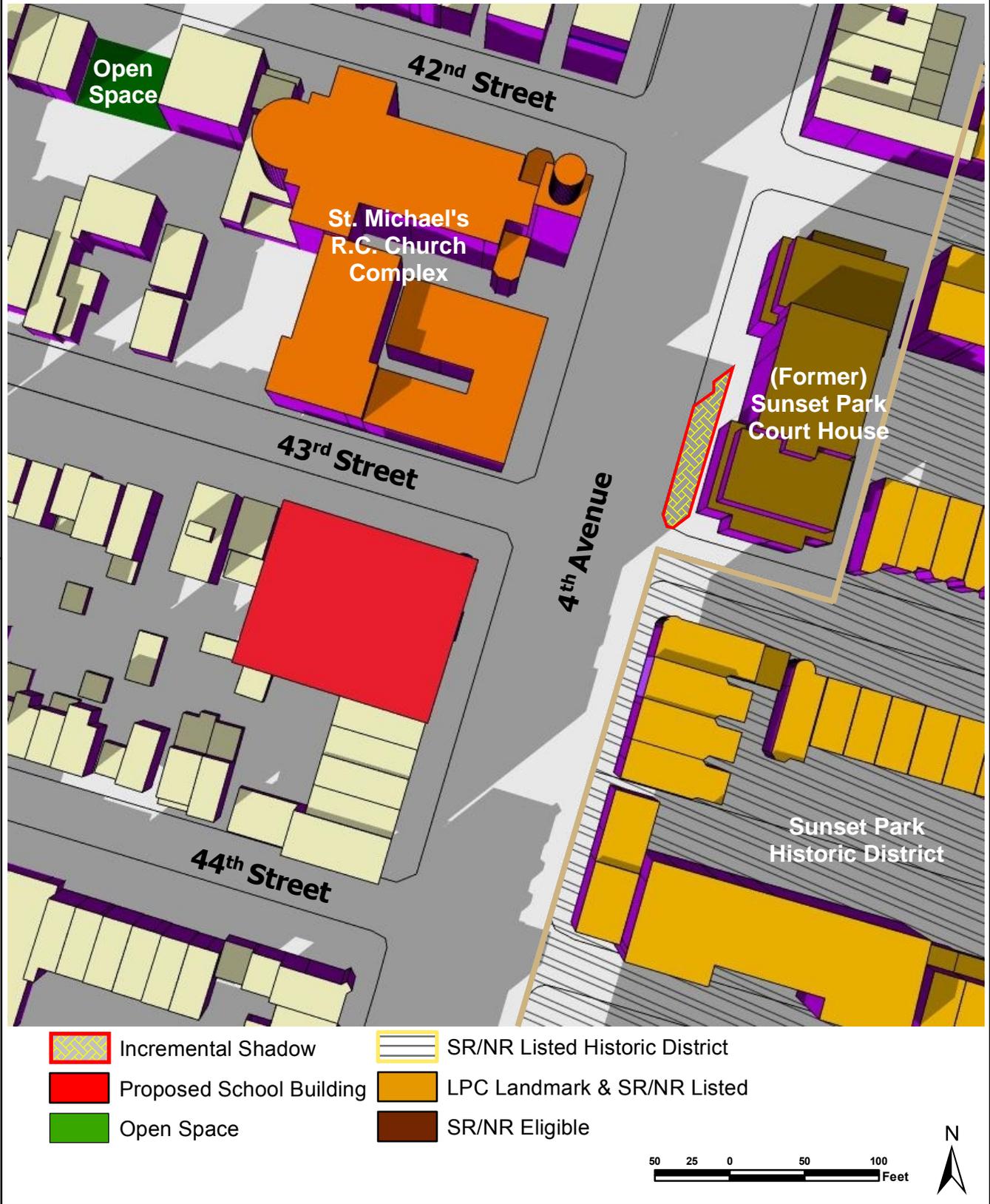
Source: STV Incorporated, 2017.

Figure 21-6d

Proposed PS 557
 4302 4th Avenue, Brooklyn

**FULL DEMOLITION ALTERNATIVE
 DETAILED SHADOW ANALYSIS**

Maximum Incremental Shadow
 (Former) Sunset Park Court House
 March 21st at 4:29 PM



Source: STV Incorporated, 2017.

Figure 21-6e

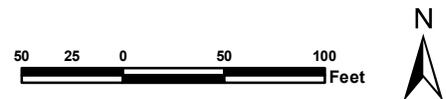
Proposed PS 557
 4302 4th Avenue, Brooklyn

**FULL DEMOLITION ALTERNATIVE
 DETAILED SHADOW ANALYSIS**

Maximum Incremental Shadow
 (Former) Sunset Park Court House
 June 21st 6:01 PM



- Incremental Shadow
- SR/NR Listed Historic District
- Proposed School Building
- LPC Landmark & SR/NR Listed
- Open Space
- SR/NR Eligible



