# City Environmental Quality Review
# ENVIRONMENTAL ASSESSMENT STATEMENT (EAS) SHORT FORM

FOR UNLISTED ACTIONS ONLY • *Please fill out and submit to the appropriate agency* (see instructions)

## Part I: GENERAL INFORMATION

**1. *Does the Action Exceed Any Type I Threshold in 6 NYCRR Part 617.4 or 43 RCNY §6-15(A) (Executive Order 91 of 1977, as amended)?*** ☐ YES ☒ NO

If "yes," **STOP** and **complete the FULL EAS FORM**.

**2. *Project Name*** Ikos Senior Housing Rezoning & UDAAP

**3. *Reference Numbers***

| | |
|---|---|
| CEQR REFERENCE NUMBER (to be assigned by lead agency)<br>22HPD043Q | BSA REFERENCE NUMBER (if applicable) |
| ULURP REFERENCE NUMBER (if applicable)<br>250207HAQ, 250208ZMQ, 250209ZRQ | OTHER REFERENCE NUMBER(S) (if applicable)<br>(*e.g.*, legislative intro, CAPA) |

| **4a. *Lead Agency Information*** | | | **4b. *Applicant Information*** | | |
|---|---|---|---|---|---|
| NAME OF LEAD AGENCY<br>New York City Department of Housing Preservation and Development (HPD) | | | NAME OF APPLICANT<br>HPD | | |
| NAME OF LEAD AGENCY CONTACT PERSON<br>Anthony Howard, Director, Environmental Planning | | | NAME OF APPLICANT'S REPRESENTATIVE OR CONTACT PERSON<br>Annabelle Meunier | | |
| ADDRESS 100 Gold Street, 7-A3 | | | ADDRESS 100 Gold Street | | |
| CITY New York | STATE NY | ZIP 10038 | CITY New York | STATE NY | ZIP 10038 |
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**5. *Project Description***

The proposal involves an application by the New York City Department of Housing Preservation and Development (HPD), on behalf of Mega Contracting Group and HANAC (the "project sponsors") for a series of actions to facilitate a mixed-use development containing senior housing at 31-07 31st Street in the Astoria neighborhood of Queens, Community District 1 (Block 611, Lot 25) (the "Project Site" or "Site 1"). The Proposed Actions would facilitate the construction of two new buildings that would contain 167 units of senior housing and one super's unit, approximately 7,000 gross square feet (gsf) of retail space, and approximately 7,000 gsf of community facility space (the "Proposed Project"). The Proposed Actions include designation of an Urban Development Action Area ("UDAA") and approval of an Urban Development Action Area Project ("UDAAP") for Block 611 Lot 25 (the "Project Site" or "Site 1"); a zoning map amendment to rezone an area that includes Block 611, Lots 21, and 25; Block 587 Lot 43; portions of Block 611, Lots 43-52, 144, 146 and 152; and portions of Block 587, Lots 18, 29, 34, and 54 (the Rezoning Area) from R5 and R5/C1-2 to C4-5 (with a small portion rezoned to C4-2A), and a zoning text amendment to establish the Rezoning Area as a Mandatory Inclusionary Housing (MIH) Area in Appendix F of the Zoning Resolution (ZR). In addition, the Proposed Actions include construction funding through HPD's Senior Affordable Rental Apartments (SARA) program, New York City Housing Development Corporation (HDC) Extremely Low and Low-Income Affordability (ELLA) Program funding, and Housing and Urban Development (HUD) project-based vouchers. The zoning map amendment is expected to result in additional development on Block 587, Lot 43 ("Projected Development Site 2" or "Site 2").

The NYC Department of City Planning (DCP) recently adopted a citywide zoning text amendment, the City of Yes for Housing Opportunity (COYHO) (CEQR No. 24DCP033Y) to expand opportunities for housing within all zoning districts, and across all 59 of the City's Community Districts. These changes to the City's Zoning Resolution enable more housing and a wider variety of housing types in every neighborhood, from the lowest-density districts to the highest, to address the housing shortage and high cost of housing in New York City. It has been determined that the Reasonable Worst Case Development Scenario (RWCDS) may be affected by the text amendment, as COYHO modifies the regulations of the C4-5 district proposed to be mapped in the Rezoning Area. Therefore, an alternative With Action scenario was developed to assess the potential changes to the RWCDS under COYHO.

See page 1a, "Project Description," for a detailed discussion of the Proposed Actions and analytical framework assessed in the EAS; see Appendix A for an assessment of the COYHO alternative scenario.

***Project Location***

## Project Description

# A. INTRODUCTION

The proposal involves an application by the New York City Department of Housing Preservation and Development (HPD), on behalf of the project sponsors, Mega Contracting Group and HANAC Inc, for approvals to facilitate a mixed-use development (the "Proposed Project") containing 167 units of senior housing and one building superintendent's unit, approximately 7,000 gross square feet (gsf) of retail space, and approximately 7,000 gsf of community facility space (the "Proposed Project") at 31-07 31st Street in Astoria, Queens, Community District 1 (Block 611, Lot 25; the "Project Site"). The Proposed Project would be financed through HPD's Senior Affordable Rental Apartments (SARA) program, HDC's Extremely Low- and Low-Income (ELLA) Program, and HUD project-based vouchers.

The Proposed Project would be facilitated by designation of an Urban Development Action Area (UDAA), approval of an Urban Development Action Area Plan (UDAAP), including disposition, a zoning map amendment, and a zoning text amendment. The UDAA designation, UDAAP approval, and zoning map and text amendments (the "Proposed Actions") are discretionary approvals subject to review under the Uniform Land Use Review Procedure (ULURP). The requested zoning map and zoning text amendments would affect an area that extends beyond the Project Site. The zoning map amendment would change an existing R5 and R5/C1-2 district on 31st and 32nd Streets to a C4-5 district, with a small portion rezoned to a C4-2A district (the "Rezoning Area," shown on **Figure 1**). In addition to the Project Site (Block 611, Lot 25), the zoning changes would affect other lots on the blocks along 31st Street south of Broadway: Block 611, Lot 21 and portions of Lots 43-52, 144, 146 and 152; Block 587, Lot 43 and portions of Lots 18, 29, 34 and 54. The zoning text amendment would establish the Rezoning Area as a Mandatory Inclusionary Housing (MIH) Area in Appendix F of the Zoning Resolution (ZR).

# B. PROPOSED ACTIONS

The Proposed Project requires the following discretionary actions:

- Zoning Map Amendment to rezone an existing R5 district with a C1-2 overlay on 31st Street to a C4-5 district in the Rezoning Area, with a small portion rezoned to a C2-4A district. The Rezoning Area includes the eastern and western frontages of 31st Street south of Broadway and includes Block 611, Lots 21 and 25; Block 587, Lot 43; and portions of Block 587, Lots 34 and 54 (see **Figure 7**).
- Zoning Text Amendment to ZR Appendix F*: Inclusionary Housing Designated Areas and Mandatory Inclusionary Housing Designated Areas* for Community District 1, Queens to establish the Rezoning Area as an MIH area.
- Designation of UDAA and approval of UDAAP for disposition of a City-owned property located on Block 611, Lot 25.
- Construction Funding. The project sponsors are seeking funding for the Proposed Project through HPD's Senior Affordable Rental Apartments (SARA) program and the New York City Housing Development Corporation's (HDC) Extremely Low and Low Income (ELLA) Program. HPD may allocate Project Based Vouchers originating from the U.S. Department of Housing and Urban Development (HUD).

# C. PROPOSED PROJECT

The Proposed Project is an approximately 134,000-gsf mixed use development, comprised of two buildings: an approximately 127,000 gsf, 13-story mixed-used residential building on the Project Site's 31st Street frontage with 167 affordable senior DUs and one superintendent's unit and approximately 7,000 gsf of ground-floor retail; and a 3-story, approximately 7,000-gsf community facility building on the Project Site's 32nd Street frontage (see **Figures 8** and **9**). The residential building would achieve a maximum height of 135 feet and a base height of 75 feet. The community facility building would be connected to the residential building on the first floor and would reach a building height of 37 feet (maximum of 47 feet with bulkhead). The commercial and residential entrances for the residential building would be

located on 31st Street, while the entrance for the community facility building would be located on 32nd Street. No accessory parking would be provided. The Proposed Project would include green roofs and solar panels on both buildings.

The Proposed Project would provide 167 affordable senior DUs, of which 30 percent would be reserved for formerly homeless seniors, and one superintendent's unit. The Proposed Project would be financed through the SARA Program and rent would be affordable to those earning up to 50 percent of Area Median Income (AMI). HANAC, the Proposed Project's community partner, would manage the senior affordable housing and community facility. HANAC was founded in 1972 and currently owns 650 senior affordable housing units in Queens and several senior community centers that provide services to seniors, adults, families, and youth. HANAC would occupy administrative space and provide a variety of social service programing in the community facility building. HANAC would occupy 2 to 3 floors with administrative space. The remaining floors would be dedicated to social service programming for Queens and Astoria residents. Social services include workforce development, English literacy, technological literacy classes, and LGBTQ services.

## D. PURPOSE AND NEED

The Proposed Actions would facilitate the development of needed senior housing and community facility space to serve seniors in Astoria. The Proposed Project would provide 167 affordable senior DUs, including housing for formerly homeless seniors. In addition, the Proposed Actions would facilitate new community facility space that would provide needed social services to Queens and Astoria residents, including workforce development, English language literacy, adult learning, and technology literacy classes. The SARA program provides gap financing for construction and renovation of rental units for low-income seniors. The population of seniors is growing, and New York City seniors are more likely to be low-income, to be rent-burdened, and to live on a fixed income than other City residents. The City's housing plan, *Housing New York*, commits to creating or preserving 30,000 senior households by 2026 and HPD launched the Seniors First initiative to meet this commitment. The Proposed Actions would support this commitment to creating senior affordable housing. In addition, the mapping of the Rezoning Area as an MIH Area would ensure the provision of permanently affordable housing and advance New York City's goal of preserving and/or creating 300,000 affordable (including supportive) housing units by 2026.

The existing R5 district allows a maximum floor area ratio (FAR) of 1.25 and the C1-2 overlay allows a commercial FAR of 1.0. The proposed C4-5 district allows a community facility FAR of 6.5 and a residential FAR (R7-2 equivalent) of 5.01 for affordable independent residences for seniors, which would facilitate the development of the Proposed Project at the desired density to provide 167 affordable senior DUs and one superintendent's unit. The proposed C4-2A district, which would be mapped over the portion of the Project Site that extends to 32nd Street (an extension of the existing C4-2A district mapped along Broadway to the north of the Project Site) allows a community facility FAR of 3.0 and a residential FAR (R6A equivalent) of 3.90 for affordable independent residences for seniors; this district would facilitate the Proposed Project while also maintaining the lower-density character along 32nd Street.

## E. ANALYSIS FRAMEWORK

This document has been prepared in accordance with the guidelines presented in the 2021 *CEQR Technical Manual.* For each technical area, the analysis includes a description of existing conditions and an assessment of conditions in the future with and without the Proposed Actions (the "With Action" and "No Action" conditions, respectively).

### REASONABLE WORST CASE DEVELOPMENT SCENARIO (RWCDS)

To assess the possible effects of the Proposed Actions, a Reasonable Worst-Case Development Scenario (RWCDS) was developed to account for existing conditions, the Future without the Proposed Actions (No Action condition) and the Future with the Proposed Actions (With Action condition). The incremental difference between the future No Action condition and future With Action condition serves as the basis for identifying potential environmental impacts, as described below. The proposed zoning map changes would affect an area that extends beyond the Project Site and could result in additional development in the Rezoning Area. For analysis purposes, the City's standard soft-site criteria was used to identify sites that could be developed under the proposed zoning. As described below, the identification of development sites takes into consideration local neighborhood and site-specific conditions.

*IDENTIFICATION OF DEVELOPMENT SITES*

The first step in establishing the RWCDS for the Proposed Actions is to identify those sites where new development could be reasonably expected to occur. Generally, for area-wide rezonings that create a broad range of development opportunities, new development can be expected to occur only on selected sites. In addition to the Project Site (also referred to as Site 1), the Rezoning Area includes properties outside of the Project Site that would also be rezoned with the Proposed Actions. Under CEQR, sites may be considered either projected development sites or potential development sites. Projected development sites are those sites more likely to be developed in the With Action condition. Potential development sites are sites that are underutilized but are less likely to be developed in the foreseeable future in With Action condition because of various reasons described below. Potential development sites are therefore only analyzed in certain technical areas.

In projecting the amount and location of new development, several factors have been considered in identifying likely development sites. These include known development proposals, past development trends, and the development site criteria described below. The following soft site screening criteria are based on guidance in the *CEQR Technical Manual* and RWCDS memorandums developed for other similar rezoning projects.

Projected development sites include:

- Lots located in areas where a substantial increase in permitted density is proposed and/or where residential use would be allowed where it currently is not permitted;
- Lots with a total size of 4,000 sf or larger (may include potential assemblages totaling 4,500 sf, respectively, if assemblage seems probable);
  - Assemblages are defined as a combination of adjacent lots, which satisfy one of the following conditions: (1) the lots share common ownership and, when combined, meet the soft site criteria; or (2) at least one of the lots, or combination of lots, meets the soft site criteria, and ownership of the assemblage is shared by no more than three distinct owners.
- Certain smaller-sized lots (2,000 sf or greater) that are substantially underdeveloped.
  - Underdeveloped lots are defined as vacant lots or lots with buildings containing a single occupied floor, or lots constructed to less than or equal to half of the maximum allowable density under the proposed zoning.

Potential development sites include:

- Slightly irregularly shaped or encumbered sites that would make as-of-right development difficult;
- Lots with a significant number of commercial or industrial tenants;
- Active businesses, which may provide unique services or are prominent and successful neighborhood businesses or organizations unlikely to move; and/or
- Sites divided between disparate zoning districts.

Other sites (which are not projected or potential development sites) include:

- Lots where construction and/or renovations are actively occurring, or have recently been completed, as well as lots with recent alterations that would have required substantial investment.
- Multi-unit buildings (existing individual buildings with six or more residential units are unlikely to be redeveloped because of the required relocation of tenants in rent-stabilized units).
- Lots whose location, highly irregular shape, or other physical encumbrances (like easements) would preclude or greatly limit future as-of-right development. Generally, development on these types of lots does not produce marketable floor space.

Using the RWCDS criteria, Block 587, Lot 54 (which is located on the western side of 31st Avenue; the proposed C4-5 district would extend into the northern portion of the lot by approximately 20 feet) is not considered a projected or potential development site, as the lot is currently developed with a 3-story mixed use building containing 11 DUs, including rent-stabilized units. Similarly, Block 587, Lot 34 (which is located along the Broadway frontage of the block; the proposed C4-5 district would extend into the southern portion of the lot by approximately 20 to 30 feet) is not considered a projected

or potential development site, as the lot is currently developed with a 4-story mixed use building containing 67 DUs, including rent-stabilized units. The zoning change would also affect the rear 10-foot portion of Block 611, Lots 43-52, 144, 146, and 152. The affected lots are developed with single-family homes. Because a substantial portion of the lots would remain in the existing R5 district, the zoning change would not increase the maximum floor area allowed on those lots and no new development as a result of the Proposed Actions would occur on the properties. Therefore, the lots fronting on 32nd Street are not considered projected or potential development sites.

In addition to Site 1, or the Project Site, the Rezoning Area includes two sites that would be rezoned from R5/C1-2 to C4-5[1] that could reasonably experience redevelopment under the proposed zoning changes: a site to the south of the Project Site along 31st Street (Block 611, Lot 21), and a site on the west side of 31st Street (across from Site 1) on Block 587, Lot 43. At these sites, the proposed zoning would permit a higher density. Therefore, the Proposed Actions have the potential to result in new development on these properties.

- Block 587, Lot 43 is a large site that contains approximately 20,600 square feet of lot area. The site currently contains a single-story retail building containing a grocery store. The site would be considered underdeveloped under the proposed FAR (i.e., the existing building is substantially smaller than the maximum FAR allowed by the proposed C4-3 district). Therefore, the site is considered a projected development site for analysis purposes (also referred to as Site 2).
- Block 611, Lot 21 contains an active community facility building for the Cretan's Association Omonia, a local community organization. The RWCDS criteria recommends that sites with active community uses and/or sites that provide unique services or house prominent neighborhood organizations are unlikely to move or relocate to another site. While redevelopment of this site is possible, it is not likely in the foreseeable future. Therefore, the site is considered a potential development site for analysis purposes (also referred to as Site A).

**Figure 10** shows the location of the development sites assessed in the EAS: the Project Site (Site 1), Projected Development Site (Site 2), and Potential Development Site A (Site A).

## BUILD YEAR

Construction of the Proposed Project on Site 1 is expected to begin in 2025 and is anticipated to take approximately 24 months, therefore the Proposed Project is anticipated to be completed in 2027. As the Proposed Actions, including the proposed rezoning, are expected to be approved in 2025, it is reasonable to expect that new developments generated under the rezoning on Site 2 would also be completed by 2027. For these reasons, the analysis year, or Build Year to assess the Proposed Actions in the EAS is 2027.

## EXISTING CONDITION

The analysis framework begins with an assessment of the existing conditions in the Rezoning Area and within the surrounding area (typically the area within 400 feet of the Rezoning Area). The assessment of existing conditions does not represent the condition against which the proposed project is measured, but generally serves as a starting point for the projection of future conditions with or without the proposed project and the analysis of project impacts.

Site 1 (Block 611, Lot 25) is currently occupied by a public parking lot operated by the New York City Department of Transportation (DOT). Site 1 has a lot area of 20,880 sf and has approximately 61 parking spaces.

Site 2 (Block 587, Lot 43) is 20,600 sf and contains a one-story, 11,475 gsf grocery store building and an accessory parking lot.

Site A (Block 611, Lot 21) is 8,000 sf and is occupied by a one-story, 7,200-gsf community facility building containing a community cultural center and banquet hall. The site is occupied by the Cretan's Association Omonia.

[1] As both sites are located along 31st Street, they would only be within the proposed C4-5 district (the proposed extension of the C4-2A district along 32nd Street would only affect the Project Site).

Block 587, Lot 54, located on the western side of 31st Avenue, is occupied by a 3-story mixed use building containing 11 DUs and ground floor retail and medical office space. Block 587, Lot 34, also located on the western side of 31st Avenue, is occupied with a 4-story mixed use building containing 67 DUs and ground floor retail space. As noted above, using the RWCDS criteria, although these lots are within the Rezoning Area, they are not considered projected or potential development sites and are not considered in the analysis.

**NO ACTION CONDITION**

The future condition without the Proposed Actions (the No Action condition) describes a future baseline condition to which changes that are expected to result from the Proposed Actions are compared. Absent the Proposed Actions, it is anticipated that no changes to land use would occur within the Rezoning Area and Sites 1, 2 and A are expected to remain in their existing condition, as described above.

**WITH ACTION CONDITION**

The With Action condition describes the future condition in which the Proposed Actions are approved and implemented and the projected development generated under the zoning changes is operational. In the With Action condition, the Proposed Project would be developed on Site 1 as described above and shown on **Figures 8 and 9**. The Proposed Project would include a mixed-use residential building on 31st Street that would include 167 affordable senior DUs and one superintendent's unit and approximately 7,000 gsf of local retail space. A community facility building would be developed on 32nd Street with approximately 7,000 gsf of community facility space. The community facility space would include administrative offices and social services.

For analysis purposes, in the With Action condition, Sites 2 and A are assumed to contain mixed-use buildings conforming to the proposed C4-5 district. The buildings are assumed to contain ground floor retail and residential space above the ground floor, as outlined below; consistent with reasonable-worst case development assumptions utilized by the Department of City Planning in recent rezonings, including the Gowanus Neighborhood Plan and Innovation QNS, the residential space is assumed to contain one DU per 850 gsf of space, and 25 to 30 percent of the residential floor area is assumed to be permanently affordable housing in accordance with MIH.

On Site 2, the projected development would be a 9-story mixed-use residential building totaling approximately 121,600 gsf, with approximately 107,100 gsf of residential space and approximately 14,500 gsf of retail space. The Site 2 projected development would include 126 DUs, of which 32 to 38 would be affordable in accordance with MIH.

Site A is a potential development site and is therefore only analyzed for site-specific technical areas. Under the proposed zoning, Site A could be developed with a 9-story mixed-use building totaling approximately 49,000 gsf, with approximately 45,000 gsf of residential space and approximately 4,000 gsf of retail space. The Site A potential development would include 53 DUs, of which 14 to 16 would be affordable in accordance with MIH.

**INCREMENTAL DEVELOPMENT**

The increment of analysis is the difference between the With Action and No Action conditions on the projected development sites (Sites 1 and 2). In total, the Proposed Actions would result in the incremental development of approximately 10,000 gsf of retail space, approximately 7,000 gsf of community facility space, and 294 DUs, of which 167 would be senior affordable units and up to 38 would be affordable under MIH (see **Table 1**).

**Table 1**
**Reasonable Worst Case Development Scenario**

| Sites | Existing/No Action Condition | | | | With Action Condition | | | | Increment | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Site 1 | Site 2 | **Sites 1 & 2 Total** | Site A[1] | Site 1 | Site 2 | **Sites 1 & 2 Total** | Site A[1] | Site 1 | Site 2 | **Sites 1 & 2 Total** | Site A[1] |
| Retail GSF | 0 | 11,475 | **11,475** | 0 | 7,000 | 14,500 | **21,500** | 4,000 | 7,000 | 3,025 | **10,025** | 4,000 |
| Comm Fac GSF | 0 | 0 | **0** | 7,200 | 7,000 | 0 | **7,000** | 0 | 7,000 | 0 | **7,000** | -7,200 |
| Total DU | 0 | 0 | **0** | 0 | 168 | 126 | **294** | 53 | 168 | 126 | **294** | 53 |
| Senior DU | 0 | 0 | **0** | 0 | 167 | 0 | **167** | 0 | 167 | 0 | **167** | 0 |
| MIH DU | 0 | 0 | **0** | 0 | 0 | 38 | **38** | 16 | 0 | 38 | **38** | 16 |
| Building Height (Stories) | N/A | 1 | **-** | 1 | 13 / 3 | 9 | **-** | 9 | +13 / +3 | +8 | **-** | +8 |
| Building Height (Feet) | N/A | 20 | **-** | 20 | 135 / 37 | 94 | **-** | 94 | +135 / +37 | +74 | **-** | +74 |
| Residential Pop.[2] | 0 | 0 | **0** | 0 | 253 | 281 | **534** | 118 | 253 | 281 | **534** | 118 |
| Worker Pop.[3] | 0 | 46 | **46** | 7 | 40 | 63 | **103** | 18 | 40 | 17 | **57** | 11 |

**Notes:**
[1] Site A is considered a potential development site. Potential developments are assessed for site-specific technical areas of the EAS; these sites are not considered under the density-based analyses.
[2] Residential population estimates based on an average household size of 1.5 persons per senior housing unit and 2.23 persons per general housing unit (average household size for Queens CD 1 as of 2020 Census)
[3] Worker population estimates based on rates of one worker per 250 sf of retail; one worker per 1,000 sf of community facility space; and one worker per 25 residential units.
**Sources:** AKRF, Inc.; SLCE Architects

## CITY OF YES ALTERNATIVE WITH ACTION SCENARIO

The NYC Department of City Planning (DCP) recently adopted a citywide zoning text amendment, the City of Yes for Housing Opportunity (COYHO) (CEQR No. 24DCP033Y) to expand opportunities for housing within all zoning districts, and across all 59 of the City's Community Districts. These changes to the City's Zoning Resolution enable more housing and a wider variety of housing types in every neighborhood, from the lowest-density districts to the highest, to address the housing shortage and high cost of housing in New York City. It has been determined that the RWCDS may be affected by the text amendment, as COYHO modify the regulations of the C4-5 district proposed to be mapped in the Rezoning Area. Specifically, the COYHO text amendment increases the maximum residential FAR for projects subject to MIH from 4.6 to 5.01 (projects that provide affordable independent residences for seniors [AIRS] are already subject to a maximum residential FAR of 5.01 under the current regulations) and increase the maximum building height from 135 feet to 155 feet.

For the Proposed Project, COYHO allows for certain changes to the bulk zoning envelope, including height and yards. However, COYHO does not allow for additional floor area, as the Proposed Project is already subject to a maximum FAR of 5.01 by providing AIRS. As a result, the design of the Proposed Project would not change due to COYHO because increasing the height and/or depth of the building would decrease efficiency and raise costs without benefit to the project.

As the RWCDS assumes that the additional development sites within the Rezoning Area (Sites 2 and A) would contain mixed-use buildings conforming to the proposed C4-5 district and MIH, these sites are subject to the increased FAR and building height under COYHO. Therefore, an alternative With Action scenario was developed to reflect the potential larger developments on Sites 2 and A under the RWCDS. A summary of the COYHO alternative scenario and an assessment of its potential effects is provided in **Appendix A**. As concluded in the assessment, the effects of the increased development on Site 2 and Site A under the COYHO alternative scenario would be minimal and would not alter the conclusions of the analysis presented in this EAS.

| BOROUGH Queens | COMMUNITY DISTRICT(S) Queens CD 1 | STREET ADDRESS 31-07 31st Street (see page 1a for more information |
|---|---|---|
| TAX BLOCK(S) AND LOT(S) Block 611, Lot 25 (see page 1a for more information) | | ZIP CODE 11106 |
| DESCRIPTION OF PROPERTY BY BOUNDING OR CROSS STREETS The Project Site is located midblock with frontage on 31st and 32nd Streets (see page 1a for more information). | | |
| EXISTING ZONING DISTRICT, INCLUDING SPECIAL ZONING DISTRICT DESIGNATION, IF ANY R5 and R5/C1-2 (see page 1a for more information). | | ZONING SECTIONAL MAP NUMBER 9a |

**6. *Required Actions or Approvals*** (check all that apply)

***City Planning Commission*:** ☒ YES ☐ NO ☒ UNIFORM LAND USE REVIEW PROCEDURE (ULURP)

| | | |
|---|---|---|
| ☐ CITY MAP AMENDMENT | ☐ ZONING CERTIFICATION | ☐ CONCESSION |
| ☒ ZONING MAP AMENDMENT | ☐ ZONING AUTHORIZATION | ☒ UDAAP |
| ☒ ZONING TEXT AMENDMENT | ☐ ACQUISITION—REAL PROPERTY | ☐ REVOCABLE CONSENT |
| ☐ SITE SELECTION—PUBLIC FACILITY | ☒ DISPOSITION—REAL PROPERTY | ☐ FRANCHISE |
| ☐ HOUSING PLAN & PROJECT | ☐ OTHER, explain: | |

☐ SPECIAL PERMIT (if appropriate, specify type: ☐ modification; ☐ renewal; ☐ other); EXPIRATION DATE:

SPECIFY AFFECTED SECTIONS OF THE ZONING RESOLUTION

***Board of Standards and Appeals*:** ☐ YES ☒ NO

☐ VARIANCE (use)

☐ VARIANCE (bulk)

☐ SPECIAL PERMIT (if appropriate, specify type: ☐ modification; ☐ renewal; ☐ other); EXPIRATION DATE:

SPECIFY AFFECTED SECTIONS OF THE ZONING RESOLUTION

***Department of Environmental Protection*:** ☐ YES ☒ NO ☐ Cogeneration Facility ☐ Title V Permit

***Other City Approvals Subject to CEQR*** (check all that apply)

| | |
|---|---|
| ☐ LEGISLATION | ☒ FUNDING OF CONSTRUCTION, specify: HPD SARA and HDC ELLA |
| ☐ RULEMAKING | ☐ POLICY OR PLAN, specify: |
| ☐ CONSTRUCTION OF PUBLIC FACILITIES | ☐ FUNDING OF PROGRAMS, specify: |
| ☐ 384(b)(4) APPROVAL | ☐ PERMITS, specify: |
| ☐ OTHER, explain: | |

***Other City Approvals Not Subject to CEQR*** (check all that apply)

| | |
|---|---|
| ☐ PERMITS FROM DOT'S OFFICE OF CONSTRUCTION MITIGATION AND COORDINATION (OCMC) | ☐ LANDMARKS PRESERVATION COMMISSION APPROVAL |
| | ☐ OTHER, explain: |

***State or Federal Actions/Approvals/Funding*:** ☒ YES ☐ NO If "yes," specify: HUD Project-Based Vouchers

**7. *Site Description:*** *The directly affected area consists of the project site and the area subject to any change in regulatory controls. Except where otherwise indicated, provide the following information with regard to the directly affected area.*

***Graphics*:** *The following graphics must be attached and each box must be checked off before the EAS is complete. Each map must clearly depict the boundaries of the directly affected area or areas and indicate a 400-foot radius drawn from the outer boundaries of the project site. Maps may not exceed 11 x 17 inches in size and, for paper filings, must be folded to 8.5 x 11 inches.*

| | | |
|---|---|---|
| ☒ SITE LOCATION MAP | ☒ ZONING MAP | ☒ SANBORN OR OTHER LAND USE MAP |
| ☒ TAX MAP | ☐ FOR LARGE AREAS OR MULTIPLE SITES, A GIS SHAPE FILE THAT DEFINES THE PROJECT SITE(S) | |

☒ PHOTOGRAPHS OF THE PROJECT SITE TAKEN WITHIN 6 MONTHS OF EAS SUBMISSION AND KEYED TO THE SITE LOCATION MAP

***Physical Setting*** (both developed and undeveloped areas)

Total directly affected area (sq. ft.): 41,480

Waterbody area (sq. ft) and type: N/A

Roads, buildings, and other paved surfaces (sq. ft.): 41,480

Other, describe (sq. ft.): N/A

**8. *Physical Dimensions and Scale of Project*** (if the project affects multiple sites, provide the total development facilitated by the action)

SIZE OF PROJECT TO BE DEVELOPED (gross square feet): 224,783

NUMBER OF BUILDINGS: 3 (Proposed Project: 2 buildings; Projected Development Site 2: 1 building)

GROSS FLOOR AREA OF EACH BUILDING (sq. ft.): 133,800 (Proposed Project); 121,600 (Projected Development Site 2)

HEIGHT OF EACH BUILDING (ft.): 135 ft / 47 ft (Proposed Project); 95 ft (Projected Development Site 2)

NUMBER OF STORIES OF EACH BUILDING: 13 stories / 3 stories (Proposed Project); 9 stories (Projected Development Site 2)

Does the proposed project involve changes in zoning on one or more sites? ☒ YES ☐ NO

If "yes," specify: The total square feet owned or controlled by the applicant: 20,880 (Project Site)

The total square feet not owned or controlled by the applicant: 69,892

Does the proposed project involve in-ground excavation or subsurface disturbance, including, but not limited to foundation work, pilings, utility lines, or grading? ☒ YES ☐ NO

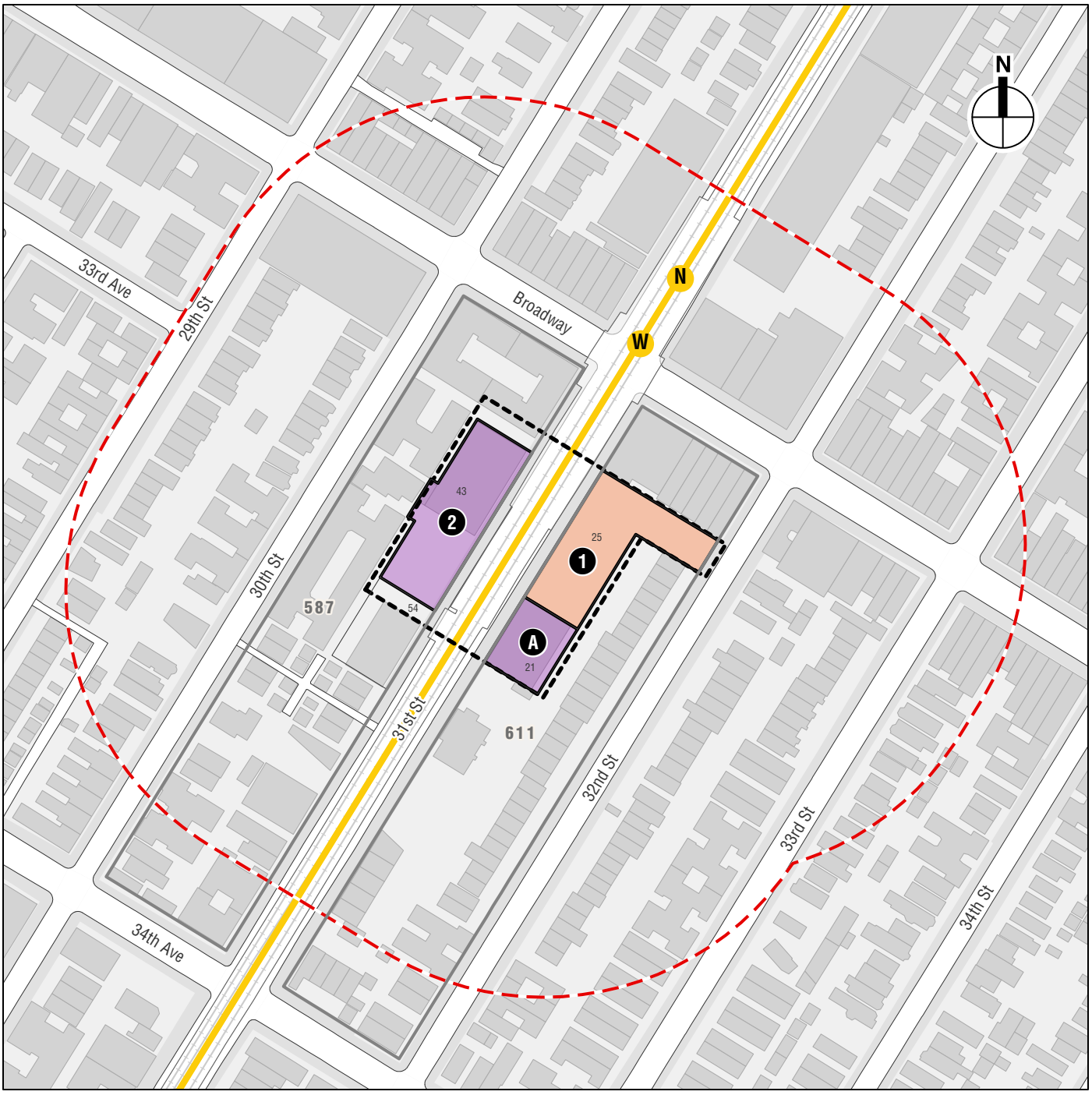
If "yes," indicate the estimated area and volume dimensions of subsurface permanent and temporary disturbance (if known):

AREA OF TEMPORARY DISTURBANCE: 41,480 sq. ft. (width x length)

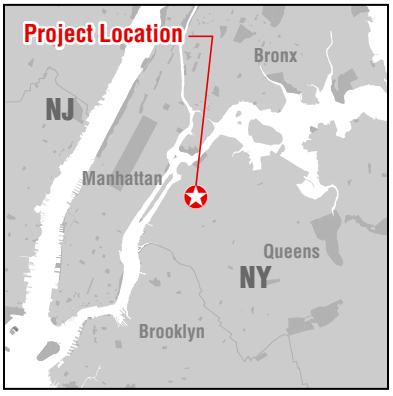
VOLUME OF DISTURBANCE: 1,244,400 cubic ft. (width x length x depth)

AREA OF PERMANENT DISTURBANCE: 41,480 sq. ft. (width x length)

9.26.23




0 200 FEET




*Rezoning Area*

*Project Site*

*Non-Applicant Controlled Development Site*

*Study Area (400-foot perimeter)*

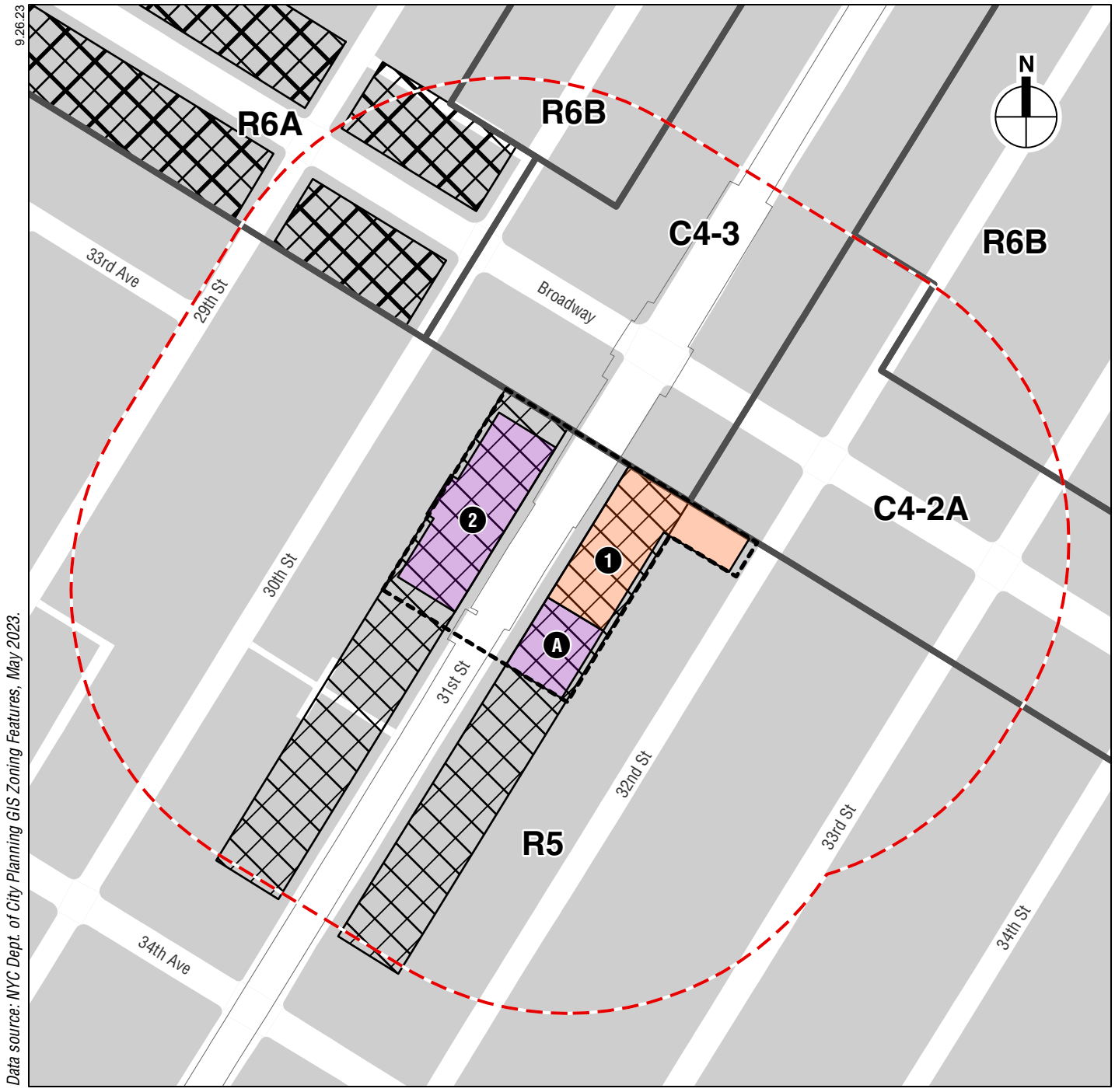
1 *Tax Lot Boundary*

1 *Tax Block Boundary*

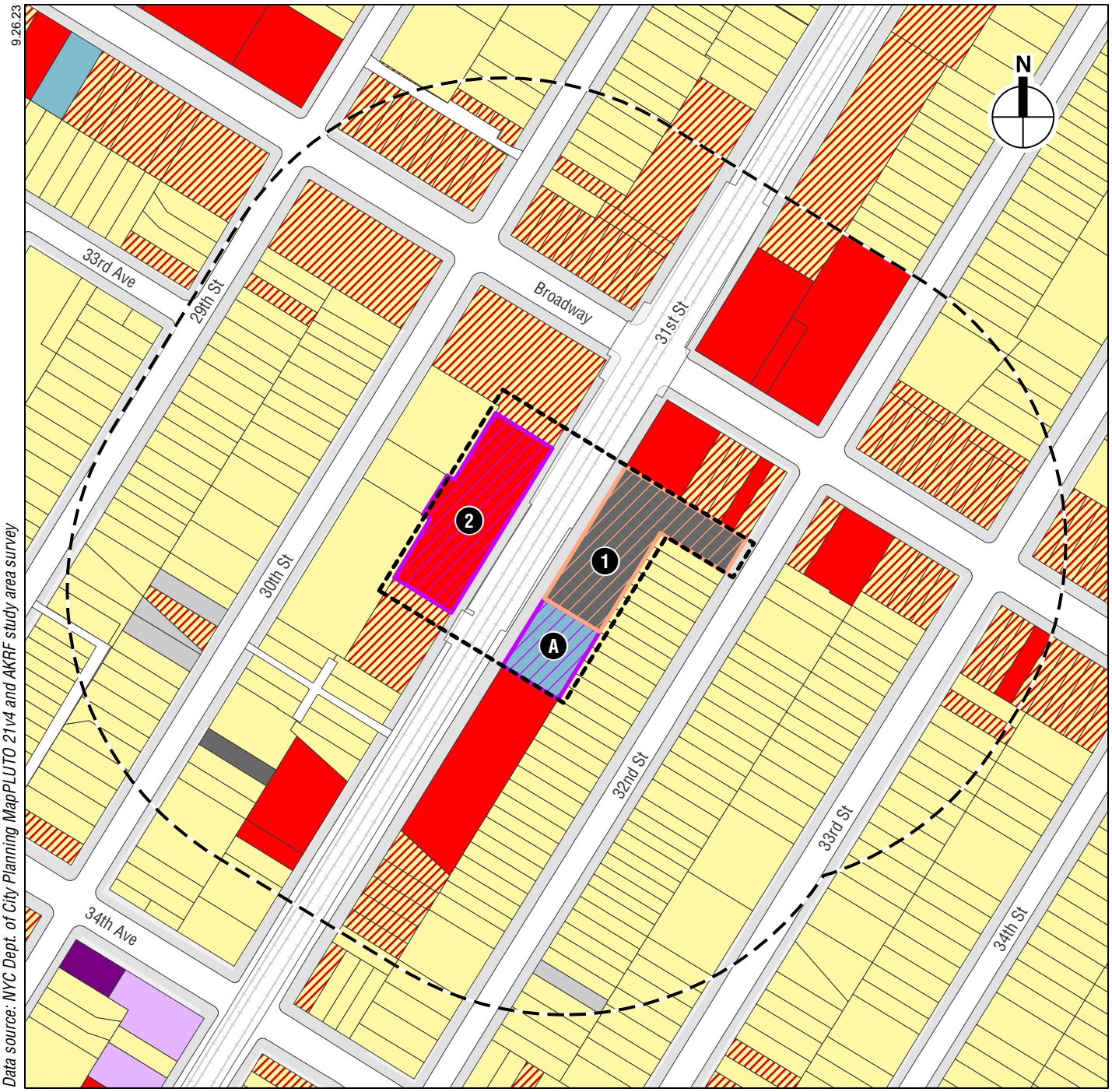
Project Location

**IKOS SENIOR HOUSING REZONING & UDAAP**

**Figure 1**



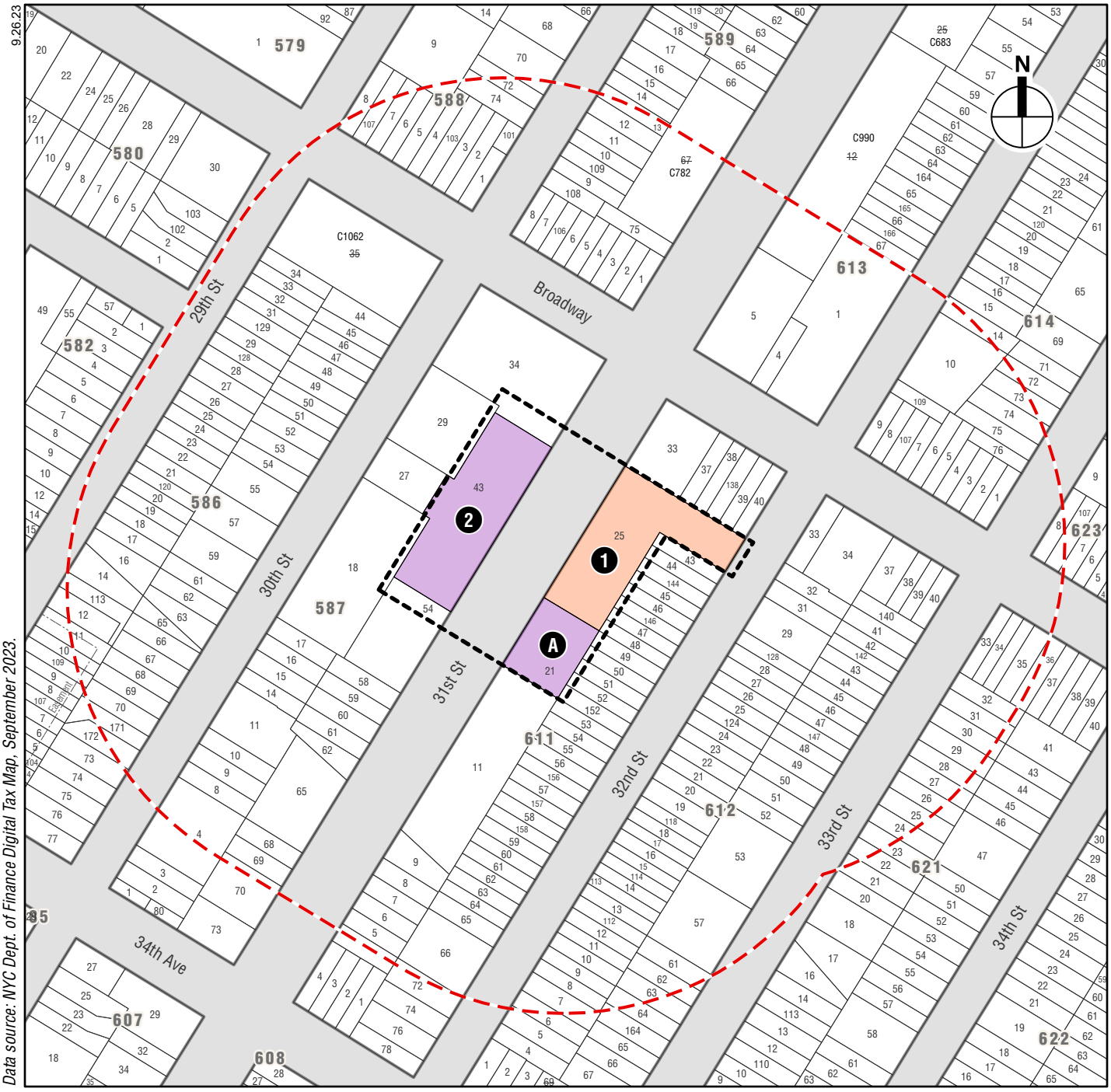

Existing Zoning




Existing Land Use

**IKOS SENIOR HOUSING REZONING & UDAAP**

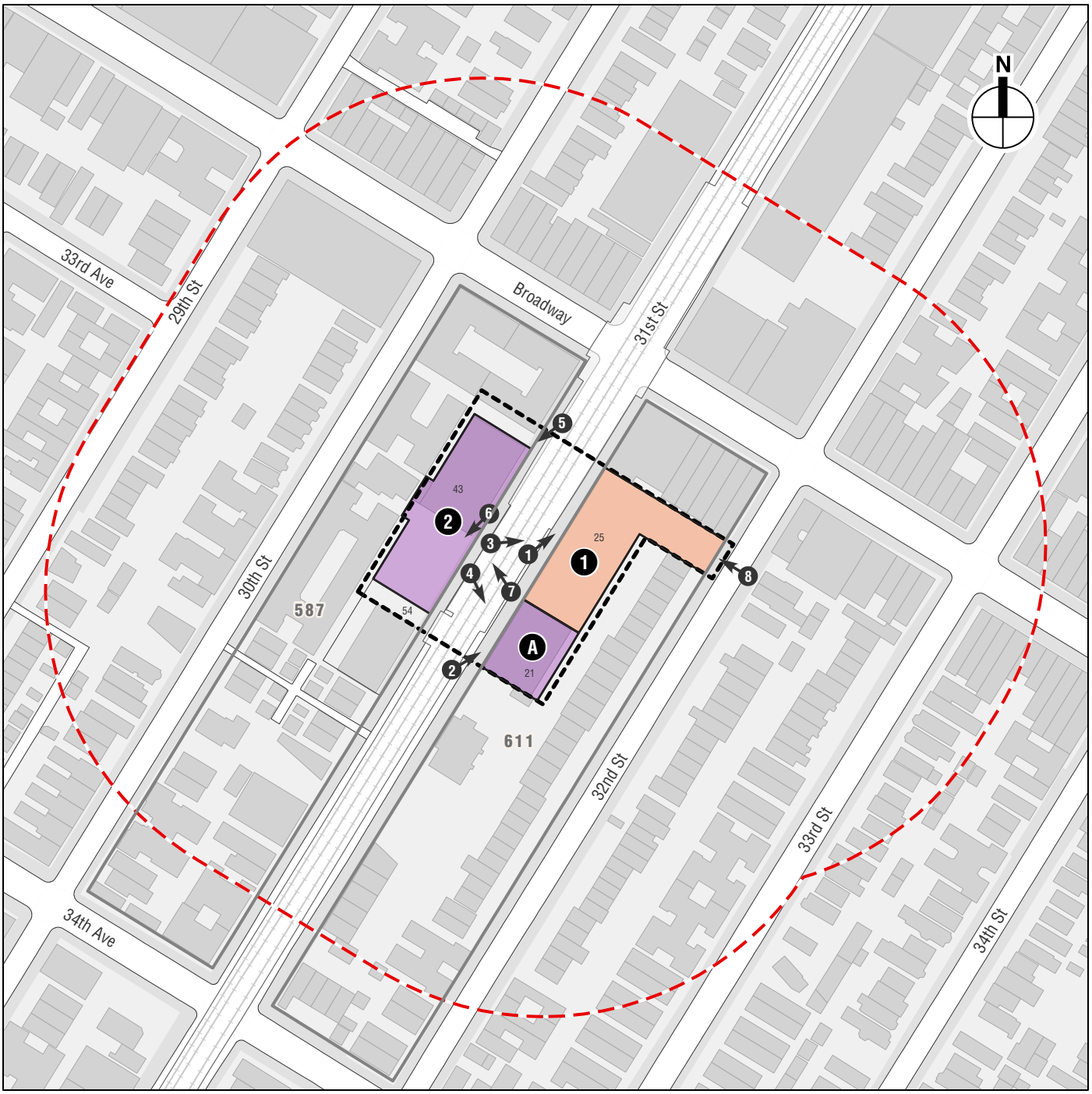
**Figure 3**




Tax Map

**IKOS SENIOR HOUSING REZONING & UDAAP**

**Figure 4**




Photograph Key

**IKOS SENIOR HOUSING REZONING & UDAAP**

**Figure 5**




1



2

Photographs



3



4



Photographs
**Figure 6b**




5




6



Photographs
**Figure 6c**

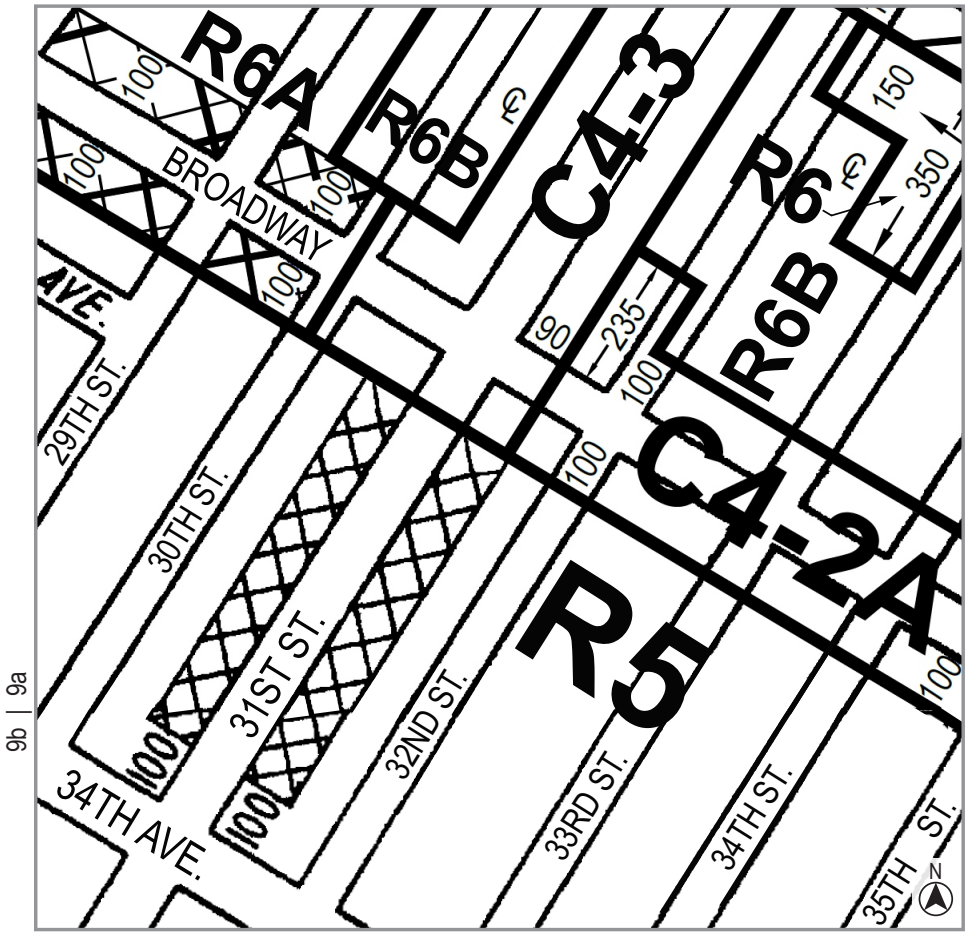


7

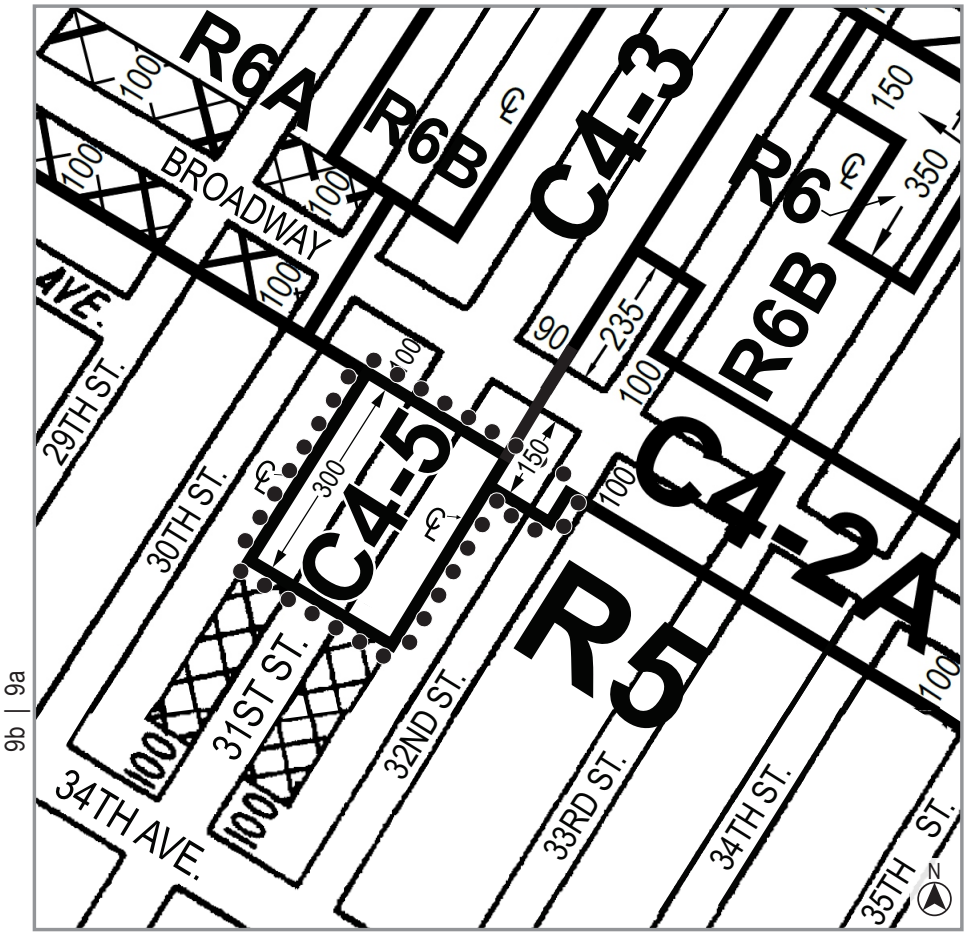

NO
COMMERCIAL
TRAFFIC
MUNICIPAL
PARKING
BROADWAY & 31 STREET

8

2.12.24




Current Zoning Map (9a & 9b)



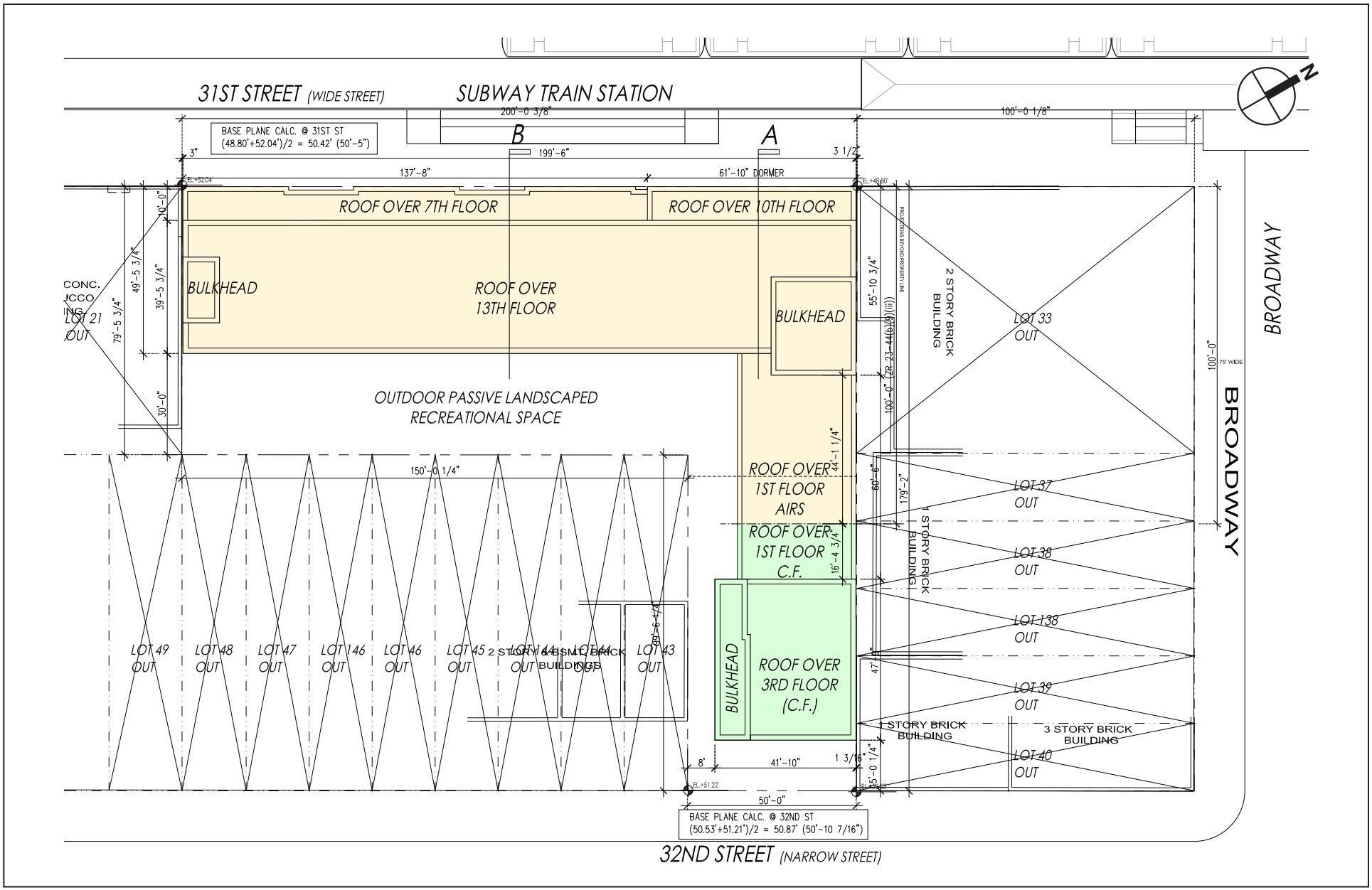

Proposed Zoning Map (9a & 9b) - Area being rezoned is outlined with dotted lines

Rezoning from R5/C1-2 to C4-5
Rezoning from R5 to C4-5
Rezoning from R5 to C4-2A

C1-1 C1-2 C1-3 C1-4 C1-5 C2-1 C2-2 C2-3 C2-4 C2-5

**NOTE:** Where no dimensions for zoning district boundaries appear on the zoning maps, such dimensions are determined in Article VII, Chapter 6 (Location of District Boundaries) of the Zoning Resolution.