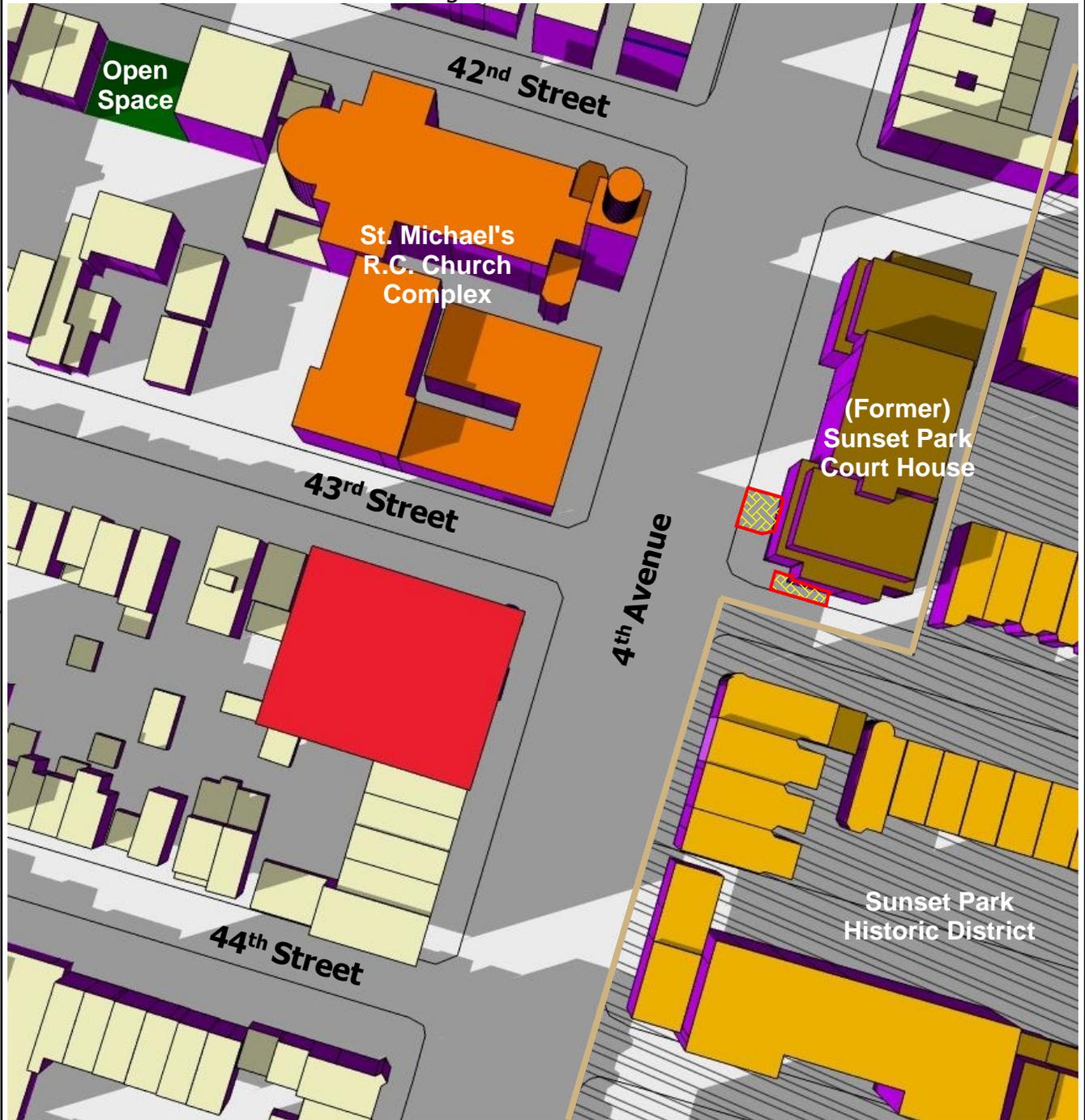
Source: STV Incorporated, 2017.

Figure 21-6f

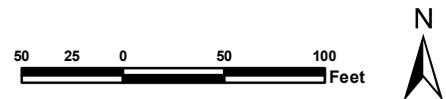
Proposed PS 557
 4302 4th Avenue, Brooklyn

**FULL DEMOLITION ALTERNATIVE
 DETAILED SHADOW ANALYSIS**

Maximum Incremental Shadow
 (Former) Sunset Park Court House
 August 6th at 5:18 PM



- Incremental Shadow
- SR/NR Listed Historic District
- Proposed School Building
- LPC Landmark & SR/NR Listed
- Open Space
- SR/NR Eligible



Source: STV Incorporated, 2017.

Figure 21-6g

Proposed PS 557
 4302 4th Avenue, Brooklyn

**FULL DEMOLITION ALTERNATIVE
 DETAILED SHADOW ANALYSIS**

Maximum Incremental Shadow
 Sunset Park Historic District
 June 21st at 6:01 PM



- | | | | |
|---|--------------------------|---|--------------------------------|
|  | Incremental Shadow |  | SR/NR Listed Historic District |
|  | Proposed School Building |  | LPC Landmark & SR/NR Listed |
|  | Open Space |  | SR/NR Eligible |



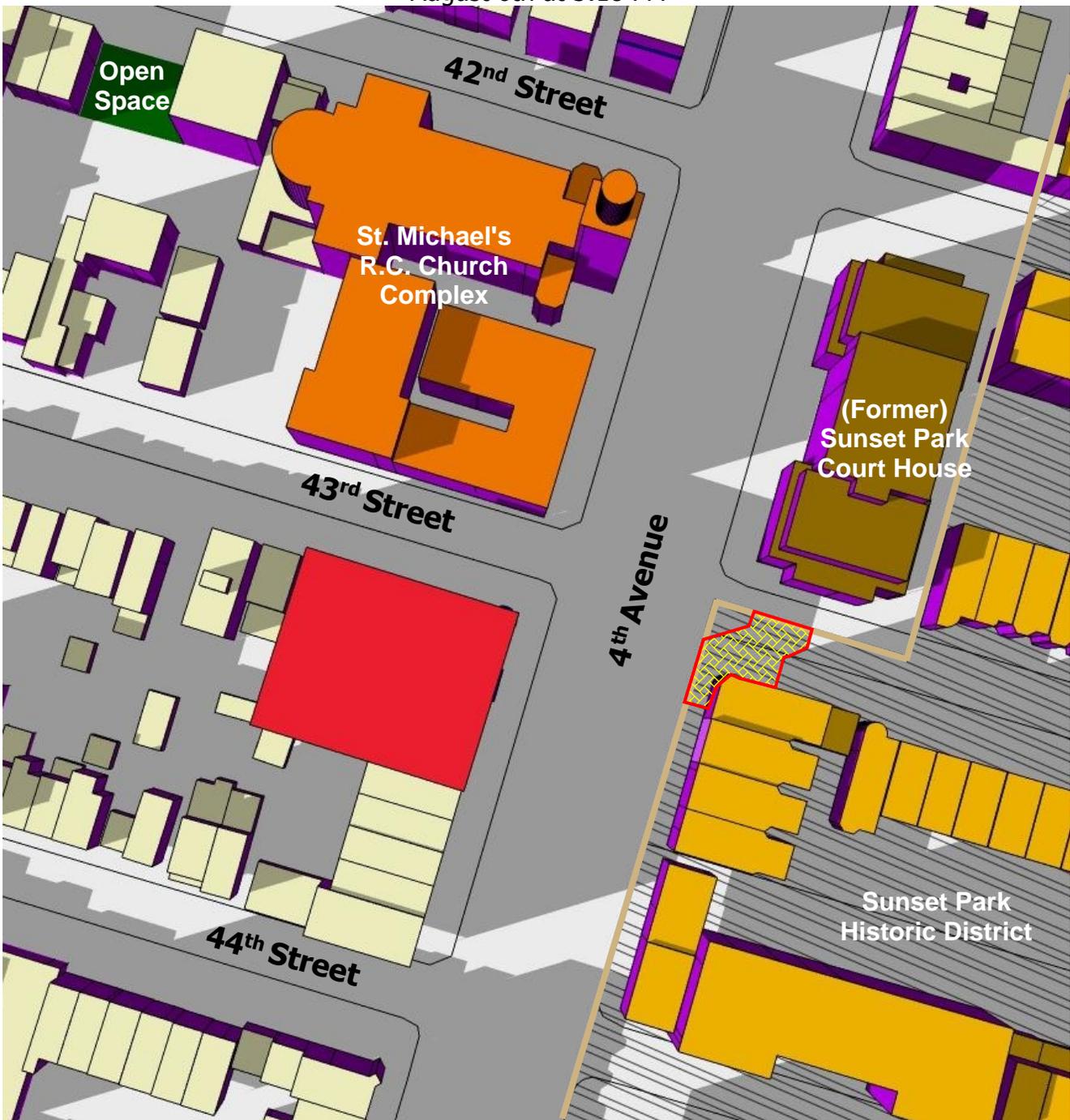
Source: STV Incorporated, 2017.

Figure 21-6h

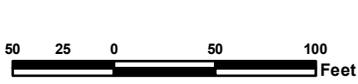
Proposed PS 557
 4302 4th Avenue, Brooklyn

**FULL DEMOLITION ALTERNATIVE
 DETAILED SHADOW ANALYSIS**

Maximum Incremental Shadow
 Sunset Park Historic District
 August 6th at 5:18 PM



- | | | | |
|---|--------------------------|---|--------------------------------|
|  | Incremental Shadow |  | SR/NR Listed Historic District |
|  | Proposed School Building |  | LPC Landmark & SR/NR Listed |
|  | Open Space |  | SR/NR Eligible |



Source: STV Incorporated, 2017.

Figure 21-6i

F. Historic and Cultural Resources

Based on the findings of the Preliminary Assessment/Disturbance Record study prepared for the site, the project site is not considered likely to contain archaeological remains. Therefore, neither this alternative nor the proposed project would affect archaeological resources.

Compared to the proposed project, which would retain the 43rd Street and the 4th Avenue facades of the former station house, this alternative would result in the full demolition of all on-site historic structures in order to facilitate the proposed new public school facility use. As with the proposed project, consultation with OPRHP would be undertaken by the SCA.

G. Urban Design and Visual Resources

This alternative would differ from the proposed project in that all existing on-site structures would be demolished, and none of the historic façades would be retained (see Figure 21-4). Building use and type would be similar to the proposed project, as this alternative, too, would expand the presence of institutional uses already present in the area; the existing St. Michael's R.C. Church complex, as well as the (former) Sunset Park Court House, are located on 4th Avenue within the study area. However, unlike the proposed project, based on the proposed preliminary design, this alternative would comply with all applicable zoning bulk regulation and zoning overrides would not be required as they would be under the proposed project

As compared to the proposed project, this alternative (at a height of approximately 60 feet) would not be as tall as the proposed project (approximately 75 feet tall). In addition, the bulk of the building with this alternative would be fairly evenly distributed across the site, including at the corner of 43rd Street and 4th Avenue; this fairly even distribution of bulk across the site would resemble other buildings in the area, including other institutional buildings (see Figure 21-4). (This arrangement of bulk on the project with this alternative would differ from the proposed project, which would have less bulk developed at this corner, effectively replicating the bulk of the existing three-story station house.) The bulk and height of this alternative would be consistent with the larger institutional buildings to the north and east of the project site on 4th Avenue, including most of St. Michael's R.C. Church complex buildings on the block north of the project site.

Building arrangement. As with the proposed project, this alternative would result in a continuous streetwall on both the 4th Avenue and 43rd Street sides of the project site, thereby improving the definition of the streetscape.

Street hierarchy, block form, and street pattern. As with the proposed project, this alternative would not alter the arrangement or configuration of blocks, nor would it affect the current street pattern or alter the street hierarchy of the study area.

Streetscape elements. As with the proposed project, it is expected that the existing mature street trees along 4th Avenue would be retained and protected during construction of this alternative; where they must be removed, they would be replaced with new street trees, which would be planted along both the 4th Avenue and 43rd Street sidewalks around the project site. These new trees would enhance the attractiveness of the 43rd Street sidewalk, in particular. The sidewalks

contiguous to the project site would be replaced and/or repaired as appropriate as part of the proposed project.

Visual Resources. Visual resources within the study area include the (former) Sunset Park Court House, St. Michael's R.C. Church complex, and the Sunset Park Historic District. Unlike the proposed project, this alternative would not retain the street-facing facades of the existing station house; however, the overall school building would contribute streetwall continuity and additional building height on the project site. Therefore, it would further contribute to the 4th Avenue streetscape in the vicinity of the study area visual resources. As described previously, the views to the project site from the Sunset Park Historic District are limited. Overall, the effect to the streetscape would be positive, and the use, form, arrangement, bulk and height would be consistent with the 4th Avenue streetscape and the (former) Sunset Park Court House and St. Michael's R.C. Church complex properties, in particular.

The proposed development of the project site as a new school, in accordance with the preliminary design currently considered for this alternative, would improve the urban design of the study area and visual quality of the surrounding streetscapes. It would contribute to the urban form characteristic of the 4th Avenue streetscape and be consistent with the nearby institutional uses and visual resources; further, it would result in the improvement of the derelict site. Therefore, although this alternative would not also preserve and stabilize the existing facades of the station house building (a contribution to the aesthetic character of the streetscape that would result with proposed project), it would overall, have a positive effect with regard to the urban design of the neighborhood; no significant adverse impact to urban design and visual quality would result with this alternative, and no further analysis is warranted.