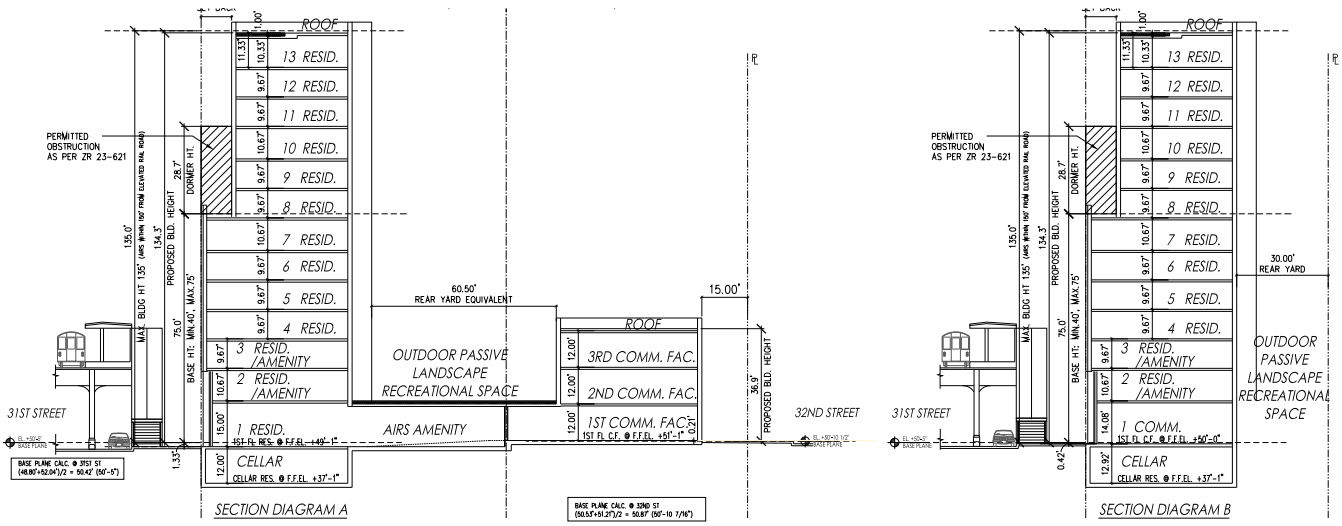
Proposed Zoning Change

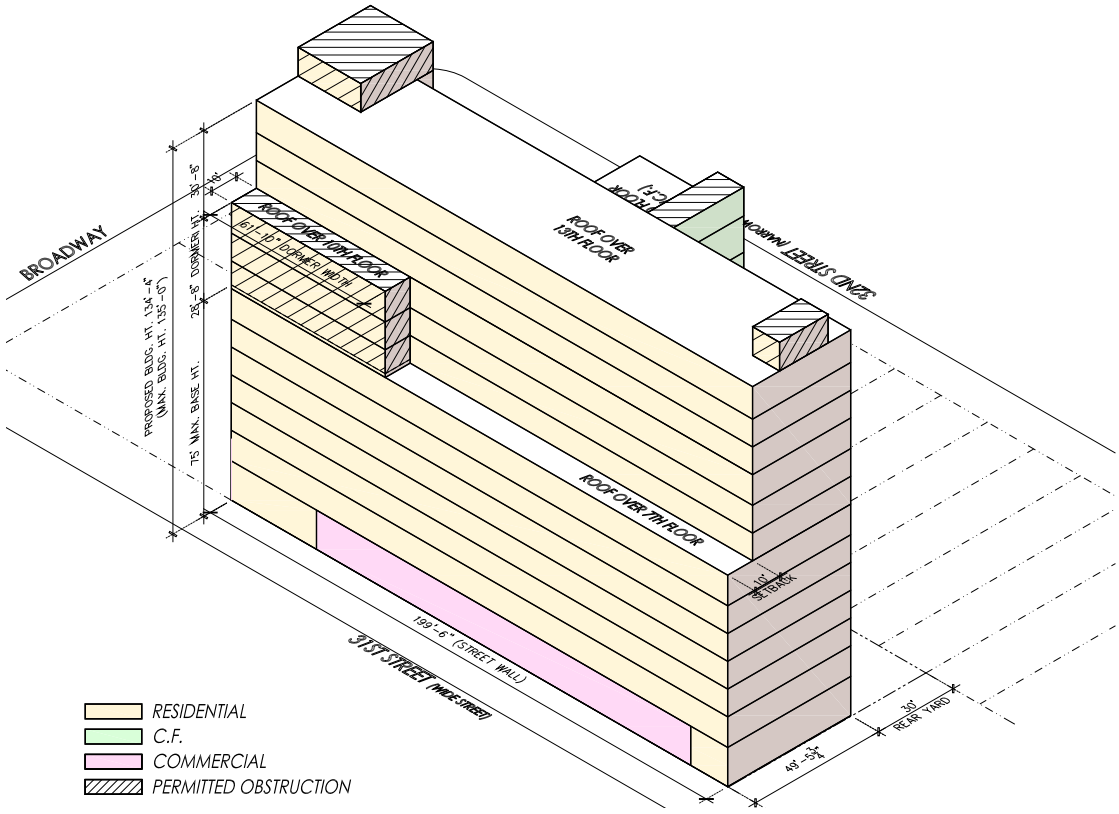



Source: SLCEArchitects

Proposed Project—Site Plan

9.27.23

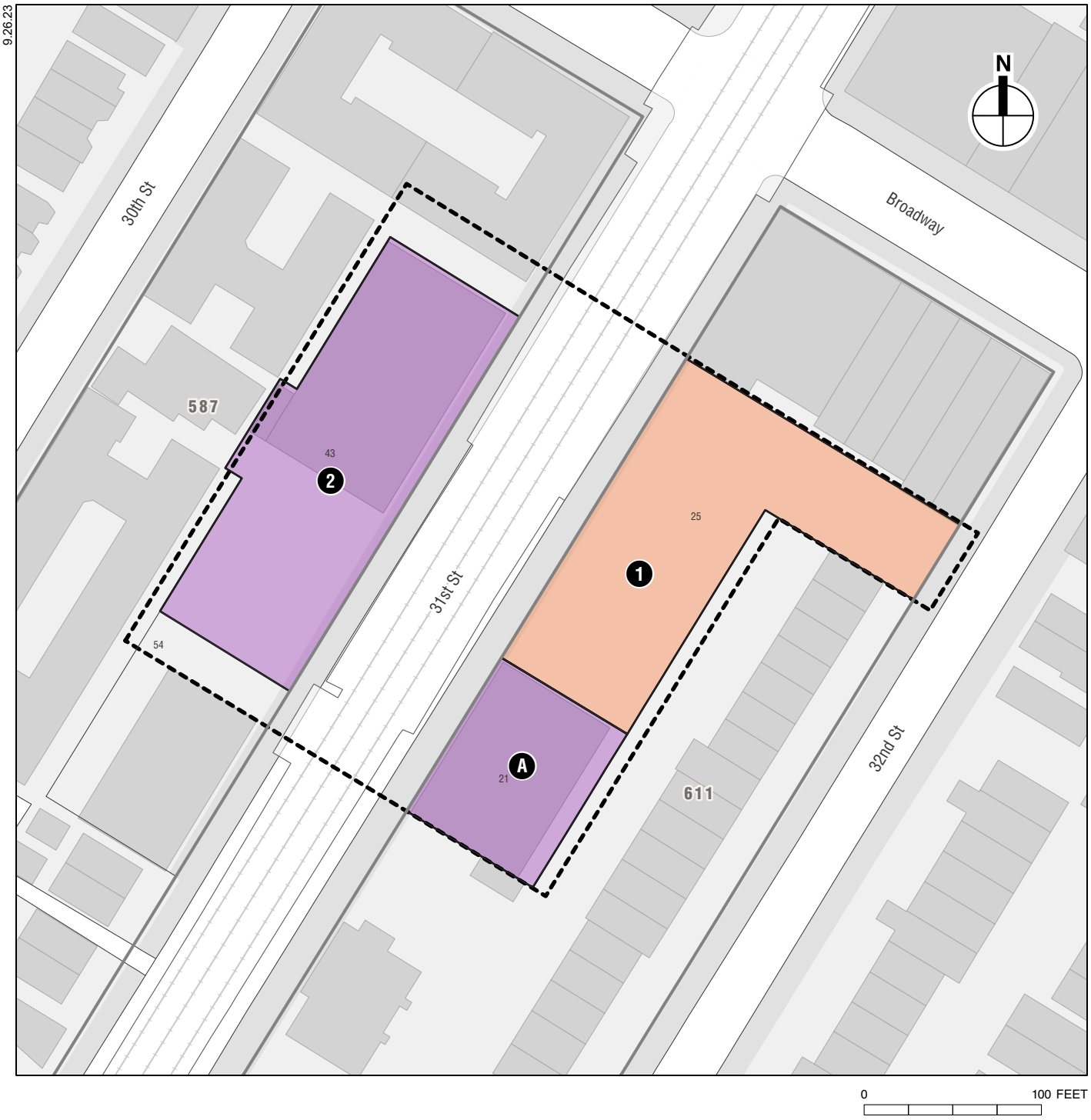



Source: SLCEArchitects

Proposed Project—Elevations

9.26.23




*Rezoning Area*

*Project Site*

*Non-Applicant Controlled Development Site*

*Tax Lot Boundary*

*Tax Block Boundary*

Projected and Potential Development Sites

| ***Description of Proposed Uses*** (please complete the following information as appropriate) | | | | |
|---|---|---|---|---|
| | ***Residential*** | ***Commercial*** | ***Community Facility*** | ***Industrial/Manufacturing*** |
| ***Size*** (in gross sq. ft.) | 227,000 | 21,400 | 7,000 | 0 |
| ***Type*** (*e.g.,* retail, office, school) | 294 DU total: multi-family apartments (126 DU); senior housing (167 DU); 1 superindendent DU | Retail | Social service program space and administrative offices | N/A |

Does the proposed project increase the population of residents and/or on-site workers? ☒ YES ☐ NO

If "yes," please specify: NUMBER OF ADDITIONAL RESIDENTS: 534 NUMBER OF ADDITIONAL WORKERS: 83

Provide a brief explanation of how these numbers were determined:

With Action residential population estimated by applying Queens CD1 average household side as of 2020 Census (2.23 persons per household) to general dwelling units and average housing size of 1.5 persons per household to senior housing units

With Action worker population estimated by applying employment ratio of 1 worker per 333 sf of retail space and 1 worker per 1,000 sf of community facility space, and 1 worker per 25 residential units.

Does the proposed project create new open space? ☐ YES ☒ NO If "yes," specify size of project-created open space: sq. ft.

Has a No-Action scenario been defined for this project that differs from the existing condition? ☐ YES ☒ NO

If "yes," see Chapter 2, "Establishing the Analysis Framework" and describe briefly:

**9. *Analysis Year*** CEQR Technical Manual Chapter 2

ANTICIPATED BUILD YEAR (date the project would be completed and operational): 2027

ANTICIPATED PERIOD OF CONSTRUCTION IN MONTHS: 24

WOULD THE PROJECT BE IMPLEMENTED IN A SINGLE PHASE? ☒ YES ☐ NO IF MULTIPLE PHASES, HOW MANY?

BRIEFLY DESCRIBE PHASES AND CONSTRUCTION SCHEDULE:

**10. *Predominant Land Use in the Vicinity of the Project*** (check all that apply)

☒ RESIDENTIAL ☐ MANUFACTURING ☒ COMMERCIAL ☐ PARK/FOREST/OPEN SPACE ☐ OTHER, specify:

## Part II: TECHNICAL ANALYSIS

**INSTRUCTIONS**: For each of the analysis categories listed in this section, assess the proposed project's impacts based on the thresholds and criteria presented in the CEQR Technical Manual. Check each box that applies.

- If the proposed project can be demonstrated not to meet or exceed the threshold, check the "no" box.
- If the proposed project will meet or exceed the threshold, or if this cannot be determined, check the "yes" box.
- For each "yes" response, provide additional analyses (and, if needed, attach supporting information) based on guidance in the CEQR Technical Manual to determine whether the potential for significant impacts exists. Please note that a "yes" answer does not mean that an EIS must be prepared—it means that more information may be required for the lead agency to make a determination of significance.
- The lead agency, upon reviewing Part II, may require an applicant to provide additional information to support the Short EAS Form. For example, if a question is answered "no," an agency may request a short explanation for this response.

| | YES | NO |
|---|---|---|
| **1. *LAND USE, ZONING, AND PUBLIC POLICY***: CEQR Technical Manual Chapter 4 | | |
| **(a)** Would the proposed project result in a change in land use different from surrounding land uses? | ☒ | ☐ |
| **(b)** Would the proposed project result in a change in zoning different from surrounding zoning? | ☒ | ☐ |
| **(c)** Is there the potential to affect an applicable public policy? | ☐ | ☒ |
| **(d)** If "yes," to (a), (b), and/or (c), complete a preliminary assessment and attach. See Attachment A | | |
| **(e)** Is the project a large, publicly sponsored project? | ☐ | ☒ |
| ○ If "yes," complete a PlaNYC assessment and attach. | | |
| **(f)** Is any part of the directly affected area within the City's Waterfront Revitalization Program boundaries? | ☐ | ☒ |
| ○ If "yes," complete the Consistency Assessment Form. | | |
| **2. *SOCIOECONOMIC CONDITIONS***: CEQR Technical Manual Chapter 5 | | |
| (a) Would the proposed project: | | |
| ○ Generate a net increase of 200 or more residential units? | ☒ | ☐ |
| ○ Generate a net increase of 200,000 or more square feet of commercial space? | ☐ | ☒ |
| ○ Directly displace more than 500 residents? | ☐ | ☒ |
| ○ Directly displace more than 100 employees? | ☐ | ☒ |
| ○ Affect conditions in a specific industry? | ☐ | ☒ |
| **3. *COMMUNITY FACILITIES***: CEQR Technical Manual Chapter 6 | | |
| **(a) Direct Effects** | | |
| ○ Would the project directly eliminate, displace, or alter public or publicly funded community facilities such as educational facilities, libraries, hospitals and other health care facilities, day care centers, police stations, or fire stations? | ☐ | ☒ |
| **(b) Indirect Effects** | | |
| ○ **Early Childhood Programs:** Would the project result in 20 or more eligible children under age 6, based on the number of low or low/moderate income residential units? (See Table 6-1 in Chapter 6) | ☐ | ☒ |
| ○ **Public Schools:** Would the project result in 50 or more elementary or middle school students, or 150 or more high school students based on number of residential units? (See Table 6-1 in Chapter 6) | ☐ | ☒ |
| ○ **Libraries:** Would the project result in a 5 percent or more increase in the ratio of residential units to library branches? (See Table 6-1 in Chapter 6) | ☐ | ☒ |
| ○ **Health Care Facilities and Fire/Police Protection:** Would the project result in the introduction of a sizeable new neighborhood? | ☐ | ☒ |
| **4. *OPEN SPACE***: CEQR Technical Manual Chapter 7 | | |
| **(a)** Would the project change or eliminate existing open space? | ☐ | ☒ |
| **(b)** Would the project generate more than 200 additional residents or 500 additional employees? | ☒ | ☐ |
| **5. *SHADOWS***: CEQR Technical Manual Chapter 8 | | |
| **(a)** Would the proposed project result in a net height increase of any structure of 50 feet or more? | ☒ | ☐ |
| **(b)** Would the proposed project result in any increase in structure height and be located adjacent to or across the street from a sunlight-sensitive resource? | ☐ | ☒ |
| **6. *HISTORIC AND CULTURAL RESOURCES***: CEQR Technical Manual Chapter 9 | | |
| **(a)** Does the proposed project site or an adjacent site contain any architectural and/or archaeological resource that is eligible for or has been designated (or is calendared for consideration) as a New York City Landmark, Interior Landmark or Scenic | ☐ | ☒ |

| | YES | NO |
|---|---|---|
| Landmark; that is listed or eligible for listing on the New York State or National Register of Historic Places; or that is within a designated or eligible New York City, New York State or National Register Historic District? (See the GIS System for Archaeology and National Register to confirm) | | |
| **(b)** Would the proposed project involve construction resulting in in-ground disturbance to an area not previously excavated? | ☒ | ☐ |
| **(c)** If "yes" to either of the above, list any identified architectural and/or archaeological resources and attach supporting information on whether the proposed project would potentially affect any architectural or archeological resources. See Attachment E | | |
| **7. *URBAN DESIGN AND VISUAL RESOURCES***: CEQR Technical Manual Chapter 10 | | |
| **(a)** Would the proposed project introduce a new building, a new building height, or result in any substantial physical alteration to the streetscape or public space in the vicinity of the proposed project that is not currently allowed by existing zoning? | ☒ | ☐ |
| **(b)** Would the proposed project result in obstruction of publicly accessible views to visual resources not currently allowed by existing zoning? | ☐ | ☒ |
| **8. *NATURAL RESOURCES***: CEQR Technical Manual Chapter 11 | | |
| **(a)** Does the proposed project site or a site adjacent to the project contain natural resources as defined in Section 100 of Chapter 11? | ☐ | ☒ |
| ○ If "yes," list the resources and attach supporting information on whether the proposed project would affect any of these resources. | | |
| **(b)** Is any part of the directly affected area within the Jamaica Bay Watershed? | ☐ | ☒ |
| ○ If "yes," complete the Jamaica Bay Watershed Protection Plan Project Tracking Form, and submit according to its instructions. | | |
| **9. *HAZARDOUS MATERIALS***: CEQR Technical Manual Chapter 12 | | |
| **(a)** Would the proposed project allow commercial or residential uses in an area that is currently, or was historically, a manufacturing area that involved hazardous materials? | ☐ | ☒ |
| **(b)** Would the proposed project introduce new activities or processes using hazardous materials and increase the risk of human or environmental exposure? | ☐ | ☒ |
| **(c)** Does the proposed project site have existing institutional controls (*e.g.*, (E) designation or Restrictive Declaration) relating to hazardous materials that preclude the potential for significant adverse impacts? | ☐ | ☒ |
| **(d)** Would the project require soil disturbance in a manufacturing area or any development on or near a manufacturing area or existing/historic facilities listed in the Hazardous Materials Appendix (including nonconforming uses)? | ☐ | ☒ |
| **(e)** Would the project result in the development of a site where there is reason to suspect the presence of hazardous materials, contamination, illegal dumping or fill, or fill material of unknown origin? | ☒ | ☐ |
| **(f)** Would the project result in development on or near a site that has or had underground and/or aboveground storage tanks (*e.g.*, gas stations, oil storage facilities, heating oil storage)? | ☒ | ☐ |
| **(g)** Would the project result in renovation of interior existing space on a site with the potential for compromised air quality; vapor intrusion from either on-site or off-site sources; or the presence of asbestos, PCBs, mercury or lead-based paint? | ☐ | ☒ |
| **(h)** Would the project result in development on or near a site with potential hazardous materials issues such as government-listed voluntary cleanup/brownfield site, current or former power generation/transmission facilities, coal gasification or gas storage sites, railroad tracks or rights-of-way, or municipal incinerators? | ☒ | ☐ |
| **(i)** Has a Phase I Environmental Site Assessment been performed for the site? | ☒ | ☐ |
| ○ If "yes," were Recognized Environmental Conditions (RECs) identified? Briefly identify: Groundwater monitoring well located west-adjacent to the Site; historic automotive and dry cleaning uses in the surrounding area. | ☒ | ☐ |
| **(j)** Based on the Phase I Assessment, is a Phase II Investigation needed? Yes | ☒ | ☐ |
| **10. *WATER AND SEWER INFRASTRUCTURE***: CEQR Technical Manual Chapter 13 | | |
| **(a)** Would the project result in water demand of more than one million gallons per day? | ☐ | ☒ |
| **(b)** If the proposed project located in a combined sewer area, would it result in at least 1,000 residential units or 250,000 square feet or more of commercial space in Manhattan, or at least 400 residential units or 150,000 square feet or more of commercial space in the Bronx, Brooklyn, Staten Island, or Queens? | ☐ | ☒ |
| **(c)** If the proposed project located in a separately sewered area, would it result in the same or greater development than the amounts listed in Table 13-1 in Chapter 13? | ☐ | ☐ |
| **(d)** Would the proposed project involve development on a site that is 5 acres or larger where the amount of impervious surface would increase? | ☐ | ☒ |
| **(e)** If the project is located within the Jamaica Bay Watershed or in certain specific drainage areas, including Bronx River, Coney Island Creek, Flushing Bay and Creek, Gowanus Canal, Hutchinson River, Newtown Creek, or Westchester Creek, would it involve development on a site that is 1 acre or larger where the amount of impervious surface would increase? | ☐ | ☐ |
| **(f)** Would the proposed project be located in an area that is partially sewered or currently unsewered? | ☐ | ☒ |
| **(g)** Is the project proposing an industrial facility or activity that would contribute industrial discharges to a Wastewater Treatment Plant and/or generate contaminated stormwater in a separate storm sewer system? | ☐ | ☒ |

| | YES | NO |
|---|---|---|
| **(h)** Would the project involve construction of a new stormwater outfall that requires federal and/or state permits? | ☐ | ☒ |
| **11. *SOLID WASTE AND SANITATION SERVICES***: CEQR Technical Manual Chapter 14 | | |
| **(a)** Using Table 14-1 in Chapter 14, the project's projected operational solid waste generation is estimated to be (pounds per week): 14,517 | | |
| ○ Would the proposed project have the potential to generate 100,000 pounds (50 tons) or more of solid waste per week? | ☐ | ☒ |
| **(b)** Would the proposed project involve a reduction in capacity at a solid waste management facility used for refuse or recyclables generated within the City? | ☐ | ☒ |
| **12. *ENERGY***: CEQR Technical Manual Chapter 15 | | |
| **(a)** Using energy modeling or Table 15-1 in Chapter 15, the project's projected energy use is estimated to be (annual BTUs): 32.4 billion | | |
| **(b)** Would the proposed project affect the transmission or generation of energy? | ☐ | ☒ |
| **13. *TRANSPORTATION***: CEQR Technical Manual Chapter 16 | | |
| **(a)** Would the proposed project exceed any threshold identified in Table 16-1 in Chapter 16? | ☒ | ☐ |
| **(b)** If "yes," conduct the screening analyses, attach appropriate back up data as needed for each stage and answer the following questions: | | |
| ○ Would the proposed project result in 50 or more Passenger Car Equivalents (PCEs) per project peak hour? | ☒ | ☐ |
| If "yes," would the proposed project result in 50 or more vehicle trips per project peak hour at any given intersection? ***It should be noted that the lead agency may require further analysis of intersections of concern even when a project generates fewer than 50 vehicles in the peak hour. See Subsection 313 of Chapter 16 for more information.* | ☐ | ☒ |
| ○ Would the proposed project result in more than 200 subway/rail, bus trips, or 50 Citywide Ferry Service ferry trips per project peak hour? | ☐ | ☒ |
| If "yes," would the proposed project result, per project peak hour, in 50 or more bus trips on a single line (in one direction), 200 subway/rail trips per station or line, or 25 or more Citywide Ferry Service ferry trips on a single route (in one direction), or 50 or more passengers at a Citywide Ferry Service landing? | ☐ | ☐ |
| ○ Would the proposed project result in more than 200 pedestrian trips per project peak hour? | ☒ | ☐ |
| If "yes," would the proposed project result in more than 200 pedestrian trips per project peak hour to any given pedestrian or transit element, crosswalk, subway stair, or bus stop, or Citywide Ferry Service landing? | ☒ | ☐ |
| **14. *AIR QUALITY***: CEQR Technical Manual Chapter 17 | | |
| **(a)** *Mobile Sources*: Would the proposed project result in the conditions outlined in Section 210 in Chapter 17? | ☐ | ☒ |
| **(b)** *Stationary Sources*: Would the proposed project result in the conditions outlined in Section 220 in Chapter 17? | ☒ | ☐ |
| ○ If "yes," would the proposed project exceed the thresholds in Figure 17-3, Stationary Source Screen Graph in Chapter 17? (Attach graph as needed) See Attachment I | ☒ | ☐ |
| **(c)** Does the proposed project involve multiple buildings on the project site? | ☒ | ☐ |
| **(d)** Does the proposed project require federal approvals, support, licensing, or permits subject to conformity requirements? | ☐ | ☒ |
| **(e)** Does the proposed project site have existing institutional controls (*e.g.*, (E) designation or Restrictive Declaration) relating to air quality that preclude the potential for significant adverse impacts? | ☐ | ☒ |
| **15. *GREENHOUSE GAS EMISSIONS***: CEQR Technical Manual Chapter 18 | | |
| **(a)** Is the proposed project a city capital project or a power generation plant? | ☐ | ☒ |
| **(b)** Would the proposed project fundamentally change the City's solid waste management system? | ☐ | ☒ |
| **(c)** If "yes" to any of the above, would the project require a GHG emissions assessment based on the guidance in Chapter 18? | ☐ | ☐ |
| **16. *NOISE***: CEQR Technical Manual Chapter 19 | | |
| **(a)** Would the proposed project generate or reroute vehicular traffic? | ☒ | ☐ |
| **(b)** Would the proposed project introduce new or additional receptors (see Section 114 in Chapter 19) near heavily trafficked roadways, within one horizontal mile of an existing or proposed flight path, or within 1,500 feet of an existing or proposed rail line with a direct line of site to that rail line? | ☒ | ☐ |
| **(c)** Would the proposed project cause a stationary noise source to operate within 1,500 feet of a receptor with a direct line of sight to that receptor or introduce receptors into an area with high ambient stationary noise? | ☒ | ☐ |
| **(d)** Does the proposed project site have existing institutional controls (*e.g.*, (E) designation or Restrictive Declaration) relating to noise that preclude the potential for significant adverse impacts? | ☐ | ☒ |
| **17. *PUBLIC HEALTH***: CEQR Technical Manual Chapter 20 | | |
| **(a)** Based upon the analyses conducted, do any of the following technical areas require a detailed analysis: Air Quality; Hazardous Materials; Noise? | ☒ | ☐ |
| **(b)** If "yes," explain why an assessment of public health is or is not warranted based on the guidance in Chapter 20, "Public Health." Attach a preliminary analysis, if necessary. See Page 7a, Screening Assessments | | |

## Additional Technical Information for EAS Part II

### A. PUBLIC HEALTH

According to the guidelines of the *CEQR Technical Manual*, a public health assessment may be warranted if an unmitigated significant adverse impact is identified in other CEQR analysis areas, such as air quality, water quality, hazardous materials, or noise. As discussed throughout this EAS, the Proposed Actions would not result in any significant adverse impacts in these areas (see also Attachment G, "Hazardous Materials"; Attachment I, "Air Quality"; and Attachment J, "Noise"). Therefore, the Proposed Actions would not result in any significant adverse impacts to public health, and further assessment is not warranted.

### B. NEIGHBORHOOD CHARACTER

According to the *CEQR Technical Manual*, an analysis of neighborhood character is warranted when a proposed project has the potential to alter certain elements contributing to the affected area's neighborhood character. The elements that define neighborhood character are described in other technical analysis areas—land use, zoning, and public policy; socioeconomic conditions; open space; historic and cultural resources; urban design and visual resources; shadows; transportation; and noise. Following *CEQR Technical Manual* guidance, a preliminary assessment of neighborhood character may be appropriate if the analysis finds that the project would have the potential to result in any significant adverse impacts in these technical areas.

As discussed throughout this EAS, the Proposed Actions would not have the potential to result in any significant adverse impacts in the areas that contribute to neighborhood character.

Overall, the Proposed Actions would result in limited changes to the Project Area that would have the potential to adversely affect neighborhood character, and would not result in any significant adverse impacts in the areas that contribute to neighborhood character. Therefore, the Proposed Actions would not have the potential to result in a significant adverse impact to neighborhood character, and further assessment is not warranted.

### C. CONSTRUCTION

As with all construction projects, construction activities associated with Sites 1 and 2 would result in temporary disruptions to the surrounding area, including occasional noise and dust. However, such effects would be temporary and would be limited to the construction period. The Proposed Project would result in the construction of a new senior housing development along 31st Street and a building containing community facility space along 32nd Street. The construction components and logistics for the Proposed Project would not be substantially different than other construction done within the area. The Proposed Project would be constructed in a single phase with an anticipated construction period of approximately 24 months and would be considered short-term (i.e., less than 2 years) in accordance with the *CEQR Technical Manual*.

The Proposed Actions are also expected to result in new projected development on Site 2 on the west side of 31st Street. Based current market conditions, it assumed for analysis purposes that the new building on Site 2 would be constructed by the 2027 analysis year. The nine-story, approximately 121,600-gsf mixed used building on Site 2 would be smaller than the Proposed Project. For these reasons, it is anticipated that the new building on Site 2 would be completed within the construction time frame of the Proposed Project and would therefore be considered short-term.

Construction resulting from the Proposed Actions would be carried out in accordance with New York City laws and regulations, which allow construction activities between 7:00 AM and 6:00 PM on weekdays. If work is required outside of normal construction hours, necessary approvals would be obtained from the appropriate agencies (i.e., the New York City Department of Buildings). During construction of the Proposed Project, all necessary measures would be implemented to ensure adherence to the New York City Air Pollution Control Code to minimize construction-related

dust emissions. In addition, the construction of the Proposed Project would comply with applicable control measures for construction noise. Construction noise is regulated by the New York City Noise Control Code and by the Environmental Protection Agency (EPA) noise emission standards for construction equipment. These federal and local requirements mandate that certain classifications of construction equipment and motor vehicles meet specified noise emissions standards. Furthermore, during construction of the Proposed Project, Maintenance and Protection of Traffic (MPT) plans would be developed for any curb-lane and/or sidewalk closures that may be required. Access to the Project Site for all major construction activities would be provided by an entrance on 32nd Street. The proposed construction activities would not be expected to close any traffic moving lanes, and if any temporary sidewalk closures are needed, the closures would be accompanied by sidewalk bridges or temporary sidewalks in the adjacent curb lane to maintain pedestrian access. Approval of these plans and implementation of all temporary closures during construction would be coordinated with the New York City Department of Transportation's (DOT) Office of Construction Mitigation and Coordination (OCMC).

Both the Proposed Project and the new building on Site 2 would be constructed adjacent to the elevated N/W subway line and the Broadway station on 31st Street. As these construction activities would occur within 200 feet of a subway line/station, construction must be coordinated with the Metropolitan Transportation Authority (MTA). Similarly, any required bus stop relocations due to construction must be coordinated with the MTA.

Overall, the duration and severity of potential construction effects would be short-term and adverse effects associated with the proposed construction activities would be minimized through implementation of the measures described above. Accordingly, the Proposed Actions would not result in significant adverse impacts during construction, and no further analysis is required.

| | YES | NO |
|---|---|---|
| **18. *NEIGHBORHOOD CHARACTER***: CEQR Technical Manual Chapter 21 | | |
| **(a)** Based upon the analyses conducted, do any of the following technical areas require a detailed analysis: Land Use, Zoning, and Public Policy; Socioeconomic Conditions; Open Space; Historic and Cultural Resources; Urban Design and Visual Resources; Shadows; Transportation; Noise? | ☒ | ☐ |
| **(b)** If "yes," explain why an assessment of neighborhood character is or is not warranted based on the guidance in Chapter 21, "Neighborhood Character." Attach a preliminary analysis, if necessary. See Page 7a, Screening Assessments | | |
| **19. *CONSTRUCTION***: CEQR Technical Manual Chapter 22 | | |
| **(a)** Would the project's construction activities involve: | | |
| ○ Construction activities lasting longer than two years? | ☐ | ☒ |
| ○ Construction activities within a Central Business District or along an arterial highway or major thoroughfare? | ☐ | ☒ |
| ○ Closing, narrowing, or otherwise impeding traffic, transit, or pedestrian elements (roadways, parking spaces, bicycle routes, sidewalks, crosswalks, corners, *etc.*)? | ☒ | ☐ |
| ○ Construction of multiple buildings where there is a potential for on-site receptors on buildings completed before the final build-out? | ☐ | ☒ |
| ○ The operation of several pieces of diesel equipment in a single location at peak construction? | ☐ | ☒ |
| ○ Closure of a community facility or disruption in its services? | ☐ | ☒ |
| ○ Activities within 400 feet of a historic or cultural resource? | ☐ | ☒ |
| ○ Disturbance of a site containing or adjacent to a site containing natural resources? | ☐ | ☒ |
| ○ Construction on multiple development sites in the same geographic area, such that there is the potential for several construction timelines to overlap or last for more than two years overall? | ☒ | ☐ |
| **(b)** If any boxes are checked "yes," explain why a preliminary construction assessment is or is not warranted based on the guidance in Chapter 22, "Construction." It should be noted that the nature and extent of any commitment to use the Best Available Technology for construction equipment or Best Management Practices for construction activities should be considered when making this determination. See Page 7a, Screening Assessments | | |

**20. *APPLICANT'S CERTIFICATION***

I swear or affirm under oath and subject to the penalties for perjury that the information provided in this Environmental Assessment Statement (EAS) is true and accurate to the best of my knowledge and belief, based upon my personal knowledge and familiarity with the information described herein and after examination of the pertinent books and records and/or after inquiry of persons who have personal knowledge of such information or who have examined pertinent books and records.

Still under oath, I further swear or affirm that I make this statement in my capacity as the applicant or representative of the entity that seeks the permits, approvals, funding, or other governmental action(s) described in this EAS.

| APPLICANT/REPRESENTATIVE NAME | DATE |
|---|---|
| Alex Lieber, AICP, Senior Technical Director<br>AKRF, Inc. | March 27, 2025 |

SIGNATURE00



***PLEASE NOTE THAT APPLICANTS MAY BE REQUIRED TO SUBSTANTIATE RESPONSES IN THIS FORM AT THE DISCRETION OF THE LEAD AGENCY SO THAT IT MAY SUPPORT ITS DETERMINATION OF SIGNIFICANCE.***

## Part III: DETERMINATION OF SIGNIFICANCE (To Be Completed by Lead Agency)

**INSTRUCTIONS:** In completing Part III, the lead agency should consult 6 NYCRR 617.7 and 43 RCNY § 6-06 (Executive Order 91 or 1977, as amended), which contain the State and City criteria for determining significance.

**1.** For each of the impact categories listed below, consider whether the project may have a significant adverse effect on the environment, taking into account its (a) location; (b) probability of occurring; (c) duration; (d) irreversibility; (e) geographic scope; and (f) magnitude.

| IMPACT CATEGORY | Potentially Significant Adverse Impact YES | NO |
|---|---|---|
| Land Use, Zoning, and Public Policy | ☐ | ☒ |
| Socioeconomic Conditions | ☐ | ☒ |
| Community Facilities and Services | ☐ | ☒ |
| Open Space | ☐ | ☒ |
| Shadows | ☐ | ☒ |
| Historic and Cultural Resources | ☐ | ☒ |
| Urban Design/Visual Resources | ☐ | ☒ |
| Natural Resources | ☐ | ☒ |
| Hazardous Materials | ☐ | ☒ |
| Water and Sewer Infrastructure | ☐ | ☒ |
| Solid Waste and Sanitation Services | ☐ | ☒ |
| Energy | ☐ | ☒ |
| Transportation | ☐ | ☒ |
| Air Quality | ☐ | ☒ |
| Greenhouse Gas Emissions | ☐ | ☒ |
| Noise | ☐ | ☒ |
| Public Health | ☐ | ☒ |
| Neighborhood Character | ☐ | ☒ |
| Construction | ☐ | ☒ |

**2.** Are there any aspects of the project relevant to the determination of whether the project may have a significant impact on the environment, such as combined or cumulative impacts, that were not fully covered by other responses and supporting materials? ☐ YES ☒ NO

If there are such impacts, attach an explanation stating whether, as a result of them, the project may have a significant impact on the environment.

**3.** Check determination to be issued by the lead agency:

☐ **Positive Declaration**: If the lead agency has determined that the project may have a significant impact on the environment, and if a Conditional Negative Declaration is not appropriate, then the lead agency issues a *Positive Declaration* and prepares a draft Scope of Work for the Environmental Impact Statement (EIS).

☐ **Conditional Negative Declaration:** A *Conditional Negative Declaration* (CND) may be appropriate if there is a private applicant for an Unlisted action AND when conditions imposed by the lead agency will modify the proposed project so that no significant adverse environmental impacts would result. The CND is prepared as a separate document and is subject to the requirements of 6 NYCRR Part 617.

☒ **Negative Declaration:** If the lead agency has determined that the project would not result in potentially significant adverse environmental impacts, then the lead agency issues a *Negative Declaration*. The *Negative Declaration* may be prepared as a separate document (see template) or using the embedded Negative Declaration on the next page.

**4.** ***LEAD AGENCY'S CERTIFICATION***

| TITLE | LEAD AGENCY |
|---|---|
| Director, Environmental Planning - HPD | City of New York - Department of Housing Preservation and Development |
| NAME | DATE |
| Anthony Howard | April 1, 2025 |

SIGNATURE

**NEGATIVE DECLARATION (Use of this form is optional)**

**Statement of No Significant Effect**

Pursuant to Executive Order 91 of 1977, as amended, and the Rules of Procedure for City Environmental Quality Review, found at Title 62, Chapter 5 of the Rules of the City of New York and 6 NYCRR, Part 617, State Environmental Quality Review, City of New York - Department of Housing and Preservation assumed the role of lead agency for the environmental review of the proposed project. Based on a review of information about the project contained in this environmental assessment statement and any attachments hereto, which are incorporated by reference herein, the lead agency has determined that the proposed project would not have a significant adverse impact on the environment.

**Reasons Supporting this Determination**

The above determination is based on information contained in this EAS, which finds that the proposed project:

22HPD043Q - IKOS Senior Living - would not result in any significant adverse impacts. Please refer to the attached Negative Declaration dated April 1, 2025.

No other significant effects upon the environment that would require the preparation of a Draft Environmental Impact Statement are foreseeable. This Negative Declaration has been prepared in accordance with Article 8 of the New York State Environmental Conservation Law (SEQRA).

| TITLE | LEAD AGENCY |
|---|---|
| Director, Environmental Planning - HPD | City of New York - Department of Housing Preservation and Development |
| NAME | DATE |
| Anthony Howard | April 1, 2025 |
| SIGNATURE  | |

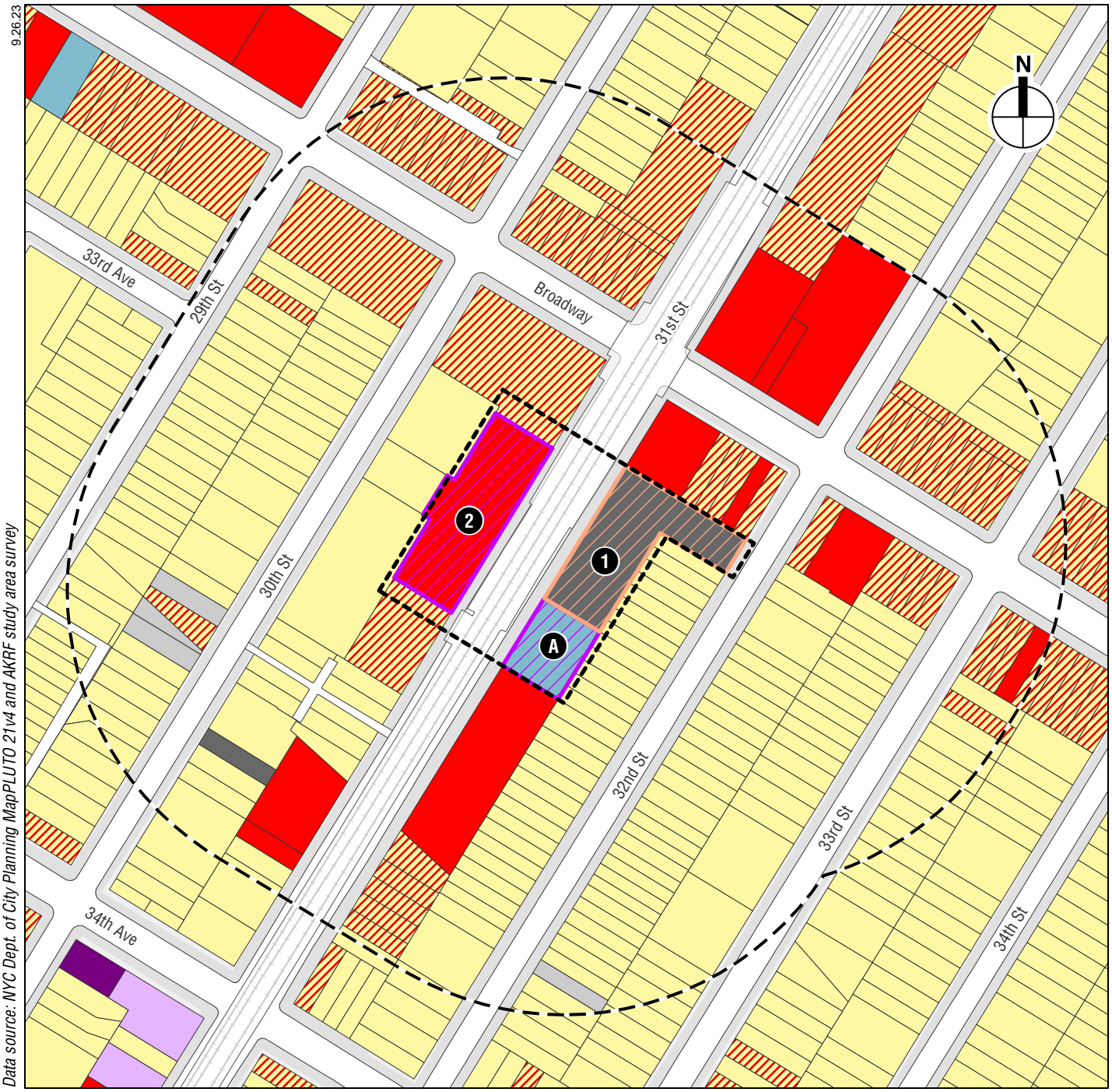
## A. INTRODUCTION

This attachment assesses the potential impacts of the Proposed Actions on land use, zoning, and public policy as compared with conditions in the Future without the Proposed Actions (the "No Action" condition). As described on Page 1a, "Project Description," the Proposed Actions would facilitate the construction of a mixed-use affordable senior housing development with community facility and commercial space (the "Proposed Project") at 31-07 31st Street in Astoria, Queens, Community District 1 (Block 611, Lot 25) (the "Project Site" or "Site 1"). The Proposed Actions, which includes a rezoning of the Project Site and adjacent properties, would also facilitate development at two other sites: a projected development site (Projected Development Site 2) and a potential development site (Potential Development Site A) within the Rezoning Area. The assessment concludes that the Proposed Actions would be compatible with existing uses in the surrounding area and would not result in any significant adverse impacts to land use, zoning, or public policy.

## B. METHODOLOGY

According to the 2021 *City Environmental Quality Review (CEQR) Technical Manual*, an analysis of land use, zoning and public policy is generally appropriate for projects that would affect land use or would change the zoning on a site, regardless of the project's anticipated effects. As the Proposed Actions include a rezoning, an assessment of land use, zoning, and public policy is included. The Rezoning Area is located in the Astoria neighborhood of Queens. The analysis of land use, zoning, and public policy assesses the area within 400 feet of the Rezoning Area, which is where the Proposed Actions could reasonably be expected to cause potential effects, according to the *CEQR Technical Manual*. The land use study area is generally bounded by Broadway to the north, 34th Avenue to the south, 29th Street to the west, and 33rd Street to the east (see **Figure A-1**).

The analysis begins by considering existing conditions in the study area in terms of land use, zoning, and public policy. The analysis then considers land use, zoning, and public policy in the No Action condition in the 2027 Analysis Year by identifying developments and potential policy changes expected to occur within that timeframe. Probable impacts of the Proposed Actions are then identified by comparing conditions in the Future with the Proposed Actions (the "With Action" condition) with those conditions in the No Action condition.




Existing Land Use

**IKOS SENIOR HOUSING REZONING & UDAAP**

**Figure A-1**

# C. EXISTING CONDITIONS

## LAND USE

*REZONING AREA*

The Rezoning Area is generally defined as the eastern and western frontages of 31st Street, south of Broadway, and includes Block 611, Lot 21 and 25, and portions of Lots 43-52, 144, 146, and 152; Block 587, Lot 43; and portions of Block 587, Lots 18, 29, 34 and 54. In addition to Site 1, the Proposed Actions are anticipated to result in development on Site 2 (Block 587, Lot 43) and potentially Site A (Block 611 Lot 21).

Site 1 (the Project Site) is an L-shaped, through-block lot with 200 feet of frontage on the east side of 31st Street between Broadway and 34th Avenue, and 48 feet of frontage on 32nd Street, on the northern portion of the lot. The site is currently a public, metered parking lot owned by the New York City Department of Transportation (DOT). The parking lot currently has 61 spaces. The N/W line runs above ground on 31st Street through the Rezoning Area, with an elevated station located at the intersection of 31st Street and Broadway. A staircase to the station is located in front of the Project Site.

Projected Development Site 2 is located on the west side of 31st Street on Block 587, Lot 43. It is occupied by a one-story retail building containing a grocery store an accessory parking lot to the south of the building.

Potential Development Site A is located immediately to the south of the Project Site on the east side of 31st Street on Block 611, Lot 21. It is occupied by a one-story community facility building that is occupied by the Cretan's Association Omonia. The building is used for community and cultural events and includes a banquet hall.

Additional parcels within the Rezoning Area that are not identified as development sites (and not expected to be redeveloped under the Proposed Actions) include Block 587, Lot 54, which is currently developed with a 3-story mixed use building containing 11 DUs, including rent stabilized units and Block 587, Lot 34, which is also located on the western side of 31st Avenue, and is occupied with a 4-story mixed use building containing 67 DUs and ground floor retail space. In addition, the Rezoning Area includes an approximately 10-foot-wide portion of the rear properties on Block 611, Lots 43-52, 144, 146, and 152 and similar 10-foot portions of the rear properties on Block 587, Lots 18 and 29. As discussed on Page 1a, "Project Description," these properties would not be subject to redevelopment due to the limited area affected on each site, which is in keeping with *CEQR Technical Manual*'*s* soft site criteria.

*STUDY AREA*

As noted above, the land use study area surrounds the Rezoning Area and extends to a radius of 400 feet. It is generally bounded by Broadway to the north, 34th Avenue to the south, 29th Street to the west, and 33rd Street to the east. The land use study area consists largely of residential uses, with two commercial corridors along Broadway and 31st Street.

Standalone residential buildings are found throughout the study area except for the commercial corridors and generally consist of an older building stock built mainly in the 1920s, with some buildings built in the 1930s-1950s. These residential uses are contained in a mix of two- to three-story detached multi-family buildings; interspersed among these lower-density buildings are

larger four- to six-story apartment buildings. South of Broadway along both sides of 32nd Street, most of the residential uses consist of two- to three-story single-family attached row homes with sloped driveway parking.

Broadway functions as an active east-west commercial corridor. On Broadway east and west of 31st Street, older two- to four-story mixed-use apartment buildings with ground floor retail line both sides of the street. Ground floor spaces generally include neighborhood bars and restaurants. There are also standalone commercial buildings, such as a gym located at the intersection of Broadway and 32nd Steet. While most buildings were built in the 1920s, a five-story mixed-use building completed in 2018 (Astor Broadway) is located on Broadway between 29th and 30th Streets.

31st Street also functions as a north-south mixed-use commercial corridor. South of Broadway, commercial retail uses are located within single-story buildings with attached parking lots, such as a McDonalds. There are also two- to three-story multi-family residential buildings along 31st Street that also contain ground-floor neighborhood retail. North of Broadway, there are primarily six- to seven-story mixed-use apartment buildings with ground floor retail, which includes newer construction such as the seven-story Astoria Central building, completed in 2016 (114 units) and the seven-story Astoria Tower 31 building, completed in 2010 (65 units). In addition, there are two- to three-story attached row homes located along the west side of 31st Street.

As noted above, the primary public transit option in the study area is the N and W subway lines, which operate out of the station located at Broadway and 31st Street. In addition, several bus lines serve the Rezoning Area and the study area, including the north-south Q102 line, connecting Astoria and Roosevelt Island along 31st Street, and the east-west Q104 line which connects Astoria to the waterfront and Ferry Landing along Broadway and to the Number 7 subway line on Queens Boulevard.

## ZONING

### *REZONING AREA*

The Rezoning Area is primarily mapped with an R5 district with a C1-2 commercial overlay mapped on both sides of 31st Street; a small portion of the R5 district along 32nd Street has no commercial overlay.

R5 districts allow single- and multi-family housing at a higher density than permitted in R3-2 and R4 districts. The maximum floor area ratio (FAR) of 1.25 in the R5 district typically produces three- and four-story attached houses and multi-family apartment buildings. With a height limit of 40 feet, R5 districts provide a transition between lower- and higher-density neighborhoods. Off-street parking is generally required for 85 percent of a building's DUs, but requirements are lower for income-restricted housing units (IRHUs) and are further modified in certain areas, such as within the Transit Zone. In the R5 districts, residential buildings are permitted to follow either height factor regulations or Quality Housing regulations (the Quality Housing regulations are intended to provide for buildings with high lot coverage set at or near the street line which match the traditional residential neighborhood form).

C1-2 commercial overlay districts are mapped within residential districts along streets that serve local retail needs. These districts preserve the underlying residential zoning regulations while allowing for ground-level local retail uses in residential buildings, such as neighborhood grocery

stores, restaurants, and beauty parlors. When mapped in R5 districts, the maximum commercial FAR is 1.0.