H. Natural Resources

There are no known natural resources on or adjacent to the project site, and none would be affected by the proposed project. The site is part of a well-developed urban context. Therefore, as with the proposed project, none of the CEQR criteria for detailed natural resources analyses are met, and so this alternative would result in no significant adverse impacts to natural resources; no further analysis is warranted.

I. Hazardous Materials

Neither the proposed project nor this alternative would result in significant adverse impacts resulting from hazardous materials on the project site provided appropriate measures are taken during construction. As with the proposed project, this alternative would entail demolition activities and would include subsurface disturbance associated with construction and renovation activities. Without appropriate controls, these activities could result in adverse effects related to hazardous materials. As with the proposed project, to minimize the potential for adverse effects related to hazardous materials, the following measures would be incorporated:

- An active sub-slab depressurization system (SSDS) and soil vapor barrier will be incorporated into the building renovations to prevent potential soil vapor intrusion.
- Any suspect ACM, LBP, and/or PCB-containing materials impacted by renovation and construction activities should be identified and properly managed during such activities.

- All soil excavated during building construction would be properly managed in accordance with applicable local, State and Federal regulations.
- Any underground or aboveground petroleum storage tanks would be properly closed/removed in accordance with applicable regulations.
- Any dewatering would be minimized to avoid potential off-site contaminated groundwater from migrating toward the site.
- For areas of the site where exposed soils may exist after the school is constructed (i.e., landscaped areas), a twenty-four (24) inch thick layer of imported environmentally clean fill would be placed over site soils.
- 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.

Therefore, as with the proposed project, with the implementation of these measures, there would be no significant potential for significant adverse effects related to hazardous materials with this alternative.

J. Water and Sewer Infrastructure

This alternative would provide the same number of school seats as the proposed project and, therefore, water usage and sewage generation rates would be the same as those of the proposed project.

Water Supply. This alternative would include approximately 332 seats and 33 faculty and staff, and thus, daily water usage would be approximately 3,320 gpd for students and 330 gpd for staff, for a total of 3,650 gpd. The proposed school building would contain approximately 27,806 sf, and thus, would consume an additional 4,727 gpd for air conditioning, for a total of 8,377 gpd during the cooling season. No significant adverse impacts to water supply would result.

Storm/Sanitary Sewers. The amount of sewage generated by the proposed school would be approximately 3,650 gpd, and would be minimal in comparison to the treatment plant's permitted capacity; no adverse impacts are expected.

Therefore, as with the proposed project, this alternative would result in no significant adverse impacts to water and sewer infrastructure, and no further analysis is necessary.

K. Solid Waste and Sanitation Services

This alternative would provide the same number of school seats as the proposed project and, therefore, the solid waste generation rate would be the same as that of the proposed project.

This alternative would generate approximately 1,425 pounds of solid waste per week, or 6,107 pounds per month.

DSNY is responsible for collecting and disposing of solid waste from residences and public facilities, including schools. The typical DSNY collection truck for commercial carters typically carries between twelve and fifteen tons of waste material per truck. Therefore, as with the proposed project, there would be no significant adverse impact related to solid waste collection and disposal that would result with this alternative, and no further analysis is necessary.

L. Energy

Like the proposed project, this alternative is expected to be substantially more energy efficient than conventional pre-code buildings and would also comply with the New York State Energy Conservation Construction Code, and would incorporate energy conservation measures.

In addition, as with the proposed project, this alternative would be designed following the NYC Green Schools Rating System (guidelines specific to the design, construction and operation of New York City public school buildings) and is in compliance with site-related credits to achieve a LEED-certified or higher rating.

Like the proposed project, this alternative would include the creation of new educational space plus support facilities, staff support spaces, food service and related building support services. Following construction, this alternative would be expected to consume approximately 250,700 BTUs per square foot per year. Therefore, the estimated annual usage of energy for the proposed approximately 27,806 sf school facility would be approximately 7.0 billion BTUs, or 5.2 billion BTUs for the nine-month academic year, which would require less energy at the project site than the proposed project. Nonetheless, as with the proposed project, this alternative, would neither affect transmission or generation of energy, nor generate substantial indirect consumption of energy. It is expected that no significant adverse impacts would occur with the capacity of both Con Edison and National Grid to provide service to the project site and surrounding area with this alternative. No further analysis is warranted.

M. Transportation

This alternative would provide the same number of primary school seats to serve students in CSD No. 15 as the proposed project and, as such, would generate the same volume of vehicle and pedestrian trips. Therefore, this alternative would result in the same significant adverse traffic and pedestrian impacts as the proposed project at the intersections of 43rd Street and 3rd and 4th avenues. However, as described in Chapter 20, "Mitigation," the project's traffic and pedestrian impacts at these two intersections could be fully mitigated with the implementation of signal timing adjustments, "daylighting" (i.e., temporary removal of parking adjacent to the curbs) to provide a peak period turn lane, and six-foot curb extensions at the northwest and southwest corners of 4th Avenue and 43rd Street, extending the corner quadrants into 4th Avenue and subsequently shortening the crosswalk distances and increasing the available corner reservoir space for pedestrians waiting to cross the street. As with the proposed project, there would be no significant impact to parking or transit conditions.

N. Air Quality

This alternative would differ from the proposed project in that this alternative would stand four stories above grade (approximately 60 feet tall), rather than five stories with the proposed project. This alternative would provide the same number of primary school seats as the proposed project, resulting in the same volume of vehicle and pedestrian trips; therefore, there would be no increase in trip generation as compared to the proposed project. There would be no significant change in the school's heating plant operations or stack height; therefore, no violations of applicable NAAQS standards or thresholds are anticipated. As with the proposed project, this alternative would not have any significant stationary or mobile source air quality impacts.

O. Noise

Under this alternative, an approximately 2,745 sf rooftop playground would be provided on the third floor above the gymnasium in the new school facility, located adjacent to the western property lot line.

This alternative would have the same effect on traffic generated noise levels as the proposed project and, as such, would not result in mobile source noise impacts. Adverse noise impacts from the third floor rooftop playground on nearby residences would not occur under this alternative.

As with the proposed project, attenuation measures (e.g., double-glazed windows), which are a standard feature of new facilities, would be incorporated into the school building's design and construction to reduce the exterior noise exposure level to the required interior noise level of 45 dBA or below. With these measures, the proposed school building would meet NYCDEP interior noise level requirements, and would not experience any noise exposure impacts.

P. Public Health

As with the proposed project, no impacts related to air quality, water quality, or noise are anticipated as a result of this alternative. Hazardous materials are anticipated to be present on site, based on the Phase I ESAs and Phase II ESIs prepared for each lot in 2010, and the Phase I ESA Update prepared for the project site in 2016. However, with the existing on-site contamination appropriately addressed through proper handling and disposal, and other measures described earlier in this document, no public health issues are expected with the proposed project. Therefore, as would be the case with the proposed project, this alternative would not result in significant adverse impacts to public health, and no additional analysis is necessary.

Q. Neighborhood Character

As with the proposed project, and for the same reasons as for the proposed project (detailed in Chapter 18, "Neighborhood Character"), the construction of this alternative would be an appropriate land use, and its design would contribute to the established urban design of the study area and the 4th Avenue corridor, in particular. Like the proposed project, this alternative would

enliven the streetscape in a manner similar to the neighboring institutional uses and it would be in keeping with the residential context to the west and east of the project site.

Unlike the proposed project, this alternative would not retain the existing street-facing facades of the historic station house, and therefore this alternative would not have the potential to maintain a sense of historic identity that may be enjoyed by residents in the study area and surrounding neighborhood. Like the proposed project, this alternative would represent an important improvement in aesthetic conditions contributing to neighborhood character.

Technical analyses have concluded that with the recommended measures in place, this alternative would not result in significant adverse impacts related to traffic, air or noise conditions that would alter the character of the neighborhood.

Finally, as with the proposed project, this alternative would introduce new capacity in the school district, thereby representing an improvement to neighborhood character in terms of improved community facilities and services. As such, this alternative would be a positive attribute to the educational opportunities in the neighborhood, as well as an improvement to the physical design and character of the project site and surrounding area. Therefore, as with the proposed project, this alternative would have a positive effect on neighborhood character, and it would result in no significant adverse impact to neighborhood character; no further analysis is warranted.

R. Construction-Related Impacts

The anticipated construction period for this alternative is expected to be approximately 40 months, which would be more than the approximately 34 months estimated for the proposed project. However, construction period effects resulting from the development of this alternative would be similar to the proposed project, and neither would be expected to result in significant adverse construction impacts.

Chapter 22: Unavoidable Adverse Impacts of the Proposed Project

Unavoidable adverse impacts are defined as those that meet the following two criteria:

- There are no reasonably practicable mitigation measures to eliminate the impact; and
- There are no reasonable alternatives to the proposed project that would meet the purpose and need of the action, eliminate the impact, and not cause other or similar significant adverse impacts.

Historic Resources. The proposed project would require that a majority of the existing on-site structures be demolished. The existing former police precinct facility on the project site is a designated New York City Landmark and is also listed in the State and National Registers of Historic Places by OPRHP. As described in Chapter 7, “Historic and Cultural Resources,” this is likely to result in an adverse effect to this historic resource, and may constitute a significant adverse impact to historic resources. The SCA is currently in consultation with OPRHP to determine measures that would avoid or mitigate this adverse impact. However, the measures that are identified may only partially mitigate the project’s adverse effect on this historic resource. Therefore, the proposed project may result in an unavoidable adverse impact to historic resources.

Chapter 23: Identification of Irreversible and Irretrievable Commitment of Resources

There are many resources, both natural and human-made, that would be expended in the construction and operation of the proposed project. These resources include the use of land, funding, building materials, energy, and human effort required to develop, construct, and operate various elements of the proposed project. They are irreversibly and irretrievably committed because their reuse for some other purpose other than the project either is not possible or is highly unlikely.

The land (including its development potential) that comprises the project site is the most basic resource that would be committed irretrievably. In addition, the project's funding is an irretrievable resource since it would no longer be available for investment in other projects. The actual building materials used in the construction of the school (e.g., steel, concrete, glass, etc.) and the energy (in the form of gas and electricity) consumed during construction and by the school's various mechanical systems would also be irretrievably committed to this project.

Chapter 24: Relationship between Local Short-Term Use of the Environment and the Maintenance and Enhancement of Long-Term Productivity

The proposed project entails the construction of a new school facility that would replace an unpaved vacant lot, currently used for private parking, and the (former) 68th Police Precinct Station House and Stable, which are currently vacant. The new school facility would provide approximately 332 seats for grade levels pre-kindergarten through five within Community School District (CSD) No. 15.

During construction, as discussed in Chapter 19, “Construction-Related Impacts,” there would be some short-term adverse effects on the environment. These would include temporary disruptive effects due to increased traffic and noise levels associated with construction activities, and diminution of air quality due to fugitive dust and vehicular emissions.

Longer-term negative impacts would include changes to transportation and noise conditions, and the negative effect resulting from the demolition of a majority of the historic (former) 68th Police Precinct Station House and Stable. However, as described in Chapter 20, “Mitigation Measures,” measures are available to fully mitigate the project’s transportation and noise impacts, and mitigate or minimize the project’s impact on historic resources. These negative effects of the project would not be expected to adversely affect long-term productivity.

Positive consequences of the proposed project would include the provision of new public school capacity on the site to meet the needs of the area’s current and projected future primary school students.

Chapter 25: Growth-Inducing Aspects of the Proposed Project

The proposed project entails the construction of a new school facility that would replace an unpaved vacant lot currently used for private parking and the (former) 68th Police Precinct Station House and Stable, which are currently vacant. The new school facility would provide approximately 332 seats for grade levels pre-kindergarten through five within Community School District (CSD) No. 15. The proposed project would serve students from the surrounding community where currently there is a need for additional school seats and would not be expected to induce growth in the area.