*STUDY AREA*

The study area has also been subject to two recent rezonings—the Broadway and 31st Street Rezoning in 2001 and the Astoria Rezoning in 2010—which largely created the current zoning districts described above and below. The Broadway and 31st Street Rezoning consisted of zoning map amendments affecting 42 blockfronts along Broadway, between 21st Street and Newtown Road and three blockfronts along 31st Street, between Astoria Boulevard and 31st Avenue (primarily covering the central portion of the study area, immediately north and south of Broadway). The Astoria Rezoning, the largest in Astoria's history, consisted of 248 blocks, bounded by 20th Avenue on the north, Steinway Street on the east, Broadway on the south, and Vernon Boulevard, 8th Street, 14th Street, and the East River on the west (extending approximately 100 feet south of Broadway and covering the remaining northern portion of the study area). This rezoning was designed to protect neighborhood character from out-of-scale development by mapping contextual zoning districts that more closely reflect the scale and form of existing buildings and by setting firm building height limits.

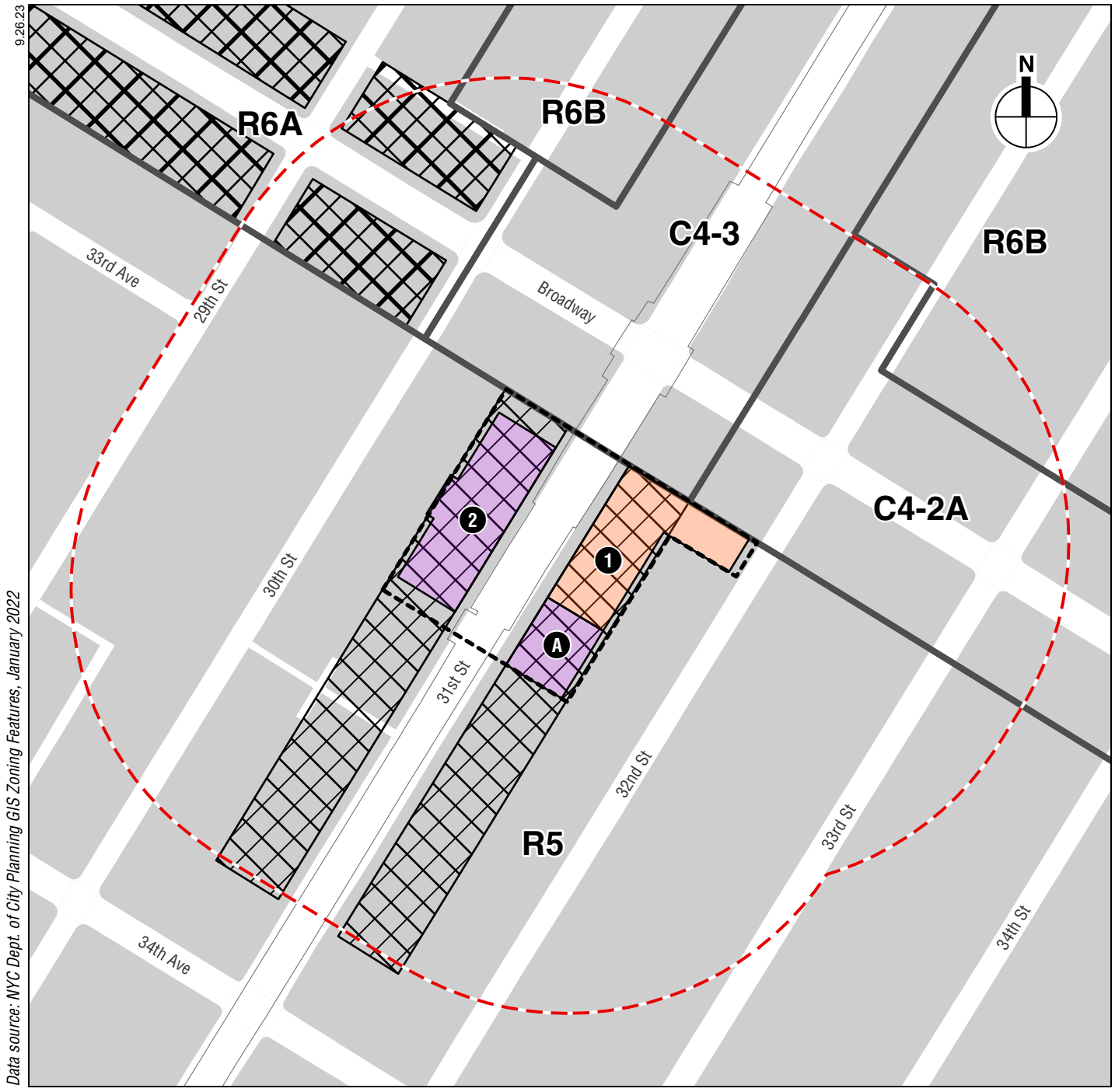
As shown in **Figure A-2,** in addition to the districts described above, the study area is mapped with a R6A district with a C1-4 commercial overlay, R6B districts, a C4-2A district and a C4-3 district. The R6A/C1-4 overlay district is mapped to the west of 31st Street along both sides of Broadway. R6B districts are located along the northwestern and northeastern edges of the study area, along the northern portions of 30th and 32nd Streets, respectively. A C4-3 district is located immediately to the north of the Rezoning Area, along both sides of 31st Street and immediately to the west along both sides of Broadway. A C4-2A district is mapped along the remainder of both sides of Broadway, northeast of the Rezoning Area as well as to the northwest of Broadway and 32nd Street.

The R6A district is a medium-density contextual residential district which follows Quality Housing regulations. The R6A district allows residential and community facility uses up to 3.0 FAR (3.6 FAR with Inclusionary Housing). R6A districts usually produce six- to eight-story buildings with high lot coverage. Permitted heights range from 70 to 85 feet (85 feet with Inclusionary Housing and a Qualifying Ground Floor [QGF]). Parking is required for 50 percent of DUs or 25 percent of IRHUs.

C1-4 commercial overlay districts, similar to C1-2 overlay districts described above, are also mapped within residential districts along streets that serve local retail needs. These districts preserve the underlying residential zoning regulations while allowing for ground-level local retail uses in residential buildings. When mapped in R6 districts, the maximum commercial FAR is 2.0.

Like the R6A district, the R6B district is also a medium-density contextual residential district which follows Quality Housing regulations. However, the R6B district typically produces rowhouse-style one- to four-story buildings. R6B districts are lower in density, permitting a maximum FAR of 2.0 for residential and community facility uses (2.2 FAR with Inclusionary Housing). A maximum height of 50 feet is permitted (55 feet with a QGF). Parking is required for 50 percent of DUs or 25 percent of IRHUs.

C4-2A districts are commercial districts mapped in regional commercial centers and permit uses such as specialty and department stores, theaters, and offices. Use Group 7 facilities, which includes repair shops, auto service establishments, and wholesale establishments, are not permitted




Existing Zoning

because these districts are intended to create a continuous retail frontage. C4-2A is a contextual district which allows a commercial FAR of 3.0. Residential uses are also permitted: the district's residential equivalent of R6A allows a residential FAR of 3.0 (up to 3.6 with Inclusionary Housing). Residential buildings in the C4-2A district are required to adhere to R6A contextual regulations, which apply the Quality Housing regulations. Accessory parking is required at one parking space per 400 sf of commercial space.

The C4-3 district, similar to the C4-2A district, permits specialty and department stores, theaters, offices, and other commercial uses but at a commercial FAR of 3.4. Residential uses are also permitted: the district's residential equivalent of R6 follows height-factor or Quality Housing zoning regulations. Height-factor zoning permits a residential FAR of up to 2.43. Quality Housing zoning allows a residential FAR of up to 3.0 (3.6 with Inclusionary Housing). Furthermore, an FAR of 3.9 is permitted for affordable independent residences for seniors. Accessory parking is required at one parking space per 400 sf of commercial uses.

## PUBLIC POLICY

### *HOUSING NEW YORK/YOUR HOME NYC*

On May 5, 2014, the de Blasio administration released *Housing New York*, a plan intended to build and preserve 200,000 affordable homes over the coming decade to support New Yorkers with a range of incomes. In 2017, the de Blasio administration released *Housing New York 2.0,* an updated and expanded plan that increased the City's goal to 300,000 affordable homes by 2026 and introduced new initiatives to achieve this goal. The plan details the key policies and programs for implementation, including developing affordable housing on underused public and private sites, facilitating homeownership, preventing displacement, creating more homes for seniors, protecting Mitchell-Lama moderate- and middle-income buildings, and utilizing innovative design techniques, such as modular building and micro-units.

In January 2020, YOUR Home NYC was launched—the next phase of Housing New York. The goals of YOUR Home NYC are to build and preserve affordable housing, create neighborhood wealth, and protect renters. YOUR Home NYC prioritizes building homes for the lowest income households, with a commitment that half of all City-financed projects would be reserved for households making under $50,000. Other strategies include supporting community land trusts and legalizing basement and accessory apartments. As of December 2020, Housing New York has built or preserved 177,971 affordable units, including 16,996 units in Queens.

### *ONENYC*

In April 2007, the Mayor's Office of LongTerm Planning and Sustainability released *PlaNYC: A Greener, Greater New York* (PlaNYC). Since that time, updates to PlaNYC have been issued that build upon the goals set forth in 2007 and provide new objectives and strategies. In 2015, *One New York: The Plan for a Strong and Just City* (OneNYC) was released by the Mayor's Office of Sustainability and the Mayor's Office of Recovery and Resiliency. OneNYC builds upon the sustainability goals established by PlaNYC and focuses on growth, equity, sustainability, and resiliency. In 2019, *OneNYC 2050: Building a Strong and Fair City* was released by the Mayor's Office, which outlined progress since 2015 on goals related to fairness, implementing progressive policies, providing global leadership, and securing a sustainable future. OneNYC 2050 has eight goals and 30 initiatives that broadly address committing to carbon neutrality by 2050 and leading by example on climate change, and creating public spaces, healthcare, and policies that support

low-income and working New Yorkers. The OneNYC 2050 plan also outlines a strategy for New York City's Green New Deal, which recognizes the connection between environmental and economic justice and focuses on creating good paying jobs, ensuring equitable access to nature, guaranteeing the right to quality healthcare and education, and promoting justice through the recognition and repair of damage caused by historic oppression of communities of color and other marginalized communities.

*CITY OF YES FOR HOUSING OPPORTUNITY*

*City of Yes for Housing Opportunity* is a series of zoning reforms proposed by Mayor Eric Adams and the Department of City Planning. The plan is part of the City of Yes initiative, which includes two other components (*City of Yes for Carbon Neutrality* and *City of Yes for Economic Opportunity*) which focus promoting sustainability and supporting small businesses. The overall goal of *City of Yes for Housing Opportunity* is to increase the number of housing units built in the city, with a focus on affordability and density. The plan focuses on increasing the city's housing stock by removing exclusionary zoning and providing incentives for affordable housing. *City of Yes for Housing Opportunity's* initiatives include: density bonuses to construct affordable units, residential upzoning on commercial streets, removal of parking mandates, and legalization of accessory dwelling units (ADUs). The zoning reforms proposed as part of the *City of Yes for Housing Opportunity* are currently undergoing public review, and approval of these policies is expected in late 2024 or 2025

## D. THE FUTURE WITHOUT THE PROPOSED ACTIONS

In the No Action condition, in 2027, no changes are expected on the development sites, within the Rezoning Area, or within the 400-feet study area, with respect to land use, zoning, and public policy. In the No Action condition, Projected Development Site 1 (the Project Site) would continue to contain a public, metered parking lot (approximately 20,880 sf) owned by DOT with 61 spaces; Projected Development Site 2 would continue to be occupied by a one-story (approximately 20-foot-tall) retail building containing a grocery store (approximately 11,475 zsf/gsf) and an accessory parking lot to the south of the building (combined 0.56 FAR). Potential Development Site A would continue to be occupied by a one-story (approximately 20-foot-tall) community facility building (approximately 7,200 zsf/gsf) that is occupied by the Cretan's Association Omonia (0.9 FAR).

As discussed above, a series of citywide zoning reforms have been proposed as part of the *City of Yes for Housing Opportunity*, with expected approval in late 2024 or 2025. Upon the approval of the proposed zoning changes, the study area could see changes in a few key ways. The removal of parking mandates could facilitate larger apartment buildings in medium- and high-density zoning districts, and increased residential density could result in additional units in low-density zoning districts. Universal Affordability Preference would allow developers to add additional affordable units to their projects, and could facilitate the development of larger apartment buildings. Legalizing ADUs could see some of these structures appear in the backyards of houses in the low-density residential neighborhoods. Lastly, the proposed Town Center Zoning could add more residential units above commercial strips, such as the properties located along Broadway and 31st Street in the study area. As the zoning reforms proposed by *City of Yes for Housing Opportunity* have not yet been adopted, they are unlikely to result in substantial new development by the Proposed Project's build year of 2027, although it is possible that the study area could see a small increase in housing units by then.

# E. THE FUTURE WITH THE PROPOSED ACTIONS

## LAND USE

*REZONING AREA*

With the approval of the Proposed Actions, the Rezoning Area would be mapped with a C4-5 district and an extension of the existing C4-2A district along the 32nd Street frontage that would facilitate needed senior housing, community facility space, and ground floor retail space. The proposed zoning text change to map the Rezoning Area as an MIH Area would require that any new residential developments provide permanently affordable housing.

In the With Action condition, the Project Site would be developed with the Proposed Project: an approximately 134,000 gsf mixed-use development comprised of two buildings, a 13-story mixed-use residential building with 167 units of senior housing, a building superintendent's unit, and approximately 7,000 gsf of ground-floor retail, and a 3-story, approximately 7,000-gsf community facility building. The residential building would be along the Project Site's 31st Street frontage and would achieve a maximum height of 135 feet and a base height of 75 feet. The community facility building would be on the 32nd Street frontage and would be connected to the residential building on the first floor. The community facility building would reach a building height of 37 feet (a maximum height of 47 feet with bulkhead). The commercial and residential entrances would be located on 31st Street, while the entrance for the community facility building would be located on 32nd Street. No accessory parking would be provided. The Proposed Project would include green roofs and solar panels on both buildings.

The Proposed Actions would provide 167 affordable senior DUs, of which up to 30 percent would be reserved for formerly homeless seniors. Rent would be affordable to those earning up to 50 percent of Area Median Income (AMI). HANAC, the Proposed Project's community partner, would manage the senior affordable housing and community facility space.

HANAC would occupy the community facility building, with administrative space and a variety of social service programing for Queens and Astoria residents. Social services include workforce development, English literacy, and technological literacy classes. HANAC plans to partner with several community organizations to provide services to IKOS residents and the Astoria Community. HANAC plans to partner with GrowNYC to provide fresh food through a weekly farmer's market box in the lobby of the ground floor of the community facility building. HANAC also plans to partner with the LGBT Network to provide services to LGBTQ+ seniors in Astoria. The LGBT Network would provide LGBTQ+ services, counseling services, and other related programming to interested IKOS residents and members of the Astoria community. HANAC would also work with the LGBT Network to provide transportation to the community facility for seniors in the community interested in their services, as well as provide outreach to inform the wider community of the type and focus of the LGBT Network services that would be available. Finally, HANAC plans to partner with Queens College to provide free technology classes to older and younger adults for economic and workforce development.

In the With Action condition, Site 2 would be developed with a nine-story (approximately 94-foot-tall) 121,600-gsf mixed-use building with 126 DUs (of which 32 to 38 would be affordable under MIH), and 14,500 gsf of retail. Site A could be developed with a nine-story (approximately 94-foot-tall) 49,000-gsf mixed-use building with 53 DUS, of which approximately 14 to 16 would be affordable under MIH, and 4,000 gsf of retail space. Aside from the Project Site, Site 2 and

Site A, the Proposed Actions are not expected to result in any other development in the Rezoning Area.

*STUDY AREA*

The Proposed Actions would change the land uses on the Project Site from a parking lot to a mixed-use residential, retail and community facility building; from retail and open parking on Site 2 to a mixed- use residential and retail building; and from an existing community facility use on Site A to a mixed-use residential and retail building. With respect to the remaining buildings within the Rezoning Area, the proposed new development would be consistent with the mixed-use nature (residential and commercial) of existing development.

The Proposed Actions would only affect the properties within the Rezoning Area, and the residential change generated by the Proposed Actions would be supportive of the largely residential character of the study area, while the new commercial uses would complement existing active uses along the commercial corridors of 31st Street and Broadway. The proposed community facility use on the Project Site would be similar to the existing community facility use on Site A, which is used for community and cultural events.

The new land uses expected within the Rezoning Area would make more efficient use of the sites and provide public benefits in the form of new permanently affordable housing, senior housing, and retail and community facility space. The affordable housing would address an urgent need to house low-income families and seniors. The new commercial space and community facility spaces would also continue to activate the 31st Street corridor.

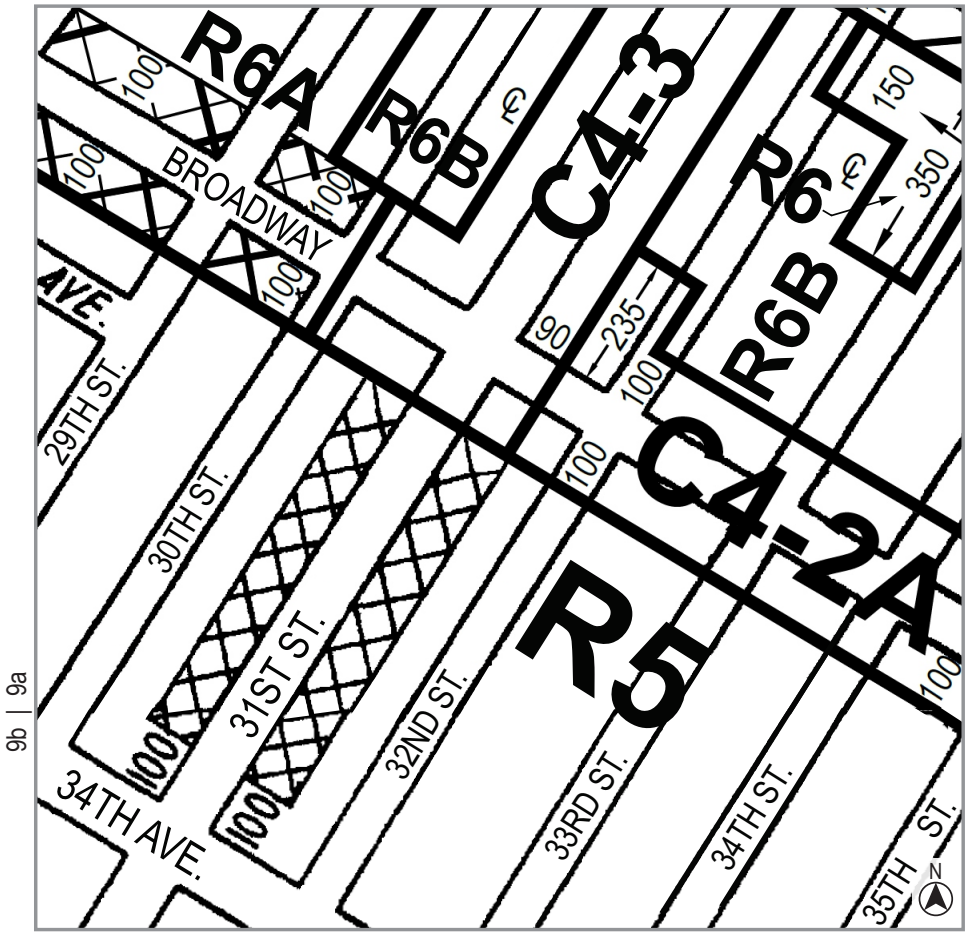
**ZONING**

*REZONING AREA*

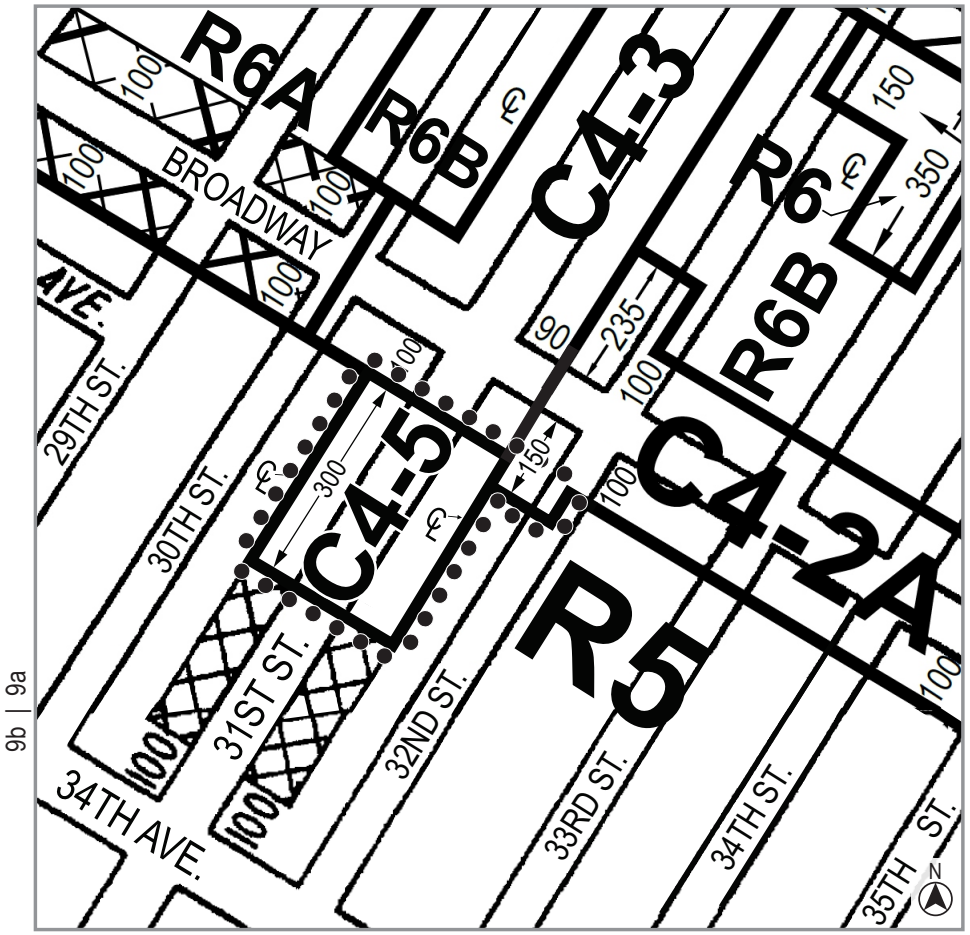
As noted above, the Proposed Actions include a Zoning map amendment to change the existing R5 district with a C1-2 overlay on 31st Street to a C4-5 district, with a small portion of the R5 district along 32nd Street rezoned to a C2-4A district (see **Figure A-3**). The Rezoning Area includes the eastern and western frontages of 31st Street south of Broadway and includes Block 611, Lots 21 and 25; Block 587, Lot 43; and portions of Block 587, Lots 34 and 54. In addition, the Rezoning Area includes an approximately 10-foot-wide portion of the rear properties on Block 611, Lots 43-52, 144, 146, and 152 and similar portions of the properties on Block 587, Lots 18 and 29. The rezoning would facilitate the development of the Proposed Project as the proposed C4-5 district permits a more substantial residential FAR (R7-2 equivalent) of 5.01 for affordable independent residences for seniors (4.6 with MIH), commercial FAR of 3.4, and a community facility FAR of 6.5. The proposed C4-2A district, which would be mapped over the portion of the Project Site that extends to 32nd Street (an extension of the existing C4-2A district mapped along Broadway to the north of the Project Site) allows a community facility FAR of 3.0 and a residential FAR (R6A equivalent) of 3.90 for affordable independent residences for seniors; this district would also allow a more substanital FAR than the R5 district to facilitate the Proposed Project while also maintaining the lower-density character along 32nd Street.

- Zoning text amendment to ZR Appendix F*: Inclusionary Housing Designated Areas and Mandatory Inclusionary Housing Designated Areas* for Community District 1, Queens to establish the Rezoning Area as an MIH area. The mapping of the Rezoning Area as an MIH Area would ensure the provision of permanently affordable housing and advance New York City's goal of preserving and/or creating affordable (including supportive) housing units.

2.12.24




Current Zoning Map (9a & 9b)




Proposed Zoning Map (9a & 9b) - Area being rezoned is outlined with dotted lines

Rezoning from R5/C1-2 to C4-5
Rezoning from R5 to C4-5
Rezoning from R5 to C4-2A

C1-1 C1-2 C1-3 C1-4 C1-5 C2-1 C2-2 C2-3 C2-4 C2-5

**NOTE:** Where no dimensions for zoning district boundaries appear on the zoning maps, such dimensions are determined in Article VII, Chapter 6 (Location of District Boundaries) of the Zoning Resolution.

Furthermore, the following actions are being sought with regard to Site 1:

- HPD is seeking approval of UDAAP for disposition of a City-owned property located on Block 611, Lot 25.

As compared to the No Action condition, the With Action condition on Projected Development Site 1 (the Project Site) would result in a net increase of 13 stories (135 feet tall) on 31st Street and three stories (approximately 37 feet tall) on 32nd Street for a net increase in FAR of approximately 5.25 (including a senior residential FAR of 4.62, commercial FAR of 0.33, and community facility FAR of 0.30). On Projected Development Site 2, the With Action condition would result in a nine-story building (approximately 94 feet tall) with a total of 4.6 FAR, consisting of residential (4.04 FAR) and commercial (0.56 FAR) development, which would be a net increase of 8 stories (approximately 74 feet), and a net increase of 4.04 FAR (from the new residential floor area) as compared to the No Action condition. On Potential Development Site A, the With Action condition would result in a nine-story building (approximately 94 feet tall) with a total of 4.6 FAR, consisting of residential (4.1 FAR) and commercial (0.5 FAR) development, which would be a net increase of 8 stories (approximately 74 feet), and a net increase of 3.7 FAR (from the new residential and commercial floor areas) as compared to the No Action condition.

*STUDY AREA*

The Proposed Actions would facilitate the Proposed Project, require permanently affordable housing in any new residential developments in the Rezoning Area, and map a C4-5 district that would be similar in general built form, lot coverage, and setbacks to the existing C4-3 zoning district mapped along both sides of 31st Street north of Broadway, albeit with a higher permitted density for senior housing (maximum FAR of 5.01 compared to 3.9 in the C4-3 district) and for MIH residences (maximum FAR of 4.6 compared to 3.6 for inclusionary housing in the C4-3 district) as well as increased building heights (13 stories and approximately 135 feet in the C4-5 district compared with a maximum of 11 stories and approximately 115 feet in the C4-3 district). The proposed C4-2A district mapped over the portion of the Project Site that extends to 32nd Street would be an extension of the existing C4-2A district mapped along Broadway to the north of the Project Site and would therefore be consistent with the zoning applicable to the adjacent properties along Broadway, and would also maintain the lower-density character along 32nd Street compared to the higher densities along 31st Street. The proposed zoning would therefore be contextual with the maximum density and bulk allowed in the surrounding zoning districts in the study area.

The Proposed Project on Site 1 would be slightly taller and denser (with respect to residential density) as compared to other recent development within the C4-3 district in the study area, which includes the seven-story Astoria Central (114 units) and seven-story Astoria Tower 31 (65 units); however, unlike the Proposed Project, the other recent developments do not include affordable units, and while they achieve the maximum density permitted as contextual developments, they are not built to the maximum floor area allowed as inclusionary developments. The three-story community facility portion of the Proposed Project would be consistent with neighboring residential uses along 32nd Street. Development on Projected Development Site 2 (nine stories, 94 feet tall) and Potential Development Site A (nine stories, 94 feet), would also be taller but more in keeping with the existing residential density of the two developments. The Proposed Actions would result in new development pursuant to Quality Housing, producing taller mixed-use buildings with active street walls at the street line, similar to the newer developments as well.

## PUBLIC POLICY

*HOUSING NEW YORK/YOUR HOME NYC*

The Proposed Actions would support *Housing New York: 2.0* by establishing the Rezoning Area as an MIH Area, requiring new development within the Rezoning Area to include permanently affordable housing at a variety of incomes. Furthermore, affordable units and associated programming specifically for seniors would be provided with the Proposed Project.

Senior housing is a particularly pressing issue. As noted in *Housing New York: 2.0,* the population of city residents who are at least 65 years old is projected to increase by 40 percent between 2010 and 2040. The City will need to house more than 400,000 additional seniors in the coming years. Seniors are more likely to be low-income, to be rent-burdened, and to live on a fixed income than other city residents. The population of homeless seniors has also been increasing in recent years. With a growing increase in this particular population, the importance of building affordable units for homeless seniors is critical, as their care over time (such as in hospital and nursing rooms) becomes more costly.[1] The City is doubling its efforts in senior housing to serve 30,000 households over an extended 12-year plan. To meet this additional commitment, the City has launched Seniors First, a three-pronged strategy to enable seniors to: (1) make more housing accessible to seniors and people with disabilities, (2) build senior housing on underused public or private land, and (3) target federal HUD 202 developments for preservation efforts, such as through the SARA Program.

In addition to meeting the goals of building much needed senior housing, the Proposed Project would also provide beneficial amenities and supportive services. The senior building would include a game room, exercise room, lounge, and outdoor landscaped spaces for residents. HANAC would provide a range of community services in the proposed community facility building on 32nd Street, including workforce development, English language, adult learning, and technological literacy classes.

The Proposed Actions would facilitate the development of needed senior housing, affordable family housing, and community facility space to support seniors and others in the neighborhood. HANAC would be the service provider to seniors residing in the new residential building and the community center. The community facility building would house a community center, which would provide social service programming for Queens and Astoria residents. Therefore, the Proposed Actions would be consistent with the goals of this policy.

*ONENYC*

The Proposed Actions are consistent with the goals of *OneNYC* as they would help create and preserve affordable housing and support the development of a vibrant neighborhood and improve commercial services. In particular, the Proposed Actions would support *OneNYC*'s land use goals of creating substantial new housing, including senior housing, opportunities at a range of incomes and fostering walkable commercial corridors. The Proposed Actions would facilitate new residential development, including affordable housing, in an area proximate to transit. The on-site open space would include a landscaped courtyard providing passive recreational space for senior residents as well as an additional rooftop open space for community use in connection with the proposed community

[1] "The Emerging Crisis of Aged Homelessness." https://aisp.upenn.edu/wp-content/uploads/2019/01/Emerging-Crisis-of-Aged-Homelessness-1.pdf

facility space. In addition, based on the current design, the Proposed Project would likely utilize electric-powered systems for space heating and domestic hot water systems, and would include solar panels; the Proposed Project may also utilize geothermal power. Therefore, the Proposed Actions would be consistent with *OneNYC*'s goals for growth equity, and sustainability.

*CITY OF YES FOR HOUSING OPPORTUNITY*

While the *City of Yes for Housing Opportunity* have been proposed by the City and are undergoing public review, the Proposed Actions would be consistent with the *City of Yes for Housing Opportunity*'s goal of increasing the number of housing units built in the city. In particular, the Proposed Actions would support *City of Yes for Housing Opportunity's* goal of providing affordable housing, including affordable housing for seniors.

Overall, while the new development on Projected Development Site 1 (the Project Site), Projected Development Site 2, and Potential Development Site A would be taller and denser than older surrounding buildings, it would complement the existing residential, retail, and community facility uses in the study area, and would be consistent with the newer developments in the existing C4-3 district directly to the north of the Rezoning Area. Therefore, the Proposed Actions would not result in significant adverse impacts to land use, zoning, or public policy. ✷

## A. INTRODUCTION

This attachment considers the potential for the Proposed Actions to result in significant adverse impacts to socioeconomic conditions. As stated in the 2021 *City Environmental Quality Review (CEQR) Technical Manual*, the socioeconomic character of an area includes its population, housing, and economic activities. Socioeconomic impacts may occur when a project directly or indirectly affects any of these elements.

As detailed below, the Proposed Actions would not result in significant adverse socioeconomic impacts.

## B. METHODOLOGY

Under CEQR, socioeconomic changes are disclosed if they would affect land use patterns, low-income populations, the availability of goods and services, or economic investment in a way that changes the socioeconomic character of the area. In some cases, these changes may be substantial but not adverse. In other cases, these changes may be good for some groups but bad for others. The objective of the CEQR analysis is to disclose whether any changes created by the Proposed Actions would have a significant impact compared with what would happen in the future without the Proposed Actions (in the No Action condition).

An assessment of socioeconomic impacts distinguishes between impacts on the residents and businesses in a study area and separates these impacts into direct and indirect displacement for both of those segments. Direct displacement occurs when residents or businesses are involuntarily displaced from the actual site of a proposed project or sites directly affected by it. For example, direct displacement would occur if a currently occupied site were redeveloped for new uses or structures or if a proposed easement or right-of-way encroached on a portion of a parcel and rendered it unfit for its current use. In these cases, the occupants of a particular structure to be displaced can usually be identified, and therefore the disclosure of direct displacement focuses on a known number of residents and/or specific businesses and workers.

Indirect or secondary displacement occurs when residents, business, or employees are involuntarily displaced due to a change in socioeconomic conditions in the area caused by a project. Examples include the displacement of lower-income residents who are forced to move due to rising rents caused by higher-income housing introduced by a project. Examples of indirect business displacement include higher-paying commercial tenants replacing industrial uses and when new uses introduced by a project cause commercial rents to increase. Unlike direct displacement, the exact occupants to be indirectly displaced are not known. Therefore, an assessment of indirect displacement usually identifies the size and type of groups of residents, businesses, or employees potentially affected.

Some projects may affect the operation and viability of a specific industry not necessarily tied to a specific location. An example would be new regulations that prohibit or restrict the use of certain

processes that are critical to certain industries. In these cases, the CEQR review process may involve an assessment of the economic impacts of the project on that specific industry.

## DETERMINING WHETHER A SOCIOECONOMIC ASSESSMENT IS APPROPRIATE

According to the *CEQR Technical Manual*, a socioeconomic assessment should be conducted if a project may be reasonably expected to create socioeconomic changes in the area affected by the project that would not be expected to occur in the absence of the project. The following screening assessment considers threshold circumstances identified in the *CEQR Technical Manual* (italicized in bold below) that can lead to socioeconomic changes warranting further assessment.

### *DIRECT DISPLACEMENT*

#### *Direct Residential Displacement*

***Would the Proposed Actions directly displace residential population to the extent that the socioeconomic character of the neighborhood would be substantially altered? Displacement of fewer than 500 residents would not typically be expected to alter the socioeconomic character of a neighborhood.***

The Proposed Actions would not result in the displacement of any residential dwelling units (DUs); as such, a preliminary assessment of direct residential displacement is not warranted.

#### *Direct Business Displacement*

***Would the Proposed Actions directly displace more than 100 employees? If so, assessments of direct business displacement and indirect business displacement are appropriate. Would the Proposed Actions directly displace a business whose products or services are uniquely dependent on its location, are the subject of policies or plans aimed at its preservation or serve a population uniquely dependent on its services in its present location? If so, an assessment of direct business displacement is warranted.***

The Proposed Actions would result in the displacement of an estimated 46 employees on Site 2, which is currently occupied by a grocery. There are no employees on Site 1, which contains a parking lot, and therefore no employees would be displaced.

The Proposed Actions would not displace more than 100 employees, the displaced grocery store use is not uniquely dependent on its location, and it is not the subject of policies or plans aimed at its preservation. The grocery store does not serve a population uniquely dependent on its services in its present location; there are other grocery stores within the local area, including a Food Emporium at Broadway and 29th Street and a Green Bay Marketplace at Broadway and 32nd Street. Based on the above, a preliminary assessment of direct business displacement is not warranted.

### *INDIRECT DISPLACEMENT*

***Would the Proposed Actions result in a substantial new development that is markedly different from existing uses, development, and activities within the neighborhood? Residential development of 200 units or less or commercial development of 200,000 square feet or less would typically not result in significant socioeconomic impacts. For projects exceeding these thresholds, assessments of indirect residential displacement and indirect business displacement are appropriate.***

*Indirect Residential Displacement*

The Proposed Actions would result in the construction of up to 294 incremental DUs over the No Action condition, which is over the 200-unit development threshold identified by the *CEQR Technical Manual.* Therefore, a preliminary assessment of potential indirect residential displacement is warranted.

*Indirect Business Displacement Due to Increased Rents*

The Proposed Actions would result in an increment of 16,972 gross square feet (gsf) of commercial development (including 7,058 gsf of incremental community facility space) and 294 residential units, which does not exceed the threshold for commercial development (200,000 gsf) but does exceed the threshold for residential development (200 units). A preliminary assessment is warranted if residential development would add a substantial population where there is not an existing residential population and/or if the new population has higher incomes than the existing population.

The Proposed Actions would add a total of 534 new residents, which is a 2.6 percent increase above the existing population within an approximately ¼-mile distance of the Rezoning Area. The 167 units in the Proposed Project (Site 1) would be reserved for low-income seniors and include one superintendent's unit. The development on Site 2 would be subject to Mandatory Inclusionary Housing (MIH) and 32 to 38 units would be reserved for middle- and low-income households. Because Astoria is already an established residential neighborhood, and a total of 199 to 205 units would be reserved for mainly low-income households, the residential development that would occur as a result of the Proposed Actions does not have the potential to result in demographic changes in the local market that could lead to indirect business displacement due to increased rents, and an analysis is not warranted.

*Indirect Business Displacement Due to Market Saturation*

***Would the Proposed Actions result in a total of 200,000 square feet or more of retail on a single development site or 200,000 square feet or more of region-serving retail across multiple sites? This type of development may have the potential to draw a substantial amount of sales from existing businesses within the study area, resulting in indirect business displacement due to market saturation.***

The Proposed Actions would not result in retail development in excess of 200,000 gsf in the Rezoning Area. Therefore, an assessment of indirect business displacement due to market saturation is not warranted.

*ADVERSE EFFECTS ON SPECIFIC INDUSTRIES*

***Are the Proposed Actions expected to affect conditions within a specific industry? This could affect socioeconomic conditions if a substantial number of workers or residents depend on the goods or services provided by the affected businesses, or if the Proposed Actions would result in the loss or substantial diminishment of a particularly important product or service within the City.***

The Proposed Actions would not significantly affect business conditions in any industry or any category of business. As described in screening assessments above, the Proposed Actions would displace one business with an estimated 46 employees. The business to be displaced is a grocery store; there are several other grocery stores in the neighborhood and workers and residents are not dependent on this business. Therefore, the Proposed Actions would not have an impact on the

economic viability in any specific industry or category of business, and a preliminary assessment of this concern is not warranted.

*DETERMINATION*

Based on *CEQR Technical Manual* threshold criteria for assessment, the Proposed Actions warrant further assessment of potential indirect residential displacement. This assessment is presented in Section C, "Preliminary Assessment."

## ANALYSIS FORMAT

Based on *CEQR Technical Manual* guidelines, the analysis of indirect residential displacement begins with a preliminary assessment. The objective of the preliminary assessment is to learn enough about the potential effects of the Proposed Actions to either rule out the possibility of significant adverse impacts or determine that a more detailed analysis is required to fully determine the extent of the impacts. In this case, a preliminary assessment was sufficient to conclude that the Proposed Actions would not result in any significant adverse socioeconomic impacts resulting from indirect residential displacement.

## STUDY AREA

According to the *CEQR Technical Manual*, socioeconomic study area boundaries depend on project size and characteristics. The manual states that a ¼-mile study area is appropriate for a project which produces a small (below 5 percent) increase to the ¼-mile area population. The Proposed Actions would introduce an estimated 534 residents, which is an approximately 2.6 percent increase to the ¼-mile area population.[1] Therefore, a ¼-mile study area is appropriate for this analysis.

Because the socioeconomic analysis depends on demographic data, it is appropriate to adjust the study area boundary to conform to the census tract delineation that most closely approximates the desired radius (in this case, a ¼-mile radius surrounding the Rezoning Area). The census tracts that constitute the "socioeconomic study area," or "study area," are shown in **Figure B-1** and include Census Tracts 53, 59, 61, and 75. The socioeconomic study area is located entirely within Queens Community District (CD) 1 and generally extends to 31st Avenue to the north, 36th Avenue to the south, 23rd Street to the east, and 38th Street to the west.

## DATA SOURCES

Information used in the analysis of indirect residential displacement was gathered from the U.S. Census Bureau's 2020 Decennial Census, U.S. Census 2006–2010 and 2015–2019 American Community Survey (ACS) 5-Year Estimates, and the New York City Department of City Planning (DCP) Housing Database. The DCP NYC Population FactFinder online mapping tool was used to provide comparative census data between geographies and to determine the margin of error (MOE) for single variable ACS estimates presented for the study area.[2] Census data were gathered on

[1] Based on CD 1 average household size of 2.23 as of the 2020 U.S. Decennial Census for the non-senior DUs and an average household size of 1.50 for the senior DUs.

[2] MOEs describe the precision of an estimate within a 90-percent confidence interval and provide an idea of how much variability (i.e., sampling error) is associated with the estimate. The larger the MOE relative to the size of the estimate, the greater potential for variability within the data. The MOE is




Socioeconomic Study Area

**IKOS SENIOR HOUSING REZONING & UDAAP**

**Figure B-1**

population, housing, and income. Data on market rents within the study area were collected on the real estate listings website StreetEasy.com.

# C. PRELIMINARY ASSESSMENT

## INDIRECT RESIDENTIAL DISPLACEMENT

As described in the *CEQR Technical Manual*, indirect residential displacement usually occurs when a project results in a substantial new development that is markedly different from existing uses and activities within a neighborhood. This can contribute to increased property values and increased rents, which can make it difficult for some existing residents to remain in their homes.

Generally, an indirect residential displacement analysis is conducted only in cases in which the potential impact may be experienced by renters living in privately held DUs unprotected by rent control, rent stabilization, or other government regulations restricting rents, and whose incomes or poverty status indicates that they may not withstand substantial rent increases. Residents who are homeowners, or who are renters living in rent-protected DUs, are not considered potentially vulnerable populations under CEQR. This analysis follows the step-by-step assessment guidelines of the *CEQR Technical Manual*.

***Step 1: Determine if the Proposed Actions would add new population with higher average incomes compared to the average incomes of the existing populations and any new population expected to reside in the study area without the project.***

*EXISTING CONDITIONS*

Based on the 2020 Decennial Census, as of April 2020, the study area had an estimated population of 20,396 and an average household size of 2.01. According to the DCP Housing Database, 224 DUs were completed in the study area after the 2020 Decennial Census population count and 4Q 2022, resulting in an estimated existing study area population of 20,896 residents.[3] This analysis uses average and median household incomes to describe the household income characteristics of the study area population. As reported in the 2017–2021 ACS and shown in **Table B-1,** the average annual household income within the study area is approximately $117,404, which is greater than the average household income of Queens ($100,067) and similar to the average household income of New York City ($113,315). Average household income in the study area has increased since 2010.

partially dependent on the sample size, because larger sample sizes result in a greater amount of information that more closely approximates the population.

[3] There has been a net increase of 224 housing units in the study area since April of 2020 according to the DCP Housing Database 2022 Q4; the population estimate associated with these units (500 residents) assumes the CD 1 average household size of 2.23 as of the 2020 U.S. Decennial Census.

**Table B-1**
**Average Annual Household Income (2006–2010, 2015–2019 ACS)**

| Area | 2006 –2010 ACS[1] | 2015–2019 ACS[1] | Change or Direction of Change |
|---|---|---|---|
| Socioeconomic Study Area | $76,017 | $117,404 | Increase[2] |
| Queens | $88,062 | $100,067 | 13.6% |
| New York City | $97,706 | $113,315 | 16.0% |

**Notes:**
1. All dollar figures are reported in 2021 dollars.
2. The MOE of the difference between the 2006–2010 ACS and 2017–2021 ACS data for the study area is greater than 30 percent of the estimated difference. Therefore, a percent change cannot be estimated with confidence and only the direction of change is reported.

**Sources:**
U.S. Census Bureau, 2006–2010 and 2017–2021 ACS 5-Year Estimates; DCP's NYC Population Factfinder.

As average income can be heavily influenced by outliers (both high and low) within the data, the median household income is also presented to supplement the analysis. As shown in **Table B-2**, the median annual household income within the socioeconomic study area is $93,611 and has increased since 2010. The estimated median household income in the study area is greater than that of Queens ($75,886) and New York City ($70,663).

**Table B-2**
**Median Annual Household Income (2006–2010, 2015–2019 ACS)**

| Area | 2006–2010 ACS[1] | 2017–2021 ACS[1] | Change or Direction of Change |
|---|---|---|---|
| Socioeconomic Study Area | $61,292 | $93,611 | Increase[2] |
| Queens | $69,352 | $75,886 | 9.4% |
| New York City | $63,072 | $70,663 | 12.0% |

**Notes**:
1. All dollar figures are reported in 2021 dollars.
2. The MOE of the difference between the 2006–2010 ACS and 2017–2021 ACS data for the study area is greater than 30 percent of the estimated difference. Therefore, a percent change cannot be estimated with confidence and only the direction of change is reported.

**Sources:** U.S. Census Bureau, 2006–2010 and 2017–2021 ACS 5-Year Estimates; DCP's NYC Population Factfinder.

As shown in **Table B-3**, within the socioeconomic study area, median gross rent is an estimated $1,867 per month, which is greater than the estimated median rent in Queens ($1,711) and New York City overall ($1,579). Median rent in the study area has increased nearly 25 percent since 2010. Over the same period, median gross rent in Queens increased by approximately 16 percent, while median rent in New York City increased by approximately 18 percent. For the study area, Queens, and New York City, average gross rent mirrors the trends shown in median rent. Average gross rent in the study area is $1,830.

**Table B-3**
**Average and Median Gross Rent**

| | 2006–2010 ACS | | 2017–2021 ACS | | Change or Percent Change | |
|---|---|---|---|---|---|---|
| Area | Average[1] | Median[1] | Average[1] | Median[1] | Average | Median |
| Socioeconomic Study Area | $1,496 | $1,500 | $1,830 | $1,867 | 22.3% | 24.5% |
| Queens | $1,461 | $1,481 | $1,674 | $1,711 | 14.6% | 15.5% |
| New York City | $1,426 | $1,343 | $1,680 | $1,579 | 17.8% | 17.5% |

**Note:**
1. All dollar figures are reported in 2021 dollars.

**Sources:** U.S. Census Bureau, 2006–2010 and 2017–2021 ACS 5-Year Estimates; DCP's NYC Population Factfinder; Social Explorer.

U.S. Census ACS data do not provide specific rent information according to regulation status or unit size, but instead can paint a general picture about the rate at which housing costs are changing in a neighborhood. Recent rental listings were therefore used to provide a fuller understanding of where the market is today. **Table B-4** summarizes market rents in the study area.

**Table B-4**
**Socioeconomic Study Area Market Rents**

| Unit Type | Average | Median | Upper Quartile |
|---|---|---|---|
| Studio | $2,147 | $2,038 | $2,493 |
| One Bedroom | $2,427 | $2,350 | $2,617 |
| Two Bedroom | $3,026 | $2,898 | $3,225 |
| Three or more Bedrooms | $3,975 | $3,795 | $4,500 |
| All Unit Types | $2,701 | $2,595 | $3,000 |

**Source:** StreetEasy (http://streeteasy.com) accessed in September 2023 based on sampling of 225 active and recently rented listings within the study area.

*FUTURE WITHOUT THE PROPOSED ACTIONS*

*Rezoning Area*

The No Action condition describes a future baseline condition to which changes that are expected to result from the Proposed Actions are compared. Absent the Proposed Actions, no changes to land use would occur in the Rezoning Area.

*Study Area*

There are 13 planned developments within a ¼-mile radius of the Rezoning Area that are anticipated to be completed by the Build Year of 2027. In total, the No Action condition will see the development of 257 new DUs in the socioeconomic study area. The new DUs would introduce an estimated 573 new residents, resulting in a total study area population of 20,969, a 2.81 percent increase compared with existing conditions. One notable planned project in the study area is a seven-story mixed-use development located at 25-28 Broadway, which would include 19 DUs, of which 6 DUs would be reserved for residents at making 130 percent of the area's median income (AMI), approximately 3,049 gsf of ground floor commercial space, and 13 parking spaces. The remaining 238 units that will be built in the study area are not reserved for low-income households. Based on existing rent and income trends, it is anticipated that the study area would continue to show a trend of rising rents and incomes.

*FUTURE WITH THE PROPOSED ACTIONS*

The With Action condition describes the future condition in which the Proposed Actions are approved and implemented, and the projected development generated under the proposed zoning changes is operational. In the With Action condition, the Proposed Project would be developed on Site 1 and would include two buildings. A mixed-use residential building would be developed on 31st Street, with 167 affordable senior DUs and one superintendent's unit, and 6,864 gsf of local retail space. A community facility building would be developed on 32nd Street with approximately 7,058 gsf of community facility space. The community facility space would include administrative offices and space for social services. The Proposed Project would be subject to the requirements of HPD's Senior Affordable Rental Apartments (SARA) program. The SARA program requires

that projects serve senior households, in which at least one person is 62 years or older, with incomes up to 60 percent of the Area Median Income (AMI).[4]

In addition, in the With Action condition, Site 2 is expected to be developed with a mixed-use residential building with 126 DUs and 14,525 gsf of retail space. As the Rezoning Area would be subject to MIH, Site 2 would include 32 to 38 affordable DUs, depending on the MIH option chosen. The MIH program sets forth two primary options that are characterized by different affordability levels, which promote a range of affordable development. This socioeconomic analysis assumes Option 2.[5]

- **Option 1**: 25 percent of residential floor area would be set aside for households making up to 60 percent Area Median Income (AMI) on average, with 10 percent of that number set aside for households making up to 40 percent AMI.
- **Option 2**: 30 percent of residential floor area would be set aside for households making up to 80 percent AMI.

New York City AMIs are shown in **Table B-5**. AMIs are calculated yearly by the U.S Department of Housing and Urban Development (HUD).

**Table B-5**
**2023 New York City Area Median Income (AMI)**

| Family Size | 30% of AMI | 40% of AMI | 50% of AMI | 60% of AMI | 80% of AMI | 100% of AMI | 120% of AMI | 130% of AMI | 165% of AMI |
|---|---|---|---|---|---|---|---|---|---|
| 1 | $29,670 | $39,560 | $49,450 | $59,340 | $79,120 | $98,900 | $118,680 | $128,570 | $163,185 |
| 2 | $33,900 | $45,200 | $56,500 | $67,800 | $90,400 | $113,000 | $135,600 | $146,900 | $186,450 |
| 3 | $38,130 | $50,840 | $63,550 | $76,260 | $101,680 | $127,100 | $152,520 | $165,230 | $209,715 |
| 4 | $42,360 | $56,480 | $70,600 | $84,720 | $112,960 | $141,200 | $169,440 | $183,560 | $232,980 |
| 5 | $45,750 | $61,000 | $76,250 | $91,500 | $122,000 | $152,500 | $183,000 | $198,250 | $251,625 |

**Source:** U.S. Department of Housing and Urban Development (HUD)

The estimated average household size for the Proposed Project's senior DUs is assumed to be 1.50; the average household size for Site 2's MIH DUs is assumed to be 2.23, which is the average household size of CD 1 as of the 2020 U.S. Decennial Census. Because the household size estimates for the proposed units fall between two whole numbers, as recommended in the *CEQR Technical Manual*, this analysis splits the difference between the AMI for 1- and 2-person households for the senior units and 2- and 3-person households for the MIH units (see **Table B-6**). For the senior units, the estimated average household income would be $63,570. For the MIH units, the average household income would be $92,994.

[4] NYC Department of Housing Preservation and Development (HPD) Office of Development, Division of Special Needs Housing. Senior Affordable Rental Apartments (SARA) Program Term Sheet. https://www1.nyc.gov/assets/hpd/downloads/pdfs/services/snh-sara-term-sheet.pdf

[5] For the purposes of the socioeconomic analyses, Options 1 and 2 resulted in similar average incomes of the new population in the With Action condition. Option 2 resulted in a slightly higher average household income and therefore was used for this analysis.

**Table B-6**
**Average Household Income Based on Average Household Size**

| AMI Level | | Avg. Household Size | Low-End Estimate Household Size/Income[1] | High-End Estimate Household Size/Income[1] | Adjusted for Avg. Household Size[2] |
|---|---|---|---|---|---|
| Senior Units | 60% | 1.50 | 1-person/ $59,340 | 2-person/ $67,800 | $63,570 |
| MIH Units | 80% | 2.23 | 2-person/ $90,400 | 3-person/ $101,680 | $92,994 |

**Notes:**
1. Refer to **Table B-5**.
2. Because the household size estimates for the proposed units falls between two whole numbers, as recommended in the *CEQR Technical Manual*, this analysis splits the difference between the AMI for 1- and 2-person households for the senior units and 2- and 3-person households for the MIH units.

**Sources:** Average household size of 2.23 for CD 1 as of the 2020 U.S. Decennial Census.

*Average Household Income of the With Action Population on Projected Development Sites*

**Table B-7** shows the estimated distribution of new market rate units in the With Action condition by number of bedrooms. There would be a total of 88 market-rate units on Site 2 in the With Action condition. Based on the existing mix of unit types for rental units in the study area, approximately 11 percent would be studios, 56 percent would be one-bedroom units, 26 percent would be two-bedroom units, and 7 percent would be three-or-more-bedroom units.

**Table B-7**
**Upper Quartile Market-Rate Monthly Rents: Socioeconomic Study Area**

| Unit Type | Count | Percent | Upper Quartile Monthly Rent |
|---|---|---|---|
| Studio | 10 | 11% | $2,493 |
| One Bedroom | 49 | 56% | $2,617 |
| Two Bedroom | 23 | 26% | $3,225 |
| Three bedrooms or larger | 6 | 7% | $4,500 |
| Total[1] | 88 | 100% | $3,000 |

**Note:** 1. Total average monthly rent is a weighted total based on the proportional unit mix found within the socioeconomic study area.
**Sources:** StreetEasy.com accessed January 2022; U.S. Census 2017–2021 ACS.

**Table B-8** shows the calculations used to estimate the average household income of the market rate units. Using the upper quartile of monthly rent by bedrooms, the estimated household income for each type of unit was estimated, assuming households spend 30 percent of their gross monthly income on rent. Then, the estimated annual incomes were multiplied by the number of units to determine the aggregate income for the units by unit type. Finally, the aggregate for all unit types was divided by the total number of market rate units to determine the average household income of the market rate units of $115,818.

In the With Action condition, 167 DUs on Site 1 would be reserved for senior households at incomes of up to 60 percent AMI and one superintendent's unit, for a total of 168 units. On Site 2, of the 126 total DUs, approximately 38 would be affordable to households at an average of 80 percent AMI based on MIH Option 2. **Table B-9** shows the average household income of both the affordable and market-rate DUs in the With Action condition. The average income of market rate DUs was multiplied by the total number of market rate DUs. The average income of senior affordable DUs at 60 percent AMI for an average household size of 1.50 was multiplied by the total number of senior affordable DUs. The average income of affordable DUs at 80 percent AMI for an average household size of 2.23 was multiplied by the total number of affordable DUs on Site 2 under MIH Option 2. These three numbers were added together to determine the aggregate

income for all the units. This aggregate income was divided by the total number of units to determine the average income for all units of $83,078.

**Table B-8**
**Weighted Average Income of With-Action Market-Rate Renters**

| Number of Bedrooms | Monthly Rent | Estimated Gross Monthly Income[1] | Estimated Gross Yearly income | Units | Aggregate Income by Number of Bedrooms (Yearly Income x Units) |
|---|---|---|---|---|---|
| Studio | $2,493 | $8,310 | $100,000 | 10 | $1,000,000 |
| One Bedroom | $2,617 | $8,723 | $105,000 | 49 | $5,145,000 |
| Two Bedroom | $3,225 | $10,750 | $129,000 | 23 | $2,967,000 |
| Three bedrooms or larger | $4,500 | $15,000 | $180,000 | 6 | $1,080,000 |
| Total | | | | 88 | $10,192,000 |
| **Weighted Average Income of Market Rate Units (Aggregate Income ÷ Total Units)** | | | | | **$115,818** |

**Notes:**
1. Monthly income was estimated using the assumption that renters spend 30 percent of their gross monthly income on rent.
Numbers may not sum to totals due to rounding.
**Sources:** Monthly rent from Street Easy Listings, September 2023; percent of rental units by number of bedrooms from U.S. Census 2017–2021 ACS.