Chapter 26: Comments and Responses to the DEIS

A. Introduction

This chapter summarizes and responds to all substantive comments on the Draft Environmental Impact Statement (DEIS) for the proposed new primary school facility, currently known as PS 557, made during the public review period. These consist of written comments as well as comments made at the public hearing held by the New York City School Construction Authority (SCA) at 6:00 PM on June 13, 2017, at 4201 4th Avenue, Brooklyn. After the public hearing, the SCA continued to accept written comments for fourteen (14) days, until June 27, 2017.

Section B lists the names and affiliations of individuals who commented on the DEIS, with the date of the comments.

Section C summarizes and responds to each substantive comment on the DEIS for the proposed project. Following each comment is the name of the person or organization (in parentheses) who made the comment. Responses are provided, following each comment.

B. Groups and Individuals Who Commented on the DEIS

Oral Testimony

- Joan Botti, School Site Selector, Community Board 7, oral testimony of June 13, 2017
- David Estrada, Communications Director for City Council Member, Carlos Menchaca, oral testimony of June 13, 2017
- Jeremy Laufer, District Manager, Community Board 7, oral testimony of June 13, 2017
- Tom Murphy, oral testimony of June 13, 2017
- Javier Salamanca, oral testimony of June 13, 2017

Written Testimony

- Historic Districts Council – Simeon Bankoff, Executive Director, written testimony of June 26, 2017
- The Municipal Art Society of New York (MAS), written testimony of June 27, 2017
- The New York Landmarks Conservancy – Peg Breen, President, written testimony of June 27, 2017

C. Comments and Responses

PROJECT DESCRIPTION

Comment 1

Who owns the building? (*Murphy*)

Response

The site of the proposed new school is located on two separate tax lots (Block 728, Lots 34 and 36), with two different owners. Lot 34 (the vacant lot) is owned by Porfirio and Maria Santiago and Lot 36 (the vacant (former) 68th Police Precinct Station House and Stable) is owned by Brooklyn Police Castle Inc., c/o Yossi Streicher & Martin Handler.

Comment 2

I am very happy to hear that the precinct and the stable will turn into a school. 30,000 square feet sounds great. Also 3,000 square feet of playground space on the roof. It is a wonderful addition to the community. I can't wait to hear about more details about the school building and when it will open. I am glad for the support of the community, Community Board, School Construction Authority. Thank you very much. (*Salamanca*)

Response

Comment noted.

Comment 3

The Municipal Art Society of New York (MAS) is deeply disappointed that these important historic structures have been allowed to deteriorate to their current state and restoration has been deemed infeasible by the School Construction Authority (SCA). (*MAS*)

Response

Comment noted. As detailed in Chapter 7, "Historic and Cultural Resources," "...the New York State Office of Parks, Recreation and Historic Preservation (OPRHP) commented in its letter of February 24, 2017, that the interior of the on-site police precinct building is in terrible condition and is deteriorated beyond repair..." However, as described in Chapter 7, "...Upon OPRHP's review of the Test-Fit SHPO Report (February 6, 2017)...OPRHP concurred that there are two viable options that meet the project goals: 'Option RS2F' (the proposed project) and 'Option RS3C' (Full Demolition Alternative), and that the SCA move forward with 'Option RS2F,' which includes the preservation of the station house main facades on both 4th Avenue and 43rd Street." As described in Chapter 1, "Project Description," the proposed project would include the preservation and stabilization of the 4th Avenue and 43rd Street facades of the historic (former) police precinct to be incorporated into the façade design of the new PS 557.

Comment 4

The DEIS should be revised to include interior and exterior conceptual renderings of the proposed school showing details how the existing historic structure will be incorporated into the design. (MAS)

Response

Interior renderings would not inform the conduct of environmental analyses, pursuant to SEQRA. Further, as detailed in Chapter 7, "Historic and Cultural Resources," "...OPRHP commented in its letter of February 24, 2017, that the interior of the on-site police precinct building is in terrible condition and is deteriorated beyond repair..." As design is further developed, the SCA would remain in consultation with OPRHP to ensure that the intended preservation and stabilization of the facades would be realized in accordance with the stipulations that would be formalized within the Letter of Resolution, which is described in Chapter 7. Please refer to Figure 8-2, "Massing Diagram," in Chapter 8, "Urban Design and Visual Resources," for a rendering of the proposed project that illustrates how the historic police precinct structural facades would be integrated into the design of the proposed PS 557 school building.

PURPOSE AND NEED**Comment 5**

We recognize the compelling goal of adding school seats in Community District 15; however, this tremendous need for seats points out the need for comprehensive planning, instead of a piecemeal approach that will severely diminish this iconic local landmark. (*The New York Landmarks Conservancy*)

Response

Comment noted. The SCA undertakes an annual comprehensive process to project the need for school seats across the City. In creating DOE's Proposed Five-Year Capital Plan for Fiscal Years 2015-2019 (Capital Plan), the SCA analyzes current capacity figures, capacity scheduled to become available over the next several years, and long-term enrollment and housing projections. The Capital Plan is refreshed on an annual basis with updated data and projections.

The annual amendment process allows the SCA to reassess priorities and take into account shifts in enrollments, variations in housing growth, changes in building conditions, new educational initiatives, adjustments in the construction marketplace, and incorporate any impact from financial changes implemented by the City or State. An annual review has proven to be the most effective way to make the Capital Plan a living, working document that, within budgetary constraints, keeps pace with the needs of the educational system.

SHADOWS

Comment 6

I don't understand the shadow analysis, what is an incremental shadow? It seems like there will be more of a shadow? (*Murphy*)

Response

The shadow analysis is concerned with identifying whether the proposed new PS 557 building would cast any shadow greater in extent and duration than any shadows already cast onto sunlight sensitive receptors in the area by existing buildings. As described in Chapter 6, "Shadows," a detailed shadow analysis, such as was conducted for the proposed action, considers the presence of existing buildings in the context of the potentially sunlight sensitive receptors, as well as shadows they cast, to determine whether there would be a greater extent of shadow ("incremental shadow") that would be specifically attributable to the proposed PS 557. The incremental shadow refers to the area in shadow that would not otherwise be in shadow as a result of the existing buildings, were the proposed PS 557 not constructed. Chapter 6 details the extent of predicted incremental shadows that would fall onto historic resources and open spaces in the vicinity; however, as described in Chapter 6, the incremental shadow effects would in no cases reach sunlight sensitive portions of buildings (such as stained glass windows) or sunlight sensitive landscaping (plantings). Therefore, based on these findings, the shadows analysis concludes that there would be no significant adverse impact related to shadows with the proposed PS 557.

HISTORIC AND CULTURAL RESOURCES

Comment 7

Has the deal been delandmarked? (*Botti*)

Response

No, as described in Chapter 1, "Project Description," the (former) 68th Police Precinct Station House and Stable on the project site are a designated New York City Landmark and are listed in the State and National Registers of Historic Places by OPRHP. As described in the DEIS, Chapter 7, "Historic and Cultural Resources," the SCA has undertaken extensive consultation with the OPRHP, pursuant to SEQRA and Section 14.09 of the State Historic Preservation Act of 1980 (SHPA). As detailed in Chapter 7, "...Upon OPRHP's review of the Test-Fit SHPO Report (February 6, 2017)...OPRHP concurred that there are two viable options that meet the project goals: 'Option RS2F' (the proposed project) and 'Option RS3C' (Full Demolition Alternative), and that the SCA move forward with 'Option RS2F,' which includes the preservation of the station house main facades on both 4th Avenue and 43rd Street."

Comment 8

The Sunset Park Police Precinct is unique. There are only three locally-designated individual landmarks in this area, a very low number compared with other neighborhoods across the City and in Brooklyn. As the Landmarks Commission's designation report states, the 1886 Romanesque Revival-style Station House and Stable are "rare surviving 19th-century Brooklyn police precinct structures." (*The New York Landmarks Conservancy*)

Response

Comment noted.

Comment 9

It is unfortunate that a series of owners have left the buildings in such poor condition. In fact, we caution that great care must be taken with the fragile historic fabric that does remain, so that it is not lost during demolition, exaction or new construction. (*The New York Landmarks Conservancy*)

Response

Comment noted. Prior to demolition, the SCA's contractor will install a scaffolding system on the exterior of the two facades to stabilize and anchor the facades that are to remain in order to protect them.

Comment 10

As we stated in our comments on the NOF, we urge the SCA to enter into consultation with the Landmarks Preservation Commission regarding this project and disclose the correspondence in the revised DEIS. (*MAS*)

Response

Comment noted. As described in the DEIS, Chapter 7, "Historic and Cultural Resources," the SCA has undertaken extensive consultation with the OPRHP, pursuant to SEQRA and Section 14.09 of the State Historic Preservation Act of 1980 (SHPA). Correspondence between the SCA and OPRHP is provided in Appendix C to the DEIS (Agency Correspondence).

Comment 11

HDC is very concerned about the Sunset Park neighborhood, an area which possesses great architectural beauty but whose historic buildings are largely unprotected from inappropriate alterations and demolitions. As you may be aware, despite longtime community-driven

preservation campaigns, there are only three designated New York City landmarks within the larger confines of the Sunset Park neighborhood. The Historic Districts Council therefore finds it abhorrent that the New York City School Construction Authority intends to use public monies to purchase one of these protected buildings in order to demolish it. During the site selection process, we questioned this site decision (letter attached) and no rationale for this destructive scheme was ever provided. (*Historic Districts Council*)

Response

Comment noted. Please note that the proposed action is not the Full Demolition Alternative; rather, the proposed action, developed in consultation with OPRPH, allows for the preservation and stabilization of the station house facades, as described in Chapter 1, "Project Description." Please refer to Chapter 7, "Historic and Cultural Resources," for information regarding the SCA consultation with OPRHP; as described, "...Upon OPRHP's review of the Test-Fit SHPO Report (February 6, 2017)...OPRHP concurred that there are two viable options that meet the project goals: 'Option RS2F' (the proposed project) and 'Option RS3C' (Full Demolition Alternative), and that the SCA move forward with 'Option RS2F,' which includes the preservation of the station house main facades on both 4th Avenue and 43rd Street."

Comment 12

With regard to the Draft Environmental Impact Statement for this project, there are a number of factual omissions. In Part 1 B: Government Approvals, there is no mention of consultation with the NYC Landmarks Preservation Commission. Although the NYC LPC does not have binding authority over NYC SCA, it does have advisory powers and is consulted. Additionally, the NYS Historic Preservation Office does have authority here (and it is later referenced to have been consulted), so that should be noted in this section as well. (*Historic Districts Council*)

Response

As SCA is a State Authority, consultation with NYC LPC is not required. As described in the DEIS, Chapter 7, "Historic and Cultural Resources," the SCA has undertaken extensive consultation with OPRHP, pursuant to SEQRA and Section 14.09 of the State Historic Preservation Act of 1980 (SHPA). The SCA and OPRHP are currently developing a Letter of Resolution outlining the agreement between the SCA and OPRHP. Correspondence between the SCA and OPRHP and the current draft of the Letter of Resolution are provided in Appendix C to the DEIS (Agency Correspondence).

Comment 13

Chapter 7: Historic and Cultural Resources is not nearly comprehensive enough in its discussion of demolishing the existing protected historic resource. Notice should be given to the significance of the existing building to the neighborhood, the evolution of the New York City Police

Department and Brooklyn as its own municipality. A survey of existing contemporaneous police stations in Brooklyn should be included, and efforts should be undertaken to truly protect them against demolition and inappropriate alteration, by government or private development. Similarly, a survey of Romanesque architecture in Brooklyn should also be included with similar goals of protection in mind. (*Historic Districts Council*)

Response

The request is outside the scope of SEQRA and is not warranted to satisfy OPRHP/SHPO consultations or to prepare the EIS for the proposed action.

URBAN DESIGN AND VISUAL RESOURCES

Comment 14

We also find the DEIS Urban Design and Visual Resources section to be deficient in fully evaluating how the proposed project will incorporate the historic façade into the new building. (*MAS*)

Response

The Urban Design and Visual Resources Assessment follows the guidance of the *CEQR Technical Manual*. The intent of the urban design analysis is not to evaluate the architectural stylization of the building beyond that which could potentially affect established urban form. Thus, as the proposed action would not change such substantial components of urban design, such as street pattern and block form, and since the proposed project would be located within a developed urban area, the urban design and visual resources analysis focuses on building bulk and height and setback, as well as streetwall effect, which relate to the established urban form on the project site and in its surrounding context, and which relate, in particular, to the pedestrian experience of urban form. The SCA will continue its ongoing consultation with OPRHP for input on the manner in which the historic façade elements will be incorporated into the overall design of the school building.