**Table B-9**
**Weighted Average Income of Total With Action Population on Projected Development Sites**

| Income | | Units | Aggregate Income (Income x Units) |
|---|---|---|---|
| Market rate | $115,818 | 88 | $10,192,000 |
| Senior Affordable[1] | $63,570 | 167 | $10,616,190 |
| MIH Affordable[2] | $92,994 | 38 | $3,533,787 |
| **Total** | | 293 | $24,341,977 |
| **Weighted Average Income of the With Action Population (Aggregate Income ÷ Total Units)** | | | **$83,078** |

**Notes:**
1. Household income for senior affordable DUs is based on 60 percent AMI for a family of 1.50 (see **Table B-6**).
2. Household income for MIH DUs is based on 80 percent AMI for a family of 2.23 (See **Table B-6**)
**Sources:** HUD

The expected average household income of the new population ($83,078) is anticipated to be lower than the average household income of the existing socioeconomic study area population ($117,404).

## CONCLUSION

Step 1 of the preliminary assessment determined that the Proposed Actions would not introduce a population with higher average incomes than the No Action study area population. Therefore, based on *CEQR Technical Manual* guidelines, the Proposed Actions would not have the potential to result in significant adverse impacts to socioeconomic conditions due to indirect residential displacement, and no further analysis is warranted. ✷

# A. INTRODUCTION

This attachment assesses the potential impacts of the Proposed Actions on open space resources. Open space is defined in the 2021 *City Environmental Quality Review (CEQR) Technical Manual* as publicly accessible, publicly or privately owned land that is available for leisure, play, or sport, or serves to protect and enhance the natural environment. An open space assessment may be necessary if a project would have a direct effect, such as eliminating or altering a publicly accessible open space, or an indirect effect, such as when an increase in population could overtax the capacity of an area's open spaces. Direct effects could also include a proposed action's effects on open spaces due to increased noise, air pollutant emissions, odor, or shadows.

The Proposed Actions would facilitate the construction of a mixed-use development containing senior housing, community facility space and retail space, comprised of two buildings—a mixed use building with 167 affordable senior dwelling units (DUs), a unit for a building superintendent, and ground floor retail, and a community facility building (the Proposed Project) at 31-07 31st Street (Site 1) in the Astoria neighborhood of Queens, Community District 1. In addition, the proposed rezoning is projected to result in mixed residential building with ground floor retail space on Site 2, across 31st Street from Site 1. The incremental development resulting from the Proposed Actions is 294 DUs, 9,914 gross-square-feet (gsf) of retail space, and 7,058 gsf of community facility space.

As discussed in more detail below, the Proposed Actions would result in the introduction of residential space that would increase the population in the Rezoning Area. Therefore, in accordance with *CEQR Technical Manual* guidelines, an open space assessment was conducted to determine whether the Proposed Actions would result in significant adverse open space impacts. This assessment finds that the Proposed Actions would not result in significant adverse open space impacts.

# B. METHODOLOGY

### DIRECT EFFECTS

According to the *CEQR Technical Manual*, a proposed action would directly affect open space conditions if any of the following occurs: it causes the loss of public open space; it changes the use of an open space so that it no longer serves the same user population; it limits public access to an open space; or it results in increased noise or air pollutant emissions, odor, or shadows that would temporarily or permanently affect the usefulness of a public open space. The Proposed Actions would not displace any open space, cause a change in open space use, nor would it result in substantial new shadows or increased noise or air emissions on an open space. As a result, a direct effects analysis is not warranted and is not discussed further.

### INDIRECT EFFECTS

As described in the *CEQR Technical Manual*, open space can be indirectly affected by a proposed action if a project would add enough population, either residential or non-residential, to noticeably diminish the capacity of open space in the area to serve the future population. The preliminary screening threshold to determine if an assessment of indirect effects is warranted is if a project would introduce more than 200 residents or 500 nonresidents (or workers). Since the Proposed Actions would introduce more than 200 residents, a preliminary assessment of indirect effects is warranted. However, as described in the next section, the Rezoning Area is located within a Walk to a Park walk gap area. Therefore, a detailed analysis of indirect effects was conducted.

### NYC PARKS WALK TO A PARK INITIATIVE

New York City, as part of the *OneNYC 2050— Building a Strong and Fair City*, has put forth a goal that calls for 85 percent of New York City residents living within a walking distance of a park by 2030. To help the City reach this goal, NYC Parks has a Walk to a Park initiative that focuses on increasing access to parks and open space in areas of the City where residents live further than a walk to a park. The Walk to a Park Service Area, or areas of the city that are within a walking distance of a park are shown on the following map. Areas of the Walk to a Park Service Area map that are not covered by a Walk to a Park Service Area are considered "walk gaps" – i.e., areas of the City that are not within a walking distance to a park.

According to the *CEQR Technical Manual*, as part of the preliminary assessment for open space, a project should be reviewed to determine if it is located in an area of the City within a Walk to a Park Service Area. Project sites that are located outside of a Walk to a Park Service Area (i.e., located in a known walk gap areas) suggests there is a need for a detailed analysis to be performed to determine if the project may further exacerbate a condition of residents living in areas of the city with inadequate park access, potentially leading to a significant impact. Since the Rezoning Area is located within a walk gap area, a detailed analysis of indirect effects is warranted (**Figure C-1**).

## C. OPEN SPACE ASSESSMENT

### STUDY AREA

The *CEQR Technical Manual* recommends establishing a study area as the first step in an open space assessment. The study area is based on the distance that the respective users—in this case residents—are likely to walk to an open space. According to the *CEQR Technical Manual*, residents are assumed to walk approximately 20 minutes, or ½-mile, to an open space.

Because the Proposed Actions would introduce a new residential population above the 200-resident population threshold, the adequacy of open space resources was assessed for the ½-mile (residential) study area. This study area was adjusted to include all census tracts with at least 50 percent of their area within the ½-mile boundary. In this way, the study area allows for analysis of both the open spaces in the area as well as population data. The population of the open space study area was compiled from the 2020 U.S. Census Bureau Decennial Census and the New York City Department of City Planning's (DCP) Housing Database. As shown on **Figure C-2**, the ½-mile residential study area includes the area within Census Tracts 45, 47, 51, 53, 55, 57, 59, 61, 63, 73, 75, 77, 155 and 157. The residential study area is generally bounded by 30th Avenue to the north; 43rd Street to the east; 38th Avenue to the south; and 9th Street to the west.




Walk to a Park Service Area

**IKOS SENIOR HOUSING REZONING & UDAAP**

**Figure C-1**




Open Space Study Area and Resources

**IKOS SENIOR HOUSING REZONING & UDAAP**

**Figure C-2**

## OPEN SPACE INVENTORY

As defined by the *CEQR Technical Manual*, open space is accessible to the public on a constant and regular basis, including for designated daily periods. Public open space may be under government or private jurisdiction and typically includes City, state, and federal parkland, esplanades, and plazas designated through regulatory approvals such as zoning. Private open space is not publicly accessible or is only available to limited users. It is not available to the public on a constant and regular basis. Examples of private open space are natural areas with no public access, front and rear yards, rooftop recreational facilities, and stoops or landscaped grounds used by community facilities, such as public and private educational institutions, where the open space is accessible only to the institution-related population.

Publicly accessible open spaces and recreational facilities were inventoried to determine their number, name and address, owner, acreage and percent of acreage devoted to active and passive uses, features, condition, availability, user groups, and utilization level. Open spaces that are not accessible to the general public or that do not offer usable recreational areas, such as spaces where seating is unavailable, were generally excluded from the survey. In accordance with the *CEQR Technical Manual*, publicly accessible open space is defined as facilities open to the public at designated hours on a constant and regular basis and is assessed for impacts using both a quantitative and qualitative analysis, whereas private open space is not accessible to the general public on a constant and regular basis and is considered qualitatively. A field survey was conducted on January 10, 2022. Secondary sources such as the New York City Department of Parks and Recreation (NYC Parks) and New York City Department of Informational Technology and Telecommunications (DoITT) Geographic information system (GIS) data were used to inventory the publicly accessible open space resources in the residential study area.

## PRELIMINARY ASSESSMENT

Because the Proposed Actions would result in over 200 new residents and exceed the preliminary screening thresholds outlined above, a preliminary assessment is warranted. Depending on the results of that assessment, a more detailed analysis may also be necessary. A detailed open space analysis is likely necessary if the project would displace a highly utilized open space (direct effect) or introduce a large population in an area with a limited amount of open space available for public use (indirect effect). In some cases, the need for a detailed analysis may be less clear, and a preliminary assessment may be useful in determining the need for a more detailed assessment.

With an inventory of available open space resources and potential users, the adequacy of open space in the study area can be assessed both quantitatively and qualitatively. The quantitative approach calculates the ratio of total open space acreage to the population in the study area (i.e., acres of open space per 1,000 residents) and compares this ratio with certain guidelines. The qualitative assessment examines other factors that may affect conclusions about adequacy, including proximity to additional resources beyond the study area and the availability of private recreational facilities. Specifically, the analysis in this attachment includes the following:

- Open space study area residential population likely to utilize study area open spaces. The population of the open space study area was compiled from 2020 Census data and DCP's Housing Database.
- An inventory of all publicly accessible recreational facilities in the residential open space study area.

- An assessment of the quantitative ratio of open space in the study area is calculated by computing the ratio of open space acreage to the residential population in the study area and comparing this open space ratio with certain guidelines. In New York City, the optimal open space ratio for residential populations is 2.5 acres of open space per 1,000 residents. This goal is often not feasible for many areas of the City and does not constitute an impact threshold. Rather, it is a benchmark that represents how well an area is served by its open space.
- An evaluation of qualitative factors affecting open space use.
- A determination of the adequacy of open space in the residential open space study area in existing conditions, the No Action condition, and the With Action condition.
- An assessment of expected changes in future levels of open space supply and demand in the 2027 analysis year, based on other planned development projects within the open space study area. To estimate the population expected in the study area in the No Action condition, an average household size of 2.23 persons is applied to the number of new DUs expected in the study area.[1] For the senior units, an average household size of 1.50 was applied. Any new open space or recreational facilities that are anticipated to be operational by the analysis year are also accounted for. Open space ratios are calculated for No Action and With Action conditions and compared to determine changes in future levels of adequacy.

As indicated above, according to the *CEQR Technical Manual*, as part of the preliminary assessment for open space, a project should be reviewed to determine if it is located in an area of the City within a Walk to a Park Service Area. Project sites that are located outside of a Walk to a Park Service Area (i.e., located in a known walk gap area) suggests there is a need for a detailed analysis to be performed. Since the Rezoning Area is located within a walk gap area, a detailed analysis of indirect effects is warranted (**Figure C-1**).

## DETAILED ANALYSIS

A detailed open space analysis typically breaks down study area population by age group and details the amount and quality of various types of open space to assess the availability of particular types of open space for particular age groups. In conducting this assessment, the analysis focuses on where shortfalls in open space exist now (or in the future), to identify whether the shortfalls are a result of the project. Where it is clear from the outset that the project would affect a particular type of open space or particular age group, the analysis may focus on those issues. Furthermore, open space resources within the study area are broken down into passive and active percentage distributions along with utilization levels based on fieldwork surveys.

Impacts are based in part on how a project would change the open space ratio in the study area as well as other qualitative considerations. According to Table 7-1 of the *CEQR Technical Manual*, a decrease in an open space ratio of one percent or more compared to the No Action condition is generally considered to be a significant adverse impact for a project in study areas where the open space ratio is 0.50 acres per 1,000 residents or less. In addition to the quantitative factors cited above, the *CEQR Technical Manual* also recommends consideration of qualitative factors in assessing the potential for open space impacts. These include the project site's proximity to nearby regional parks,

[1] An average household size of 2.23 persons per household for Queens Community District 1 was applied to the number of new DUs expected in the study area absent the proposed actions. Source: DCP Community District Tabulation Area data for Queens Community District 1, based on 2020 U.S. Census data.

or other substantial open space resources located within or just outside the 0.5-mile generalized study area boundaries and the beneficial effects of new open space resources provided by a project.

Determinations as to what constitutes a significant adverse open space impact are not based solely on the results of the quantitative assessment. Qualitative considerations, such as the distribution of open space, the distance to regional parks, the connectivity of open space, and any additional open space provided by a proposed project, should be considered in a determination of significance.

*EXISTING CONDITIONS*

*Study Area Population*

As shown in **Table C-1**, 2020 Census and DCP Housing data indicates that the study area has a residential population of approximately 54,785.[2]

**Table C-1**
**Study Area Residential Population[1]**

| Census Tract | Residential Population |
|---|---|
| 45 | 3,252 |
| 47 | 4,090 |
| 51 | 2,512 |
| 53 | 5,397 |
| 55 | 1,367 |
| 57 | 4,277 |
| 59 | 4,231 |
| 61 | 6,291 |
| 63 | 5,877 |
| 73 | 4,470 |
| 75 | 4,477 |
| 77 | 2,114 |
| 155 | 2,344 |
| 157 | 1,655 |
| **Study Area Subtotal** | **52,354** |
| DCP Housing Database | 2,431 |
| **Study Area Total** | **54,785** |

**Note:** [1] See **Figure C-2** for a map of census tracts included in the study area.
**Sources:** U.S. Census Bureau, 2020 Census; DCP Housing Database.

*Age Distribution*

The age distribution of the residential population affects the way open spaces are utilized and the various recreational facilities needed for the community. As outlined in the *CEQR Technical Manual,* children 4 years old or younger typically use traditional playgrounds that have play equipment for toddlers and preschool children. Children 5 years old through 9 years old use traditional playgrounds as well as grassy and hard-surfaced open spaces, which are important for activities, such as ball playing, running, and skipping rope. Older children and teenagers, 10 years old through 19 years old, use playground equipment, court spaces, little league fields, and other sports fields. Adults 20 years old through 64 years old continue to use court game facilities and fields for sports, and also engage in more individualized recreation activities, such as cycling and jogging, which require bike paths, promenades, and other vehicle-free roadways. For these activities, adults have greater mobility to seek active recreation outside of the ½-mile study area.

[2] An average household size of 2.23 persons per household for Queens Community District 1 was applied to the number of new DUs from DCP's Housing Database. Source: DCP Housing Database.

Adults also gather with families for picnicking, ad hoc active sports such as Frisbee, as well as recreational activities in which all ages can participate. Seniors engage in active recreation, such as handball, tennis, and swimming, as well as recreation that requires passive facilities.

**Table C-2** summarizes the distribution of the study area's residential population by age group and compares this age distribution to those of Queens and New York City. A smaller percentage of children under 9 years of age are found within the study area (approximately 8 percent) as compared with Queens and New York City (approximately 11 and 12 percent, respectively). Similarly, children and teenagers aged 10 through 19 years of age make up almost half the proportion (approximately 7 percent) of those children and teenagers found within Queens and New York City (approximately 11 percent for both). As shown below, the study area's age distribution skews more heavily toward the adult 20- to 64-year-old age group (approximately 73 percent), as compared with those of Queens and New York City (approximately 62 percent for both). Correspondingly, the study area has a slightly lower percentage of the population over 65 years of age (approximately 13 percent) compared to Queens and New York City (approximately 16 and 15 percent, respectively).

**Table C-2**
**Study Area Residential Population Age Distribution**

| Age Category | Study Area | | Queens | | New York City | |
|---|---|---|---|---|---|---|
| | Persons | Percent | Persons | Percent | Persons | Percent |
| Under 5 Years | 2,304 | 4.40% | 144,328 | 6.00% | 545,860 | 6.20% |
| 5 to 9 Years | 1,885 | 3.60% | 125,084 | 5.20% | 484,230 | 5.50% |
| 10 to 19 Years | 3,612 | 6.90% | 262,196 | 10.90% | 986,069 | 11.20% |
| 20 to 64 Years | 37,957 | 72.50% | 1,484,171 | 61.70% | 5,440,989 | 61.80% |
| 65 Years and Over | 6,544 | 12.50% | 384,874 | 16.00% | 1,320,629 | 15.00% |
| **Total** | 52,302 | 100% | 2,400,653 | 100% | 8,777,777 | 100% |

**Source:** U.S. Census Bureau, ACS 2017–2021 data; DCP's NYC Population Factfinder.

*Inventory of Publicly Accessible Open Space*

According to the *CEQR Technical Manual*, open space may be publicly or privately owned and utilized for active or passive recreation. In accordance with the *CEQR Technical Manual*, publicly accessible open space is defined as facilities open to the public at designated hours on a regular basis and is assessed for impacts using both quantitative and qualitative analysis. Private open space is not accessible to the general public on a regular basis and is only considered qualitatively. In addition to residential buildings, most New York City Housing Authority (NYCHA) developments contain ancillary facilities for residents, including community centers, child care facilities, and recreational amenities, such as basketball courts, seating areas, and play structures. Because these open spaces are accessory to the residential use of NYCHA developments, they are not included in the quantitative analysis and only discussed in the qualitative analysis. Similarly, community gardens located within the study area, including gardens operated by the New York City Department of Parks and Recreation (NYC Parks) GreenThumb program, or gardens or other open spaces located on property operated by a private entity, such as a foundation or local community development organization, are considered in the qualitative analysis only. Field surveys and secondary sources were used to determine the number, utilization, and condition of publicly accessible open space resources within the study area.

An open space is determined to be active or passive by the uses that the space is designed to allow. Active open space is part of a facility used for active play, such as organized sports, or other exercise, that may include features such as playground equipment, swimming pools, baseball fields, skating rinks, and handball courts. Passive open space is used for activities like sitting or strolling and is designed for relaxation with features such as benches, chess tables, walkways, and

picnicking areas. Some open spaces can be utilized for both active and passive recreation; a riverfront walkway can be used for passive activities, such as walking, and can also be used for more active activities, such as cycling.

*RESIDENTIAL (½-MILE) STUDY AREA*

As shown in **Table C-3** and **Figure C-2**, the study area contains a total of approximately 1.30 acres of publicly accessible open space. Of this total space, approximately 1.09 acres can be classified as active open space and approximately 0.21 acres can be classified as passive open space.

The largest open space within the study area is Sean's Place, which contains 0.58 acres of primarily active open space. Frequented by adults, seniors, teenagers, and children, this resource features playgrounds, handball courts, basketball courts, and a water feature. Bench seating is provided for passive recreation. This resource is in excellent condition with moderate utilization.

The A.R.R.O.W Field House contains 0.29 acres and is frequented by both adults/seniors and children. The Field House is divided between an outdoor basketball court, with adjacent landscaping and bench seating, as well as an indoor community center with a media lab/multipurpose room. This resource is in excellent condition with low utilization.

The other open spaces are smaller in size and feature abundant active open space. Playground Thirty Five XXXV contains 0.22 acres. Frequented by adults/seniors and children, it was recently renovated, with new playground equipment, a spray shower area, planting beds, lighting, and fencing. Bench seating and picnic tables are also provided for passive recreation. This resource is in excellent condition with moderate utilization.

Lastly, Astoria Health Playground, which contains 0.21 acres of primarily active open space, is frequented primarily by children. The playground features game tables, swing sets, a spray shower and a basketball half-court. Bench seating and game tables are provided for passive recreation. This resource is in excellent condition with moderate utilization.

In addition to the open spaces addressed quantitatively in **Table C-3**, there are other open space resources available to study area residents, including open spaces found on NYCHA properties and two playgrounds outside of the study area. These open spaces are discussed qualitatively below.

## Table C-3
## Inventory of Publicly Accessible Open Space

| Map ID No. | Name | Location | Owner | Total Acres | Active | | Passive | | Condition | Utilization | Amenities | Age Utilization |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Acres | Percent | Acres | Percent | | | | |
| 1 | Playground Thirty Five XXXV | 35th Ave. bet. Steinway St. and 41st St. | NYC Parks | 0.22 | 0.18 | 80% | 0.04 | 20% | Excellent | Moderate | Playground equipment, spray shower picnic tables, benches | Adults/Seniors/ Children |
| 2 | A.R.R.O.W. Field House | 35-30 35th Street | NYC Parks | 0.29 | 0.20 | 70% | 0.09 | 30% | Excellent | Low | Basketball court, blacktop, media lab, multipurpose room, benches, garden | Adults/Seniors/ Children |
| 3 | Sean's Place | 38th St. bet. 31st Ave. and Broadway | NYC Parks | 0.58 | 0.52 | 90% | 0.06 | 10% | Excellent | Moderate | Playgrounds, benches, handball courts, basketball courts, water feature | Adults/Seniors/ Teens/Children |
| 4 | Astoria Health Playground | 14 St. bet. 31st Ave. and 31st. Dr. | NYC Parks | 0.21 | 0.19 | 90% | 0.02 | 10% | Excellent | Moderate | Benches, game tables, swing set, spray shower, and basketball half-court | Children |
| **Existing Condition Totals** | | | | **1.30** | **1.09** | **84%** | **0.21** | **16%** | **—** | **—** | **—** | |
| **Open Space Resources Outside the Study Area** | | | | | | | | | | | | |
| A | Dutch Kills Playground | 28th St., Crescent St. bet. 37th Ave. and 36th Ave. | NYC Parks | 2.40 | 1.92 | 80% | 0.48 | 20% | — | — | Fitness equipment, playgrounds, handball courts, spray showers | — |
| B | Ravenswood Playground | 21 St. bet. 34th Ave. and 35th Ave. | NYC Parks | 2.76 | 2.48 | 90% | 0.28 | 10% | — | — | Handball courts, playgrounds, roller hockey rink, spray showers, swings, benches, picnic tables, exercise equipment, | — |
| C | Athens Square | 30th Ave. bet. 29th St. and 30th St. | NYC Parks/DOE | 0.93 | 0.65 | 70% | 0.28 | 30% | — | — | Playgrounds, basketball court, game tables, benches, and an amphitheater with Doric columns and statues of Greek figures | — |
| | | | | **6.09** | **5.06** | **83%** | **1.04** | **17%** | **—** | **—** | **—** | **—** |

**Notes:** * See **Figure C-2** for a map of open space resources.
**Sources:** NYC Parks, NYC MapPLUTO, GreenThumb, AKRF Fieldwork conducted in January 2022

*Assessment of Open Space Adequacy*

The following analysis of the adequacy of open space resources within the residential study area takes into consideration the ratios of active, passive, and total open space resources per 1,000 residents, as well as a qualitative review of publicly accessible open spaces within the ½-mile study area.

*Quantitative Assessment*

The study area contains a total of 1.30 acres of public open space, of which approximately 1.09 acres (84 percent) are classified as active open space and 0.21 acres (16 percent) are classified as passive open space. In the existing condition, the study area has a population of 54,785 and, based on this total study area population, the total study area open space ratio is 0.024 acres per 1,000 residents, the active open space ratio is 0.020 acres per 1,000 residents, and the passive open space ratio is 0.004 acres per 1,000 residents (see **Table C-4**). These open space ratios are lower than the City's planning guidelines of 2.5 acres of total open space per 1,000 residents, 2.0 acres of active space per 1,000 residents, and 0.5 acres of passive open space per 1,000 residents.

**Table C-4**
**Adequacy of Open Space Resources: Existing Condition**

| | | Open Space Acreage | | | Open Space Ratios per 1,000 Persons | | | *CEQR Technical Manual* Open Space Guidelines | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Population | Total | Active | Passive | Total | Active | Passive | Total | Active | Passive |
| Residents | 54,785 | 1.30 | 1.09 | 0.21 | 0.024 | 0.020 | 0.004 | 2.50 | 2.00 | 0.50 |
| **Note:** Open space ratios are calculated as unrounded values but are presented as rounded to three digits. | | | | | | | | | | |

*Qualitative Assessment*

As shown in **Table C-3**, open spaces within the study area include a wide variety of activities and programmed spaces appropriate for a range of residential user groups, including children and adults/seniors. These facilities include playground areas and sports courts. In addition to these active recreation facilities, there are several passive spaces, including seating areas with game tables and benches.

The condition of most open spaces within the study area can be characterized as excellent with low to moderate utilization, indicating a capacity to tolerate additional users. With the exception of the Astoria Health Playground, all of the open spaces serve both children and adults/seniors.

The quantified deficiency of open space resources found within the residential study area in the existing condition is partially ameliorated by the presence of additional open spaces within the generalized ½-mile study area, including those within the Ravenswood NYCHA development found in the western portion of the study area and two additional playgrounds. These resources have not been included in the above quantitative assessment; however, may also be used by portions of the study area population (see **Table C-5**). These open space resources feature abundant active spaces, for both adults/seniors and children and are described in further detail below.

Ravenswood Playground is a 2.76-acre open space that abuts the New York City Housing Authority's Ravenswood Houses. The open space is primarily active and features fitness equipment, playground equipment, handball courts, and a spray shower. Active amenities include a new asphalt sports field, full sized basketball and handball courts, adult fitness equipment, and playground equipment. Passive amenities include a picnic grove with a seating area.

Dutch Kills Playground is a 2.40-acre playground, and the northern portion of this playground was renovated in 2019. The playground includes active recreation amenities such as adult fitness equipment, basketball and handball courts, accessible play equipment, a spray shower, playgrounds, and a roller hockey rink. Passive amenities include benches and picnic tables.

Athens Square is a 0.93-acre playground that includes active recreation amenities such as a playground and basketball court. Passive amenities include game tables, bench seating, and an amphitheater with Doric columns and statues of Greek figures.

*THE FUTURE WITHOUT THE PROPOSED ACTIONS*

*Study Area Population*

As detailed in Page 1a, "Project Description," it is anticipated that in the absence of the Proposed Actions, existing conditions would remain. No other changes are anticipated within the Rezoning Area.

In the No Action condition, approximately 2,198 DUs are anticipated to be constructed in the study area by the 2027 analysis year. Based on the average household size for Queens CD 1 of 2.23, these new DUs are anticipated to add an additional 4,900 residents to the study area population. In the No Action condition, it is anticipated that the residential study area population would be approximately 59,685.

*Study Area Open Spaces*

There are no additional open space resources planned for the residential study area by the 2027 analysis year and none of the existing open spaces within the study area are expected to undergo renovations.

*Assessment of Open Space Adequacy*

*Quantitative Assessment*

As shown in **Table C-6**, in the No Action condition, the study area open space ratio is projected to fall from 0.024 acres per 1,000 residents to 0.022 acres per 1,000 residents. Similarly, the active open space ratio is expected to fall from 0.020 acres per 1,000 residents to 0.018 acres and the passive open space ratio would remain the same (0.004 acres per 1,000 residents). Similar to existing conditions, these open space ratios fall below the City guidelines of 2.5 acres of total open space, 2.0 acres of active open space, and 0.5 acres of passive open space per 1,000 residents.

**Table C-6**
**Adequacy of Open Space Resources: No Action Condition**

| | | Open Space Acreage | | | Open Space Ratios per 1,000 Persons | | | *CEQR Technical Manual* Open Space Guidelines | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Population | Total | Active | Passive | Total | Active | Passive | Total | Active | Passive |
| **Residential (½-Mile) Study Area** | | | | | | | | | | |
| Residents | 59,685 | 1.30 | 1.09 | 0.21 | 0.022 | 0.018 | 0.004 | 2.50 | 2.00 | 0.50 |
| **Note:** Open space ratios are calculated as unrounded values but are presented as rounded to three digits. | | | | | | | | | | |

*Qualitative Assessment*

No other changes to the open spaces within the study area are anticipated and the qualitative conditions would be similar to those described under existing conditions. Several additional open

spaces that were not considered in the qualitative assessment would continue to be available for residents for their use in the No Action condition.

*THE FUTURE WITH THE PROPOSED ACTIONS*

*Study Area Population*

As described above, the Proposed Actions would facilitate the construction of 294 DUs. Based on the 2.23 average household size for Queens CD 1 for the non-senior DUs and an average household size of 1.50 for the senior DUs, it is anticipated that the Proposed Actions would generate an incremental increase in the study area population of 534 residents. In the With Action condition, it is anticipated that the residential study area population would be approximately 60,219.

*Study Area Open Spaces*

The Proposed Actions would not result in changes to the amount of open space acreage of the study area.

*Assessment of Open Space Adequacy*

According to the *CEQR Technical Manual,* a proposed action may result in significant indirect impacts on open space resources if the proposed action reduced the open space ratios and consequently resulted in the overburdening of existing facilities or further exacerbated a previously identified deficiency in open space.

*Quantitative Assessment*

As shown in **Table C-7**, the Proposed Actions are projected to retain the same open space ratios as the No Action condition.

**Table C-7**
**Adequacy of Open Space Resources: With Action Condition**

| | | Open Space Acreage | | | Open Space Ratios per 1,000 Persons | | | *CEQR Technical Manual* Open Space Guidelines | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Population | Total | Active | Passive | Total | Active | Passive | Total | Passive | Active |
| **Residential (½-Mile) Study Area** | | | | | | | | | | |
| Residents | 60,219 | 1.30 | 1.09 | 0.21 | 0.022 | 0.018 | 0.004 | 2.50 | 0.50 | 2.00 |
| **Note:** Open space ratios are calculated as unrounded values but are presented as rounded to three digits. | | | | | | | | | | |

*Qualitative Assessment*

In the With Action condition, no changes to the open spaces within the study area are anticipated. Similar to the No Action condition, the Dutch Kills Playground, Athens Square, and Ravenswood Playground, which provide an additional 6.09 acres of publicly accessible open space, would be available to residents within the generalized study area.

*IMPACT SIGNIFICANCE AND CONCLUSIONS*

Table 7-5 of the *CEQR Technical Manual* provides percentage change guidance to determine a possible open space impact. For a project in a study area where the total open space ratio is 0.50 acres per 1,000 residents or less, the active open space ratio is between 0.01 to 0.40, and the passive open space ratio is between 0.01 to 0.10, then a decrease in an open space ratio of one percent or

more compared to the No Action condition is generally considered to be a significant adverse impact.

As shown in **Table C-8**, the percent change between the No Action and With Action for total, active, and passive open space ratios is 0.89 percent and does not exceed the one percent threshold for a significant adverse open space impact. Therefore, the Proposed Actions would not result in a significant adverse indirect impact on open space. Further qualitative considerations are discussed below.

**Table C-8**
**Open Space Ratio Summary**

| Ratio | *CEQR Technical Manual* Open Space Guideline | Open Space Ratios per 1,000 | | | Percent Change |
|---|---|---|---|---|---|
| | | Existing | No Action | With Action | |
| **Residential (½-Mile) Study Area** | | | | | |
| Total—Residents | 2.5 | 0.024 | 0.02 | 0.02 | -0.89% |
| Active—Residents | 2.0 | 0.020 | 0.02 | 0.02 | -0.89% |
| Passive—Residents | 0.5 | 0.004 | 0.004 | 0.004 | -0.89% |
| **Notes:** Open space ratios and percent change are calculated using unrounded values; open space ratios are presented as rounded to three digits. | | | | | |

In addition to the quantitative assessment, the *CEQR Technical Manual* recommends that qualitative considerations be considered in determining impact significance. Open spaces within the study area are in excellent condition and exhibit low to moderate utilization, indicating a capacity to tolerate additional users. The open spaces serve the predominately adult and senior population within the study area as well as children. In addition to the open spaces included in the quantitative analysis, the additional three open spaces that are adjacent to the study area could reasonably be expected to be available for use by some study area residents, which provide an additional 6.09 acres of publicly accessible open space.

The Proposed Project would include private open space for seniors who reside in the building and community programming within the community facility building on 32nd Street for seniors and other adults who reside in the neighborhood. The Proposed Project would provide indoor and outdoor recreational space for seniors. The senior building would include a game room, exercise room, lounge and outdoor landscaped spaces for residents. HANAC would provide a range of community services in the proposed building on 32nd Street, including technology training, jobs skills development, and fashion design courses as well as other programs that may provide for leisure activities for seniors and others. Further, new development constructed under the proposed zoning could be developed in accordance with Quality Housing regulations, which requires amenities relating to interior space, recreation areas and landscaping in residential developments. When such qualitative factors are taken into consideration, the Proposed Actions would not result in a significant adverse impact on open space. ✷

## Attachment D: Shadows

# A. INTRODUCTION

This attachment examines the potential for the Proposed Actions to result in new shadows on sunlight sensitive resources, which include publicly accessible parks and other open spaces, sunlight-dependent features of historic resources, and natural resources that depend on sunlight. Following the guidelines of the 2021 *City Environmental Quality Review (CEQR) Technical Manual*, a shadow study is required if a proposed project would result in structures 50 feet or more in height, or of any height if the project site is located adjacent to, or across the street from, a sunlight-sensitive resource. As described on Page 1a, "Project Description," the Reasonable Worst Case Development Scenario (RWCDS) would include the development of a mixed-use affordable senior housing building on the Project Site that would be approximately 115 feet tall (not including rooftop mechanical structures), as well as development at two other sites within the Rezoning Area, each of which would be approximately 65 feet tall plus rooftop mechanical structures. Consequently, a shadow study was conducted.

The analysis concluded that new shadows cast by the projected or potential development resulting from the Proposed Actions would not be long enough to reach any sunlight-sensitive resources, and therefore would not cause any adverse impacts related to shadows.

# B. DEFINITIONS AND METHODOLOGY

This analysis has been prepared in accordance with New York City CEQR procedures and follows the guidelines of the 2021 *CEQR Technical Manual*.

### DEFINITIONS

**Incremental shadow** is the additional, or new, shadow that a structure resulting from a proposed project would cast on a sunlight-sensitive resource.

**Sunlight-sensitive resources of concern** are those that depend on sunlight or for which direct sunlight is necessary to maintain the resource's usability or architectural integrity. Such resources generally include the following:

- *Public open space* such as parks, beaches, playgrounds, plazas, schoolyards (if open to the public during non-school hours), greenways, and landscaped medians with seating. Planted areas within unused portions of roadbeds that are part of the Greenstreets program are also considered sunlight-sensitive resources.
- *Features of architectural resources that depend on sunlight for their enjoyment by the public.* Only the sunlight-sensitive features need be considered, as opposed to the entire resource. Such sunlight-sensitive features might include: design elements that depend on the contrast between light and dark (e.g., recessed balconies, arcades, deep window reveals); elaborate, highly carved ornamentation; stained glass windows; historic landscapes and scenic

landmarks; and features for which the effect of direct sunlight is described as playing a significant role in the structure's importance as a historic landmark.

- *Natural resources* where the introduction of shadows could alter the resource's condition or microclimate. Such resources could include community gardens, surface water bodies, wetlands, and designated resources such as coastal fish and wildlife habitats.

Resources not subject to shadows analyses include the following, for the purposes of CEQR:

- *City streets and sidewalks* (except Greenstreets);
- *Private open space* (e.g., front and back yards, stoops, vacant lots, and any private, non-publicly accessible open space); and
- *Project-generated open space* cannot experience a significant adverse shadow impact from the project, according to CEQR, because without the project the open space would not exist. However, a discussion of how shadows would affect the new space may be warranted.

A significant adverse shadow impact occurs when the incremental shadow added by a proposed project falls on a sunlight-sensitive resource and substantially reduces or completely eliminates direct sunlight, thereby significantly altering the public's use of the resource or threatening the viability of vegetation or other resources. Each case must be considered on its own merits based on the extent and duration of new shadow and an analysis of the resource's sensitivity to reduced sunlight, and seasonal conditions.

## METHODOLOGY

Following the guidelines of the *CEQR Technical Manual*, a preliminary screening assessment must first be conducted to ascertain whether a project's shadow could reach any sunlight-sensitive resources at any time of year. The preliminary screening assessment consists of three tiers of analysis. The first tier determines a simple radius around the proposed building representing the longest shadow that could be cast. If there are sunlight-sensitive resources within this radius, the analysis proceeds to the second tier, which reduces the area that could be affected by project shadow by accounting for the fact that shadows can never be cast between a certain range of angles south of the project site due to the path of the sun through the sky at the latitude of New York City.

If the second tier of analysis does not eliminate the possibility of new shadows on sunlight-sensitive resources, a third tier of screening analysis further refines the area that could be reached by project shadow by looking at specific representative days in each season and determining the maximum extent of shadow over the course of each representative day.

If the third tier of analysis does not eliminate the possibility of new shadows on sunlight-sensitive resources, a detailed shadow analysis is required to determine the extent and duration of the incremental shadow resulting from the project. Incremental shadows are determined by establishing a baseline condition in the future *without* the Proposed Project (the No Action condition) and comparing it to the future condition *with* the Proposed Project (the With Action condition), thus illustrating the baseline shadows cast by existing (or future No Action) buildings and distinguishing the additional (incremental) shadows cast by a proposed project. The detailed analysis provides the data needed to assess the shadow impacts. The effects of the new shadows on the sunlight-sensitive resources are described, and their degree of significance is considered. The results of the analysis and assessment are documented with graphics, a table of incremental shadow durations, and narrative text.

## C. PRELIMINARY SCREENING ASSESSMENT

A base map was developed using Geographic Information Systems (GIS)[1] showing the location of the Project Site (Site 1), the Projected Development Site (Site 2), the Potential Development Site (Site A), and the surrounding street layout and topography (see **Figure D-1**). Mapped databases of parks and other public open spaces, City, state, and national historic resources, and natural resources were added to the map.[2] In coordination with the open space and land use assessments presented in other sections of this EAS, potential sunlight-sensitive resources were identified.

### TIER 1 SCREENING ASSESSMENT

For the Tier 1 assessment, the longest shadow that each of the three development sites could cast was calculated and, using this length as the radius, a perimeter was drawn around the sites. Anything outside this perimeter representing the longest possible shadow could never be affected by project-generated shadow, while anything inside the perimeter would need additional assessment. According to the *CEQR Technical Manual*, the longest shadow that a structure can cast at the latitude of New York City occurs on the morning of December 21, the winter solstice, and is equal to 4.3 times the height of the structure.[3]

At a maximum height of approximately 145 feet (135 feet to the roof plus an additional 10-foot allowance for rooftop mechanical bulkhead), the Proposed Project could cast a shadow up to approximately 624 feet in length (145 x 4.3). Using this length as the radius, a perimeter was drawn around the Project Site (see **Figure D-1**).

Under the RWCDS, Sites 2 and A would each reach a maximum height of approximately 105 feet (95 feet to the roof plus an additional 10-foot allowance for rooftop mechanical bulkhead) and could therefore cast shadows of up to 452 feet in length (105 x 4.3). Using this length as the radius, a perimeter was drawn around each of the two sites (see **Figure D-1**).

The longest shadow study area for Site 1 extends farther in all directions than the longest shadow study areas for Sites 2 and A, with the exception of a small area at the western perimeter where the longest shadow study area for Site 2 extends slightly farther west. Therefore, the combined longest shadow study area of Sites 1 and 2 represents the maximum longest shadow study area for the RWCDS.

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[1] Software: Esri ArcGIS Pro 2.9

[2] Data: City, State, and Federal agencies including New York City Parks Department; New York City Department of Information Technology and Telecommunications (DoITT), New York City Department of City Planning, New York City Landmarks Preservation Commission, New York City Department of Transportation, New York State Office of Parks, Recreation, and Historic Preservation, New York State Dept. of Environmental Conservation (NYSDEC), U.S. Fish and Wildlife Service, and others; supplemented by Nearmap hi-resolution imagery, and AKRF site visits.

[3] The CEQR shadows assessment considers shadows occurring between one and a half hours after sunrise and one and a half hours before sunset on any given day. At times earlier or later than this timeframe window of analysis, the sun is down near the horizon and the sun's rays reach the Earth at very tangential angles, diminishing the amount of solar energy and producing shadows that are extremely long, move fast, and generally blend with other shadows. Consequently, shadows occurring outside the timeframe window of analysis are not considered significant under CEQR, and their assessment is not required.

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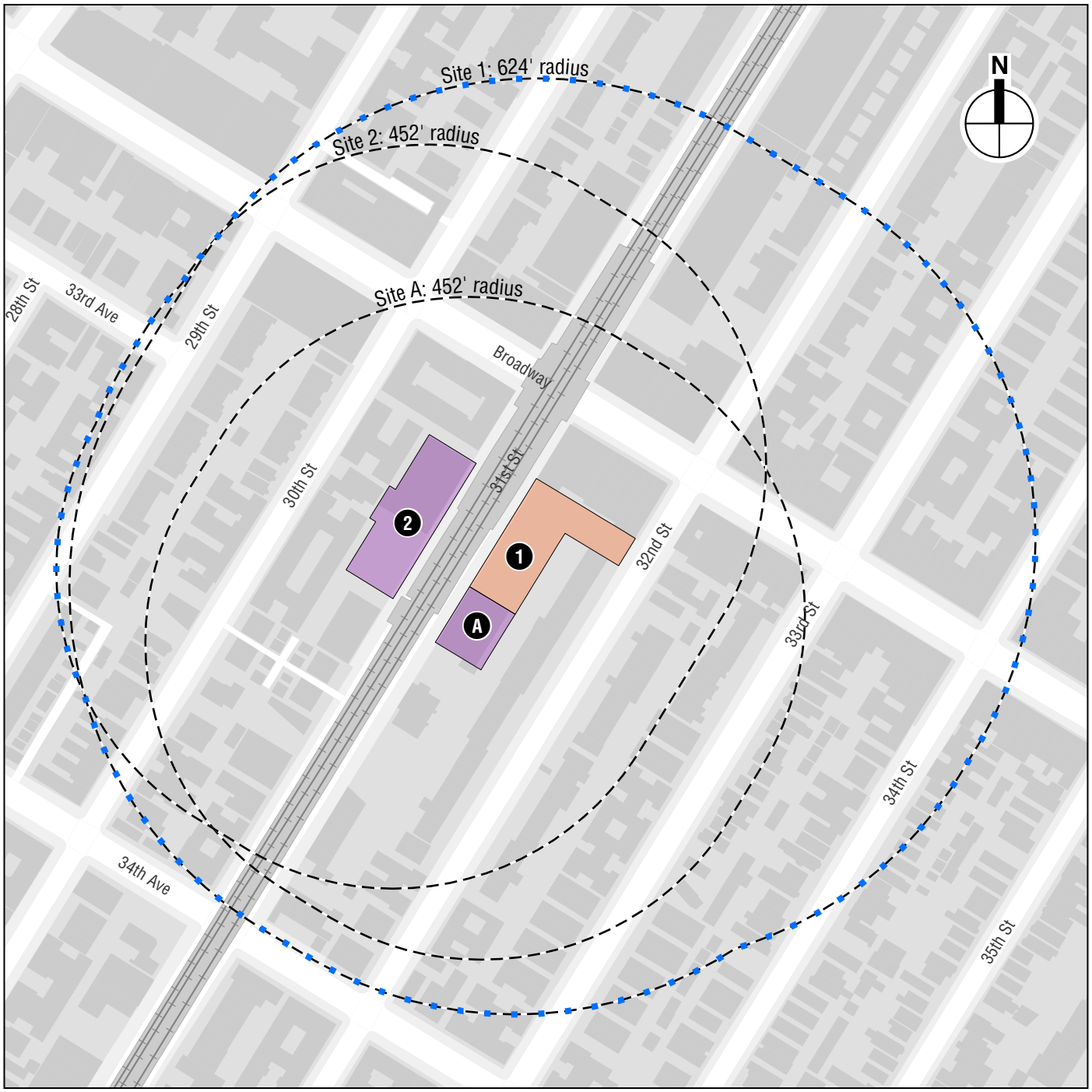



0 400 FEET

*Project Site*

*Non-Applicant Controlled Development Site*

*Tier 1: Combined Longest Shadow Study Area Perimeter*

*Tier 1: Longest Shadow Study Area Perimeter, Individual Sites 1, 2, and A (radius = max. height x 4.3)*

Note: No public parks or other open spaces, historic resources with sunlight-sensitive features, or natural resources are located within the longest shadow study area perimeter.

Tier 1 Assessment

**IKOS SENIOR HOUSING REZONING & UDAAP**

**Figure D-1**

The Tier 1 assessment showed that there were no sunlight-sensitive resources of any type within the combined longest shadow study area, and that therefore, no further assessment was required.

## D. CONCLUSION

The Tier 1 assessment showed that any new shadows cast by projected or potential developments resulting from the Proposed Actions would not be long enough to reach any sunlight-sensitive resources in the surrounding area. Consequently, no further assessment was required and the analysis concludes that the Proposed Actions would not cause any shadow impacts. ✷

## A. INTRODUCTION

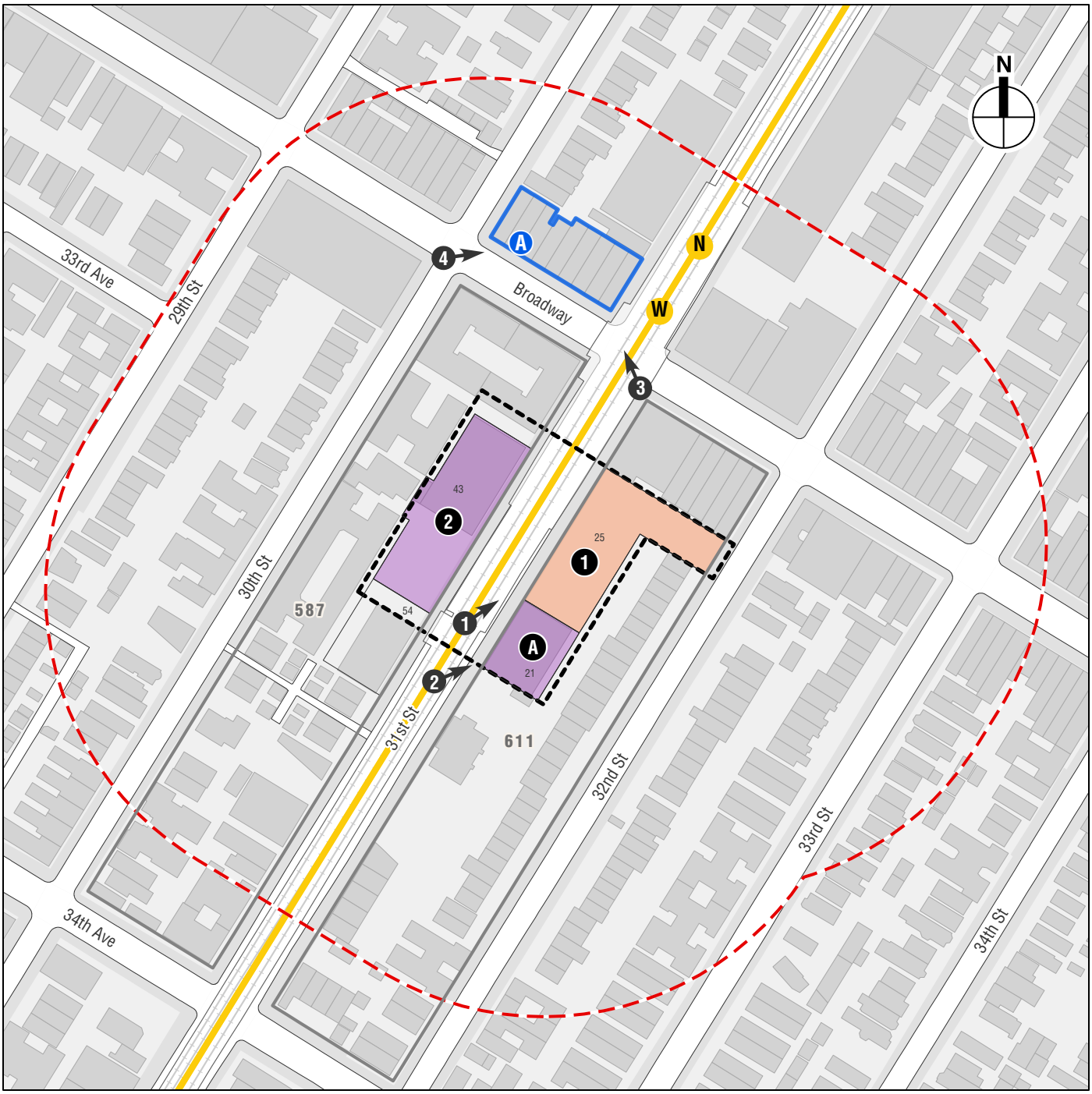
This attachment assesses the potential of the Proposed Actions to affect historic and cultural resources as compared with conditions in the Future without the Proposed Actions (the "No Action" condition). As described on Page 1a, "Project Description," the Proposed Actions would facilitate the construction of a mixed-use affordable senior housing development with community facility and commercial space (the "Proposed Project") at 31-07 31st Street in Astoria, Queens, Community District 1 (Block 611, Lot 25) (the "Project Site" or "Site 1"). The Proposed Actions, which includes a rezoning of the Project Site and adjacent properties, would also facilitate development at two other sites: a projected development site (Site 2) and a potential development site (Site A) within the Rezoning Area. The Rezoning Area also includes, on 31st Street adjacent to Site 2, a portion of a lot to the south that contains a driveway and part of a three-story apartment building and a portion of a lot to the north that contains a four-story apartment building; neither would be redeveloped under the Proposed Actions.

Absent the Proposed Actions, in the No Action condition, it is expected that the existing conditions and uses in the Rezoning Area would remain. These include a public parking lot containing approximately 61 parking spaces on the Project Site, a 11,475-gsf commercial building containing a grocery store with an accessory parking lot on Site 2, and a 7,200 gsf community facility building on Site A. This assessment concludes that Proposed Actions would not result in any significant adverse impacts to historic and cultural resources.

## B. METHODOLOGY

Historic and cultural resources include both archaeological and architectural resources. The study area for archeological resources is the Rezoning Area itself, where disturbance from excavation and construction can be anticipated. In comments dated February 3, 2022, the New York City Landmarks Preservation Commission (LPC) determined that the lots within Rezoning Area have no architectural or archaeological significance (see **Appendix B**). Therefore, this analysis focuses on standing structures in the study area only.

Study areas for architectural resources are determined based on the area of potential effect for construction period impacts, as well as the larger area in which there may be visual or contextual impacts. The 2021 *City Environmental Quality Review (CEQR) Technical Manual* sets the guidelines for the study area as being typically within an approximately 400-foot radius of the Rezoning Area (see **Figure E-1**). Architectural resources include: National Historic Landmarks (NHLs); State and National Register (S/NR)-listed or S/NR-eligible properties or properties contained within a S/NR-listed or S/NR-eligible historic district, and properties recommended by the New York State Board for listing on the S/NR; and New York City Landmarks (NYCLs), Interior Landmarks, Scenic Landmarks, and New York City Historic Districts (NYCHDs) and properties pending such designation. In addition, a survey of the study area was conducted to identify any previously undesignated properties that appear to meet S/NR or NYCL eligibility criteria ("potential architectural resources").




Historic and Cultural Resources
Project Location and Architectural Resource

**IKOS SENIOR HOUSING REZONING & UDAAP**

**Figure E-1**

Impacts on architectural resources can include both direct physical impacts and indirect impacts. Direct impacts include damage from vibration (i.e., from construction blasting or pile driving) and additional damage from adjacent construction that could occur from falling objects, subsidence, collapse, or damage from construction machinery. Adjacent construction is defined as any construction activity that would occur within 90 feet of an architectural resource, as defined in the New York City Department of Buildings (DOB)'s *Technical Policy and Procedure Notice (TPPN) #10/88*.[1]

Indirect impacts on architectural resources are contextual or visual impacts that could result from project construction or operation. As described in the *CEQR Technical Manual*, indirect impacts could result from blocking significant public views of a resource; isolating a resource from its setting or relationship to the streetscape; altering the setting of a resource; introducing incompatible visual, audible, or atmospheric elements to a resource's setting; or introducing shadows over a historic landscape or an architectural resource with sun-sensitive features that contribute to that resource's significance (e.g., a house of worship with stained-glass windows).

# C. EXISTING CONDITIONS

## ARCHITECTURAL RESOURCES

*REZONING AREA*

The Rezoning Area is generally defined as the eastern and western frontages of 31st Street, south of Broadway: this area includes Block 611, Lots 21 and 25, and portions of Lots 43-52, 144, 146 and 152; and Block 587, Lot 43, portions of Lots 18, 29, 34 and 54. See **Figure E-2** for photographs of the Rezoning Area. There are no known architectural resources in the Rezoning Area, nor are there any potential resources that appear to meet the eligibility criteria for NYCL designation or S/NR listing. In comments dated February 3, 2022, the LPC determined that the project site is not architecturally significant (see **Appendix B**).

*STUDY AREA*

*Known Architectural Resources*

There are no known architectural resources in the study area.

*Potential Architectural Resources*

A survey of the study area was conducted to identify any previously undesignated properties that appear to meet S/NR or NYCL eligibility criteria ("potential architectural resources"). One potential architectural resource was identified in the study area. This resource is described below and mapped on **Figure E-1**.

A terracotta-clad mixed-use building at 30-01 to 30-17 Broadway extends along the north side of Broadway between 30th and 31st Streets (see **Figure E-3**). The potential architectural resource is located approximately 200 feet northwest of the Rezoning Area. The three-story terracotta-clad building was built in 1925 by a single real estate developer, with storefronts on the ground floor and dwellings on the two upper stories.[2] The building is significant for its architecture, featuring

[1] *TPPN #10/88* was issued by DOB on June 6, 1988, to supplement Building Code regulations with regard to historic structures. *TPPN #10/88* outlines procedures for the avoidance of damage to historic structures that are listed on the NR or NYCLs resulting from adjacent construction, defined as construction within a lateral distance of 90 feet from the historic resource.

[2] NYC Department of Buildings, Certificate of Occupancy No 17485. Issued 6/9/1925.




Projected Development Site 2 in the Rezoning Area, occupied by a one-story retail building **1**



Potential Development Site A in the Rezoning Area, containing a community facility building **2**

Historic and Cultural Resources
Rezoning Area




Northwest view of the potential architectural resource, 30-01 to 30-17 Broadway **3**




Northeast view of the potential architectural resource, 30-01 to 30-17 Broadway **4**

Historic and Cultural Resources
Potential Architectural Resource

a unified façade with ornate terracotta cladding in a Gothic Revival style. The façade is articulated by narrow pilasters and molded spandrels. At the roofline, the parapet is an arcade of blind trefoil arches. The ground floor has been modified with modern storefronts. Fenestration on the upper stories is composed of single sash windows. In comments dated February 3, 2022, the LPC determined that the potential historic resources at 30-01 to 30-17 Broadway appear to be S/NR eligible (see **Appendix B**).

## D. THE FUTURE WITHOUT THE PROPOSED ACTIONS

### REZONING AREA

Absent the Proposed Actions, it is assumed that the existing conditions and uses on the Project Site and on the projected and potential development sites would remain.

### STUDY AREA

As described in Attachment A, "Land Use, Zoning, and Public Policy," there are no known developments planned for completion within the 400-foot study area by the 2027 Build Year.

## E. THE FUTURE WITH THE PROPOSED ACTIONS

### REZONING AREA

As described on Page 1a, "Project Description," with the approval of the Proposed Actions, the Rezoning Area would be mapped with a C4-5 district, with a small portion rezoned to a C4-2A district. The Proposed Actions would facilitate the development of senior housing, community facility space, and ground floor retail space on the Project Site. The Project Site would be developed with an 13-story mixed-used residential building fronting on 31st Street, with 167 senior dwelling units (DUs), a unit for a building superintendent, and approximately 7,000 gsf of ground-floor retail, and a three-story, 7,000-gsf community facility building fronting on 32nd Street. No accessory parking would be provided.

Under the Reasonable Worst Case Development Scenario (RWCDS), in the With Action condition, Site 2 would be developed with a nine-story approximately 121,600-gsf mixed-use residential and retail building, with below-grade parking. Site A could be developed with a nine-story mixed-use building.

As there are no known or potential architectural resources in the Rezoning Area, the Proposed Actions would not result in any adverse impacts to architectural resources in the Rezoning Area.

### STUDY AREA

*DIRECT IMPACTS*

With the Proposed Actions, no architectural resources in the study area would be demolished or altered. No architectural resources in the study area are located within 90 feet of the Rezoning Area. Therefore, the Proposed Actions would not be expected to result in any direct impacts to architectural resources in the study area.

*INDIRECT IMPACTS*

The Proposed Actions' potential to result in indirect, or contextual, impacts was also evaluated. Indirect impacts are defined as those impacts that could result from blocking significant public views of a resource; isolating a resource from its setting or relationship to the streetscape; altering the setting of a resource; introducing incompatible visual, audible, or atmospheric elements to a

resource's setting; or introducing shadows over a historic landscape or an architectural resource with sun-sensitive features that contribute to that resource's significance, such as a church with notable stained glass windows.

The Proposed Actions would not result in any adverse visual or contextual impacts on architectural resources in the study area. The Proposed Actions would not obstruct views to the potential architectural resource, which is located 200 feet to the northwest of the Rezoning Area, nor would they introduce incompatible visual, audible, or atmospheric elements to the potential architectural resource's setting. The buildings at 30-01 to 30-17 Broadway are separated from the Rezoning Area by intervening buildings and the elevated N/W subway line, which runs above 31st Street through the Rezoning Area and study area. The elevated subway, which has an elevated station over the intersection of Broadway and 31st Street, creates a visual obstruction between the architectural resource and the Rezoning Area. Therefore, existing views of the potential architectural would not be affected in the With Action condition. Overall, the Proposed Actions would have no significant adverse impacts on historic and cultural resources in the study area. ✶

## A. INTRODUCTION

In accordance with the *City Environmental Quality Review (CEQR) Technical Manual*, this chapter considers the potential for the Proposed Actions to affect the urban design and visual resources of the Rezoning Area and the surrounding study area. As described below under Section B, "Methodology," urban design, or the built and natural environments of the study area, is collectively formed by the following components: streets, buildings, open space, natural features, and visual resources. Visual resources are those connections from the public realm to significant natural or built features, including views of the waterfront, public parks, public art, statues or sculptures, landmark structures or districts, otherwise distinct buildings or groups of buildings that may be iconic or historic, and natural resources.

As described in Page 1a, "Project Description," the Proposed Actions would facilitate the construction of a mixed-use affordable senior housing development with community facility and commercial space on the Project Site. In addition, the Proposed Actions would facilitate development at two other sites: a Projected Development Site (Site 2) and a Potential Development Site (Site A) within the larger Rezoning Area. The preliminary analysis conducted based on the methodology set forth in the *CEQR Technical Manual* determined that the Proposed Actions would not result in a significant adverse impact related to urban design and visual resources.

## B. METHODOLOGY

As defined in the 2021 *CEQR Technical Manual*, urban design is the totality of elements that shape and affect a pedestrian's experience of public space. These elements include streets, buildings, visual resources, open spaces, natural resources, and wind. Based on the *CEQR Technical Manual*, a preliminary assessment of urban design and visual resources is appropriate when there is the potential for a pedestrian to observe from the street level a physical alteration beyond that allowed by existing zoning. Examples include projects that permit the modification of yard, height, and setback requirements, and projects that result in an increase in built floor area beyond what would be allowed "as-of-right" or in the future without the proposed project.

The Proposed Actions include disposition approval of City-owned property and zoning map and zoning text amendments. Therefore, as the Proposed Actions would result in physical alterations beyond that allowed by existing zoning, they would meet the threshold for a preliminary assessment of urban design and visual resources.

The *CEQR Technical Manual* guidelines state that if the preliminary assessment shows that changes to the pedestrian environment are sufficiently significant to require greater explanation and further study, then a detailed analysis is appropriate. Examples include projects that would potentially obstruct view corridors, compete with icons in the skyline, or make substantial alterations to the streetscape of a neighborhood by noticeably changing the scale of buildings. Detailed analyses also are generally appropriate for area-wide rezonings that include an increase

in permitted floor area or changes in height and setback requirements, general large-scale developments, or projects that would result in substantial changes to a historic district or building. Conditions that merit consideration for further analysis of visual resources include when the project partially or totally blocks a view corridor or a natural or built visual resource and that resource is rare in the area or considered a defining feature of the neighborhood; or when the project changes urban design features so that the context of a natural or built visual resource is altered (i.e., if the project alters the street grid so that the approach to the resource changes; if the project changes the scale of surrounding buildings so that the context changes; or if the project removes lawns or other open areas that serve as a setting for the resource).

The Proposed Actions would facilitate the development of a 13-story mixed-use building and a three-story community facility building on the Project Site and the development of two additional sites. These developments would be located in a densely developed area and are, therefore, not expected to meet the above-referenced thresholds for a detailed assessment of urban design and visual resources. The preliminary analysis is provided below.

According to the *CEQR Technical Manual*, the study area for urban design is the area where the project may influence land use patterns, the built environment, and pedestrian's experiences in the public realm surrounding the project area and is generally consistent with that used for the land use analysis. For visual resources, the view corridors within the study area from which such resources are publicly viewable should be identified. The study area for the urban design and visual resources analysis has been defined as the area within 400 feet of the Rezoning Area (see **Figure F-1**).

Per Section 230 of the *CEQR Technical Manual's* Urban Design and Visual Resources chapter, an analysis of pedestrian wind conditions may be warranted for projects that result in the construction of multiple, tall buildings at or in close proximity to waterfront sites, as they may result in an exacerbation of wind conditions that may affect pedestrian comfort and safety. The Proposed Actions would not result in the construction of multiple tall buildings at locations or in proximity to the waterfront that experience high wind conditions; thus, a pedestrian wind condition analysis is not warranted.

## C. EXISTING CONDITIONS

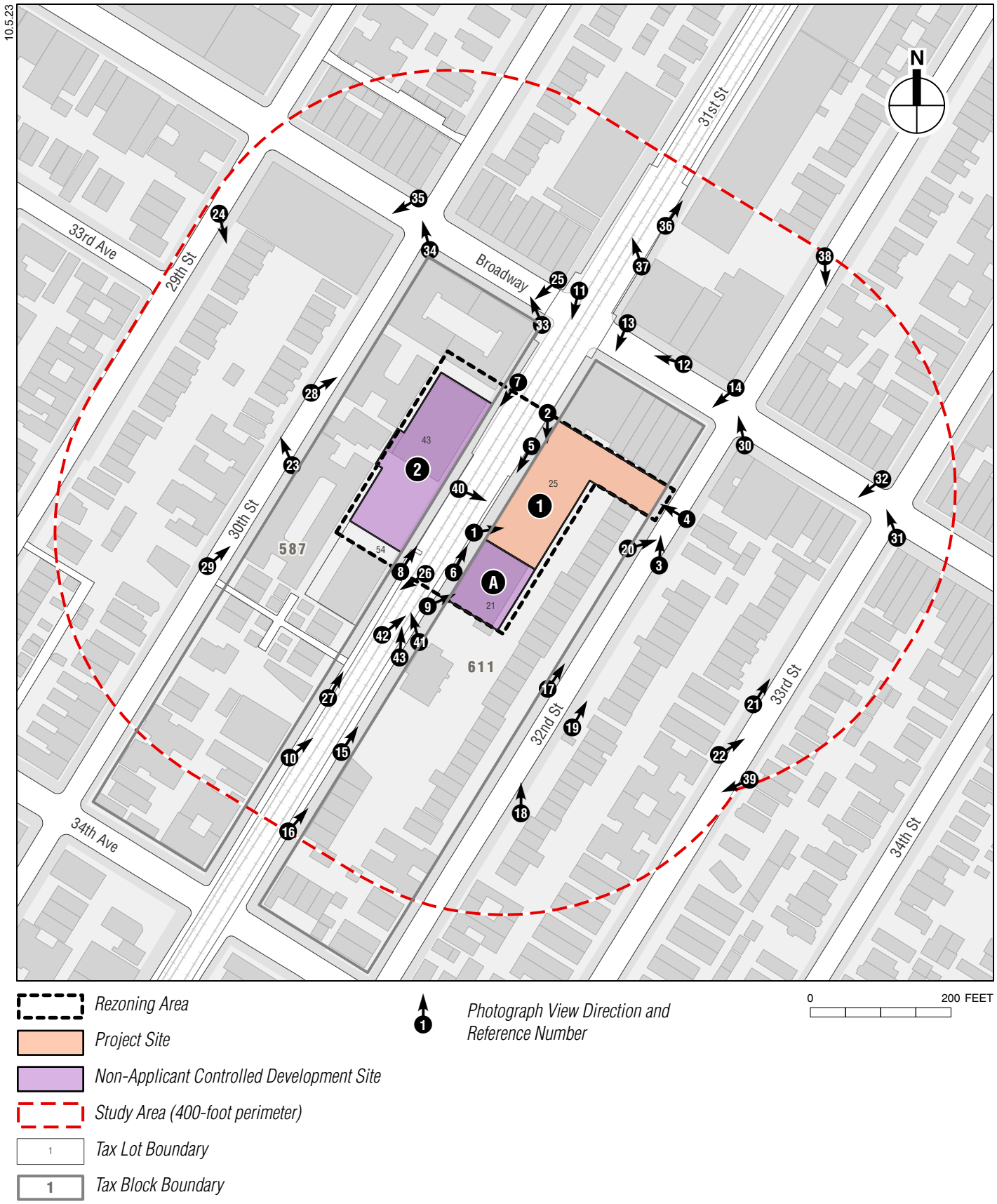
### REZONING AREA

The Rezoning Area consists of several parcels located near the intersection of 31st Street and Broadway in Astoria, Queens (see **Figure F-1)**. It includes the Project Site (Site 1), which fronts on both 31st and 32nd Streets south of Broadway and contains a parking lot; Site 2 on 31st Street across from the Project Site, which contains a one-story commercial building containing a grocery store and accessory parking lot; and Site A, which is adjacent to the Project Site on 31st Street and contains a one-story community facility building. The Rezoning Area also includes a portion of the lot adjacent to the south of Site 2 and a portion of the lot adjacent to the north of Site 2. The urban design and visual resources of the Rezoning Area are described below.

*PROJECT SITE*

*Urban Design*

The Project Site is an L-shaped, through-block lot located on the northern end of the block bounded by 31st and 32nd Streets, Broadway, and 34th Avenue. The Project Site has a 200-foot




Urban Design and Visual Resources
Project Location

**IKOS SENIOR HOUSING REZONING & UDAAP**

**Figure F-1**

frontage on 31st Street and a 48-foot frontage on 32nd Street, and contains a public, paved parking lot with 61 spaces. On 31st Street, there is an entrance with a curb cut at the southern end of the parking lot and an exit with a curb cut at the northern end. Except at the entrances, tall, cylindrical metal bollards line the parking lot's frontage along 31st Street, along with multiple metal informational signs on tall poles. Additional metal signs and tall lampposts are located within the parking lot. An additional parking lot entrance with a curb cut is located on 32nd Street, and there are metal signs and a tall cobrahead lamppost at the entrance. A chain link fence borders the parking lot frontage on 32nd Street. A low concrete wall with chain link fencing covered by ivy borders the east side of parking lot where it abuts the rear yards of adjacent row houses on 32nd Street. See **Figures F-2** and **F-3** for photographs of the Project Site.

The elevated N/W subway line runs above 31st Street through the Rezoning Area, and there is an elevated station over the intersection with Broadway. One of the staircases to the subway station is located in the sidewalk in front of the Project Site (see **Figure F-4**). This staircase is supported on tall metal columns with concrete bases. The staircase has a roof, metal railings, and metal, mesh risers to allow light through the stairs, and it is illuminated with lighting.

The sidewalk in front of the Project Site along 31st Street is wide, and street furniture in front of the Project Site includes three tree pits (but only one tree), a lamppost, two small bicycle racks, and a parking meter. The 32nd Street sidewalk in front of the Project Site is also wide, and street furniture at that location includes a lamppost and two street trees, one of which is protected with a low wood enclosure. On the north side of the Project Site, an adjacent restaurant has enclosed seating located within the street bed of 32nd Street.

*Visual Resources*

The paved parking lot on the Project Site is not a visual resource. Although views from the 31st Street sidewalk adjacent to the Project Site continue for long distances to the north and south, the elevated subway that runs above 31st Street narrows the scope of those views, which contain no prominent points of interest, by partially blocking views across 31st Street. Views north and south on the 32nd Street sidewalk adjacent to the Project Site continue for long distances with no prominent points of interest.

*PROJECTED DEVELOPMENT SITE 2*

*Urban Design*

Site 2 is located on the west side of 31st Street across from the Project Site, and it has a frontage of 250 feet. Site 2 contains a free-standing one-story retail building and a paved accessory parking lot. The retail building is located on the northern half of the site, and it has a rectangular footprint with an approximately 130-foot street frontage. The building is faced in brick and concrete and largely windowless. A wide, recessed, and glazed building entrance is located at the north corner. The remainder of the lower portion of the street façade is painted with a landscape mural. Applied signage and lighting is located on the upper portion façade. On the south façade facing the adjacent parking lot, there are two service entrances and the armature for a billboard. See **Figure F-5** for photographs of the building on Site 2.

The entrance to the retail building's accessory parking lot is adjacent to the building, and there is a wide curb cut. A concrete curb borders the lot's sidewalk frontage, and metal signs on poles mark each parking space. A tall concrete wall borders the south side of the parking lot. See view 8 of **Figure F-5** for a photograph of the parking lot on Site 2.




Project Site, view northeast on 31st Street **1**




Project Site, view southeast on 31st Street **2**

Urban Design and Visual Resources
Rezoning Area



Project Site, view northwest on 32nd Street **3**




Project Site, view west across 32nd Street **4**

Urban Design and Visual Resources
Rezoning Area



Subway station stair adjacent to Project Site, view south **5**



Subway station stair adjacent to Project Site, view north **6**

Urban Design and Visual Resources
Rezoning Area




Projected Development Site 2, view south on 31st Street **7**




Projected Development Site 2, view north on 31st Street **8**

Urban Design and Visual Resources
Rezoning Area

The sidewalk in front of Site 2 is wide, and street furniture includes a lamppost, fire hydrant, parking meter, and small bike rack. In addition, a Citi Bike station is located in the sidewalk, flush against the retail building. Toward the southern end of Site 2, there are two metal columns in the sidewalk that support a service building that is part of the elevated subway and is at the southern end of the Manhattan-bound platform of the elevated station.

Adjacent to the north of Site 2, there is a paved driveway and path enclosed by a metal gate. The driveway has a curb cut, and it runs through the block to 30th Street. Adjacent to the south, there is a sloped driveway to a below-grade parking garage located in the interior of the block. This driveway is located within the Rezoning Area. There is a curb cut in front of the driveway.

*Visual Resources*

The one-story retail building and paved accessory parking lot on Site 2 are not visual resources. Although views from the 31st Street sidewalk adjacent to Site 2 continue for long distances to the north and south, the elevated subway that runs above 31st Street narrows their scope by partially blocking views across 31st Street. There are no prominent points of interest in views from the sidewalk adjacent to Site 2.

*POTENTIAL DEVELOPMENT SITE A*

*Urban Design*

Site A is adjacent to the south of the Project Site on 31st Street, and it is developed with a one-story community facility building for the Cretan's Association Omonia, a local community organization. The free-standing building has a rectangular footprint with a street frontage of 100 feet. Faced in brick and concrete, it uses Classical-style motifs to create a modern temple-front design (see view 9 of **Figure F-6**). Curved pilasters support an overhanging cornice, and three recessed entrances with arches and scrollwork alternate with two ground-level windows. The north façade fronting the Project Site is blank. Similarly, the south façade, which fronts the parking lot of an adjacent McDonald's restaurant, is blank.

The sidewalk in front of Site A is wide, and street furniture includes two tree pits with no trees, a wooden utility pole with cables stretching over the sidewalk to the community facility building and also to the elevated subway, and a lamppost.

*Visual Resources*

The one-story community facility building on Site A is not considered to be a visual resource. Although views from the 31st Street sidewalk adjacent to Site A continue for long distances to the north and south, the elevated subway that runs above 31st Street narrows their scope by partially blocking views across 31st Street. There are no prominent points of interest in views from the sidewalk adjacent to Site A.

## STUDY AREA

Located in Astoria, Queens, the study area is largely developed with apartment buildings and row houses. Broadway is a commercial corridor lined with shops and restaurants, and there are also commercial uses along 31st Street. The elevated N/W subway line runs above 31st Street through the study area with a station at Broadway. The discussion below focuses first on the area's urban design—its basic layout and structures—and then describes its visual resources. See **Figures F-7 through F-21** for photographs of the study area.



Potential Development Site A, view north **9**

Urban Design and Visual Resources
Rezoning Area



**Figure F-6**



Elevated subway, view northeast with Potential Development Site A and Project Site in the distance **10**



Beneath the elevated subway station, view south from Broadway and 31st Street with Project Site in the background **11**

Urban Design and Visual Resources Study Area




Elevated subway station, view west on Broadway **12**

Urban Design and Visual Resources
Study Area




31-02 Broadway, view southeast across Broadway **13**




31-10 to 31-18 Broadway, view southwest across Broadway **14**

Urban Design and Visual Resources
Study Area
**Figure F-9**




McDonald's restaurant, view north on 31st Street **15**




32-75 to 32-65 31st Street, view north **16**

Urban Design and Visual Resources
Study Area
**Figure F-10**



Row houses on west side of 32nd Street, view north with Project Site in the background **17**



Row houses on west side of 32nd Street, view northwest **18**

Urban Design and Visual Resources
Study Area
**Figure F-11**



Row houses on east side of 32nd Street, view north from midblock **19**



Row houses at 32-15, 32-13, and 32-11 32nd Street across from the Project Site, view northeast **20**

Urban Design and Visual Resources
Study Area
**Figure F-12**



Row houses on west side of 33rd Street, view north toward Broadway **21**



Row houses on east side of 33rd Street, view northeast toward Broadway **22**

Urban Design and Visual Resources
Study Area



Row houses at 32-34 30th Street to 32-20 30th Street, view northwest **23**




Row houses at 32-21 29th Street to 32-11 29th Street, view southeast **24**

Urban Design and Visual Resources
Study Area
**Figure F-14**




Apartment building at 30-02 Broadway, view south across Broadway **25**




Apartment building at 32-44 31st Street, view south **26**

Urban Design and Visual Resources
Study Area
**Figure F-15**



Apartment buildings at 32-60 – 32-58 and 32-54 – 32-52 31st Street, view north **27**



Apartment building at 32-15 30th Street, view northeast **28**

Urban Design and Visual Resources
Study Area
**Figure F-16**



Apartment building at 32-35 30th Street, view northeast **29**




North side of Broadway between 31st and 32nd Streets, view northwest **30**

Urban Design and Visual Resources
Study Area
**Figure F-17**




North side of Broadway between 32nd and 33rd Streets, view northwest **31**



South side of Broadway between 32nd and 33rd Streets, view southwest **32**

Urban Design and Visual Resources
Study Area
**Figure F-18**




North side of Broadway between 31st and 30th Streets, view northwest **33**



North side of Broadway between 30th and 29th Streets, view northwest **34**

Urban Design and Visual Resources
Study Area
**Figure F-19**




South side of Broadway between 30th and 29th Streets, view southwest **35**




Apartment buildings at 31-57 and 31-35 31st Street, view north **36**

Urban Design and Visual Resources Study Area

**Figure F-20**



Apartment building at 31-72 31st Street, view northwest from across 31st Street **37**



Apartment building at 31-77 32nd Street, view southeast **38**

Urban Design and Visual Resources Study Area

*URBAN DESIGN*

*Streets*

The streets in the study area are laid out in a regular grid pattern, which creates regularly shaped blocks. Broadway and 31st Street are the main streets in the study area. Both streets are two-way streets with a travel lane in each direction, and they also have parking/loading lanes. Broadway has bus stops. 31st Street runs beneath the elevated N/W subway line. 29th, 30th, and 32nd Streets are one-way with one travel lane and two parking lanes. 33rd Street is also a one-way street, but it has two travel lanes. There are no shared, conventional, or protected bicycle lanes in the study area. Sidewalks in the study area are wide, and curb cuts are numerous for front yard driveways and residential parking garages.

As noted above, the elevated N/W subway line runs through the study area on a metal viaduct above 31st Street (see view 10 of **Figure F-7**). It is approximately 15 feet from street grade to the base of the viaduct. The viaduct does not extend over the sidewalks, and the supporting columns are located in the street bed. However, as noted above, there are two columns in the sidewalk adjacent to the southern end of Site 2. The Broadway subway station is located above the intersection of Broadway and 31st Street, and it spans over the sidewalks at the street corners (see view 11 of **Figure F-7**). Staircases are located in the sidewalk at each corner of the intersection and, as described above, there is an additional staircase in front of the Project Site. These staircases are covered and illuminated. The station is an enclosed metal and glass structure with two levels, and the structure is approximately 40 feet tall to the roof of the station (see view 12 of **Figure F-8**). The glazing of the lower level is art glass with a colorful abstract pattern that is visible from the street. The platforms extend beyond the enclosed station.

Street trees proliferate throughout the study area, especially along 29th, 30th, 32nd, and 33rd Streets. South of Broadway, there are few street trees on 31st Street, and there is only one street tree on Broadway between 31st and 32nd Streets. In the study area, street furniture includes lampposts and traffic lights, parking regulation signs and parking meters, glass and metal bus shelters, fire hydrants, mailboxes, bicycle racks, newspaper boxes, and garbage cans. Multiple restaurants along Broadway, as well as on some on the numbered cross streets, have enclosed restaurant seating located within the street.

*Buildings*

Two-story row houses, two- to seven-story apartment buildings, and two- and three-story commercial buildings primarily characterize the study area. Most buildings are faced in brick. Along Broadway, buildings tend to create consistent street walls and have ground-floor retail. Along the cross streets, most row houses, and some of the apartment buildings, are set back from the street behind paved driveways/parking areas and small front yards. Some of the row houses have garages and some of the driveways/parking areas slope down from street level. The majority of row houses have raised ground floors.

The remainder of the project block within the study area contains a representative sampling of building types. Located at the northwest corner of the block is a two-story brick and stone commercial building at 31-02 Broadway (see view 13 of **Figure F-9**). The ground floor has eight storefronts, each with a different façade treatment and signage. The storefronts on the 31st Street frontage are vacant and boarded up. The second floor is ornamented with decorative brickwork, stone window enframements, and, at the parapet, stone relief panels and balustrades. There is some commercial signage on the second floor. The façade facing the parking lot has some windows and

is covered in signage and graffiti. The rest of the project block's Broadway frontage is developed with three three-story mixed-use buildings at 31-10 and 31-12, 31-14, and 31-16 and 31-18 Broadway. They are faced in brick with curved and stepped parapets and Art Deco brick patterning (see view 14 of **Figure F-9**). They all contain modernized ground floor storefronts, large show windows on the second floor, and residential-scaled windows on the third floor. The storefronts all vary in appearance and some have awnings. Mostly, these buildings contain apartments on the upper floors, but the western half of the building at 31-16 and 31-18 Broadway is fully commercial. These buildings have some applied signage on their upper floors, while the building at 31-14 Broadway has a flagpole projecting from the third floor, and the eastern half of the building at 31-16 and 31-18 Broadway has cellular antennas on the roof that are visible to pedestrians. The three buildings include one-story rear extensions that abut the Project Site, and the rear extension to the building at 31-16 and 31-18 Broadway contains a glass-fronted restaurant on 32nd Street.

On 31st Street south of the Project Site and Site A are a free-standing McDonald's restaurant and a four-story mixed-use building. The one-story McDonald's restaurant has a drive-through that circles the building and paved parking lots to the north and south. The building is clad in brick, glass, and metal, and there is a free-standing "Golden Arches" sign in the southern parking lot set within a small planting bed at the sidewalk (see view 15 of **Figure F-10**). Small, landscaped areas are also located in front of the restaurant and within the northern parking lot adjacent to Site A.

The mixed-use building at 32-75 to 32-65 31st Street shares the southern parking lot with the McDonald's. It is a boxy brick structure with a projecting ground floor that contains five glass-fronted storefronts (see view 16 of **Figure F-10**). Each storefront has an awning. The second and third stories are unornamented and articulated with small windows and metal balconies. The fourth floor is set back. The north façade is blank, and there is an attached armature for a billboard. A security fence encloses a service drive/loading area on the north side of the building. On 32nd Street, the portion of the project block within the study area is lined by two-story row houses with raised basements (see **Figure F-11**). These row houses are all set back from the street behind paved parking areas and driveways to ground-level garages. Some of the driveways slope down from street level. These row houses are clad in brick, with some siding, and the roofline of this row is gabled with slate-covered sloped sections and some sections of crenellated parapets. These row houses all have raised entrances with stoops, and many of the row houses have front porches. There are some small, landscaped areas along the edges of stoops and driveways. Metal fences enclose some of the paths that lead from sidewalk to stoop.

The east side of 32nd Street south of Broadway is similarly lined by two-story brick row houses with raised basements and ground-level garages (see view 19 of **Figure F-12**). Like those on the west side of the street, these row houses are set back from the sidewalk behind paved parking areas/driveways, have raised ground floors with stoops and porches, and have gabled and sloped roofs with slate tiles. However, the three two-story brick houses directly across the street from the Project Site are different in form from those along the rest of the block frontage. The two houses at 32-11 and 32-13 32nd Street are attached and 32-15 32nd Street is free-standing, but each has a first floor built out to the lot line and a setback second floor with an overhanging, bracketed roof (see view 20 of **Figure F-12**). The first-floor extensions of the houses at 32-11 and 32-13 32nd Street are enclosed front porches with entrance stairs located off the street. The entrance stair to 32-15 32nd Street is partially enclosed. On the south side of the house at 32-15 32nd Street (which has been subdivided into apartments), there is a small yard used for parking and a driveway that leads to a rear parking garage. On the south façade of the building, there is a bronze bay window facing the yard. Row houses like those found on 32nd Street are also located on 33rd, 30th, and 29th Streets south of Broadway (see **Figures F-13** and **F-14**). Those streets also contain free-

standing houses and older Italianate-style row houses with bay windows and roof cornices; both of those housing types have examples with non-original cladding.

Within the study area, the remainder of the block that contains Site 2 is mostly developed with two- to four-story apartment buildings, although it also contains some attached and free-standing houses. A four-story apartment building with ground-floor retail occupies the northern end of the block with frontage on Broadway and 31st and 30th Streets (Block 587, Lot 34, which is partially within the Rezoning Area boundary) (see view 25 of **Figure F-15**). Numerous glass-fronted storefronts with awnings line the Broadway and 31st Street frontages. On 30th Street, an arched entrance leads to an interior courtyard and the apartment units. A smaller, arched entrance with a glass doorway is located on Broadway. On the upper residential floors, stone trim, brick arches above the fourth-floor windows, and a decorative parapet with gabled ends provides some ornamentation. A more modern three-story brick apartment building is located on the south side of Site 2 at 32-44 31st Street (Block 587, Lot 54, which is partially within the Rezoning Area boundary). This building has ground-floor storefronts and, on the two upper floors, partially recessed balconies with metal railings (see view 26 of **Figure F-15**). Metal balconies are also located on the north façade facing Site 2. As noted above, between that apartment building and Site 2 is a sloped driveway to a below-grade parking garage located in the interior of the block; that driveway is located within the Rezoning Area. A decorative metal fence encloses a paved walkway between the building and driveway. Farther to the south are two paired apartment buildings at 32-52/54 and 32-58/60 32nd Street. They are two-story boxy brick buildings set back from the street (see view 27 of **Figure F-16**). The building at 32-52 32nd Street is set back behind a small yard with a tree, the buildings at 32-54 and 32-58 32nd Street are set back behind raised, paved yards, and the building at 32-60 32nd Street is set back behind a paved parking area that slopes down from the sidewalk. A paved driveway is located between the two pairs, and it runs through the block to 30th Street.

In addition to some row houses, the 30th Street block frontage contains two large four-story brick apartment buildings at 32-35 and 32-15 30th Street (see view 28 of **Figure F-16** and view 29 of **Figure F-17**). Similar in appearance, they are largely unornamented except for stone trim and gabled parapets. The apartment building at 32-35 30th Street has a 200-foot street frontage, and an arched entrance leads to an interior courtyard. The apartment building at 32-15 30th Street has an H-shaped footprint with light courts on the north and south sides. Between that apartment building and the one fronting Broadway (described above) is a paved through-block path enclosed at each end with a metal gate. A free-standing house is located between the two apartment buildings at 32-15 and 32-25 30th Street. This house is set back from the street and raised above it on a landscaped hill and parking garage built to the lot line. A long staircase up the hill provides access, and a stone retaining wall borders the hill portion of the site. The house has a wide front porch.

Broadway is lined by a mix of two- to four-story commercial and apartment buildings (see view 30 of **Figure F-17**, **Figure F-18**, **Figure F-19**, and view 35 of **Figure F-20**). Mostly clad in brick, these buildings represent multiple styles and building periods. They all have ground-floor storefronts marked by a profusion of signage. Two notable buildings along Broadway include the three-story terra cotta clad building at 30-01 to 30-17 Broadway between 31st and 30th Streets (see view 33 of **Figure F-19**), and the more recently constructed five-story apartment building at 29-10 Broadway between 30th and 29th Streets, which it also fronts (see view 35 of **Figure F-20**). The latter building is clad in a mix of brick, metal, and glass, and it has corner tower forms and a fifth floor that is set back along the Broadway frontage.

The study area also includes some six- and seven-story apartment buildings. Three such buildings are located on 31st Street north of Broadway. The recently constructed seven-story apartment building at 31-57 31st Street has a street frontage of 325 feet; the southern half of the building rises for its full height without setbacks, but the northern half of the building has a setback above the sixth floor. The building is clad in brick, polished stone, and metal, and it has metal and glass storefronts (see view 36 of **Figure F-20**). The adjacent seven-story apartment building to the north at 31-35 31st Street has a street frontage of 240 feet, and it has setback sections on the top floor. The building is clad in brick and stone, and it has a rusticated ground-floor with storefronts and partially recessed balconies on the upper floors (see view 36 of **Figure F-20**). On the west side of 31st Street, the seven-story apartment building at 31-72 31st Street has a street frontage of 200 feet. At the southern end of the building, there is a setback above the fourth floor, but the rest of the street façade rises flushes for six stories and then sets back, and there is a tall mechanical bulkhead. The building has ground floor storefronts and a plain brick façade (see view 37 of **Figure F-21**). Three older six-story brick apartment buildings are located at 31-77 32nd Street (north of Broadway) and 32-42 and 32-52 33rd Street (south of Broadway). Those apartment buildings have recessed entrance courts fronting the street and light courts on their interior facades, and they utilize ornament and decorative brickwork (see view 38 of **Figure F-21** and view 39 of **Figure F-22**).

*Natural Features and Open Space*

Other than street trees and vegetation in residential front yards, there are no natural resources in the study area. There are no open spaces in the study area.

*VISUAL RESOURCES*

There are no visual resources in the study area. Although there are a number of buildings within the study area that are of visual interest to pedestrians, including some of the row houses and more ornate commercial buildings, none of them are considered to be visual resources as their visibility is limited to their immediate vicinities and they are not prominent in longer views.

While the elevated subway is an interesting engineering structure, its visibility is limited to 31st Street and to Broadway, where there is a station above the intersection. Along 31st Street, the elevated subway constricts views to the north and south and partially blocks views across the avenue. Although the elevated station is ornamented with art glass, the visibility of that feature is most prominent to pedestrians in the immediate vicinity. From farther away, perspective diminishes the visibility of the art glass. Further, intervening street furniture and vehicles on the heavily trafficked Broadway obscure more distant views of the station. Therefore, the elevated subway, including the station, are not considered to be a visual resource. The elevated platforms of the subway station provide long views out over the study area, but those views are mostly of building roofs and have no prominent points of interest.

Views to the Project Site from the surrounding area are limited to its immediate vicinity. The elevated subway partially blocks views of the Project Site from across 31st Street and intervening buildings obscure views of the Project Site from the north and south (see view 40 of **Figure F-22**, **Figure F-7**, and view 15 **of Figure F-10**). On 32nd Street, the Project Site's narrow street frontage limits the site's visibility from beyond its immediate vicinity (see Figure F-11). From the Queens-bound platform of the elevated subway station, there are some views down to the Project Site (see view 42 of **Figure F-23**).



Apartment buildings at 32-42 and 32-52 33rd Street, view southwest **39**



View east to Project Site from across 31st Street **40**

Urban Design and Visual Resources
Study Area
**Figure F-22**



View northwest to Projected Development Site 2 from across 31st Street **41**



View of Potential Development Site A and Project Site from Queens-bound platform of elevated subway station, view northeast **42**

Urban Design and Visual Resources Study Area

Views to Site 2 and Site A are similarly limited to their immediate vicinity. As with the Project Site, the elevated subway partially blocks views of those sites from across 31st Street (see view 41 of **Figure F-23**), and intervening buildings obscure views of those sites from the north and south. The platforms of the elevated subway station, there are some views down to Site 2 and Site A (see **Figure F-24** and view 42 of **Figure F-23**).

## D. FUTURE WITHOUT THE PROPOSED ACTIONS

In the No Action condition, no changes are expected within the Rezoning Area or within the 400-foot study area. Therefore, the Rezoning Area and study area will remain as in existing conditions.

## E. FUTURE WITH THE PROPOSED ACTIONS

### REZONING AREA

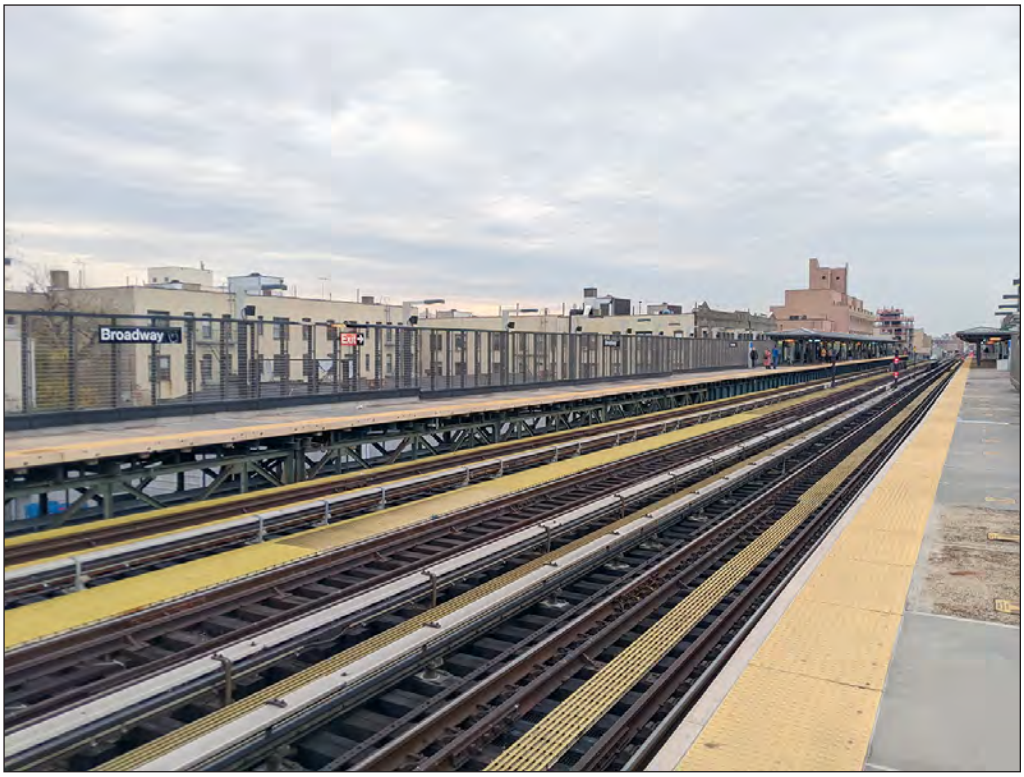
As described on Page 1a, "Project Description," the Proposed Actions include a zoning map amendment to change an existing R5 district with a C1-2 overlay on 31st Street to a C4-5 district, an change the R5 district to a C4-2A district on 32nd Street; a zoning text amendment to map the Rezoning Area as an MIH Area; approval and designation of an Urban Development Action Area and approval of an Urban Development Action Area plan including disposition of a City-owned property. The zoning map amendment would allow development of the Rezoning Area at a greater density than allowed by existing zoning. With approval of the Proposed Actions, the Rezoning Area would be developed with three new mixed-use buildings with affordable dwelling units and a community facility building. On the Project Site, the proposed zoning district would facilitate the development of a mixed-use building at the desired density to provide 167 units of senior housing and a building superintendent's unit.

*PROJECT SITE*

*Urban Design*

With the Proposed Actions, the Project Site would be developed with an approximately 134,000-gross square foot (gsf) development that consists of two buildings: a 13-story residential building with ground-floor retail on 31st Street and a three-story community facility building on 32nd Street. An outdoor recreational space, with access from 32nd Street, would be located between the two buildings.

The 13-story residential building would have a rectangular footprint with a 200-foot frontage on 31st Street. The southern 138 feet of street frontage would have a base height of 75 feet; above the seventh floor there would be a 10-foot setback and then the building would rise to the maximum height of 135 to the roof. Along the northern 62 feet of street frontage, the building would rise flush for its full maximum height of 135 feet to the roof. A mechanical bulkhead would be located at the northeast corner of the building, set back from the street. Most of the ground floor would contain commercial space, with the commercial entrance located at the southern end of the building. The residential entrance and lobby would be located at the northern end of the building. As currently contemplated, the building would be clad in different shades of brick with large, recessed window bays to articulate the façade and create visual interest across the large expanse of wall surface. The ground floor would be glazed with different window-wall treatments to distinguish the retail space from the residential lobby. Four street trees are proposed to be planted




View of Projected Development Site 2 from Queens-bound platform of elevated subway station, view northwest **43**

Urban Design and Visual Resources
Study Area
**Figure F-24**

in the 31st Street sidewalk adjacent to the proposed residential building—two near the commercial entry and two near the residential entry.

The three-story community facility building would have a street frontage of 42 feet, and it would have a building height of 37 feet to the roof (47 feet to the top of the bulkhead). On the south side of the building, there would be access to the outdoor recreation space located between the two proposed buildings. Two street trees are proposed to be planted in the 32nd Street sidewalk adjacent to the proposed community facility building. It is expected that the community facility building would have a façade treatment similar to that proposed for the residential building.

*Visual Resources*

The Proposed Actions would not affect visual resources on the Project Site, as the existing paved parking lot is not considered to be a visual resource.

*PROJECTED DEVELOPMENT SITE 2*

*Urban Design*

The reasonable worst-case development scenario (RWCDS) assumes that Projected Development Site 2 would be developed with a 121,600 gsf residential building with ground-floor retail. The nine-story building would have a rectangular footprint, with a street frontage of 250 feet. The southern 150 feet of street frontage would have a base height of 75 feet; above the seventh floor, there would be a 10-foot setback and the building would rise to a height of 94 feet, which would be below the maximum height of 135 feet. Along the northern 100 feet of street frontage, the building would rise flush for its full height of 94 feet. The residential entry would be located at the northern end of the building.

*Visual Resources*

The Proposed Actions would not affect visual resources on Site 2, as the existing retail building and accessory parking lot are not considered to be a visual resource.

*POTENTIAL DEVELOPMENT SITE A*

*Urban Design*

The RWCDS assumes that Site A could be developed with an approximately 49,000 gsf building with ground-floor retail, although development of this site would be less likely. This building would be nine stories with a height of 94 feet to the roof and a 10-foot setback on the street façade above the seventh floor.

*Visual Resources*

The Proposed Actions would not affect visual resources on Site A, as the existing community facility building is not considered to be a visual resource.

**STUDY AREA**

*URBAN DESIGN*

It is not expected that the Proposed Actions would result in adverse impacts on the urban design of the study area.

The two proposed buildings on the Project Site would have beneficial effects on the pedestrian experience by replacing the existing parking lot with a new mixed-use building with a transparent ground floor on 31st Street, a community facility building on 32nd Street, and an outdoor recreational area located on the block interior and accessed from 32nd Street. The planting of new street trees on 31st and 32nd Streets would also enhance the pedestrian experience adjacent to the Project Site. The retail, residential, and community facility uses would be compatible with the mixed-use character of the study area. See **Figure F-25** for a site plan of the proposed building and **Figure F-26** for sections and an isometric view of the proposed building.

While the proposed 13-story building on 31st Street would be taller than the majority of buildings in the study area, it would be in keeping with the seven-story heights of the apartment buildings at 31-72, 31-57, and 31-35 31st Street. The proposed building would have a setback above the seventh story to reduce its perceived bulk as experienced from street level, and the 75-foot-tall street wall of the southern 138 feet of frontage along 31st Street would be compatible with heights in the study area where there are multiple four- to six-story apartment buildings. The total 200-foot street frontage of the building would be consistent with the long street frontages of the following existing apartment buildings in the study area: 32-25 30th Street (210 feet); 31-72 31st Street (200 feet); 31-57 31st Street (325 feet); and 31-35 31st Street (240 feet). The proposed three-story community facility building would be compatible in terms of scale, height, and bulk with the urban design of the study area. Built to the lot lines, the two proposed buildings would maintain the street walls of the adjacent commercial buildings on Broadway that also front on 31st and 32nd Street. The expected brick façades of the proposed buildings on the Project Site would be in keeping with the character of the study area where the majority of residential buildings are faced in brick.

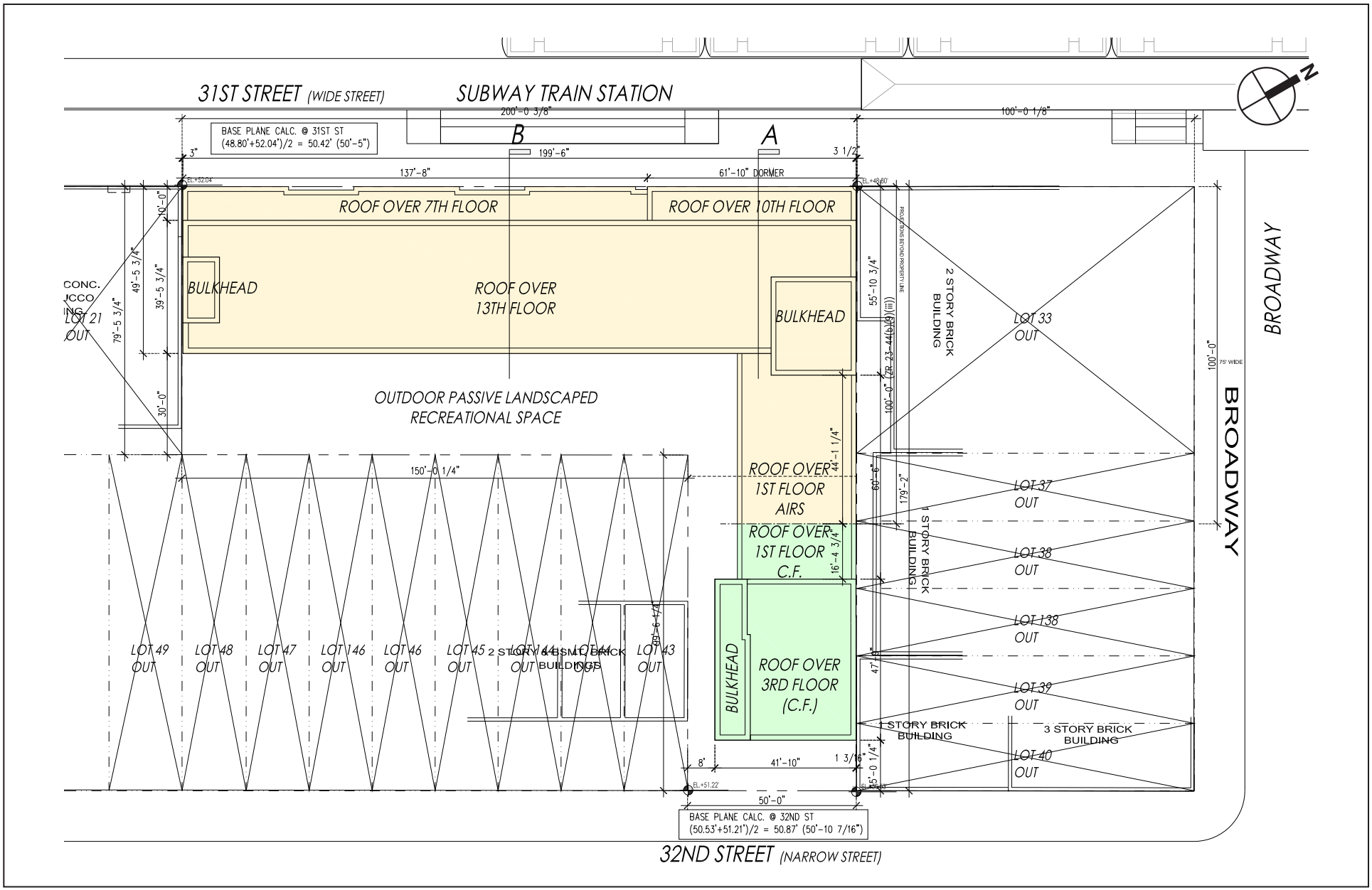
The projected nine-story building on Site 2 would also have beneficial effects on the pedestrian experience by replacing the existing one-story retail building and accessory parking lot with a new residential building with ground-floor retail. Those uses would be compatible with the mixed-use character of the study area. Like that of the proposed residential building on the Project Site, the long street frontage of the projected building on Site 2 would be consistent with the long street frontages of the existing apartment buildings noted above. The nine-story height of the projected building would be in keeping with building heights in the study area where there are multiple four- to seven-story apartment buildings. Built to the lot line, the projected building would match the street walls of the adjacent apartment building on Broadway, which also fronts on 31st and 30th Streets. See **Figure F-27** for a site plan, section, and isometric view of the projected building.

While less likely to be developed, the potential nine-story residential building with ground-floor retail on Site A would be in keeping with the study area in terms of use, height, scale, and massing. See **Figure F-28** for a site plan, section, and isometric view of the potential building.

*VISUAL RESOURCES*

As described above, the study area does not include any visual resources. Therefore, the Proposed Actions would not result in significant adverse impacts on visual resources.

Constructed on existing blocks and built to the lot lines, the proposed, projected, and potential developments would not block the view corridors along 31st and 32nd Streets (see **Figures F-29 through F-32** for a comparison of views of the Rezoning Area in the No Action and With Action conditions). The proposed residential building on the Project Site, the projected residential building on Site 2, and the potential residential building on Site A would be visible in the 31st Street view corridor as part of the mix of residential and commercial buildings on that street (see