Comment 15

With consideration of the important role the 18th Police Precinct Station House and Stable has played in defining the character of the Sunset Park neighborhood, the DEIS Urban Design and Visual Resources and Neighborhood Character sections need to be revised to include a more detailed and rigorous evaluation of how the new building would be consistent with the design and character of the neighborhood. (*MAS*)

Response

As described in Chapter 1, "Project Description," the proposed action would incorporate the historic 4th Avenue and 43rd Street facades into the design of the new PS 557. As described in Chapter 7, "Historic and Cultural Resources," "...OPRHP stated that considering that [the historic (former) police precinct] building is an important architectural landmark in the neighborhood, retaining [the 4th Avenue and 43rd Street] facades provides important continuity at this corner and preserves much of the architectural art of the façade." The proposed project would make use of an abandoned and derelict site for the public educational facility purpose in a neighborhood where it is needed. Therefore, compared to the No Action condition, the proposed project represents a substantial improvement to neighborhood character. Please also refer to the response to Comment 14.

Comment 16

The DEIS must be revised to include more detailed drawings of the massing of the new building. Figure 8-2 in the Urban Design and Visual Resources section of the DEIS is not sufficiently detailed. (MAS)

Response

Please refer to the response to Comment 14. Since the building has not been designed yet, detailed design drawings are not available at this time. Coordination with OPRHP is ongoing.

NEIGHBORHOOD CHARACTER**Comment 17 (same as Comment 15 above)**

(Please refer to Comment 15, which references neighborhood character, and the respective response.)

Comment 18

In Part 2, Section 18 (Community Character), the answer should be "Yes" and the damage to the community character from the proposed demolition of a recognized historic resources should be noted. Within the DEIS, Chapter 18: Community Character states [CEQR Technical Manual Chapter 18 referenced by commenter]. The SCA proposes to demolish a recognized historic resource. This has a negative effect on community character and must be noted. (*Historic Districts Council*)

Response

The response to Part II, Section 18, “The proposed project is inconsistent with the existing community character,” is correct as “No.” The proposed project *would be consistent* with the existing community character, which derives from utilized properties and vibrant streetscapes imbued with many elements of well-maintained historic character; in contrast, in its existing condition and in its No Action condition, the vacant and derelict project site is inconsistent with the existing community character. Please refer to the response to Comment 15.

CONSTRUCTION-RELATED IMPACTS

Comment 19

I am curious about the adjacent business on the Fourth Avenue side, Cafe Zona, and their backyard, their backyard restaurant service. I am not sure if you are aware if that wall that abuts the property is the wall of the stable that is coming down... I was at their facility and there is a looming brick wall. I can't put two and two together between the avenue and the back. It may be worth consulting with that business owner about it. (*Estrada*)

Response

It is standard practice for the SCA to reach out to affected neighbors prior to construction. In addition, we will have the contractor use an alternate means of protection so as not to adversely impact the neighboring property.

ALTERNATIVES TO THE PROPOSED PROJECT

Comment 20

According to the NOF, SCA was required to conduct an alternative sites analysis for eight other potential sites for a school facility in Community School District No. 15. At the time of the issuance of the NOF, two sites (250-266 46th Street and 291-301 24th Street) remained under consideration by SCA and were undergoing “various studies” to determine if they were appropriate and could accommodate a small public school facility. Neither the DEIS nor any supporting documentation addresses their status. Furthermore, neither the DEIS nor supporting documentation includes information about other sites in the area that were under consideration for a school site. Therefore, MAS urges that the revised DEIS include an appendix providing the full evaluation of these two sites and details on other potential school sites selected in Community School District No. 15 that were eliminated from consideration for the construction of a new school. (*MAS*)

Response

The SCA conducted an Alternate Sites Analysis and these two sites (250-266 46th Street and 291-301 24th Street) were included in that analysis; however, it was determined that neither of these sites are viable options for the site of a primary school facility at this time.

Comment 21

Consideration of preserving or reuse of the stable has largely been ignored under the plan, the DEIS, and supporting documentation. The DEIS needs to be revised to include an evaluation of options for preserving the landmark stable. (MAS)

Response

An evaluation of conceptual design options is provided in Appendix A to the DEIS (Test-Fit SHPO Report), which demonstrates that in order to accommodate the minimum Program of Requirements (POR) required for a new primary school facility, the proposed project would require that a majority of the existing on-site structures be demolished.

Comment 22

As we stated in our response to the June 1, 2016 Notice of Filing (NOF), MAS strongly opposed any plan that would involve the demolition of the 18th Police Precinct Station House and Stable, which are both listed on the State and National Registers of Historic Places and are designated individual New York City landmarks. At the time, we urged the SCA to either pursue an alternate site for the school or preserve the two buildings and incorporate them into the new school design. We maintain this position today. (MAS)

Response

Comment noted. Please see response to Comment 20.

MISCELLANEOUS**Comment 23**

Has the property been purchased yet? (Laufer)

Response

The project site consists of two tax lots, Block 728 Lots 34 and 36. Approval of the acquisition of the project site for the construction of a new primary school will go to City Council for approval. If approved by City Council, Lot 36 will be purchased from the

owner directly and SCA will proceed with eminent domain for Lot 34. The SCA is scheduled to begin the acquisition process in summer 2017 and it is estimated that full acquisition will be completed within twelve (12) months.

Comment 24

Approximately how long do you think this phase will take? About a year? *(Botti)*

Response

Please see response to Comment 23.

Comment 25

It is an environmental question. Last Wednesday the sanitation department cleaned up the front of the building. I am very interested in the price. *(Murphy)*

Response

This particular issue is unrelated to the proposed action and outside the scope of this EIS.

Comment 26

Please understand that these suggestions in no way countenance support for this project as proposed. The demolition of a New York City landmark using public funds is completely and wholly unacceptable. *(Historic Districts Council)*

Response

Comment noted.