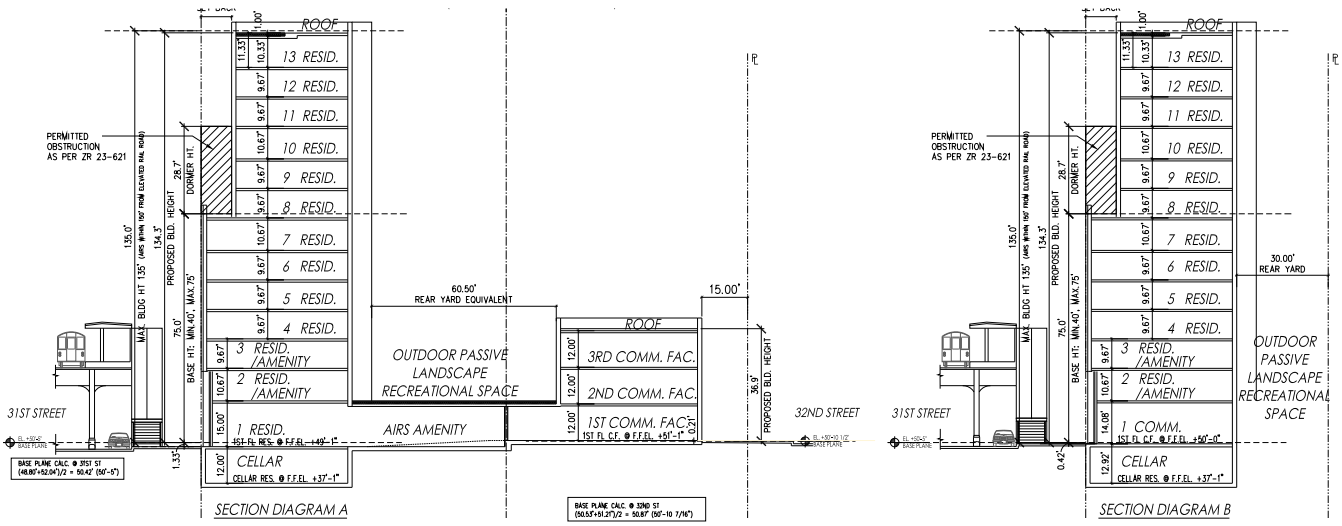

Source: SLCEArchitects

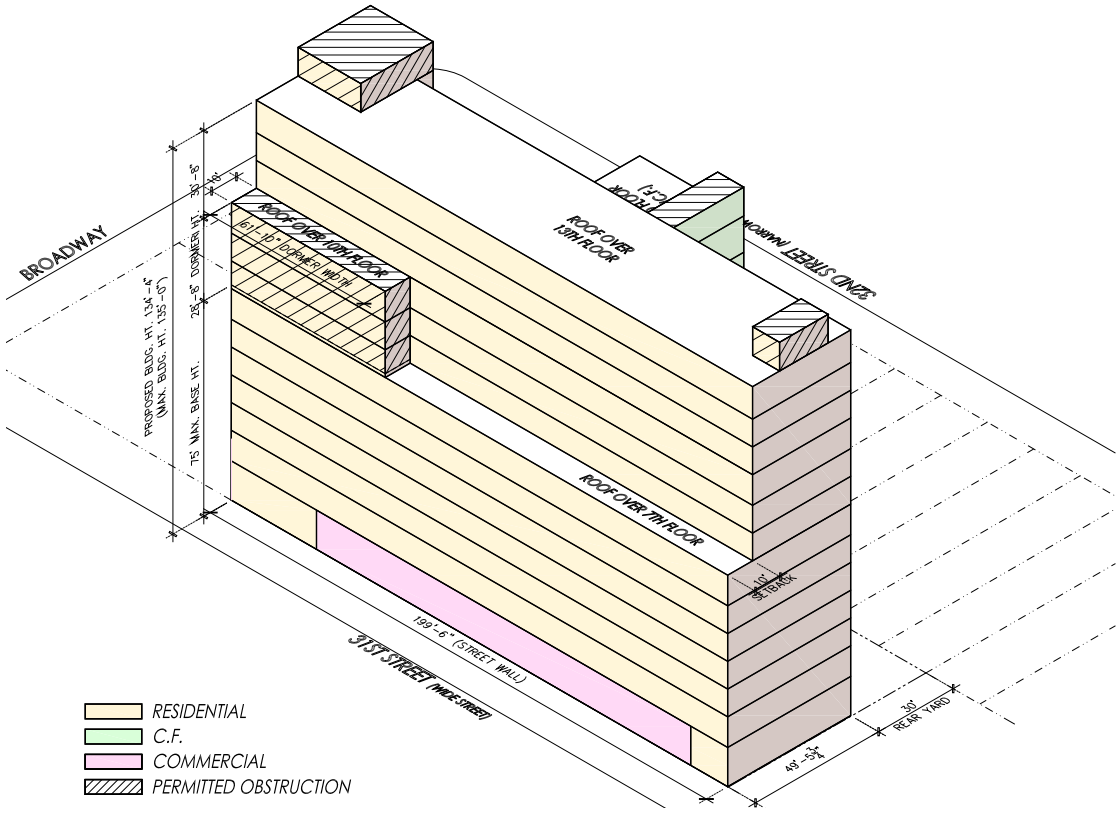
Proposed Project—Site Plan

**IKOS SENIOR HOUSING REZONING & UDAPP**

**Figure F-25**

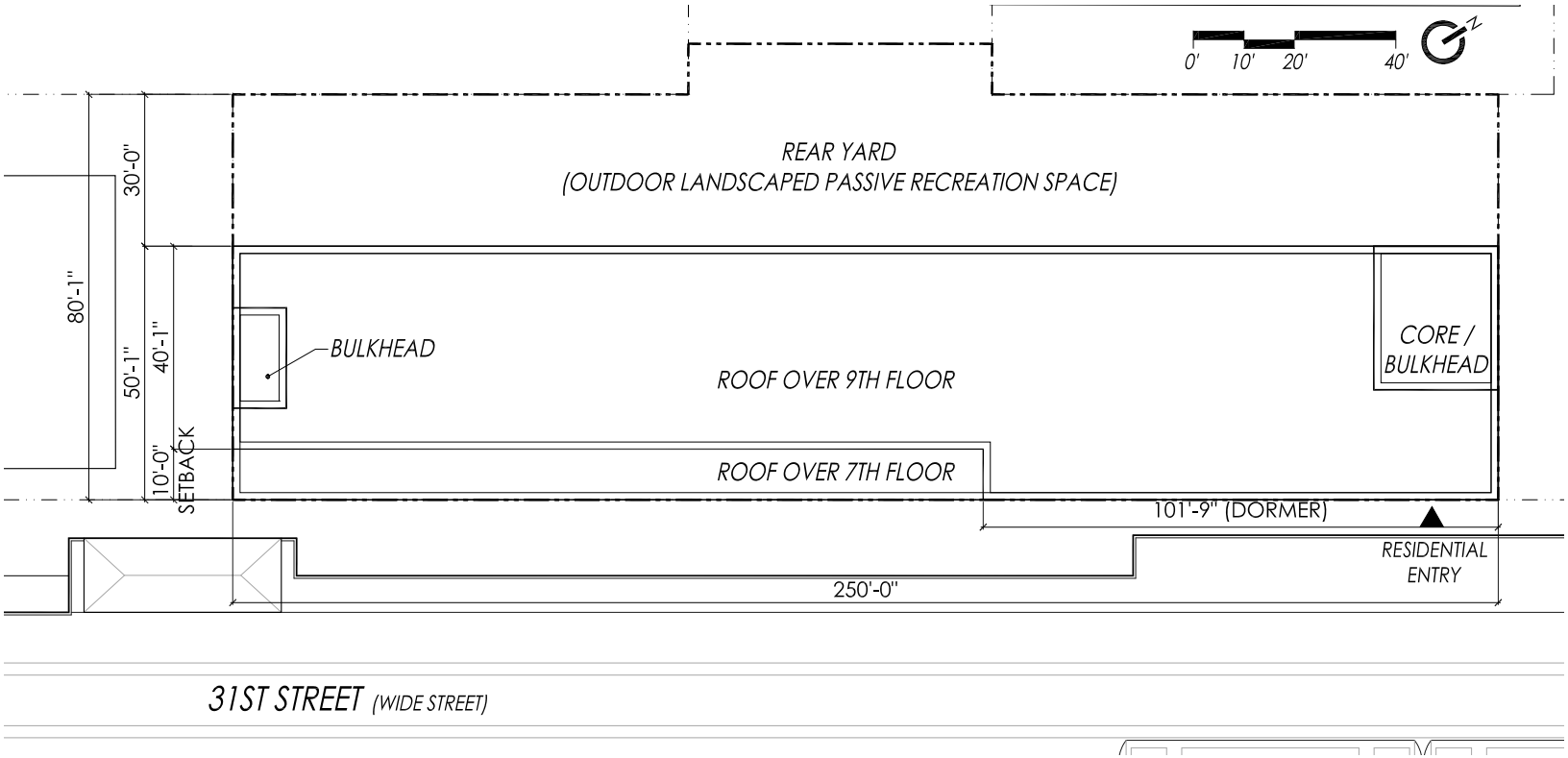
10.6.23



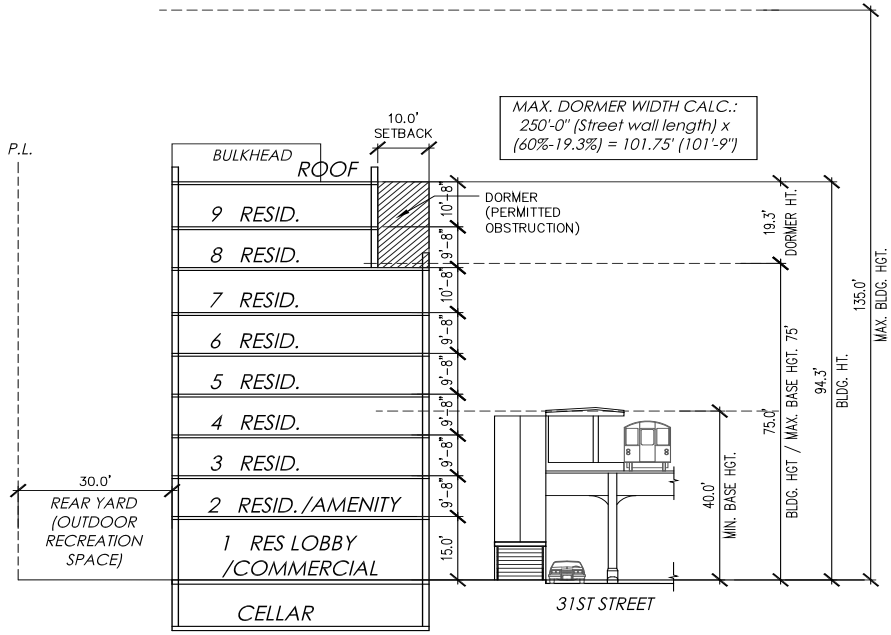

Source: SLCEArchitects

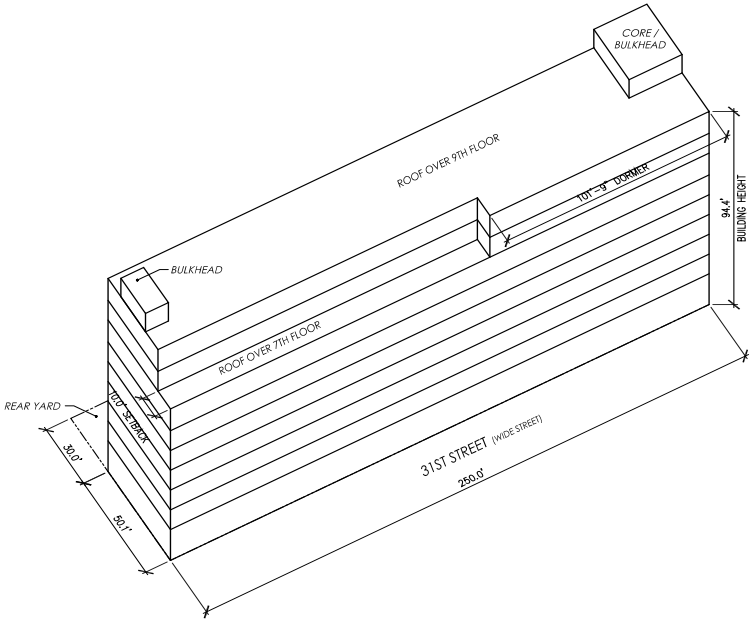
Proposed Project—Elevations




Source: SLCEArchitects

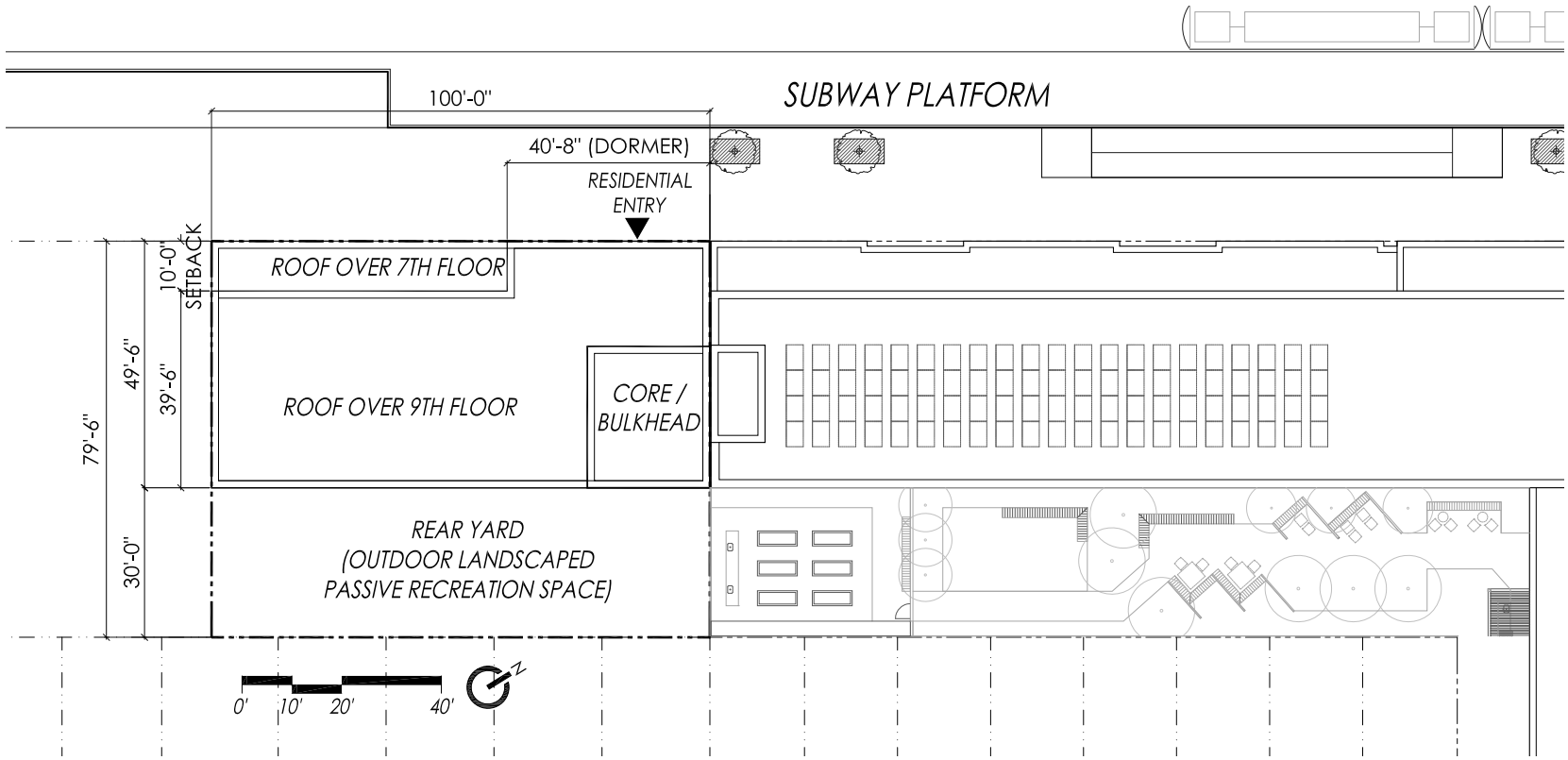
Site 2—Site Plan



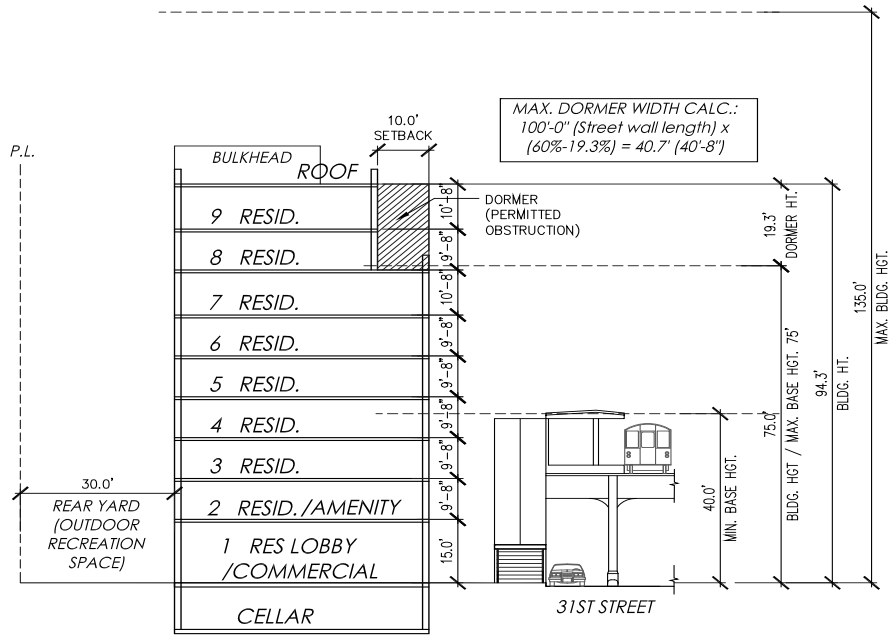

Source: SLCEArchitects

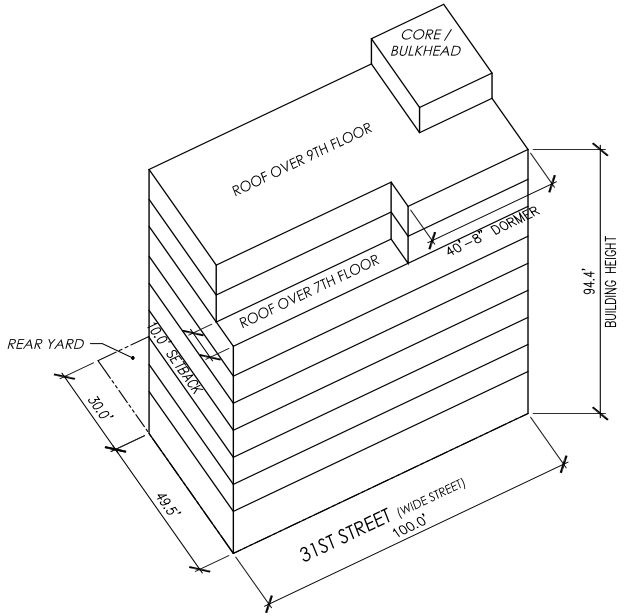
Site 2—Section and Isometric View




Source: SLCEArchitects

Site A—Site Plan




Source: SLCEArchitects

Site A—Section and Isometric View




Source: SLCEArchitects

No Action Condition **A**




Source: SLCEArchitects

With Action Condition **B**

Illustrative Rendering, Project Site and
Potential Development Site A, View North on 31st Street



Source: SLCEArchitects

No Action Condition **A**



Source: SLCEArchitects

With Action Condition **B**

Illustrative Rendering, Project Site,
View Northwest on 32nd Street



Source: SLCEArchitects

No Action Condition **A**



Source: SLCEArchitects

With Action Condition **B**

Illustrative Rendering, Project Site,
View Southwest from Intersection of Broadway and 32nd Street

10.6.23




Source: SLCEArchitects

No Action Condition **A**




Source: SLCEArchitects

With Action Condition **B**

Illustrative Rendering, Projected Development Site 2,
View North on 31st Street

**Figures F-29 and F-32**). In addition, the existing subway viaduct would partially obscure pedestrian views of those buildings as seen from the opposite sides of the street. From beyond the immediate vicinity of the Rezoning Area, distance and intervening buildings would diminish the visibility of the proposed, projected, and potential residential buildings on 31st Street. The proposed community facility building on the Project Site would by visible in the 32nd Street view corridor with the row houses on that street and the commercial buildings on Broadway (see **Figure F-30**). It would also be visible from the intersection of Broadway and West 32nd Street, but from beyond the Project Site's immediate vicinity, distance and intervening buildings would diminish the visibility of the proposed community facility building (see **Figure F-31**). From 32nd Street and from Broadway, the upper floors of the residential building on the Project Site would be visible behind the row houses on 32nd Street and the mixed-use buildings on Broadway (see **Figures F-30 and F-31**).

All three new buildings that would be located on 31st Street within the Rezoning Area would be taller than the existing subway viaduct and would be visible from the southern ends of the elevated subway platforms, similar to how the existing seven-story apartment buildings at 31-57 and 31-72 31st Street are visible from the northern ends of the subway platforms. The three new buildings that would be located within the Rezoning Area would block some views from the southern ends of the subway platforms, but as noted above, those views are mostly of building roofs and do not include any prominent points of interest.

In summary, the Proposed Actions would not result in significant adverse impacts to urban design and visual resources. ✷

# A. INTRODUCTION

The Proposed Actions include UDAA designation, approval of a UDAAP including disposition, and zoning map and text amendments to facilitate a mixed-use development containing senior housing, retail space, and community facility space located at 31-07 31st Street in Astoria, Queens (Block 611, Lot 25) (the "Project Site" or "Site 1"). This attachment addresses the potential for the presence of hazardous materials resulting from previous and existing uses at or near the Project Site and potential risks with respect to any such hazardous materials exposure. The Project Site is currently operated by the New York City Department of Transportation (DOT) as a municipal parking lot and does not contain any structures. The Proposed Project includes the construction of a 13-story mixed-use building on 31st Street with ground floor retail space and a 3-story community facility building on 32nd Street. Soil excavation would be required for partial cellar levels.

In addition to Site 1, the proposed zoning map changes could result in the development of two sites that would be rezoned: a Projected Development Site at 32-14 31st Street (Block 587, Lot 43; "Site 2") and a Potential Development Site at 32-33 31st Street (Block 611, Lot 21; "Site A"). Site 2 currently consists of a single-story retail building, and Site A is currently occupied by a community facility building for the Cretan's Association Omonia.

This assessment considers the potential for exposure to hazardous materials during and following construction, and the specific measures that would be employed to protect public health, worker safety, and the environment. This assessment is based on a June 2021 *Phase I Environmental Site Assessment* (ESA) prepared by AKRF, Inc. The Phase I ESA included the findings of a reconnaissance of the Project Site, an evaluation of readily available historical information, and selected environmental databases and electronic records in accordance with American Society for Testing and Materials (ASTM) E1527-13, which was the standard at the time of completion.

# B. EXISTING CONDITIONS

### PROJECT SITE (SITE 1)

*SUBSURFACE CONDITIONS*

Based on the U.S. Geological Survey, Central Park, New York 2013 Quadrangle map, Site 1 is approximately 50 feet above mean sea level, with the general surrounding area topography gently sloping down in a westerly to northwesterly direction. Based upon a review of topographical data, groundwater is assumed to flow in a westerly to northwesterly direction toward the East River, located approximately 1 mile west. Actual groundwater flow at the Project Site can be affected by many factors, including past filling activities, underground utilities, and other subsurface openings or obstructions such as basements, nearby subway lines, and other factors beyond the scope of this

study. There are no surface water bodies or streams on or immediately adjacent to the Project Site. Groundwater in this part of Queens is not used as a source of potable water.

*PHASE I ENVIRONMENTAL SITE ASSESSMENT*

Available historical records indicate that the Project Site was occupied by low-rise residential buildings from at least 1898 to 1979. The current parking facility has occupied the Project Site since at least 1988.

The Phase I ESA identified the following Recognized Environmental Conditions (RECs) which, per ASTM E1527-13, are conditions that indicate "the presence or likely presence of hazardous substances or petroleum products in, on, or at a property" and Vapor Encroachment Conditions (VECs), which means "the presence or likely presence of vapors from chemicals of concern (CoC) in the subsurface of a property caused by the release of vapors on or near the property":

- One groundwater monitoring well was observed on the 31st Street sidewalk, located west-adjacent of the Project Site.
- Sanborn maps, City Directories, and the environmental databases reviewed identified automotive and dry cleaning uses in the surrounding area.

Other non-REC environmental concerns were identified, including:

- Buried demolition debris from former on-site structures could contain asbestos-containing materials (ACM), lead-based paint (LBP), polychlorinated biphenyls (PCBs) and/or underground storage tanks.
- At the time of the reconnaissance, three 5-gallon containers of orphan waste were located on the southeastern-most corner of the Project Site. Two of the three containers were labeled as kerosene and lacquer; the third container was unmarked. These containers should be removed from the Project Site and properly disposed of in accordance with federal, state, and local requirements.

Based on the findings of the Phase I ESA, AKRF recommended that a Subsurface (Phase II) Investigation be conducted to evaluate the identified RECs and VECs.

*SUBSURFACE (PHASE II) INVESTIGATION*

The scope of the Phase II investigation was based on AKRF's Subsurface (Phase II) Investigation Work Plan dated June 2022 and approved by the New York City Department of Environmental Protection (DEP) in a letter dated June 16, 2022. The Phase II investigation included the advancement of seven soil borings, the installation of four temporary groundwater monitoring wells, and the installation of five soil vapor probes, with the collection of 14 soil samples, four groundwater samples, and five soil vapor samples for laboratory analysis.

Discrete soil samples were collected from the 0- to 2-foot interval of each boring, and the 2-foot interval immediately above the groundwater interface (approximately 31-34 feet below grade). No evidence of contamination, i.e., photoionization detector (PID)readings, staining, or odors were observed in any of the seven soil borings. Soil and groundwater samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), pesticides, and metals. The metals analysis of groundwater was conducted on both filtered (dissolved) and unfiltered (total) samples. Five soil vapor samples were collected at 14 feet below grade (approximately 2 feet below the proposed foundation footprint). Soil vapor samples were analyzed for VOCs.

Soil sample results were compared to the New York State Department of Environmental Conservation (DEC) New York Codes, Rules, and Regulations (NYCRR) Part 375 Soil Cleanup Objectives for Unrestricted Use and Restricted-Residential Use (UUSCOs and RRSCOs). A summary of the results is provided below:

- The VOC, acetone, was detected slightly above the UUSCO in two samples with a maximum concentration of 0.16 milligrams per kilogram (mg/kg). These detections are likely due to laboratory contamination and do not indicate significant petroleum contamination; as such, spill reporting to NYSDEC was not warranted.
- Seven SVOCs were detected in up to three soil samples above the UUSCOs and RRSCOs, at concentrations up to 29 mg/kg.
- Four metals (copper, lead, mercury, and zinc) exceeded their UUSCOs, but not the RRSCOs, in select soil samples. Concentrations ranged from 0.59 mg/kg to 283 mg/kg.
- PCBs were not detected above the UUSCOs or RRSCOs in any soil samples.
- One pesticide, P,P'-DDT was detected in sample SB-05_0-2_20221004 at a concentration of 0.0063 mg/kg, above the UUSCO of 0.0033 mg/kg, but below the RRSCO of 7.9 mg/kg. No other pesticides were detected above the UUSCOs or RRSCOs.

Groundwater analytical results from the samples collected from the four temporary groundwater monitoring wells (TW-01 through TW-04) were compared to the DEC Class GA Ambient Water Quality Standards and Guidance Values (AWQSGVs) as presented in the DEC Division of Water TOGS 1.1.1. A summary of the results is provided below:

- The VOCs chloroform, cis-1,2-dichloroethylene, and/or tetrachloroethylene (PCE) were detected in four groundwater samples at concentrations ranging from 6.7 micrograms per liter (µg/L) to 330 µg/L, above their respective AWQSGVs.
- Six SVOCs were detected in one groundwater sample (TW-01) at concentrations above the AWQSGVs.
- Up to 14 metals were detected in the unfiltered (total) groundwater samples collected from all four wells above their AWQSGVs. In the filtered (dissolved) groundwater samples, magnesium, manganese, and/or sodium were present above their AWQSGVs in all four samples.
- No PCBs or pesticides were detected above laboratory reporting limits in the groundwater samples.

Although there are currently no regulatory or published guidance values for VOCs in soil vapor, the soil vapor data was used to assess the potential for exposure to future building occupants and to help define the nature and extent of contamination at the Project Site. The following is a summary of the results:

- Solvent-related VOCs [including carbon 1,1,1-trichloroethane, carbon tetrachloride, cis-1,2-dichloroethylene, methylene, PCE, and trichloroethylene (TCE)] were detected at individual concentrations up to 1,900 micrograms per cubic meter (µg/$m^3$) from a diluted sample (PCE in sample SV-04_20221003). Petroleum-related VOCs benzene, toluene, ethylbenzene, and xylenes (collectively referred to as BTEX) were detected in up to all five soil vapor samples at concentrations up to 29 µg/$m^3$ (toluene in SV-04_20221003).

Based on the findings of the Phase II investigation, AKRF concluded the following:

- The SVOCs, PCBs, pesticides, and metals detected above the SCOs in soil are most likely attributable to the fill material encountered in the soil borings at the corresponding depths, and not related to an on-site source. PCE was detected at low levels in shallow soil samples, indicating potential source material, which has migrated to the groundwater table as evidenced by the groundwater results for VOCs.
- The elevated concentrations of chlorinated solvents (PCE, cis-1,2-dichloroethene, and chloroform) in groundwater and soil vapor indicate the possible presence of a release. As the current and prior usage of the Project Site include parking and residential, the source of the chlorinated solvent detections is unknown at this time.
- The detected metal and PAH concentrations in the groundwater samples were likely attributable to regional groundwater contamination and particulate material entrained in the samples.
- The elevated concentrations of chlorinated solvents in soil vapor are likely attributable to off-gassing from the elevated solvent concentrations in groundwater or the detections in shallow soil.

### ADDITIONAL DEVELOPMENT SITES (SITE 2 AND SITE A)

Site 2 is approximately 20,600-square feet (sf) in area and is developed with a one-story retail building containing a grocery store and accessory parking lot. Site A contains a community facility building for the Cretan's Association Omonia, a local community organization. The development sites were vacant prior to 1950. Historical records indicated that Sites 2 and A were used for unspecified commercial uses and vehicle parking between approximately 1950 and 2006. Historic nearby uses included dry cleaners, a gasoline/automotive service station, auto repair facilities, and a machine shop. Federal and state regulatory database records identified nearby hazardous waste generators, spill listings, Petroleum Bulk Storage (PBS) sites, a historic auto station, and historic/registered dry cleaners with some potential to have affected Site 2 and Site A. Site 2 is also listed as a Conditionally Exempt Small Quantity Generator (CESQG) of waste associated with photograph development and pharmaceutical handling activities related to Rite Aid pharmacy that formerly operated in the building.

## C. FUTURE WITHOUT THE PROPOSED ACTIONS

In the future without the Proposed Actions (the "No Action" condition), the Project Site would not be expected to be developed and the existing parking lot would remain. The current uses at Sites 2 and A are also expected to remain in the No Action condition. No other changes are expected. As with the current conditions, without excavation for new development, there would be no significant potential for exposure to subsurface contaminants.

## D. FUTURE WITH THE PROPOSED ACTIONS

### PROJECT SITE (SITE 1)

The greatest potential for exposure to any hazardous materials would occur during construction which would require subsurface disturbance, primarily to construct the foundation and partial cellar level of the new building. The potential for adverse impacts at Site 1 would be minimized by adhering to the following:

- Based on the findings of the Subsurface (Phase II) Investigation, an E Designation (E-771) has been placed on Site 1 for hazardous materials to ensure that additional soil testing and any necessary remedial activities would be undertaken prior to and/ or, as necessary, during redevelopment. The E Designation, which is administered by the Mayor's Office of Environmental Remediation (OER), would also ensure that appropriate procedures for any necessary subsurface disturbance would be followed prior to, during, and following construction. Prior to closing, OER will issue a Notice to Proceed (NTP) before intrusive work can begin. The following procedures are required per the E Designation prior to obtaining DOB permits for construction activities at Site 1 entailing soil disturbance:
    - Task 1—Sampling Protocol: If additional sampling is necessary, it must be conducted in accordance with an OER-approved sampling protocol or workplan. The number and location of sample sites should be selected to adequately characterize the site, the specific source of suspected contamination (i.e., petroleum-based contamination and non-petroleum-based contamination), and the remainder of the site's condition. The characterization should be complete enough to determine what remediation strategy (if any) is necessary after review of sampling data. Guidelines and criteria for selecting sampling locations and collecting samples are provided by OER upon request.
    - Task 2—Remediation Determination and Protocol: A written report with findings and a summary of the data must be submitted to OER after completion of the testing phase and laboratory analysis for review and approval. After receiving such results, a determination is made by OER if the results indicate that remediation is necessary. If OER determines that no remediation is necessary, written notice shall be given by OER. If remediation is indicated from the test results, a proposed remediation plan must be submitted to OER for review and approval. The applicant must complete such remediation as determined necessary by OER. The applicant should then provide proper documentation that the work has been satisfactorily completed. An OER-approved Construction Health and Safety Plan (CHASP) would be implemented during evacuation and construction and activities to protect workers and the community from potentially significant adverse impacts associated with contaminated soil and/or groundwater. This plan would be submitted to OER for review and approval prior to implementation.
    - The remediation plan (referenced in Task 2), which would be codified in a formal Remedial Action Work Plan (RAWP), typically addresses requirements for items such as: soil stockpiling, soil disposal and transportation; dust control; quality assurance; contingency measures should petroleum storage tanks or contamination be unexpectedly encountered; and installation of a composite site cover (which may consist of impervious surfaces and/or a clean soil cap). The remediation plan may also include requirements for vapor barrier installation beneath the new building, and/or other mitigation measures. A CHASP would also be prepared and would assign responsibilities to a designated Site Safety Officer (SSO) who is a competent person responsible for implementation of the remediation plan and CHASP, establish personnel protection standards and mandatory safety practices and procedures, and provide for contingencies that may arise during construction at the Project Site. Such safety practices and procedures may include worker training, equipment and personnel

decontamination procedures, and emergency response. The CHASP is intended to minimize health and safety risks resulting from the known or potential presence of subsurface hazardous materials. Documentation proving adherence to the remediation plan would be included in a Remedial Closure Report (RCR) to be submitted to OER for review and approval to obtain a Notice of Satisfaction and Certificates of Occupancy for newly constructed structures. If warranted based on site conditions, the development would also require preparation of a Site Management Plan (SMP) which would document institutional controls and lay out any post-construction inspection requirements (e.g., site use restrictions, cover system inspections), and any necessary post-construction measures, e.g., implementation of health and safety procedures during subsurface utility repair.

- The three 5-gallon containers of orphan waste, if still present, would be removed and disposed of off-site in accordance with applicable regulations.
- If dewatering is necessary during construction, water must be discharged to sewers in accordance with DEP requirements.
- All petroleum tanks encountered during construction would be removed in accordance with applicable regulations, including New York City Fire Department (FDNY) and DEC requirements (including those relating to spills and tank registration).

With the implementation of these procedures, and the restrictions apart of the Proposed Project, carried out through a Land Disposition Agreement (LDA) and a Regulatory Agreement between HPD and the project sponsor, there would be no potential for significant adverse impacts pertaining to Hazardous Materials.

**DEVELOPMENT SITES (SITE 2 AND SITE A)**

Any future construction at Sites 2 and A would likely require demolition of the existing structures and subsurface disturbance. To ensure that there would be no significant adverse hazardous materials impacts associated with development at Site 2 (Block 587, Lot 43) and Site A (Block 611, Lot 21), an E Designation (E-771) would be placed on the sites as follows:

- Task 1 - Sampling Protocol: The applicant submits to OER, for review and approval, a Phase I ESA of the site along with a soil and groundwater testing protocol, including a description of methods and a site map with all sampling locations clearly and precisely represented. If site sampling is necessary, no sampling should begin until written approval of a protocol is received from OER. The number and location of sample sites should be selected to adequately characterize the site, the specific source of suspected contamination (i.e., petroleum-based contamination and non-petroleum-based contamination), and the remainder of the site's condition. The characterization should be complete enough to determine what remediation strategy (if any) is necessary after review of sampling data. Guidelines and criteria for selecting sampling locations and collecting samples are provided by OER upon request.
- Task 2 - Remediation Determination and Protocol: A written report with findings and a summary of the data must be submitted to OER after completion of the testing phase and laboratory analysis for review and approval. After receiving such results, a determination is made by OER if the results indicate that remediation is necessary. If OER determines that no remediation is necessary, written notice shall be given by OER. If remediation is indicated from the test results, a proposed remediation plan must be submitted to OER for review and approval. The applicant must complete such remediation as determined necessary by OER.

The applicant should then provide proper documentation that the work has been satisfactorily completed. An OER-approved construction-related health and safety plan would be implemented during evacuation and construction and activities to protect workers and the community from potentially significant adverse impacts associated with contaminated soil and/or groundwater. This plan would be submitted to OER for review and approval prior to implementation.

The placement of an E Designation on Site 2 and Site A would preclude the potential for significant adverse impacts associated with hazardous materials exposure as a result of redevelopment and ground disturbing activities at the development sites. Therefore, the Proposed Actions would not result in a significant adverse impact related to hazardous materials. ✶

## A. INTRODUCTION

This attachment examines the potential effects of the Proposed Actions on study area transportation systems. Specifically, it compares conditions in the future with the Proposed Actions (the With Action condition) against conditions in the future without the Proposed Actions (the No Action condition) in order to determine the potential for significant adverse impacts to transportation systems. The travel demand projections, trip assignments, and capacity analysis presented in this attachment were conducted pursuant to the methodologies outlined in the 2021 *City Environmental Quality Review (CEQR) Technical Manual*. The development projected to result from the Proposed Actions is anticipated to be completed by 2027, which is the build year or analysis year.

## B. BACKGROUND

The Proposed Actions would facilitate a mixed-use development (the "Proposed Project") at 31-07 31st Street (Block 611, Lot 25; the "Project Site") located in the Astoria neighborhood of Queens. Based on the Reasonable Worst-Case Development Scenario (RWCDS) criteria and rezoning boundaries (see **Figure H-1**), in addition to the Project Site, the Rezoning Area includes two sites that would be rezoned and could reasonably experience redevelopment under the Proposed Actions. These include a site containing a retail building (a grocery store) on the west side of 31st Street (Block 587, Lot 43; the "Projected Development Site") across from the Project Site and a site containing the Cretan's Association community building (Block 611, Lot 21; the "Potential Development Site") located south of the Project Site along 31st Street. As discussed on Page 1a, "Project Description," while redevelopment of the potential development site is possible, it is not likely in the foreseeable future. Therefore, the Potential Development Site does not need to be considered for density-based analysis areas such as transportation, and this attachment focuses on the Project Site (also referred to as Site 1) and the Projected Development Site (also referred to as Site 2) developments only.

Under existing and No Action conditions, absent the Proposed Actions, the Project Site would continue operating as a New York City Department of Transportation (DOT) Municipal Parking Field with 61 parking spaces, and the Projected Development Site would remain in its current condition as a one-story commercial building containing approximately 11,475 gross square feet (gsf) of local retail space. Under the With Action condition, the Project Site would be redeveloped with the Proposed Project, including mixed-use building on 31st Street with 167 affordable senior dwelling units (DUs) and one super's unit (168 DUs total) and approximately 7,000 gross square feet (gsf) of local retail space. The Proposed Project also includes a community facility building on 32nd Street with approximately 7,000 gsf of general community facility space providing services to the local community. The senior housing and local retail entrances to the Project Site would be located along the east sidewalk of 31st Street, and the Project Site's community facility would be accessed via 32nd Street. In addition, under the With Action condition, the Projected Development Site would be redeveloped with a mixed-use building with 126 DUs and

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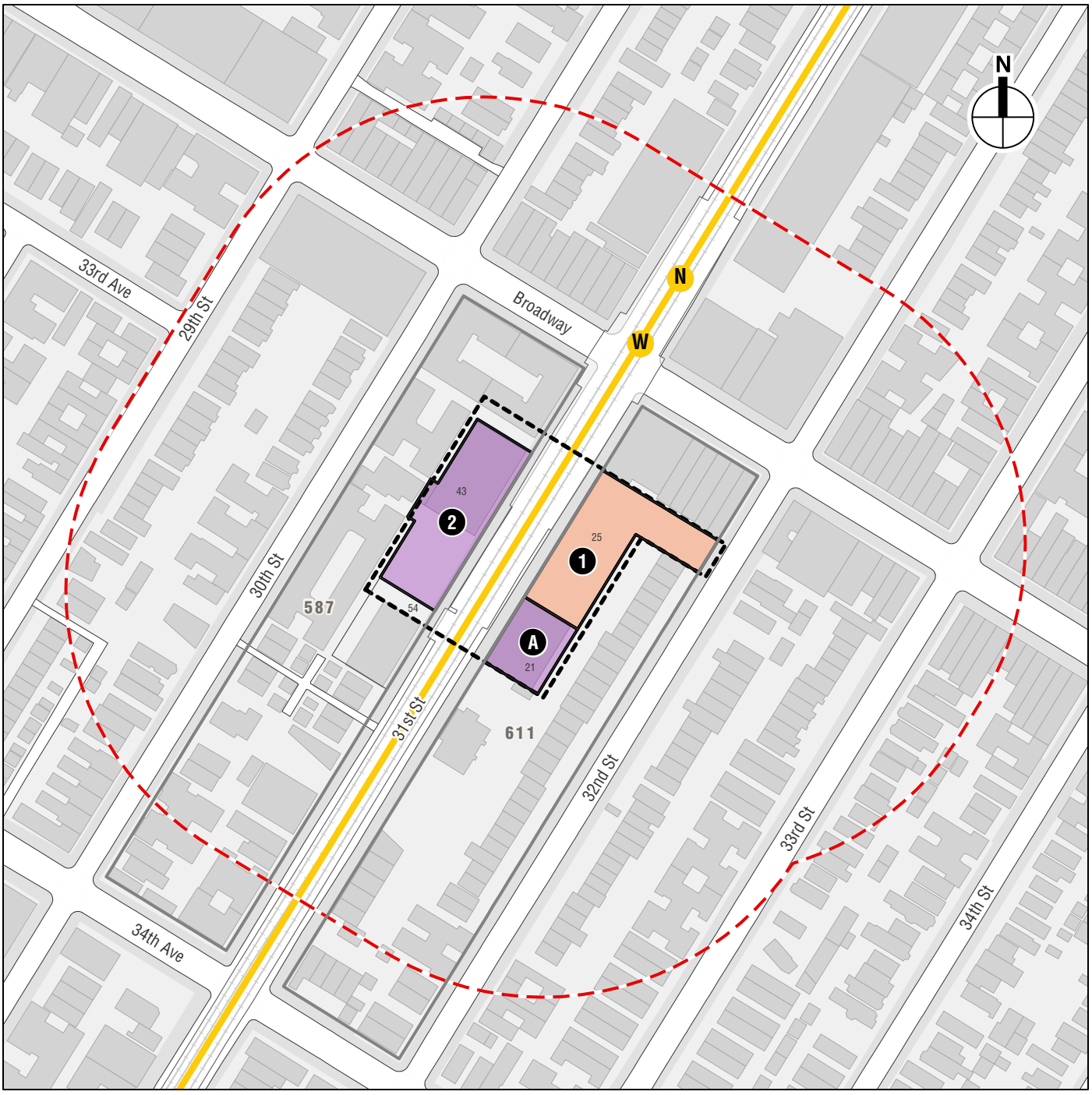



0 200 FEET

*Rezoning Area*

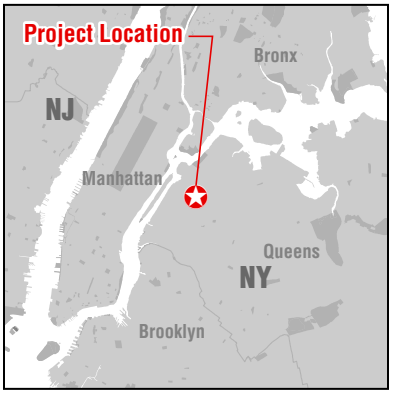
*Project Site*

*Non-Applicant Controlled Development Site*

*Study Area (400-foot perimeter)*

1 *Tax Lot Boundary*

1 *Tax Block Boundary*




Project Location

**IKOS SENIOR HOUSING REZONING & UDAAP**

**Figure H-1**

approximately 14,500 gsf of local retail space. The Projected Development Site entrances would be located along the west sidewalk of 31st Street. No on-site accessory parking spaces are planned for the Proposed Project or the new development on the projected development site.

**Table H-1** summarizes the program differences between the No Action and With Action conditions for the Project Site and the Projected Development Site.

**Table H-1**
**Comparison of No Action and With Action Conditions**

| Use | Existing/No Action | With Action | Increment |
|---|---|---|---|
| **Project Site (Site 1 - Block 611, Lot 25)** | | | |
| Senior Living (DUs) | 0 | 168 | 168 |
| Residential (DUs) | 0 | 0 | 0 |
| Local Retail (gsf) | 0 | 7,000 | 7,000 |
| Community Facility (gsf) | 0 | 7,000 | 7,000 |
| DOT Municipal Parking (Spaces) | 61 | 0 | -61 |
| **Projected Development Site (Site 2 - Block 587, Lot 43)** | | | |
| Senior Living (DUs) | 0 | 0 | 0 |
| Residential (DUs) | 0 | 126 | 126 |
| Local Retail (gsf) | 11,475 | 14,500 | 3,025 |
| **Total** | | | |
| Senior Living (DUs) | 0 | 168 | 168 |
| Residential (DUs) | 0 | 126 | 126 |
| Local Retail (gsf) | 11,475 | 21,500 | 10,025 |
| Community Facility (gsf) | 0 | 7,000 | 7,000 |
| DOT Municipal Parking (Spaces) | 61 | 0 | -61 |

**Source:**
AKRF, Inc.; SLCE Architects
**Note:**
The project sponsors' site is the Project Site (Site 1)

## C. TRANSPORTATION SCREENING ASSESSMENTS

The *CEQR Technical Manual* identifies procedures for evaluating a proposed project's potential impacts on traffic, transit, ferry, pedestrian, and parking conditions. This methodology begins with the preparation of a trip generation analysis to determine the volume of person and vehicle trips associated with the proposed project. The results are then compared with the *CEQR Technical Manual*-specified thresholds (Level 1 screening analysis) to determine whether a Level 2 screening analysis is warranted. If the proposed project would result in 50 or more peak hour vehicle trips, 200 or more peak hour transit trips (subway/rail or bus riders), 50 or more peak hour Citywide Ferry Service (CWFS) ferry trips, and/or 200 or more peak hour pedestrian trips, a Level 2 screening analysis is undertaken.

For the Level 2 screening analysis, project generated trips would be assigned to specific intersections, transit routes, ferry routes, and pedestrian elements. If the results of this analysis show that the proposed project would generate 50 or more peak hour vehicle trips through an intersection, 50 or more peak hour bus riders on a bus route in a single direction, 200 or more peak hour subway passengers at any given station or on a subway line, 25 or more passenger ferry trips in a single direction on a single route, 50 or more passengers at a ferry landing, or 200 or more peak hour pedestrian trips per pedestrian element, further quantified analyses may be warranted to evaluate the potential for significant adverse traffic, transit, ferry, and pedestrian impacts and parking shortfalls.

## LEVEL 1 SCREENING ASSESSMENT

Trip generation factors for the No Action and With Action land uses are based on information from the *CEQR Technical Manual*, U.S. Census Data, DOT's travel demand surveys, and other previously approved EASs and EISs—as summarized in **Table H-2**.

*RESIDENTIAL*

The daily person trip rate and temporal and directional distributions for the residential component are from the *CEQR Technical Manual*. The modal splits and auto vehicle occupancy are from the U.S. Census American Community Survey (ACS) 2015-2019 Journey-to-Work (JTW) estimates for Queens Census tracts 53, 57, 59, 61, 75, 155, and 157. The taxi vehicle occupancy is from the 2014 *Astoria Cove FEIS*. The daily delivery trip rate and temporal and directional distributions are from the *CEQR Technical Manual*.

*SENIOR HOUSING*

The daily person trip rate and temporal distribution for the senior housing component are based on travel demand surveys conducted by DOT. The directional distribution is based on the residential land use. The modal splits and auto vehicle occupancy are from the U.S. Census ACS 2015-2019 JTW estimates for Queens Census tracts 53, 57, 59, 61, 75, 155, and 157. The taxi vehicle occupancy is from the 2014 *Astoria Cove FEIS*. The daily delivery trip rate and temporal and directional distributions are based on the residential land use and are from the *CEQR Technical Manual*.

*LOCAL RETAIL*

The daily person trip rate and temporal and directional distributions for the local neighborhood retail component are from the *CEQR Technical Manual*. The modal splits and vehicle occupancies are based on travel demand surveys conducted by DOT. The daily delivery trip rate and temporal and directional distributions are from the *CEQR Technical Manual*.

*COMMUNITY FACILITY*

The daily person trip rate and temporal and directional distributions for the community facility component are based on the health club land use from the *CEQR Technical Manual*. The modal splits and vehicle occupancies are from the 2019 *Hunter's Point South Parcels F and G EAS*. The daily delivery trip rate and temporal and directional distributions are from the 2019 *Hunter's Point South Parcels F and G EAS* and 2016 *East New York Rezoning Proposal FEIS*.

## Table H-2
## Travel Demand Factors

| Use | Residential | | | | Senior Housing | | | | Local Retail | | | | Community Facility (General) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Total Daily Person Trip** | (1) Weekday 8.180 Trips / DU | | | Saturday 9.080 | (4) Weekday 5.560 Trips / DU | | | Saturday 4.190 | (1) Weekday 329.00 Trips / KSF | | | Saturday 358.00 | (1) Weekday 51.60 Trips / KSF | | | Saturday 50.40 |
| **Trip Linkage** | 0% | | | 0% | 0% | | | 0% | 0% | | | 0% | 0% | | | 0% |
| **Net Daily Person trip** | Weekday 8.180 Trips / DU | | | Saturday 9.080 | Weekday 5.560 Trips / DU | | | Saturday 4.190 | Weekday 329.00 Trips / KSF | | | Saturday 358.00 | Weekday 51.60 Trips / KSF | | | Saturday 50.40 |
| **Temporal** | **AM** | **MD** | **PM** | **Saturday** | **AM** | **MD** | **PM** | **Saturday** | **AM** | **MD** | **PM** | **Saturday** | **AM** | **MD** | **PM** | **Saturday** |
| | (1) | | | | (4) | | | | (1) | | | | (1) | | | |
| | 9.3% | 5.6% | 8.5% | 8.4% | 12.0% | 10.0% | 8.0% | 11.0% | 4.8% | 8.0% | 10.9% | 11.7% | 9.0% | 7.4% | 9.0% | 12.6% |
| **Directional** | (1) | | | | (5) | | | | (1) | | | | (1) | | | |
| In | 22% | 50% | 63% | 51% | 22% | 50% | 63% | 51% | 53% | 50% | 50% | 50% | 57% | 57% | 52% | 45% |
| Out | 78% | 50% | 37% | 49% | 78% | 50% | 37% | 49% | 47% | 50% | 50% | 50% | 43% | 43% | 48% | 55% |
| Total | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| **Modal Split** | (3) | | | | (3) | | | | (6) | | | | (7) | | | |
| | **AM** | **MD** | **PM** | **Saturday** | **AM** | **MD** | **PM** | **Saturday** | **AM** | **MD** | **PM** | **Saturday** | **AM** | **MD** | **PM** | **Saturday** |
| Auto | 13.0% | 13.0% | 13.0% | 13.0% | 13.0% | 13.0% | 13.0% | 13.0% | 11.0% | 11.0% | 11.0% | 8.0% | 12.0% | 12.0% | 12.0% | 12.0% |
| Taxi | 1.0% | 1.0% | 1.0% | 1.0% | 1.0% | 1.0% | 1.0% | 1.0% | 0.0% | 0.0% | 0.0% | 0.0% | 1.0% | 1.0% | 1.0% | 1.0% |
| Subway | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 4.0% | 4.0% | 4.0% | 7.0% | 28.0% | 28.0% | 28.0% | 28.0% |
| Railroad | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Bus | 1.0% | 1.0% | 1.0% | 1.0% | 1.0% | 1.0% | 1.0% | 1.0% | 3.0% | 3.0% | 3.0% | 4.0% | 2.0% | 2.0% | 2.0% | 2.0% |
| Ferry | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Walk | 7.0% | 7.0% | 7.0% | 7.0% | 7.0% | 7.0% | 7.0% | 7.0% | 82.0% | 82.0% | 82.0% | 81.0% | 57.0% | 57.0% | 57.0% | 57.0% |
| Total | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| **Vehicle Occupancy** | (2)(3) Weekday | | | Saturday | (2)(3) Weekday | | | Saturday | (6) Weekday | | | Saturday | (7) Weekday/Saturday | | | |
| Auto | 1.10 | | | 1.10 | 1.10 | | | 1.10 | 1.40 | | | 1.40 | 1.50 | | | |
| Taxi | 1.40 | | | 1.40 | 1.40 | | | 1.40 | 1.40 | | | 1.40 | 1.50 | | | |
| **Daily Delivery Trip Generation Rate** | (1) Weekday 0.06 Delivery Trips / DU | | | Saturday 0.02 | (5) Weekday 0.06 Delivery Trips / DU | | | Saturday 0.02 | (1) Weekday 0.35 Delivery Trips / KSF | | | Saturday 0.04 | (7)(8) Weekday 0.38 Delivery Trips / KSF | | | Saturday 0.29 |
| **Delivery Temporal** | **AM** | **MD** | **PM** | **Saturday** | **AM** | **MD** | **PM** | **Saturday** | **AM** | **MD** | **PM** | **Saturday** | **AM** | **MD** | **PM** | **Saturday** |
| | (1) | | | | (5) | | | | (1) | | | | (7)(8) | | | |
| | 12.0% | 9.0% | 2.0% | 9.0% | 12.0% | 9.0% | 2.0% | 9.0% | 8.0% | 11.0% | 2.0% | 11.0% | 6.0% | 11.0% | 1.0% | 0.0% |
| **Delivery Direction** | (1) | | | | (5) | | | | (1) | | | | (7)(8) | | | |
| In | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% |
| Out | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% |
| Total | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |

**Sources:**
(1) 2021 *CEQR Technical Manual*
(2) *Astoria Cove FEIS (2014)*
(3) U.S. Census American Community Survey (ACS) 2015-2019 Journey-to-Work Data for Queens Census tracts 53, 57, 59, 61, 75, 155, and 157
(4) Trip generation survey conducted by NYCDOT
(5) Based on the residential land use
(6) Trip generation survey conducted by NYCDOT in Queens for local retail use
(7) *Hunter's Point South Parcels F and G EAS (2019)*
(8) *East New York Rezoning Proposal FEIS (2016)*

*TRIP GENERATION SUMMARY*

As summarized in **Table H-3**, the No Action uses would generate 182, 304, 412, and 482 person trips during the weekday AM, midday, PM, and Saturday peak hours, respectively. Approximately 14, 24, 32, and 28 vehicle trips would be generated during the same respective peak hours.

**Table H-3**
**Trip Generation Summary: No Action**

| Program | Peak Hour | In/Out | Person Trip | | | | | | | | Vehicle Trip | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Auto | Taxi | Subway | Railroad | Bus | Ferry | Walk | Total | Auto | Taxi | Delivery | Total |
| Local Retail 11,475 GSF | AM | In | 11 | 0 | 4 | 0 | 3 | 0 | 79 | 97 | 8 | 0 | 0 | 8 |
| | | Out | 9 | 0 | 3 | 0 | 3 | 0 | 70 | 85 | 6 | 0 | 0 | 6 |
| | | Total | 20 | 0 | 7 | 0 | 6 | 0 | 149 | 182 | 14 | 0 | 0 | 14 |
| | Midday | In | 17 | 0 | 6 | 0 | 5 | 0 | 124 | 152 | 12 | 0 | 0 | 12 |
| | | Out | 17 | 0 | 6 | 0 | 5 | 0 | 124 | 152 | 12 | 0 | 0 | 12 |
| | | Total | 34 | 0 | 12 | 0 | 10 | 0 | 248 | 304 | 24 | 0 | 0 | 24 |
| | PM | In | 23 | 0 | 8 | 0 | 6 | 0 | 169 | 206 | 16 | 0 | 0 | 16 |
| | | Out | 23 | 0 | 8 | 0 | 6 | 0 | 169 | 206 | 16 | 0 | 0 | 16 |
| | | Total | 46 | 0 | 16 | 0 | 12 | 0 | 338 | 412 | 32 | 0 | 0 | 32 |
| | Saturday | In | 19 | 0 | 17 | 0 | 10 | 0 | 195 | 241 | 14 | 0 | 0 | 14 |
| | | Out | 19 | 0 | 17 | 0 | 10 | 0 | 195 | 241 | 14 | 0 | 0 | 14 |
| | | Total | 38 | 0 | 34 | 0 | 20 | 0 | 390 | 482 | 28 | 0 | 0 | 28 |

As summarized in **Table H-4**, the With Action uses would generate 578, 738, 963, and 1,115 person trips during the weekday AM, midday, PM, and Saturday peak hours, respectively. Approximately 60, 64, 83, and 75 vehicle trips would be generated during the same peak hours.

**Table H-4**
**Trip Generation Summary: With Action**

| Program | Peak Hour | In/Out | Person Trip | | | | | | | | Vehicle Trip | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Auto | Taxi | Subway | Railroad | Bus | Ferry | Walk | Total | Auto | Taxi | Delivery | Total |
| Residential 126 DU | AM | In | 3 | 0 | 16 | 0 | 0 | 0 | 1 | 20 | 3 | 1 | 0 | 4 |
| | | Out | 10 | 1 | 58 | 0 | 1 | 0 | 5 | 75 | 9 | 1 | 0 | 10 |
| | | Total | 13 | 1 | 74 | 0 | 1 | 0 | 6 | 95 | 12 | 2 | 0 | 14 |
| | Midday | In | 4 | 0 | 23 | 0 | 0 | 0 | 2 | 29 | 4 | 0 | 0 | 4 |
| | | Out | 4 | 0 | 23 | 0 | 0 | 0 | 2 | 29 | 4 | 0 | 0 | 4 |
| | | Total | 8 | 0 | 46 | 0 | 0 | 0 | 4 | 58 | 8 | 0 | 0 | 8 |
| | PM | In | 7 | 1 | 43 | 0 | 1 | 0 | 4 | 56 | 6 | 1 | 0 | 7 |
| | | Out | 4 | 0 | 25 | 0 | 0 | 0 | 2 | 31 | 4 | 1 | 0 | 5 |
| | | Total | 11 | 1 | 68 | 0 | 1 | 0 | 6 | 87 | 10 | 2 | 0 | 12 |
| | Saturday | In | 6 | 0 | 38 | 0 | 0 | 0 | 3 | 47 | 5 | 0 | 0 | 5 |
| | | Out | 6 | 0 | 37 | 0 | 0 | 0 | 3 | 46 | 5 | 0 | 0 | 5 |
| | | Total | 12 | 0 | 75 | 0 | 0 | 0 | 6 | 93 | 10 | 0 | 0 | 10 |
| Senior Housing 168 DU | AM | In | 3 | 0 | 19 | 0 | 0 | 0 | 2 | 24 | 3 | 1 | 1 | 5 |
| | | Out | 11 | 1 | 68 | 0 | 1 | 0 | 6 | 87 | 10 | 1 | 1 | 12 |
| | | Total | 14 | 1 | 87 | 0 | 1 | 0 | 8 | 111 | 13 | 2 | 2 | 17 |
| | Midday | In | 6 | 0 | 36 | 0 | 0 | 0 | 3 | 45 | 5 | 0 | 0 | 5 |
| | | Out | 6 | 0 | 36 | 0 | 0 | 0 | 3 | 45 | 5 | 0 | 0 | 5 |
| | | Total | 12 | 0 | 72 | 0 | 0 | 0 | 6 | 90 | 10 | 0 | 0 | 10 |
| | PM | In | 6 | 0 | 37 | 0 | 0 | 0 | 3 | 46 | 5 | 0 | 0 | 5 |
| | | Out | 4 | 0 | 22 | 0 | 0 | 0 | 2 | 28 | 4 | 0 | 0 | 4 |
| | | Total | 10 | 0 | 59 | 0 | 0 | 0 | 5 | 74 | 9 | 0 | 0 | 9 |
| | Saturday | In | 5 | 0 | 31 | 0 | 0 | 0 | 3 | 39 | 5 | 0 | 0 | 5 |
| | | Out | 5 | 0 | 30 | 0 | 0 | 0 | 3 | 38 | 5 | 0 | 0 | 5 |
| | | Total | 10 | 0 | 61 | 0 | 0 | 0 | 6 | 77 | 10 | 0 | 0 | 10 |
| Local Retail 21,500 GSF | AM | In | 20 | 0 | 7 | 0 | 5 | 0 | 148 | 180 | 14 | 0 | 0 | 14 |
| | | Out | 18 | 0 | 6 | 0 | 5 | 0 | 131 | 160 | 13 | 0 | 0 | 13 |
| | | Total | 38 | 0 | 13 | 0 | 10 | 0 | 279 | 340 | 27 | 0 | 0 | 27 |
| | Midday | In | 31 | 0 | 11 | 0 | 8 | 0 | 232 | 282 | 22 | 0 | 0 | 22 |
| | | Out | 31 | 0 | 11 | 0 | 8 | 0 | 232 | 282 | 22 | 0 | 0 | 22 |
| | | Total | 62 | 0 | 22 | 0 | 16 | 0 | 464 | 564 | 44 | 0 | 0 | 44 |
| | PM | In | 42 | 0 | 15 | 0 | 12 | 0 | 316 | 385 | 30 | 0 | 0 | 30 |
| | | Out | 42 | 0 | 15 | 0 | 12 | 0 | 316 | 385 | 30 | 0 | 0 | 30 |
| | | Total | 84 | 0 | 30 | 0 | 24 | 0 | 632 | 770 | 60 | 0 | 0 | 60 |
| | Saturday | In | 36 | 0 | 32 | 0 | 18 | 0 | 365 | 451 | 26 | 0 | 0 | 26 |
| | | Out | 36 | 0 | 32 | 0 | 18 | 0 | 365 | 451 | 26 | 0 | 0 | 26 |
| | | Total | 72 | 0 | 64 | 0 | 36 | 0 | 730 | 902 | 52 | 0 | 0 | 52 |

## Table H-4 (cont'd)
## Trip Generation Summary: With Action

| Program | Peak Hour | In/Out | Person Trip | | | | | | | | Vehicle Trip | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Auto | Taxi | Subway | Railroad | Bus | Ferry | Walk | Total | Auto | Taxi | Delivery | Total |
| Community Facility (General) 7,000 GSF | AM | In | 2 | 0 | 5 | 0 | 0 | 0 | 11 | 18 | 1 | 0 | 0 | 1 |
| | | Out | 2 | 0 | 4 | 0 | 0 | 0 | 8 | 14 | 1 | 0 | 0 | 1 |
| | | Total | 4 | 0 | 9 | 0 | 0 | 0 | 19 | 32 | 2 | 0 | 0 | 2 |
| | Midday | In | 2 | 0 | 4 | 0 | 0 | 0 | 9 | 15 | 1 | 0 | 0 | 1 |
| | | Out | 1 | 0 | 3 | 0 | 0 | 0 | 7 | 11 | 1 | 0 | 0 | 1 |
| | | Total | 3 | 0 | 7 | 0 | 0 | 0 | 16 | 26 | 2 | 0 | 0 | 2 |
| | PM | In | 2 | 0 | 5 | 0 | 0 | 0 | 10 | 17 | 1 | 0 | 0 | 1 |
| | | Out | 2 | 0 | 4 | 0 | 0 | 0 | 9 | 15 | 1 | 0 | 0 | 1 |
| | | Total | 4 | 0 | 9 | 0 | 0 | 0 | 19 | 32 | 2 | 0 | 0 | 2 |
| | Saturday | In | 2 | 0 | 6 | 0 | 0 | 0 | 11 | 19 | 1 | 0 | 0 | 1 |
| | | Out | 3 | 0 | 7 | 0 | 0 | 0 | 14 | 24 | 2 | 0 | 0 | 2 |
| | | Total | 5 | 0 | 13 | 0 | 0 | 0 | 25 | 43 | 3 | 0 | 0 | 3 |
| Total | AM | In | 28 | 0 | 47 | 0 | 5 | 0 | 162 | 242 | 21 | 2 | 1 | 24 |
| | | Out | 41 | 2 | 136 | 0 | 7 | 0 | 150 | 336 | 33 | 2 | 1 | 36 |
| | | Total | 69 | 2 | 183 | 0 | 12 | 0 | 312 | 578 | 54 | 4 | 2 | 60 |
| | Midday | In | 43 | 0 | 74 | 0 | 8 | 0 | 246 | 371 | 32 | 0 | 0 | 32 |
| | | Out | 42 | 0 | 73 | 0 | 8 | 0 | 244 | 367 | 32 | 0 | 0 | 32 |
| | | Total | 85 | 0 | 147 | 0 | 16 | 0 | 490 | 738 | 64 | 0 | 0 | 64 |
| | PM | In | 57 | 1 | 100 | 0 | 13 | 0 | 333 | 504 | 42 | 1 | 0 | 43 |
| | | Out | 52 | 0 | 66 | 0 | 12 | 0 | 329 | 459 | 39 | 1 | 0 | 40 |
| | | Total | 109 | 1 | 166 | 0 | 25 | 0 | 662 | 963 | 81 | 2 | 0 | 83 |
| | Saturday | In | 49 | 0 | 107 | 0 | 18 | 0 | 382 | 556 | 37 | 0 | 0 | 37 |
| | | Out | 50 | 0 | 106 | 0 | 18 | 0 | 385 | 559 | 38 | 0 | 0 | 38 |
| | | Total | 99 | 0 | 213 | 0 | 36 | 0 | 767 | 1,115 | 75 | 0 | 0 | 75 |

The net incremental trips between the No Action and With Action conditions are shown in **Table H-5**.

## Table H-5
## Trip Generation Summary: Net Increments

| Program | Peak Hour | In/Out | Person Trip | | | | | | | | Vehicle Trip | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Auto | Taxi | Subway | Railroad | Bus | Ferry | Walk | Total | Auto | Taxi | Delivery | Total |
| Residential 126 DU | AM | In | 3 | 0 | 16 | 0 | 0 | 0 | 1 | 20 | 3 | 1 | 0 | 4 |
| | | Out | 10 | 1 | 58 | 0 | 1 | 0 | 5 | 75 | 9 | 1 | 0 | 10 |
| | | Total | 13 | 1 | 74 | 0 | 1 | 0 | 6 | 95 | 12 | 2 | 0 | 14 |
| | Midday | In | 4 | 0 | 23 | 0 | 0 | 0 | 2 | 29 | 4 | 0 | 0 | 4 |
| | | Out | 4 | 0 | 23 | 0 | 0 | 0 | 2 | 29 | 4 | 0 | 0 | 4 |
| | | Total | 8 | 0 | 46 | 0 | 0 | 0 | 4 | 58 | 8 | 0 | 0 | 8 |
| | PM | In | 7 | 1 | 43 | 0 | 1 | 0 | 4 | 56 | 6 | 1 | 0 | 7 |
| | | Out | 4 | 0 | 25 | 0 | 0 | 0 | 2 | 31 | 4 | 1 | 0 | 5 |
| | | Total | 11 | 1 | 68 | 0 | 1 | 0 | 6 | 87 | 10 | 2 | 0 | 12 |
| | Saturday | In | 6 | 0 | 38 | 0 | 0 | 0 | 3 | 47 | 5 | 0 | 0 | 5 |
| | | Out | 6 | 0 | 37 | 0 | 0 | 0 | 3 | 46 | 5 | 0 | 0 | 5 |
| | | Total | 12 | 0 | 75 | 0 | 0 | 0 | 6 | 93 | 10 | 0 | 0 | 10 |
| Senior Housing 168 DU | AM | In | 3 | 0 | 19 | 0 | 0 | 0 | 2 | 24 | 3 | 1 | 1 | 5 |
| | | Out | 11 | 1 | 68 | 0 | 1 | 0 | 6 | 87 | 10 | 1 | 1 | 12 |
| | | Total | 14 | 1 | 87 | 0 | 1 | 0 | 8 | 111 | 13 | 2 | 2 | 17 |
| | Midday | In | 6 | 0 | 36 | 0 | 0 | 0 | 3 | 45 | 5 | 0 | 0 | 5 |
| | | Out | 6 | 0 | 36 | 0 | 0 | 0 | 3 | 45 | 5 | 0 | 0 | 5 |
| | | Total | 12 | 0 | 72 | 0 | 0 | 0 | 6 | 90 | 10 | 0 | 0 | 10 |
| | PM | In | 6 | 0 | 37 | 0 | 0 | 0 | 3 | 46 | 5 | 0 | 0 | 5 |
| | | Out | 4 | 0 | 22 | 0 | 0 | 0 | 2 | 28 | 4 | 0 | 0 | 4 |
| | | Total | 10 | 0 | 59 | 0 | 0 | 0 | 5 | 74 | 9 | 0 | 0 | 9 |
| | Saturday | In | 5 | 0 | 31 | 0 | 0 | 0 | 3 | 39 | 5 | 0 | 0 | 5 |
| | | Out | 5 | 0 | 30 | 0 | 0 | 0 | 3 | 38 | 5 | 0 | 0 | 5 |
| | | Total | 10 | 0 | 61 | 0 | 0 | 0 | 6 | 77 | 10 | 0 | 0 | 10 |

**Table H-5 (cont'd)**
**Trip Generation Summary: Net Increments**

| Program | Peak Hour | In/Out | Person Trip | | | | | | | | Vehicle Trip | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Auto | Taxi | Subway | Railroad | Bus | Ferry | Walk | Total | Auto | Taxi | Delivery | Total |
| Local Retail 10,025 GSF | AM | In | 9 | 0 | 3 | 0 | 2 | 0 | 69 | 83 | 6 | 0 | 0 | 6 |
| | | Out | 9 | 0 | 3 | 0 | 2 | 0 | 61 | 75 | 7 | 0 | 0 | 7 |
| | | Total | 18 | 0 | 6 | 0 | 4 | 0 | 130 | 158 | 13 | 0 | 0 | 13 |
| | Midday | In | 14 | 0 | 5 | 0 | 3 | 0 | 108 | 130 | 10 | 0 | 0 | 10 |
| | | Out | 14 | 0 | 5 | 0 | 3 | 0 | 108 | 130 | 10 | 0 | 0 | 10 |
| | | Total | 28 | 0 | 10 | 0 | 6 | 0 | 216 | 260 | 20 | 0 | 0 | 20 |
| | PM | In | 19 | 0 | 7 | 0 | 6 | 0 | 147 | 179 | 14 | 0 | 0 | 14 |
| | | Out | 19 | 0 | 7 | 0 | 6 | 0 | 147 | 179 | 14 | 0 | 0 | 14 |
| | | Total | 38 | 0 | 14 | 0 | 12 | 0 | 294 | 358 | 28 | 0 | 0 | 28 |
| | Saturday | In | 17 | 0 | 15 | 0 | 8 | 0 | 170 | 210 | 12 | 0 | 0 | 12 |
| | | Out | 17 | 0 | 15 | 0 | 8 | 0 | 170 | 210 | 12 | 0 | 0 | 12 |
| | | Total | 34 | 0 | 30 | 0 | 16 | 0 | 340 | 420 | 24 | 0 | 0 | 24 |
| Community Facility (General) 7,000 GSF | AM | In | 2 | 0 | 5 | 0 | 0 | 0 | 11 | 18 | 1 | 0 | 0 | 1 |
| | | Out | 2 | 0 | 4 | 0 | 0 | 0 | 8 | 14 | 1 | 0 | 0 | 1 |
| | | Total | 4 | 0 | 9 | 0 | 0 | 0 | 19 | 32 | 2 | 0 | 0 | 2 |
| | Midday | In | 2 | 0 | 4 | 0 | 0 | 0 | 9 | 15 | 1 | 0 | 0 | 1 |
| | | Out | 1 | 0 | 3 | 0 | 0 | 0 | 7 | 11 | 1 | 0 | 0 | 1 |
| | | Total | 3 | 0 | 7 | 0 | 0 | 0 | 16 | 26 | 2 | 0 | 0 | 2 |
| | PM | In | 2 | 0 | 5 | 0 | 0 | 0 | 10 | 17 | 1 | 0 | 0 | 1 |
| | | Out | 2 | 0 | 4 | 0 | 0 | 0 | 9 | 15 | 1 | 0 | 0 | 1 |
| | | Total | 4 | 0 | 9 | 0 | 0 | 0 | 19 | 32 | 2 | 0 | 0 | 2 |
| | Saturday | In | 2 | 0 | 6 | 0 | 0 | 0 | 11 | 19 | 1 | 0 | 0 | 1 |
| | | Out | 3 | 0 | 7 | 0 | 0 | 0 | 14 | 24 | 2 | 0 | 0 | 2 |
| | | Total | 5 | 0 | 13 | 0 | 0 | 0 | 25 | 43 | 3 | 0 | 0 | 3 |
| Total | AM | In | 17 | 0 | 43 | 0 | 2 | 0 | 83 | 145 | 13 | 2 | 1 | 16 |
| | | Out | 32 | 2 | 133 | 0 | 4 | 0 | 80 | 251 | 27 | 2 | 1 | 30 |
| | | Total | 49 | 2 | 176 | 0 | 6 | 0 | 163 | 396 | 40 | 4 | 2 | 46 |
| | Midday | In | 26 | 0 | 68 | 0 | 3 | 0 | 122 | 219 | 20 | 0 | 0 | 20 |
| | | Out | 25 | 0 | 67 | 0 | 3 | 0 | 120 | 215 | 20 | 0 | 0 | 20 |
| | | Total | 51 | 0 | 135 | 0 | 6 | 0 | 242 | 434 | 40 | 0 | 0 | 40 |
| | PM | In | 34 | 1 | 92 | 0 | 7 | 0 | 164 | 298 | 26 | 1 | 0 | 27 |
| | | Out | 29 | 0 | 58 | 0 | 6 | 0 | 160 | 253 | 23 | 1 | 0 | 24 |
| | | Total | 63 | 1 | 150 | 0 | 13 | 0 | 324 | 551 | 49 | 2 | 0 | 51 |
| | Saturday | In | 30 | 0 | 90 | 0 | 8 | 0 | 187 | 315 | 23 | 0 | 0 | 23 |
| | | Out | 31 | 0 | 89 | 0 | 8 | 0 | 190 | 318 | 24 | 0 | 0 | 24 |
| | | Total | 61 | 0 | 179 | 0 | 16 | 0 | 377 | 633 | 47 | 0 | 0 | 47 |

*Traffic*

As shown in **Table H-5**, the Proposed Actions would generate 46, 40, 51, and 47 incremental vehicle trips during the weekday AM, midday, PM, and Saturday peak hours, respectively. The incremental vehicle trips would only exceed the *CEQR Technical Manual* Level 1 screening threshold of 50 incremental vehicle trips during the weekday PM peak hour. As detailed in **Table H-1** above, the existing 61-space DOT municipal parking lot currently located on the Project Site would be displaced under the With Action condition. The trips associated with this municipal parking lot would be dispersed with its elimination, resulting in fewer vehicle trips in the immediate area of the Rezoning Area, and would further reduce the Proposed Actions' incremental vehicle trips. However, the Level 1 screening assessment conservatively does not take credit for the existing municipal parking lot trips. A Level 2 screening assessment (presented in the sections below) has been conducted for the weekday PM peak hour to determine if a quantified traffic analysis is warranted.

*Transit*

As detailed in **Table H-5**, the incremental transit trips generated by the Proposed Actions would be 176, 135, 150, and 179 person trips by subway; no person trips by rail; and 6, 6, 13, and 16 person trips by bus during the weekday AM, midday, PM, and Saturday peak hours, respectively. The incremental subway trips are below the *CEQR Technical Manual* analysis threshold of 200

peak hour subway trips. Therefore, a detailed analysis of subway facilities is not warranted and the Proposed Actions are not expected to result in any significant adverse subway impacts. The incremental rail trips are also below the *CEQR Technical Manual* analysis threshold of 200 peak hour rail trips. Therefore, a detailed analysis of rail facilities is not warranted and the Proposed Actions are not expected to result in any significant adverse rail impacts. Lastly, the incremental bus trips would not exceed the *CEQR Technical Manual* analysis threshold of 50 or more peak hour bus riders in a single direction. Therefore, a detailed bus line-haul analysis is not warranted and the Proposed Actions are not expected to result in any significant adverse bus line-haul impacts.

*City-wide Ferry Service*

As detailed in **Table H-5**, the Proposed Actions would not generate any incremental ferry trips. Therefore, a detailed ferry landing or line-haul analysis is not warranted and the Proposed Actions are not expected to result in any significant adverse ferry impacts.

*Pedestrians*

Incremental person trips generated by the Proposed Actions would traverse the pedestrian elements surrounding the Rezoning Area. As shown in **Table H-5**, the incremental pedestrian trips would be 396, 434, 551, and 633 during the weekday AM, midday, PM, and Saturday peak hours, respectively. Since the incremental pedestrian trips would exceed the *CEQR Technical Manual* analysis threshold of 200 peak hour pedestrian trips during the weekday AM, midday, PM, and Saturday peak hours, a Level 2 screening assessment (presented in the section below) has been conducted for all four analysis peak hours to determine if a quantified pedestrian analysis is warranted.

## LEVEL 2 SCREENING ASSESSMENT

As part of the Level 2 screening assessment, project-generated trips were assigned to specific intersections, transit facilities, and pedestrian elements near the Rezoning Area. The *CEQR Technical Manual* states that further quantified analyses to assess the potential impacts of a project on the transportation system may be warranted if the trip assignments were to identify key intersections incurring 50 or more peak hour vehicle trips or pedestrian elements incurring 200 or more peak hour pedestrian trips.

*SITE ACCESS AND EGRESS*

For the Project Site under the With Action condition, the senior housing and local retail entrances would be located along the east sidewalk of 31st Street, and the community facility entrance would be accessed via 32nd Street. For the Projected Development Site, the entrance to the former Rite Aid site, which has subsequently been re-tenanted with local retail uses (a grocery store) and would continue under the No Action condition, is located along the west sidewalk of 31st Street, and the With Action residential and local retail site entrances would be located along the west sidewalk of 31st Street.

*TRAFFIC*

As shown in **Table H-5**, incremental vehicle trips would exceed the CEQR Level-1 screening threshold during the weekday PM peak hour only. Under the With Action condition, no on-site accessory parking spaces are planned for the Project Site or the Projected Development Site. Auto vehicle trips generated by the proposed uses are assumed to find parking at other available on- and off-street parking resources in the study area.

On- and off-street parking surveys within a ¼-mile of the Rezoning Area were conducted to determine available parking resources in the study area where project-generated vehicle trips could be assigned. Based on field observations, on-street parking in the study area is generally at or near full utilization during weekday daytime hours. Therefore, project-generated auto trips were assigned based on available off-street parking resources within a ¼-mile of the Rezoning Area as summarized in **Table H-6** below and shown in **Figure H-2**.

**Table H-6**
**Existing Off-Street Parking Supply and Utilization**
**¼-Mile Study Area**

| Map # | Name/Address | License Number | Licensed Capacity | Utilization Rate | | | | | Utilized Spaces | | | | | Available Spaces | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | AM | MD | PM | SAT | ON | AM | MD | PM | SAT | ON | AM | MD | PM | SAT | ON |
| 1 | Imperial Parking LLC / 29-10 Broadway | 2097881 | 66 | 70% | 80% | 70% | 50% | CLD | 46 | 53 | 46 | 33 | CLD | 20 | 13 | 20 | 33 | CLD |
| 2 | Astoria Central Parking LLC / 31-57 31st Street | 2046301 | 112 | 75% | 90% | 80% | 75% | 85% | 84 | 101 | 90 | 84 | 95 | 28 | 11 | 22 | 28 | 17 |
| 3 | Astoria Parking Management LLC / 34-22 35th Street | 2046301 | 64 | 80% | 85% | 80% | 70% | CLD | 51 | 54 | 51 | 45 | CLD | 13 | 10 | 13 | 19 | CLD |
| **1/4-Mile Area Totals** | | - | **242** | **75%** | **86%** | **77%** | **67%** | **85%** | **181** | **208** | **187** | **162** | **95** | **61** | **34** | **55** | **80** | **17** |

**Notes:** MD = Midday; SAT = Saturday; ON = Overnight; CLD = Closed
**Sources:** Survey conducted by AKRF Inc. December 2021

Traffic assignments for autos, taxis, and deliveries for the various development uses are discussed below.

*Residential/Senior Housing*

The residential and senior housing auto trip assignments were developed based on the 2012-2016 U.S. Census JTW origin-destination (O-D) estimates. Many of the trips would travel to Queens (45%) and the remaining to Manhattan (17%), Long Island (15%), Bronx (8%), Upstate New York (6%), Brooklyn (3%), New Jersey (3%), and Connecticut (3%). Residential and senior housing auto trips were assigned to Garage 2 due to available parking spaces during all surveyed peak periods.

*Local Retail*

The local retail use is expected to serve patrons primarily from the immediate area. Auto trips were generally assigned from local origins within the neighborhood and adjacent residential areas. Approximately 30 percent of vehicle trips would originate from north of the site, 20 percent from south of the site, 30 percent from east of the site, and 20 percent from west of the site. The local retail auto trips were assigned to the off-street parking facilities based on the proportion of available weekday midday peak period parking spaces, as summarized in **Table H-6**.

*Community Facility*

The community facility is expected to serve visitors primarily from the immediate area. Auto trips were generally assigned from local origins within the neighborhood and adjacent residential areas. Approximately 30 percent of vehicle trips would originate from north of the site, 20 percent from south of the site, 30 percent from east of the site, and 20 percent from west of the site. Community facility auto trips were assigned to the off-street parking facilities based on the proportion of available weekday midday peak period parking spaces, as summarized in **Table H-6**.

*Taxis*

Taxi pick-ups and drop-offs for the various development uses were assigned based on the development uses' entrances. For the Project Site's senior housing and local retail land uses, taxi pick-ups and drop-offs were assigned to the frontage along the east side of 31st Street, while those for the community facility land use were assigned to the frontage along the west side of 32nd

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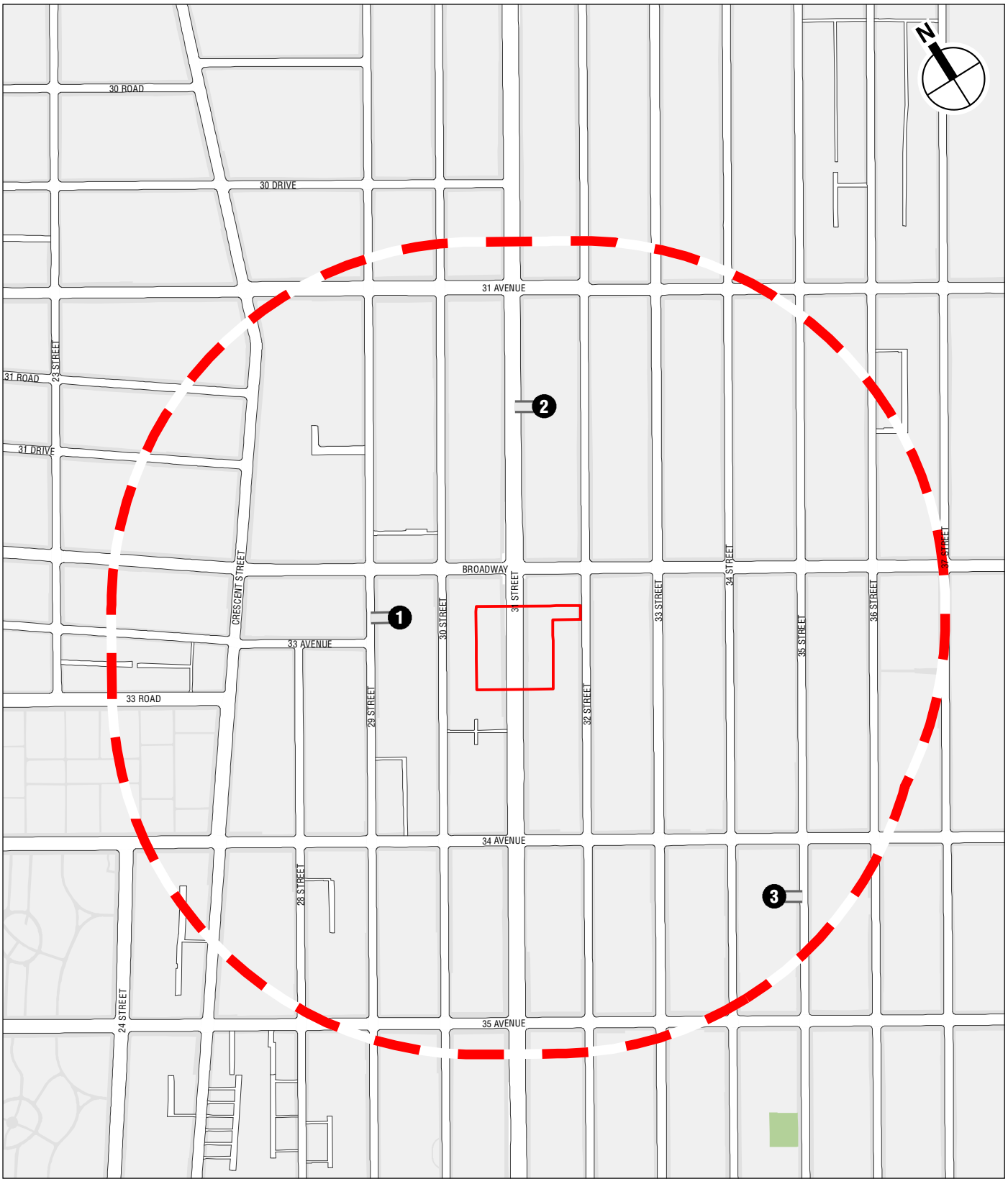


*Rezoning Area*

*Study Area (Quarter-mile perimeter)*

1 *Off-Street Parking Facilities*

0 500 FEET

Off-Street Parking Facilities

**IKOS SENIOR HOUSING REZONING & UDAAP**

**Figure H-2**

Street. For the Projected Development Site's residential and local retail uses, taxi pick-ups and drop-offs were assigned to the frontage along the west side of 31st Street.

*Deliveries*

Truck delivery trips for the various development uses were assigned based on DOT-designated truck routes and assigned to the curbsides of each development site.

*Summary*

**Figures H-3 through H-5** show the No Action project-generated vehicle trips, the With Action project-generated vehicle trips, and the incremental vehicle trips for the weekday PM peak hour, respectively. As summarized in **Table H-7**, none of the surrounding intersections would incur 50 or more incremental vehicle trips as a result of the Proposed Actions. Therefore, a detailed traffic analysis is not warranted and the Proposed Actions are not expected to result in any significant adverse traffic impacts.

**Table H-7**
**Traffic Level 2 Screening Analysis Results**

| Traffic Intersections | Incremental Vehicle Trips<br>Weekday PM Peak Hour |
|---|---|
| Crescent Street and Broadway | 13 |
| Crescent Street and 33rd Avenue | 11 |
| Crescent Street and 33rd Road | 11 |
| 29th Street and Broadway | 20 |
| 29th Street and 33rd Avenue | 18 |
| 29th Street and Broadway | 16 |
| 30th Street and 31st Avenue | 10 |
| 30th Street and Broadway | 18 |
| 30th Street and 34th Avenue | 23 |
| 31st Street and 30th Drive | 10 |
| 31st Street and 31st Avenue | 25 |
| 31st Street and Broadway | 31 |
| 31st Street and 34th Avenue | 34 |
| 31st Street and 35th Avenue | 14 |
| 32nd Street and 31st Avenue | 17 |
| 32nd Street and Broadway | 15 |
| 32nd Street and 34th Avenue | 10 |
| 33rd Street and 31st Avenue | 15 |
| 33rd Street and 35th Avenue | 10 |
| 34th Street and 31st Avenue | 15 |
| 34th Street and 35th Avenue | 10 |
| 35th Street and 34th Avenue | 11 |

*PARKING*

The *CEQR Technical Manual* states that if a quantified traffic analysis is not required, an assessment of parking supply and utilization is also typically not warranted. While the displacement of the existing 61-space DOT municipal parking lot could potentially result in a parking shortfall within the ¼-mile study area, because the Rezoning Area is located in CEQR Parking Zone 2 (i.e., parking shortfalls resulting from projects located in Parking Zones 1 and 2 are not considered significant due to the magnitude of available alternative modes of transportation), a potential parking shortfall would not be considered significant. Therefore, as a result of the conclusions described above for traffic and the CEQR parking zone guidance stated above, an on- and off-street parking analysis is not required and the Proposed Actions are not expected to result in any significant parking shortfalls.

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*Rezoning Area*

*Garage*

0 500 FEET

No Action Project Generated Vehicle Trips
Weekday PM Peak Hour

**IKOS SENIOR HOUSING REZONING & UDAAP**

**Figure H-3**

10.13.23




*Rezoning Area*

*Garage*

0 500 FEET

With Action Project Generated Vehicle Trips
Weekday PM Peak Hour

**IKOS SENIOR HOUSING REZONING & UDAAP**

**Figure H-4**

10.13.23




*Rezoning Area*

*Garage*

0 500 FEET

With Action Incremental Vehicle Trips
Weekday PM Peak Hour

**IKOS SENIOR HOUSING REZONING & UDAAP**

**Figure H-5**

*PEDESTRIANS*

As shown in **Table H-5**, the incremental pedestrian trips would exceed the CEQR analysis threshold of 200 peak hour pedestrian trips during the weekday AM, midday, PM, and Saturday peak hours. Level 2 pedestrian trip assignments were individually developed for the No Action and With Action uses, as shown in **Figures H-6 through H-17** and discussed below.

- Auto Trips—Motorists would park at available off-street parking facilities within ¼-mile of the Rezoning Area and walk to/from to each development site.
- Taxi Trips—Taxi patrons would get dropped off and picked up along the various frontages of each development site.
- City Bus Trips—City bus riders are anticipated to use buses stopping on 31st Street, Broadway and 35th Avenue, and walk between the nearest bus stops and each development site.
- Subway Trips—Subway riders were assigned to the Broadway (N and W trains) Station and Steinway Street (E, M and R trains) Station.
- Walk-Only Trips—Walk-only trips were distributed to the surrounding area in consideration of the population O-D data as well as the population density and land use characteristics.

As summarized in **Table H-8** and shown in **Figure H-18**, two sidewalk segments and one corner reservoir have been selected for further detailed analysis.

**Table H-8**
**Pedestrian Level 2 Screening Analysis Results**

| Pedestrian Elements | Incremental Pedestrian Trips | | | | Selected Analysis Locations |
|---|---|---|---|---|---|
| | Weekday | | | Saturday | |
| | AM | Midday | PM | | |
| **31st Street and Broadway** | | | | | |
| Northeast Corner | 77 | 101 | 129 | 142 | |
| Southeast Corner | 103 | 145 | 192 | 214 | ✓ |
| Southwest Corner | 94 | 130 | 183 | 198 | |
| Northwest Corner | 71 | 89 | 122 | 137 | |
| East Sidewalk Along 31st Street between Broadway and the Project Site's Senior Housing Entrance | 153 | 165 | 191 | 219 | ✓ |
| East Sidewalk Along 31st Street between the Project Site's Senior Housing Entrance and Local Retail Entrance | 90 | 145 | 183 | 203 | ✓ |
| East Sidewalk Along 31st Street between the Project Site's Local Retail South Entrance and 34th Avenue | 55 | 84 | 108 | 128 | |
| West Sidewalk Along 31st Street between Broadway and the Projected Development's Residential Entrance | 127 | 120 | 175 | 187 | |
| West Sidewalk Along 31st Street between the Project Development's Residential Entrance and Local Retail Entrance | 52 | 78 | 112 | 144 | |
| **31st Street and 34th Avenue** | | | | | |
| Northeast Corner | 79 | 122 | 156 | 182 | |
| Southeast Corner | 43 | 66 | 86 | 102 | |
| Northwest Corner | 61 | 92 | 121 | 142 | |

**Notes:** ✓ denotes pedestrian elements selected for detailed analysis.
Pedestrian elements with fewer than 100 project-generated pedestrian trips in a peak hour are not presented in this table.

## D. TRANSPORTATION ANALYSIS METHODOLOGIES

### PEDESTRIAN OPERATIONS

The adequacy of the study area's sidewalk and corner reservoir capacities in relation to the demand imposed on them is evaluated based on the methodologies presented in the 2010 *Highway Capacity Manual (HCM)*, in accordance with procedures detailed in the *CEQR Technical Manual*.

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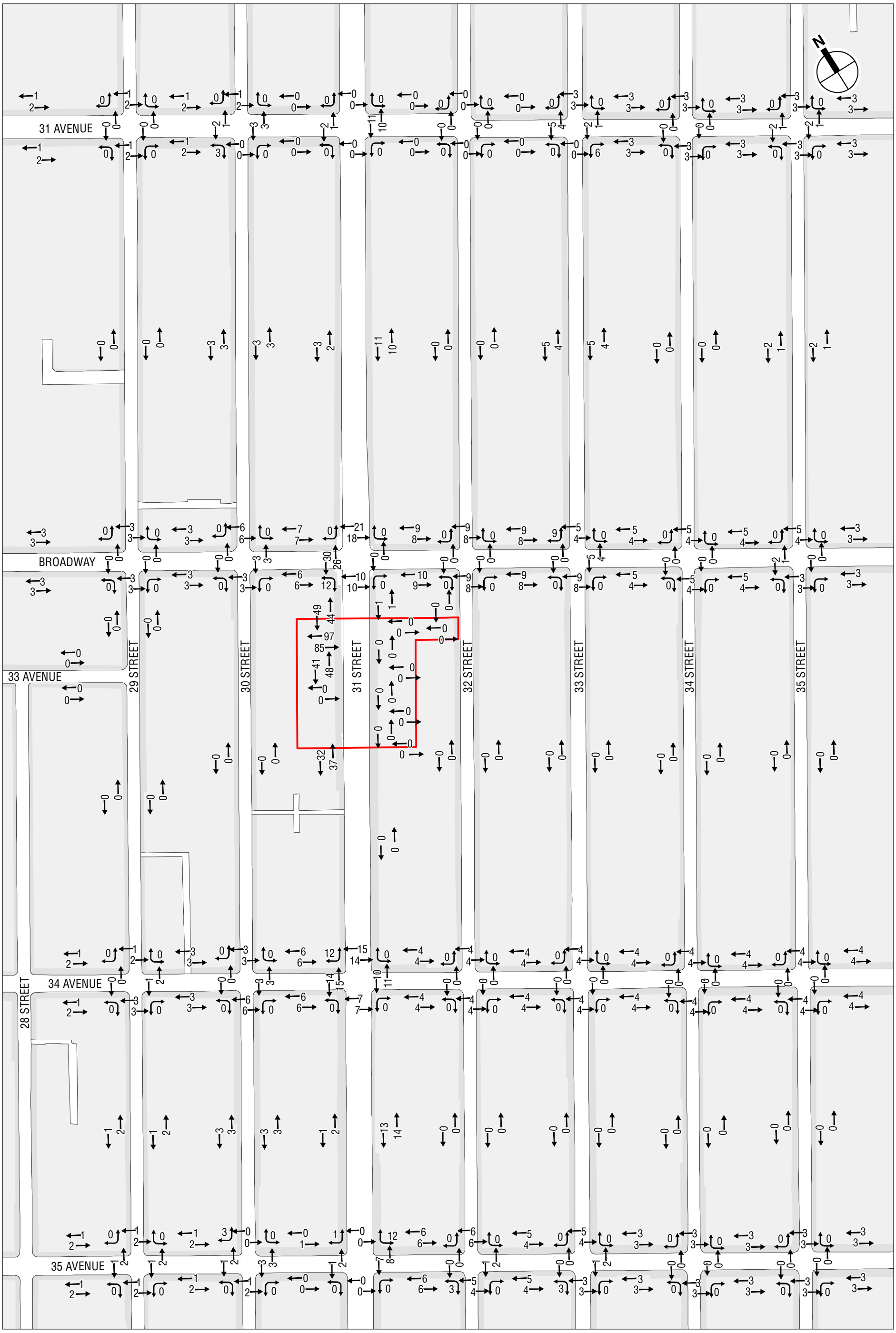
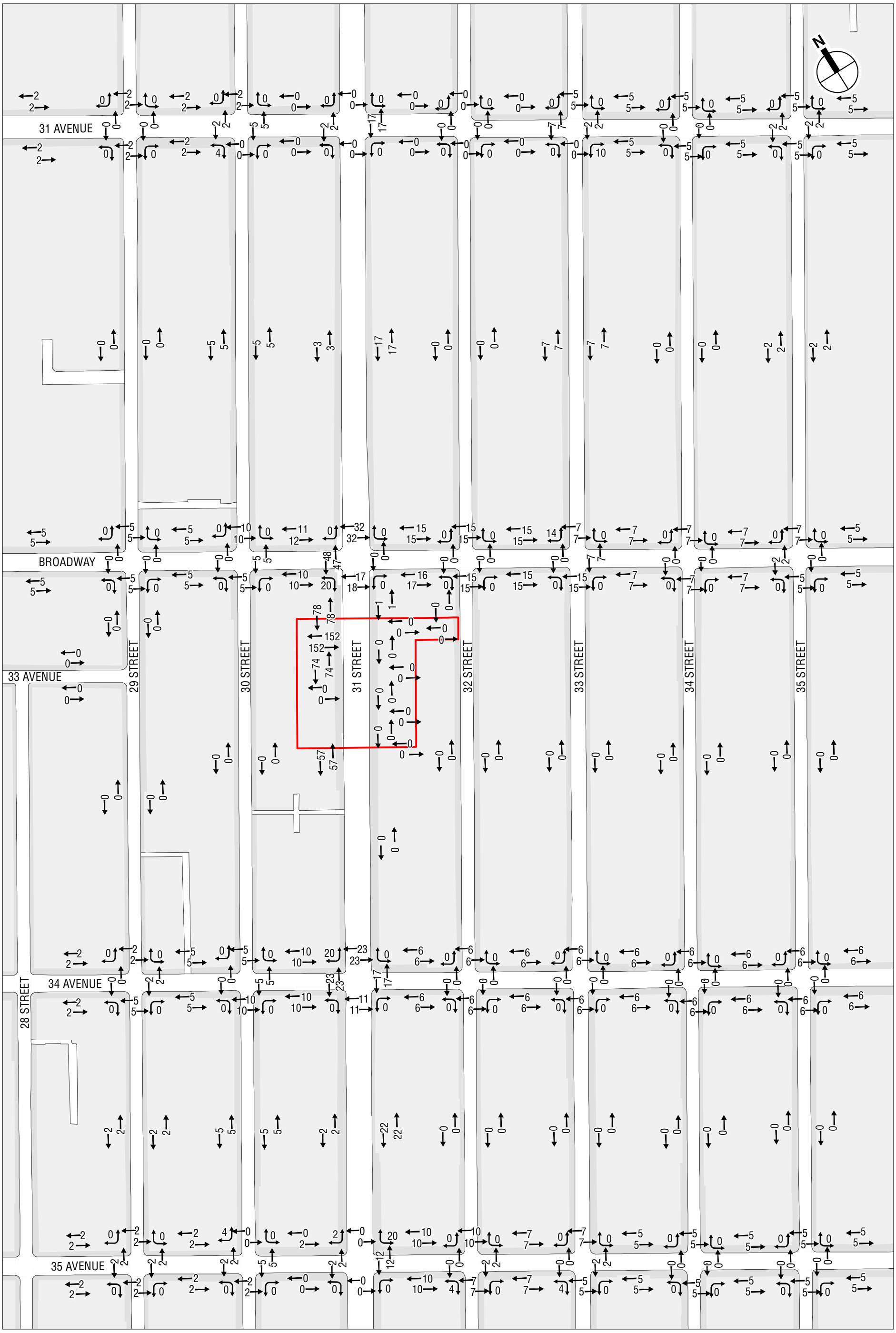



No Action Project Generated Pedestrian Trips
Weekday AM Peak Hour

**IKOS SENIOR HOUSING REZONING & UDAAP**

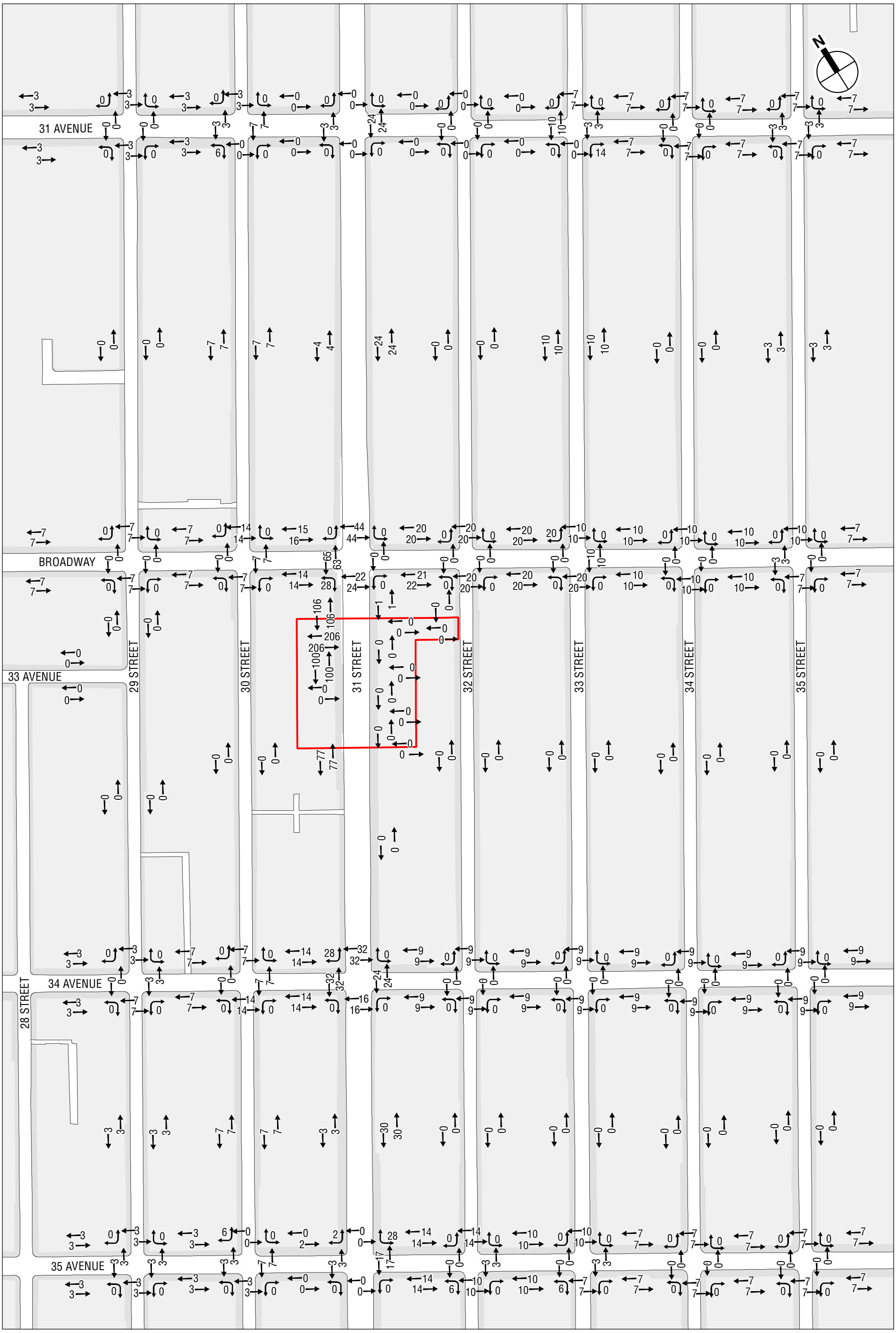
**Figure H-6**

5.7.24




No Action Project Generated Pedestrian Trips
Weekday Midday Peak Hour

5.7.24

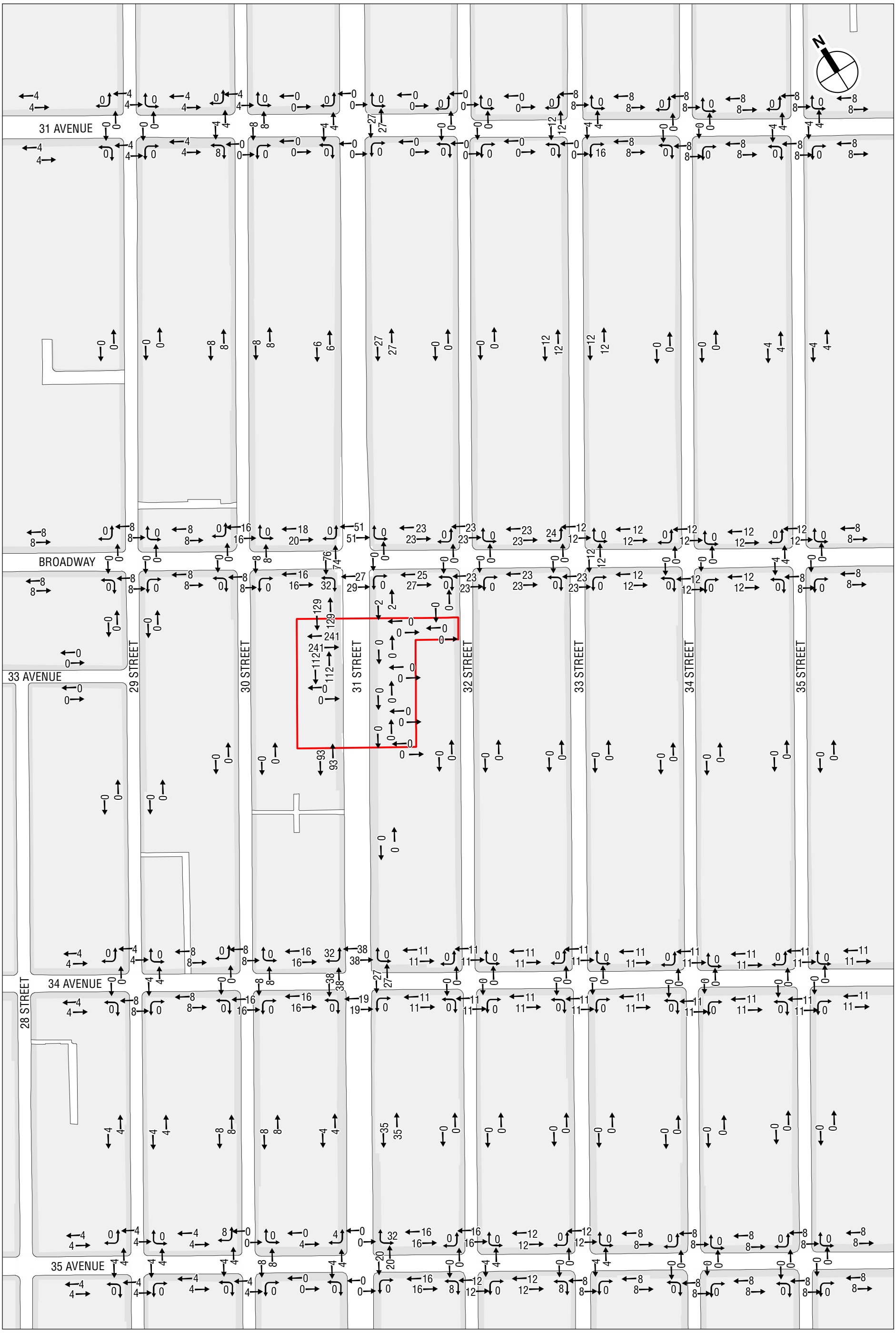



No Action Project Generated Pedestrian Trips
Weekday PM Peak Hour

**IKOS SENIOR HOUSING REZONING & UDAAP**

**Figure H-8**

5.7.24

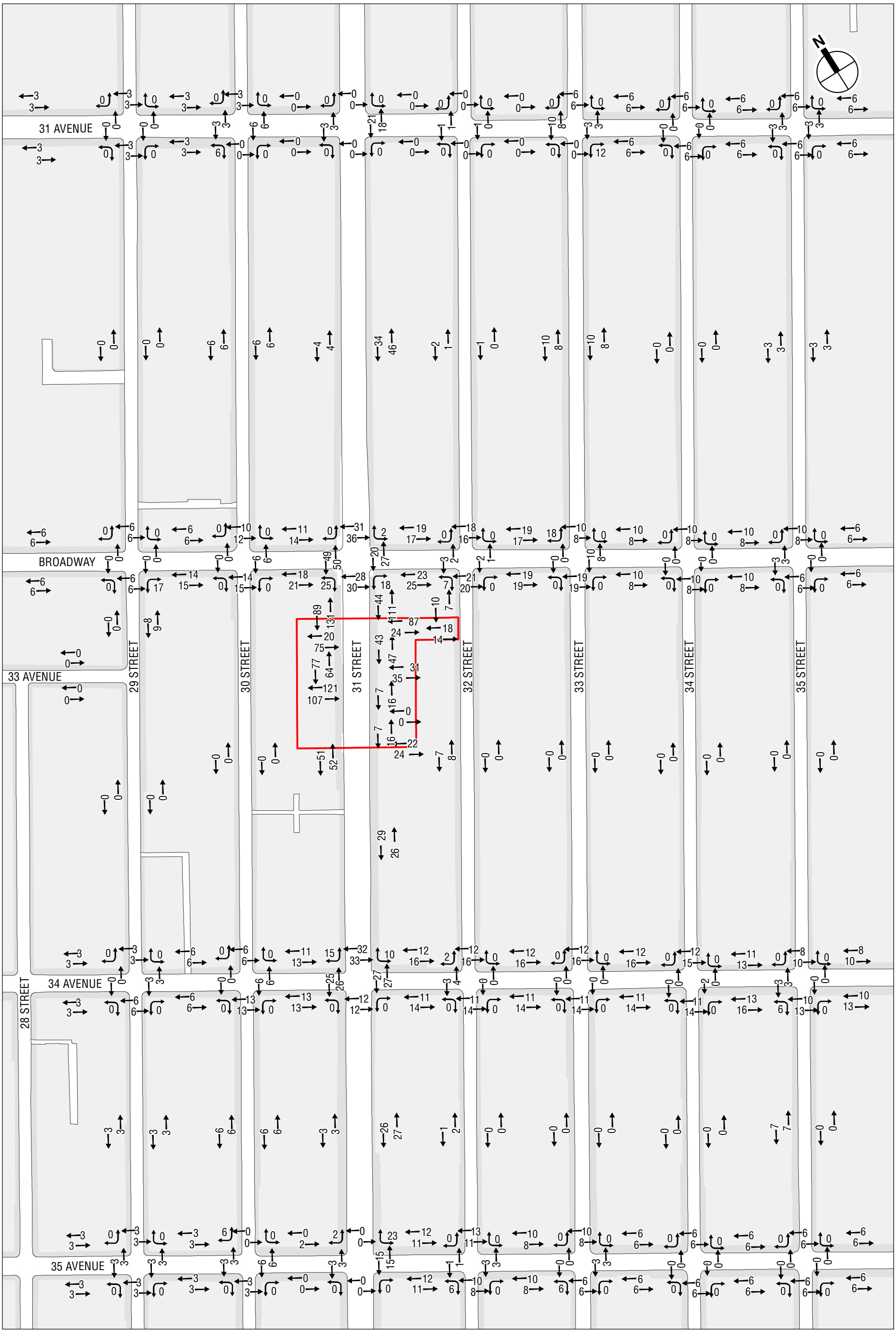



No Action Project Generated Pedestrian Trips
Saturday Peak Hour

**IKOS SENIOR HOUSING REZONING & UDAAP**

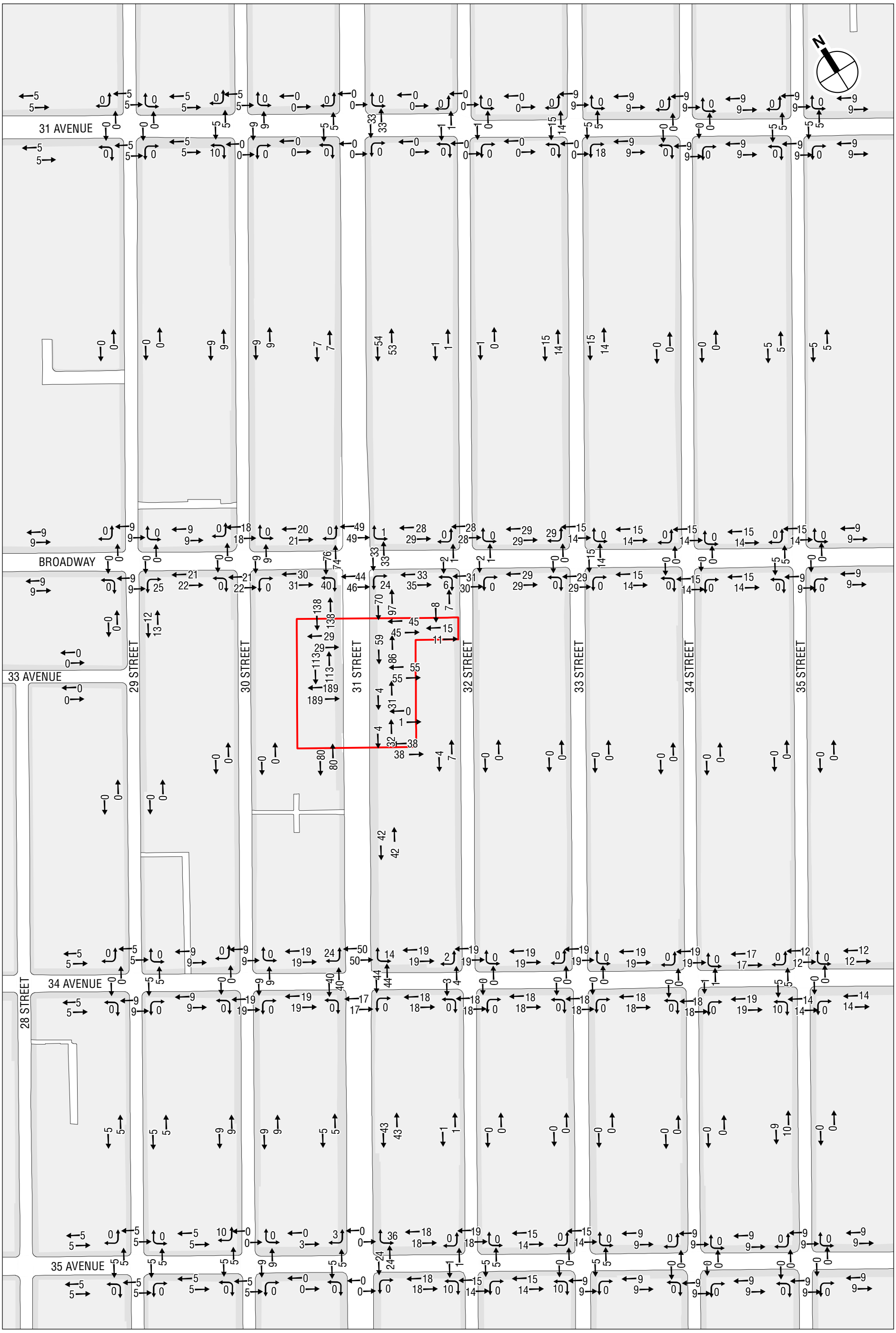
**Figure H-9**

5.7.24



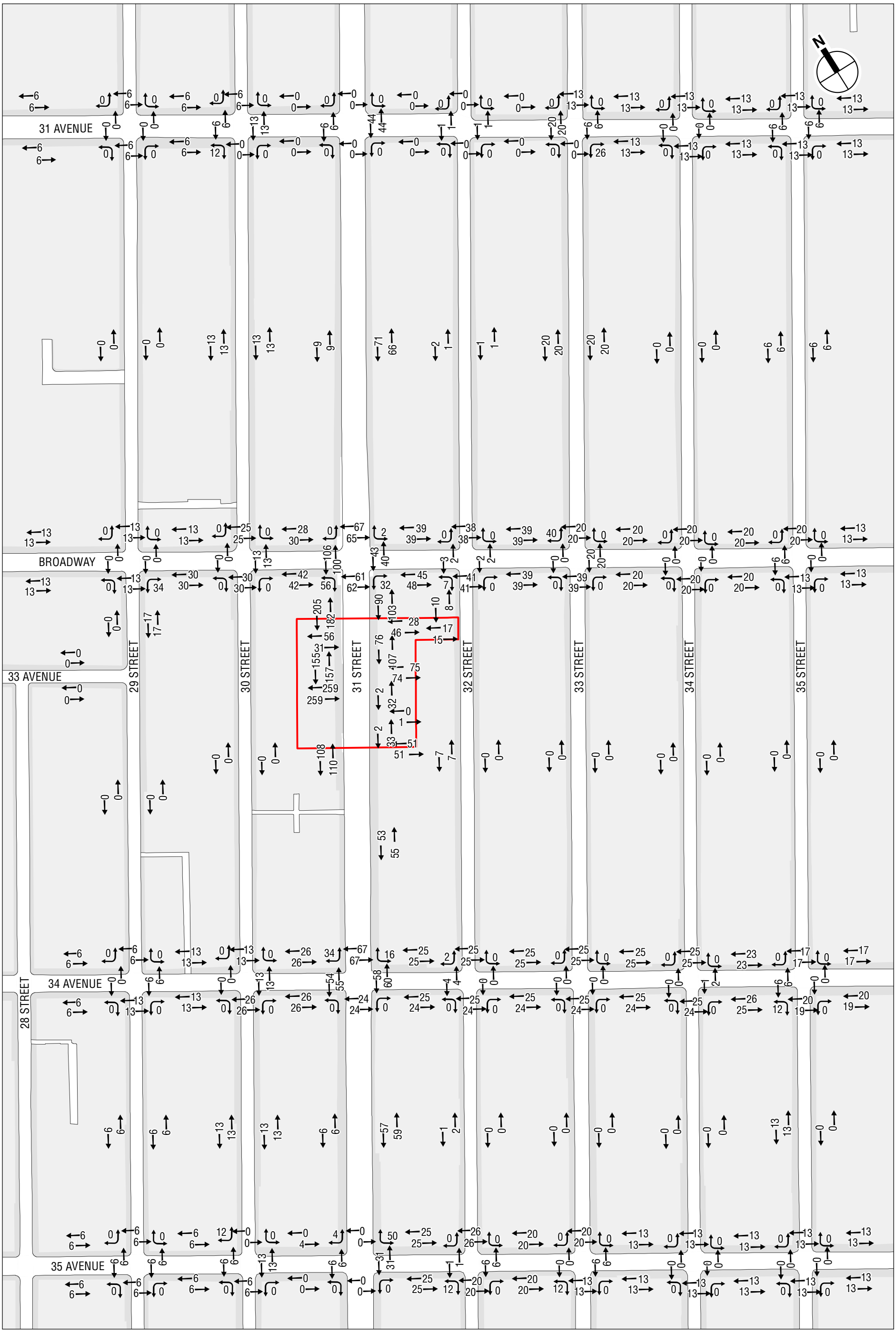

With Action Project Generated Pedestrian Trips
Weekday AM Peak Hour

5.7.24



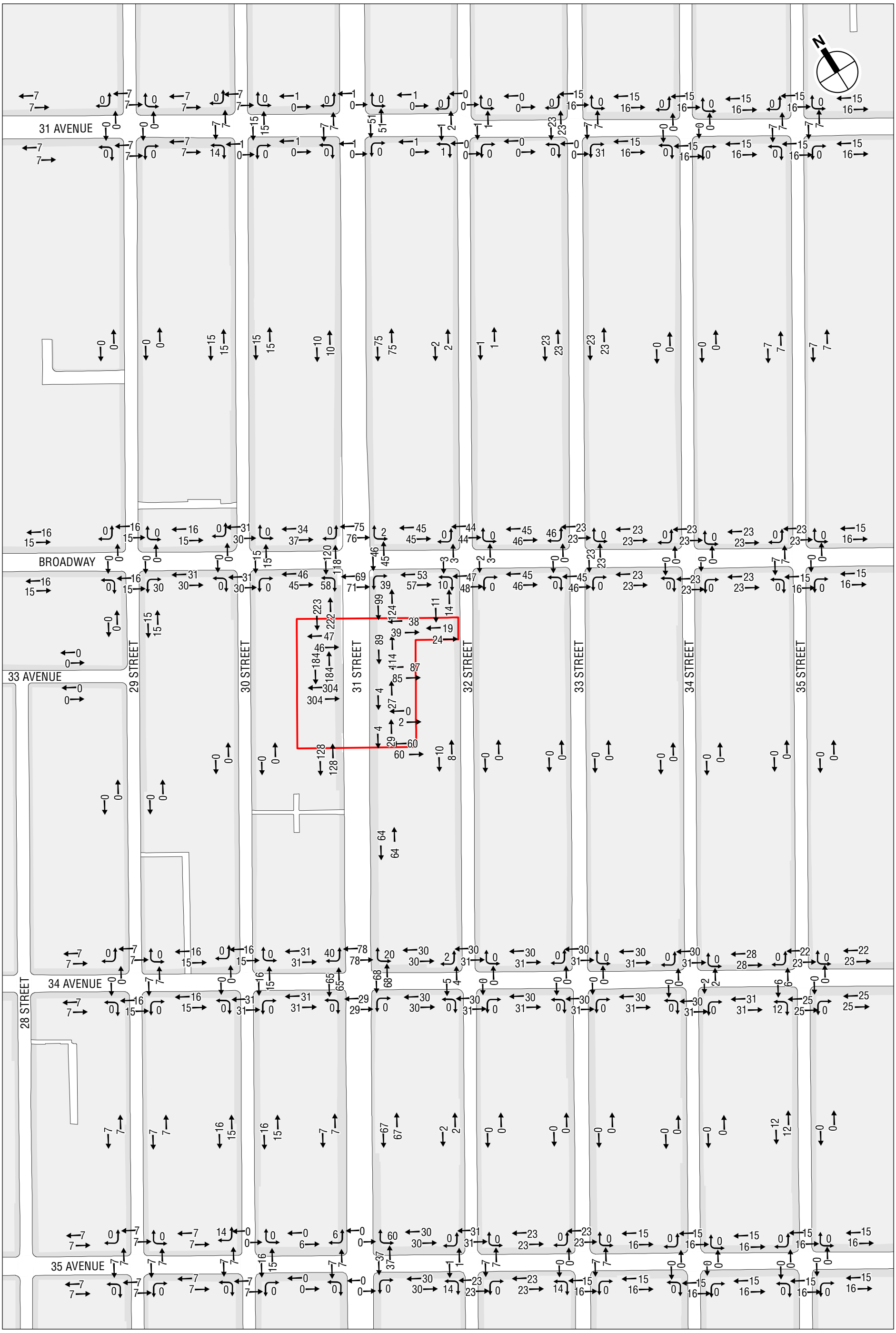

With Action Project Generated Pedestrian Trips
Weekday Midday Peak Hour

5.7.24




With Action Project Generated Pedestrian Trips
Weekday PM Peak Hour

5.7.24

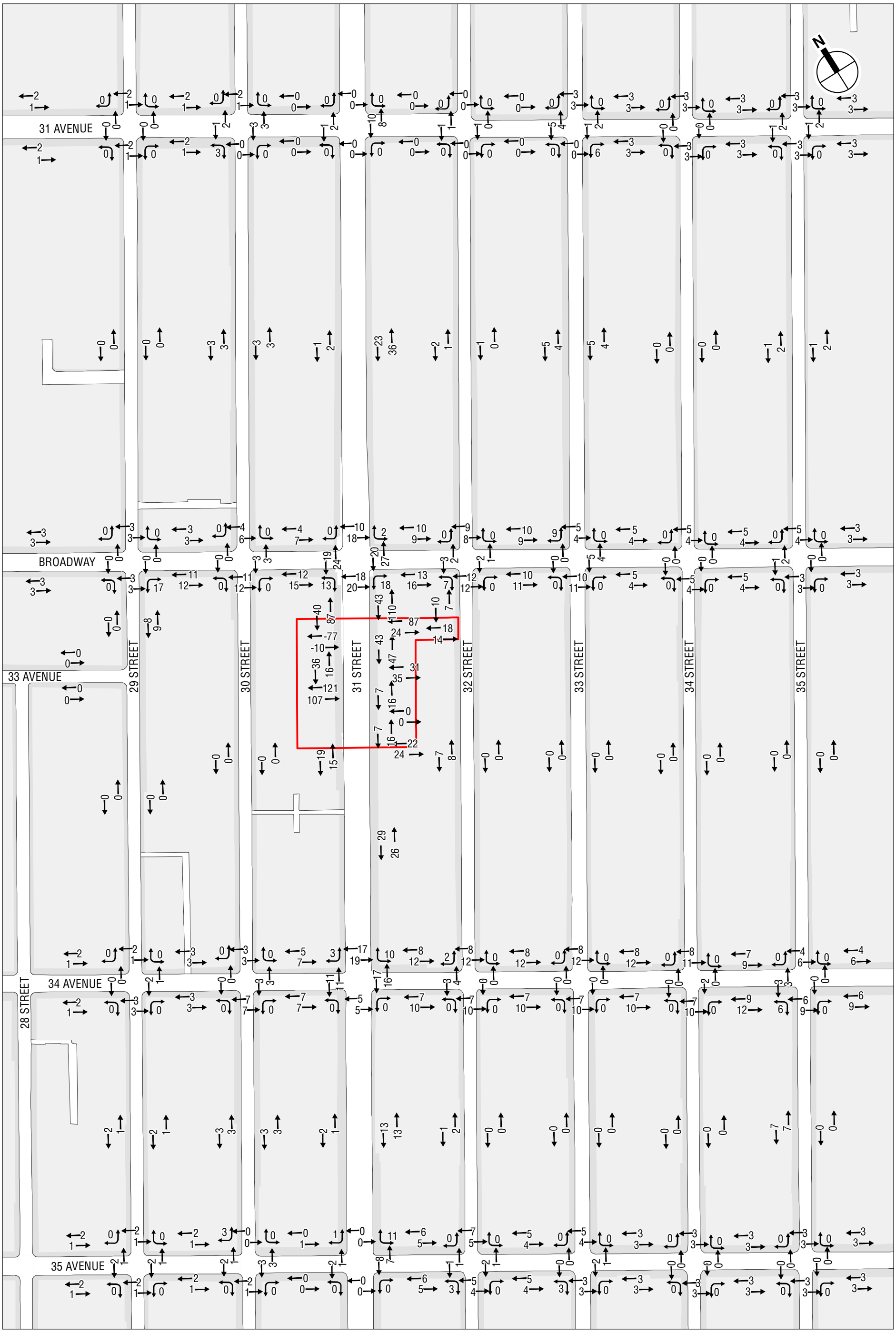



With Action Project Generated Pedestrian Trips
Saturday Peak Hour

**IKOS SENIOR HOUSING REZONING & UDAAP**

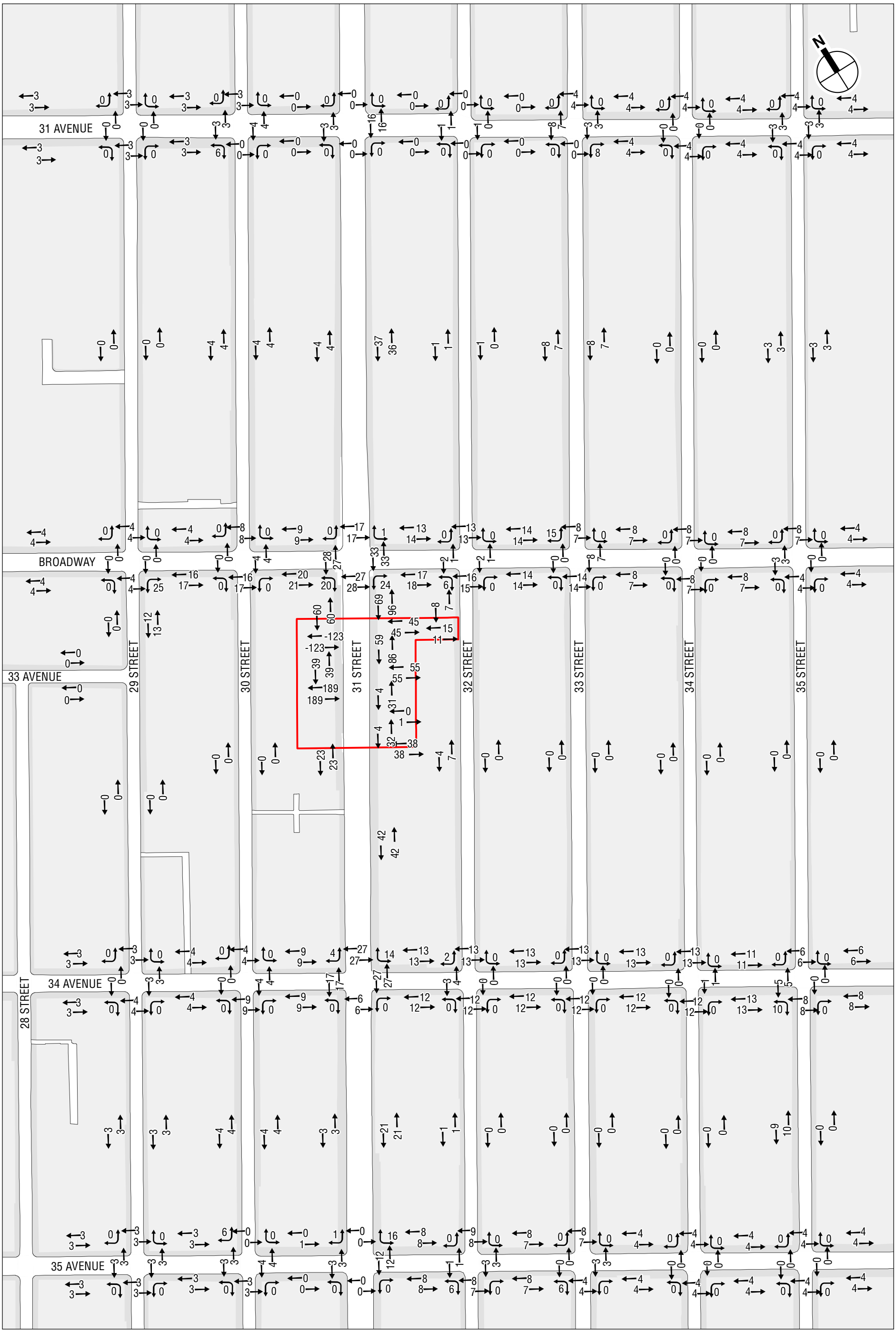
**Figure H-13**

5.7.24



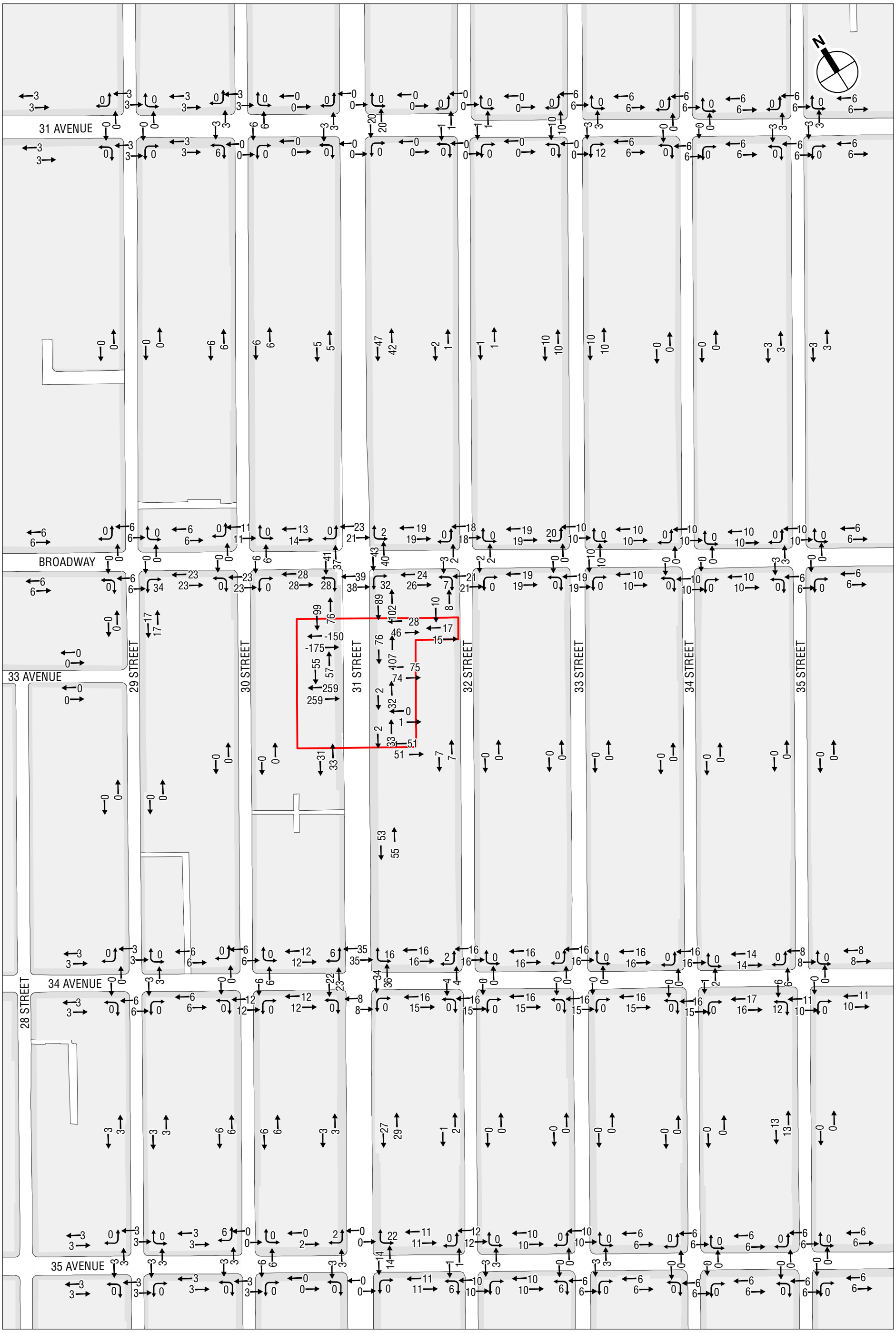

With Action Incremental Pedestrian Trips
Weekday AM Peak Hour

5.7.24




With Action Incremental Pedestrian Trips
Weekday Midday Peak Hour

5.7.24




With Action Incremental Pedestrian Trips
Weekday PM Peak Hour

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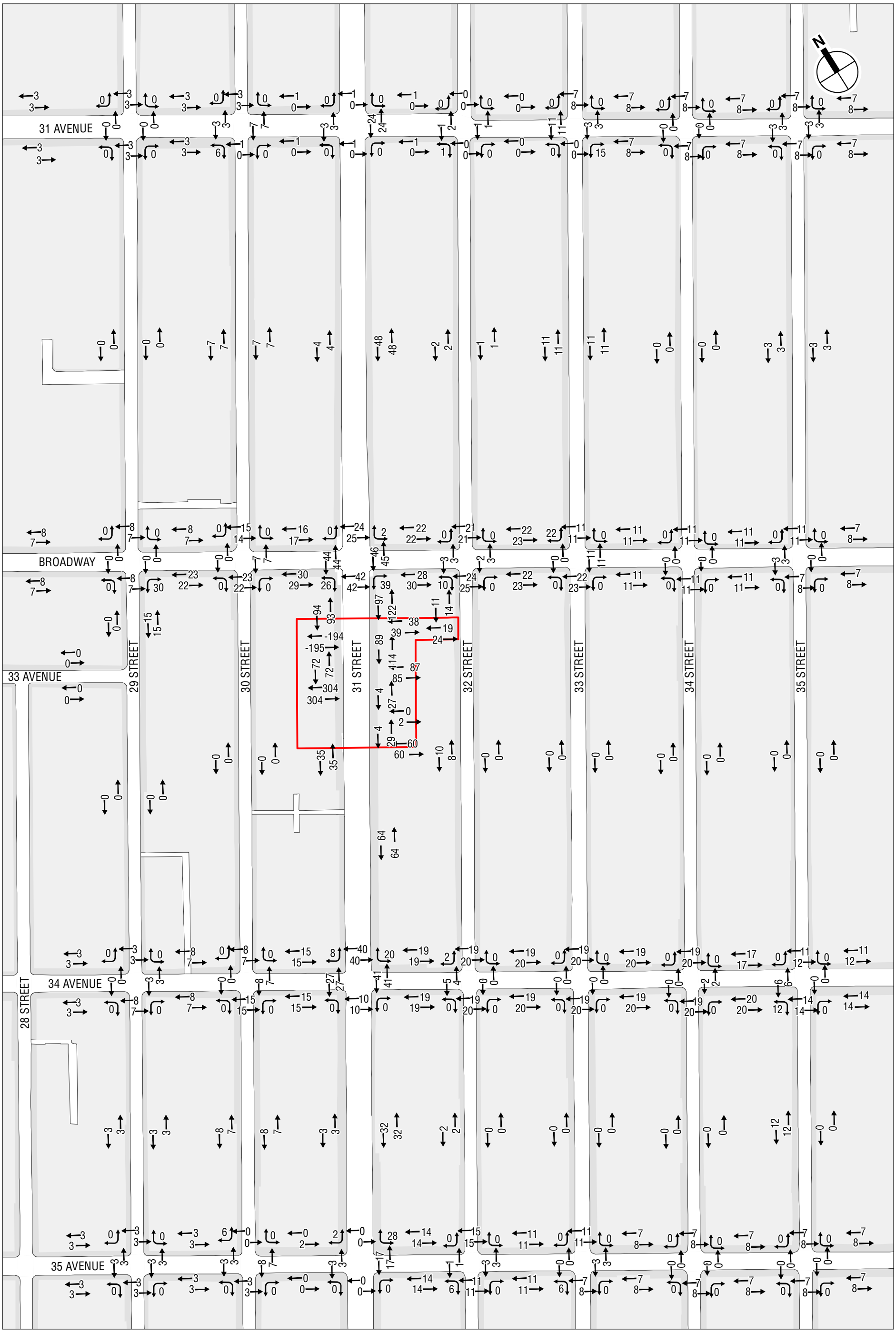
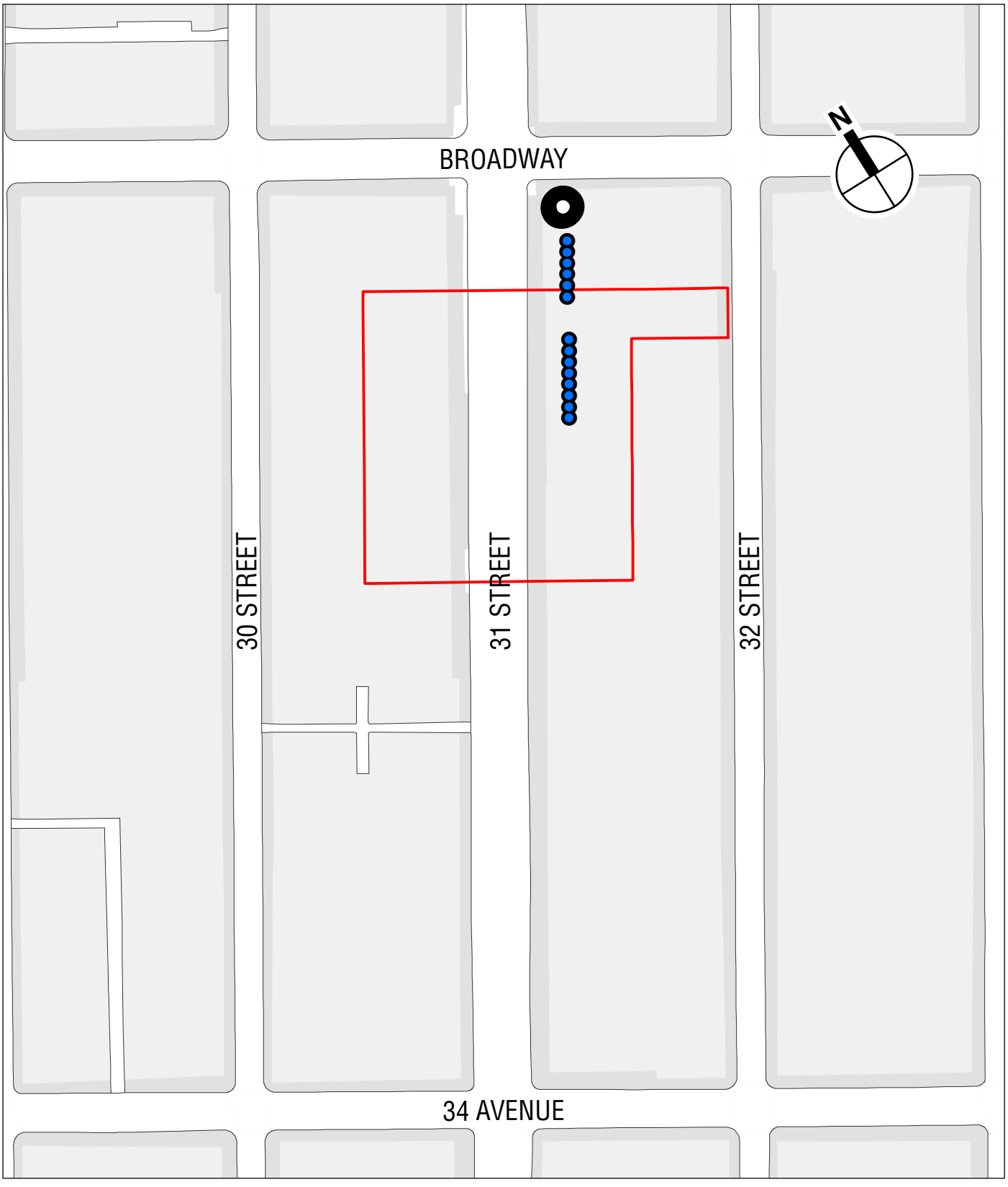



With Action Incremental Pedestrian Trips
Saturday Peak Hour

**IKOS SENIOR HOUSING REZONING & UDAAP**

**Figure H-17**

10.6.23




Pedestrian Study Area

**IKOS SENIOR HOUSING REZONING & UDAPP**

**Figure H-18**

The primary performance measure for sidewalks and walkways is pedestrian space, expressed as square feet per pedestrian (SFP), which is an indicator of the quality of pedestrian movement and comfort. The calculation of the sidewalk SFP is based on the pedestrian volumes by direction, the effective sidewalk or walkway width, and average walking speed. The SFP forms the basis for a sidewalk Level of Service (LOS) analysis.

Street corners are not easily measured in terms of free pedestrian flow, as they are influenced by the effects of traffic signals. Street corners must be able to provide sufficient space for a mix of standing pedestrians (queued to cross a street) and circulating pedestrians (crossing the street or moving around the corner). The *HCM* methodologies apply a measure of time and space availability based on the area of the corner, the timing of the intersection signal, and the estimated space used by circulating pedestrians.

The total "time-space" available for these activities, expressed in square feet-seconds, is calculated by multiplying the net area of the corner (in square feet) by the signal's cycle length. The analysis then determines the total circulation time for all pedestrian movements at the corner per signal cycle (expressed as pedestrians per second). The ratio of net time-space divided by the total pedestrian circulation volume per signal cycle provides the LOS measurement of SFP.

The LOS standards for sidewalks and corner reservoirs are summarized in **Table H-9**. The *CEQR Technical Manual* specifies LOS C or better (minimum of 40.1 SFP for sidewalks; minimum of 24.1 for corners) in non-Central Business District (non-CBD) settings, which include the project study area.

**Table H-9**
**Level of Service Criteria for Pedestrian Elements**

| LOS | Sidewalks | Corners |
|---|---|---|
| A | ≥ 530.1 SFP | ≥ 60.1 SFP |
| B | 90.1 – 530.0 SFP | 40.1 – 60.0 SFP |
| C | 40.1 – 90.0 SFP | 24.1 – 40.0 SFP |
| D | 23.1 – 40.0 SFP | 15.1 – 24.0 SFP |
| E | 11.1 – 23.0 SFP | 8.1 – 15.0 SFP |
| F | ≤ 11.0 SFP | ≤ 8.0 SFP |

**Note:** SFP = square feet per pedestrian
**Source:** New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual*

*SIGNIFICANT IMPACT CRITERIA*

The determination of significant pedestrian impacts considers the level of predicted decrease in pedestrian space between the No Action and With Action conditions. For different pedestrian elements and area types, the CEQR procedure for impact determination corresponds with various sliding-scale formulas, as further detailed below.

*Sidewalks*

The non-CBD sliding-scale formula for determining significant sidewalk impacts is $Y \geq X/9.5 – 0.321$. Since a decrease in pedestrian space within acceptable levels would not constitute a significant impact, these formulas would apply only if the With Action pedestrian space falls short of LOS C. **Table H-10** summarizes the sliding scale guidance provided by the *CEQR Technical Manual* for determining potential significant sidewalk impacts.

**Table H-10**
**Significant Impact Guidance for Sidewalks**

| Non-CBD Platoon Flow Sliding Scale Formula: *Y ≥ X/9.5—0.321* | |
|---|---|
| **No Action Pedestrian Space (X, SFP)** | **With Action Pedestrian Space Reduction (Y, SFP)** |
| ≥ 44.3 | With Action Condition ≤ 40.0 |
| 43.5 to 44.3 | ≥ 4.3 |
| 42.5 to 43.4 | ≥ 4.2 |
| 41.6 to 42.4 | ≥ 4.1 |
| 40.6 to 41.5 | ≥ 4.0 |
| 39.7 to 40.5 | ≥ 3.9 |
| 38.7 to 39.6 | ≥ 3.8 |
| 37.8 to 38.6 | ≥ 3.7 |
| 36.8 to 37.7 | ≥ 3.6 |
| 35.9 to 36.7 | ≥ 3.5 |
| 34.9 to 35.8 | ≥ 3.4 |
| 34.0 to 34.8 | ≥ 3.3 |
| 33.0 to 33.9 | ≥ 3.2 |
| 32.1 to 32.9 | ≥ 3.1 |
| 31.1 to 32.0 | ≥ 3.0 |
| 30.2 to 31.0 | ≥ 2.9 |
| 29.2 to 30.1 | ≥ 2.8 |
| 28.3 to 29.1 | ≥ 2.7 |
| 27.3 to 28.2 | ≥ 2.6 |
| 26.4 to 27.2 | ≥ 2.5 |
| 25.4 to 26.3 | ≥ 2.4 |
| 24.5 to 25.3 | ≥ 2.3 |
| 23.5 to 24.4 | ≥ 2.2 |
| 22.6 to 23.4 | ≥ 2.1 |
| 21.6 to 22.5 | ≥ 2.0 |
| 20.7 to 21.5 | ≥ 1.9 |
| 19.7 to 20.6 | ≥ 1.8 |
| 18.8 to 19.6 | ≥ 1.7 |
| 17.8 to 18.7 | ≥ 1.6 |
| 16.9 to 17.7 | ≥ 1.5 |
| 15.9 to 16.8 | ≥ 1.4 |
| 15.0 to 15.8 | ≥ 1.3 |
| 14.0 to 14.9 | ≥ 1.2 |
| 13.1 to 13.9 | ≥ 1.1 |
| 12.1 to 13.0 | ≥ 1.0 |
| 11.2 to 12.0 | ≥ 0.9 |
| 10.2 to 11.1 | ≥ 0.8 |
| 9.3 to 10.1 | ≥ 0.7 |
| 8.3 to 9.2 | ≥ 0.6 |
| 7.4 to 8.2 | ≥ 0.5 |
| 6.4 to 7.3 | ≥ 0.4 |
| ≤ 6.3 | ≥ 0.3 |

**Notes:** SFP = square feet per pedestrian; Y = decrease in pedestrian space in SFP; X = No Action pedestrian space in SFP.
**Sources:** New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual*

*Corner Reservoirs*

The non-CBD sliding-scale formula for determining significant corner impacts is Y ≥ X/9.0 – 0.31. Since a decrease in pedestrian space within acceptable levels would not constitute a significant impact, this formula would apply only if the With Action pedestrian space falls short of LOS C. **Table H-11** summarizes the sliding scale guidance provided by the CEQR Technical Manual for determining potential significant corner reservoir impacts.

**Table H-11**
**Significant Impact Guidance for Corners**

| Non-CBD Sliding Scale Formula: $Y \geq X/9.0–0.31$ | |
|---|---|
| **No Action Pedestrian Space (X, SFP)** | **With Action Pedestrian Space Reduction (Y, SFP)** |
| ≥ 26.6 | With Action Condition ≤ 24.0 |
| 25.8 to 26.5 | ≥ 2.6 |
| 24.9 to 25.7 | ≥ 2.5 |
| 24.0 to 24.8 | ≥ 2.4 |
| 23.1 to 23.9 | ≥ 2.3 |
| 22.2 to 23.0 | ≥ 2.2 |
| 21.3 to 22.1 | ≥ 2.1 |
| 20.4 to 21.2 | ≥ 2.0 |
| 19.5 to 20.3 | ≥ 1.9 |
| 18.6 to 19.4 | ≥ 1.8 |
| 17.7 to 18.5 | ≥ 1.7 |
| 16.8 to 17.6 | ≥ 1.6 |
| 15.9 to 16.7 | ≥ 1.5 |
| 15.0 to 15.8 | ≥ 1.4 |
| 14.1 to 14.9 | ≥ 1.3 |
| 13.2 to 14.0 | ≥ 1.2 |
| 12.3 to 13.1 | ≥ 1.1 |
| 11.4 to 12.2 | ≥ 1.0 |
| 10.5 to 11.3 | ≥ 0.9 |
| 9.6 to 10.4 | ≥ 0.8 |
| 8.7 to 9.5 | ≥ 0.7 |
| 7.8 to 8.6 | ≥ 0.6 |
| 6.9 to 7.7 | ≥ 0.5 |
| 6.0 to 6.8 | ≥ 0.4 |
| 5.1 to 5.9 | ≥ 0.3 |
| ≤ 5.0 | ≥ 0.2 |

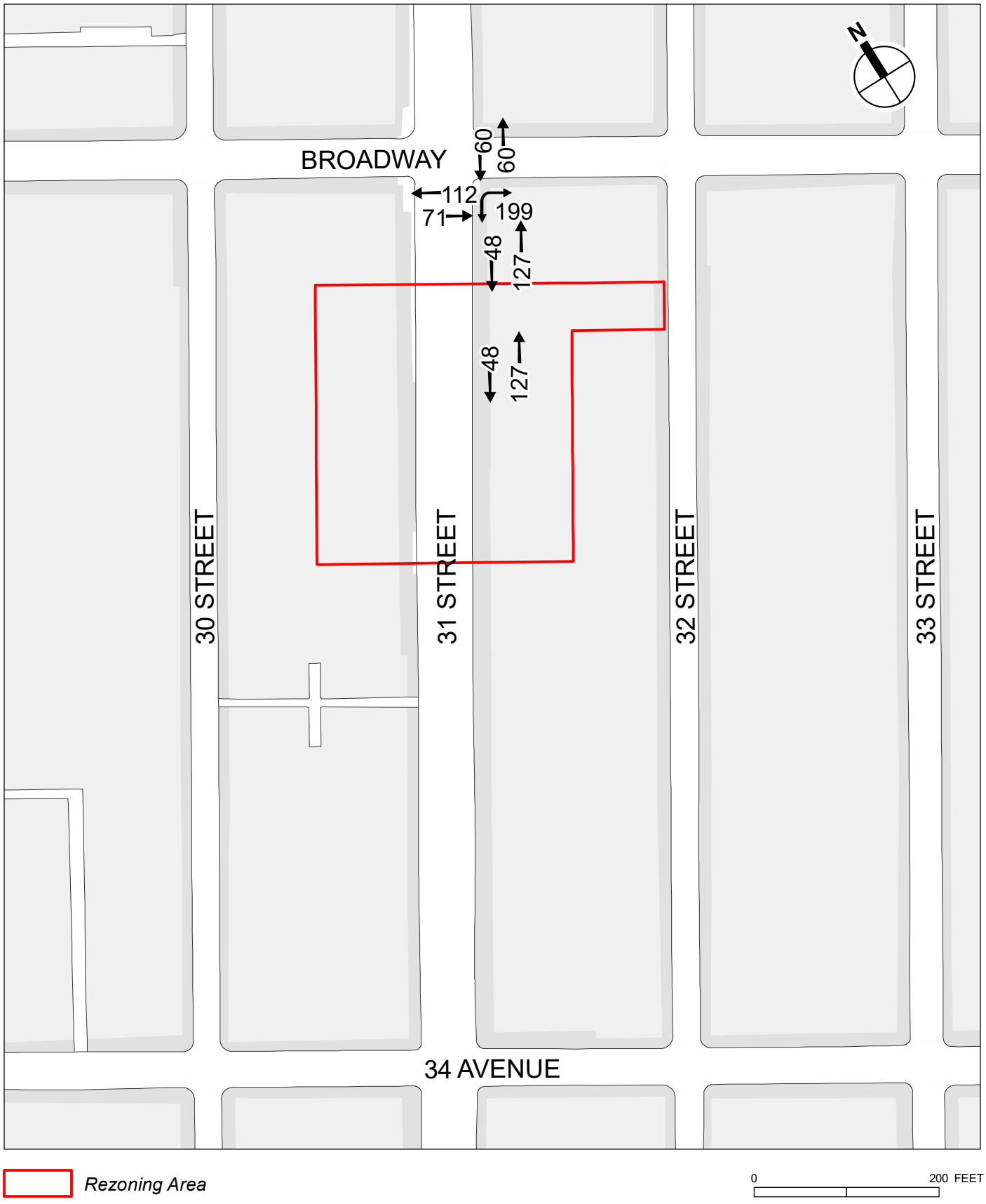
**Notes:** SFP = square feet per pedestrian; Y = decrease in pedestrian space in SFP; X = No Action pedestrian space in SFP.
**Sources:** New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual*

## E. DETAILED PEDESTRIAN ANALYSIS

As described above in Section B, "Transportation Screening Assessments," Level 1 and Level 2 screening analyses were prepared to identify the pedestrian elements warranted a detailed analysis. Based on the assignment of pedestrian trips, two sidewalk segments and one corner were selected for analysis for the weekday AM, midday, PM, and Saturday peak hours.

### EXISTING CONDITIONS

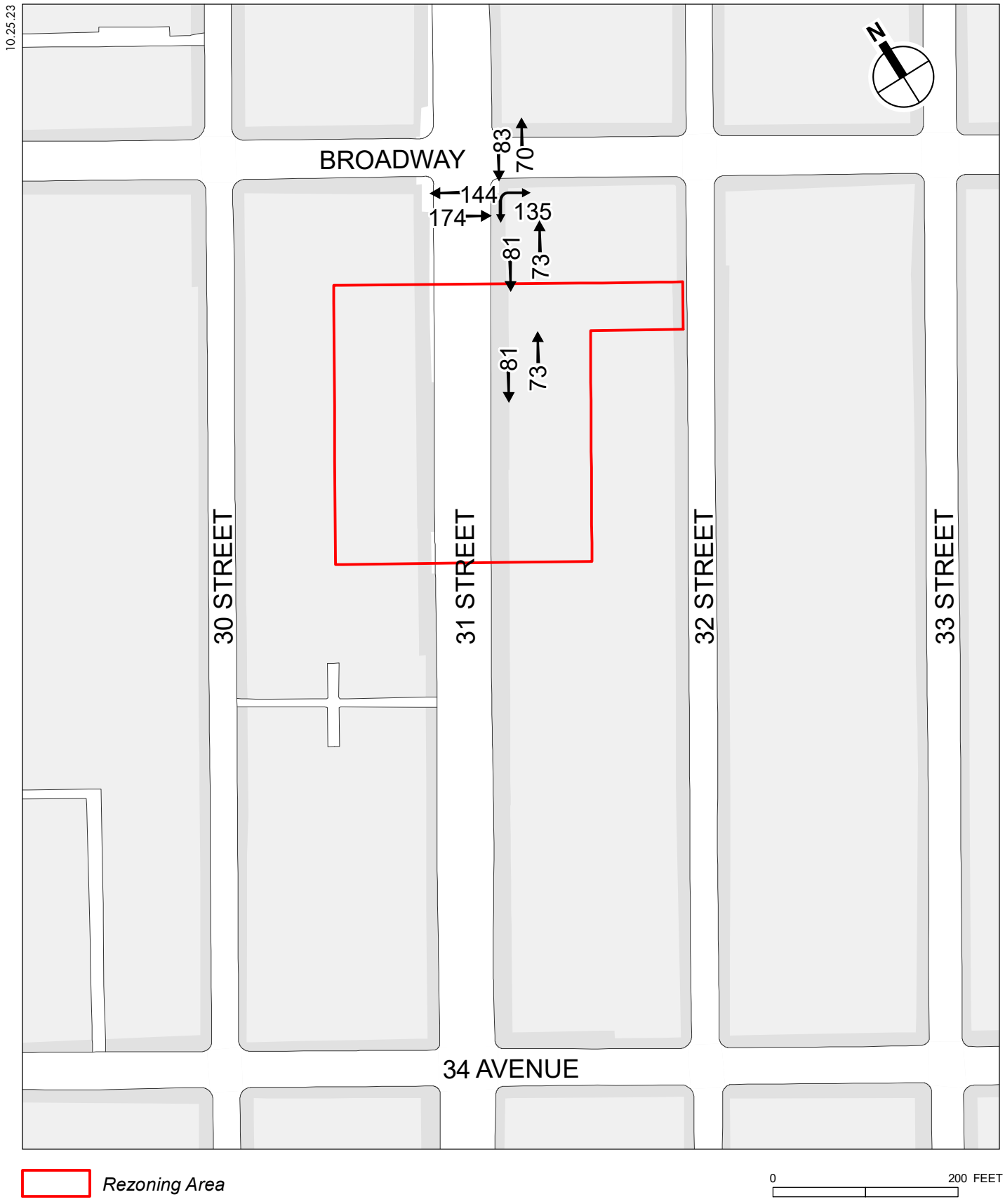
Pedestrian data were collected in November 2022 in accordance with procedures outlined in the *CEQR Technical Manual* during the weekday hours of 7:00 AM to 10:00 AM, 11:00 AM to 2:00 PM, and 4:00 PM to 7:00 PM and the Saturday hours of 12:00 PM to 5:00 PM. Peak hours were determined by comparing rolling hourly averages and the highest 15-minute volumes within the selected peak hours were used to calculate each analysis location's peak hour factor. The existing pedestrian analysis peak hours were determined to be 8:00 AM to 9:00 AM, 1:00 PM to 2:00 PM, and 5:45 PM to 6:45 PM on a weekday, and 2:15 PM to 3:15 PM on a Saturday. The existing peak hour pedestrian volumes are shown in **Figures H-19 through H-22**. As shown in **Tables H-12 and H-13**, all analysis elements currently operate at favorable LOS A.



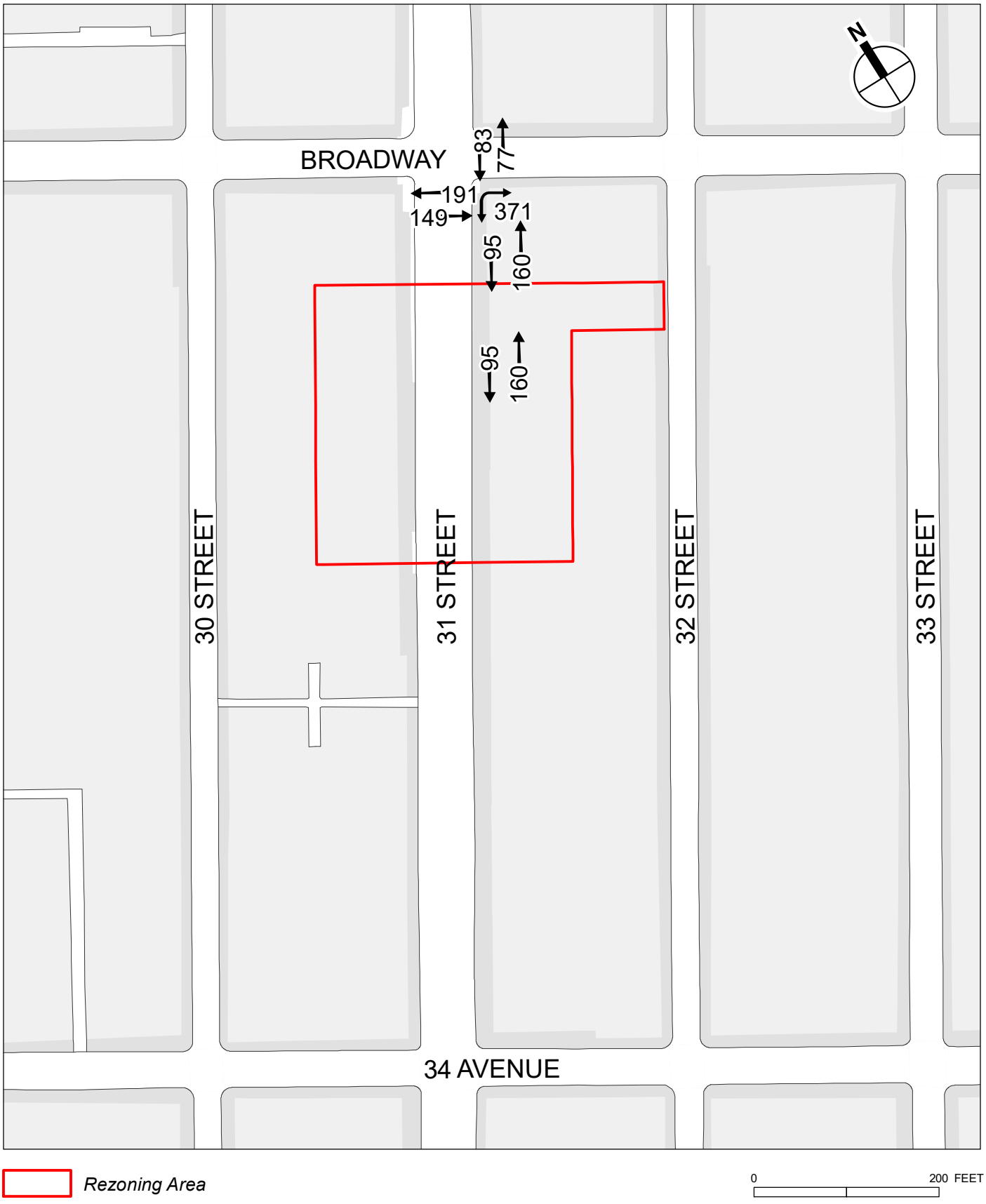

Existing Pedestrian Volumes
Weekday AM Peak Hour

**IKOS SENIOR HOUSING REZONING & UDAAP**

**Figure H-19**



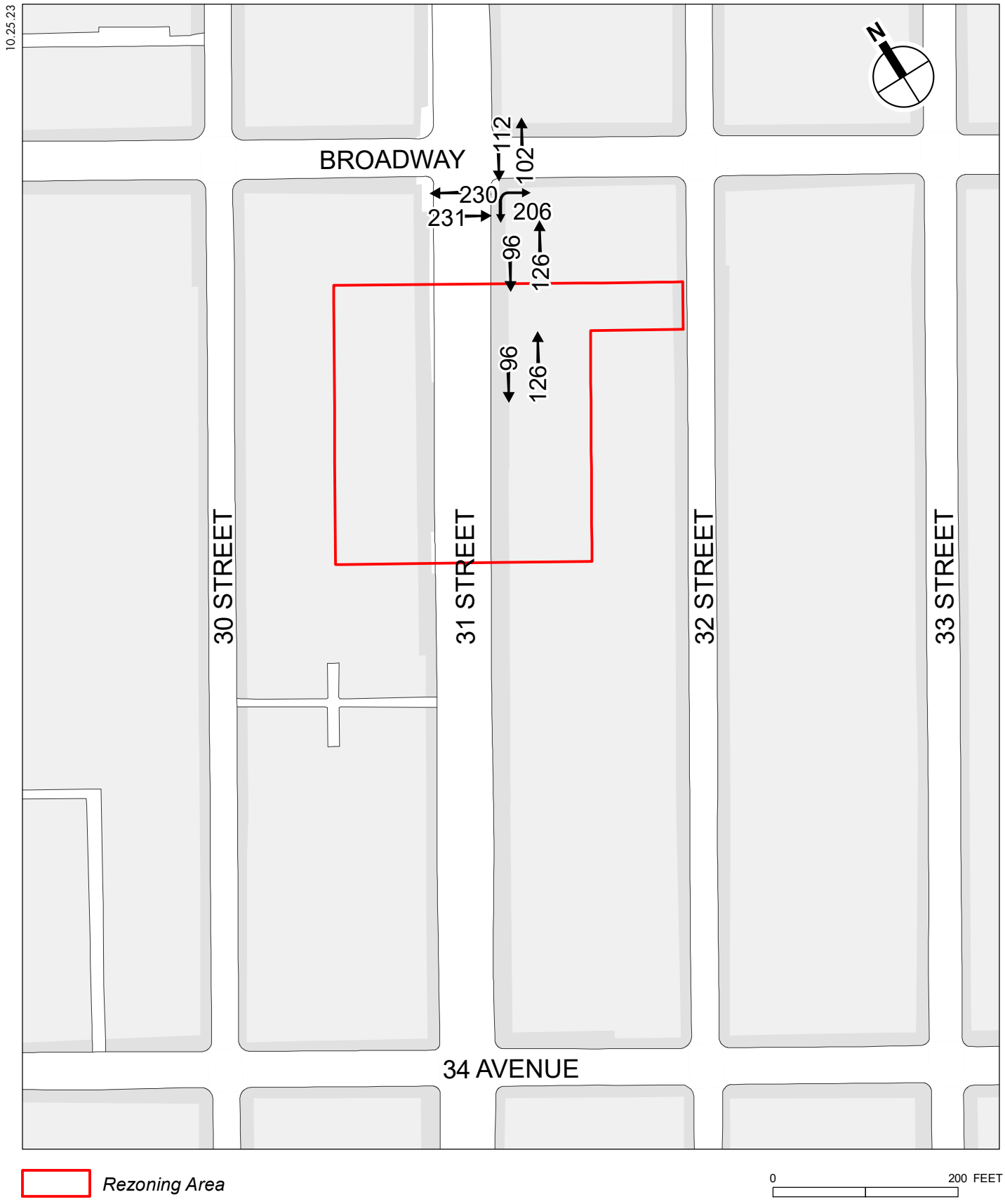

Existing Pedestrian Volumes
Weekday Midday Peak Hour




Existing Pedestrian Volumes
Weekday PM Peak Hour

**IKOS SENIOR HOUSING REZONING & UDAAP**

**Figure H-21**




Existing Pedestrian Volumes
Saturday Peak Hour

**Table H-12**
**2022 Existing Conditions: Sidewalk Analysis**

| Location | Sidewalk | Effective Width (ft) | Two-way Peak Hour Volume | PHF | SFP | Platoon LOS |
|---|---|---|---|---|---|---|
| **Weekday AM Peak Hour** | | | | | | |
| 31st Street between Broadway and the Project Site's Senior Housing Entrance/Existing Broadway-31st Street Municipal Parking Field North Entrance | East | 14.5 | 175 | 0.78 | 932.1 | A |
| 31st Street between the Project Site's Senior Housing Entrance/Existing Broadway-31st Street Municipal Parking Field North Entrance and Local Retail Entrance/North of Subway Exit Stairs | East | 12.0 | 175 | 0.78 | 771.4 | A |
| **Weekday Midday Peak Hour** | | | | | | |
| 31st Street between Broadway and the Project Site's Senior Housing Entrance/Existing Broadway-31st Street Municipal Parking Field North Entrance | East | 14.5 | 154 | 0.74 | 1003.8 | A |
| 31st Street between the Project Site's Senior Housing Entrance/Existing Broadway-31st Street Municipal Parking Field North Entrance and Local Retail Entrance/North of Subway Exit Stairs | East | 12.0 | 154 | 0.74 | 830.7 | A |
| **Weekday PM Peak Hour** | | | | | | |
| 31st Street between Broadway and the Project Site's Senior Housing Entrance/Existing Broadway-31st Street Municipal Parking Field North Entrance | East | 14.5 | 255 | 0.84 | 686.8 | A |
| 31st Street between the Project Site's Senior Housing Entrance/Existing Broadway-31st Street Municipal Parking Field North Entrance and Local Retail Entrance/North of Subway Exit Stairs | East | 12.0 | 255 | 0.84 | 568.3 | A |
| **Saturday Peak Hour** | | | | | | |
| 31st Street between Broadway and the Project Site's Senior Housing Entrance/Existing Broadway-31st Street Municipal Parking Field North Entrance | East | 14.5 | 222 | 0.88 | 828.5 | A |
| 31st Street between the Project Site's Senior Housing Entrance/Existing Broadway-31st Street Municipal Parking Field North Entrance and Local Retail Entrance/North of Subway Exit Stairs | East | 12.0 | 222 | 0.88 | 685.6 | A |

**Note:** SFP = square feet per pedestrian.

**Table H-13**
**2022 Existing Conditions: Corner Analysis**

| Location | Corner | Weekday AM Peak Hour | | Weekday Midday Peak Hour | | Weekday PM Peak Hour | | Saturday Peak Hour | |
|---|---|---|---|---|---|---|---|---|---|
| | | SFP | LOS | SFP | LOS | SFP | LOS | SFP | LOS |
| 31st Street and Broadway | Southeast | 859.1 | A | 706.2 | A | 450.0 | A | 488.3 | A |

**Note:** SFP = square foot per pedestrian

## FUTURE WITHOUT THE PROPOSED ACTIONS

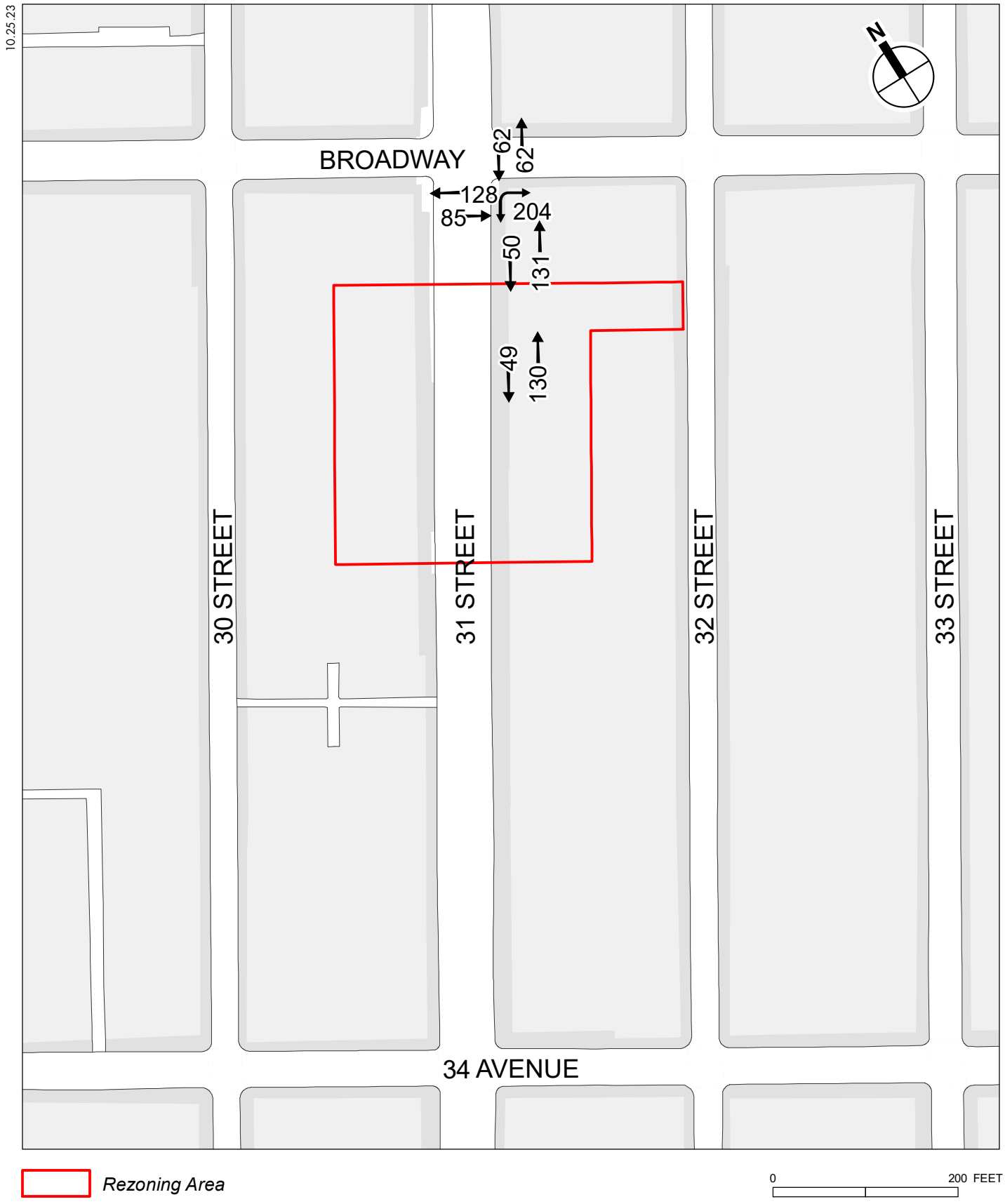
The No Action condition was developed by increasing existing (2022) pedestrian levels by the expected growth in overall travel through and within the study area. As per *CEQR Technical Manual* guidelines, an annual background growth rate of 0.5 percent was assumed for the years 2023 through 2027. As detailed in **Table H-14**, 13 development projects expected to occur in the No Action condition (No Build projects) were identified for the ¼-mile study area (see **Figure H-23**). Two of these discrete No Build projects were clustered into Cluster A and person trips were estimated and incorporated into the No Action analyses. For the remaining No Build projects, it was determined that background growth would address the increase in pedestrian levels (for smaller projects) and/or their project-generated pedestrian trips would not be expected to traverse through the analyzed pedestrian elements. Additionally, the former Rite Aid on the Projected Development Site was vacant at the time of the November 2022 data collection efforts and has subsequently been re-tenanted with local retail uses (a grocery store). These local retail trips have also been accounted for in the 2027 No Action pedestrian volumes for the weekday AM, midday, and PM, and Saturday peak hours which are shown in **Figures H-24 through H-27**.



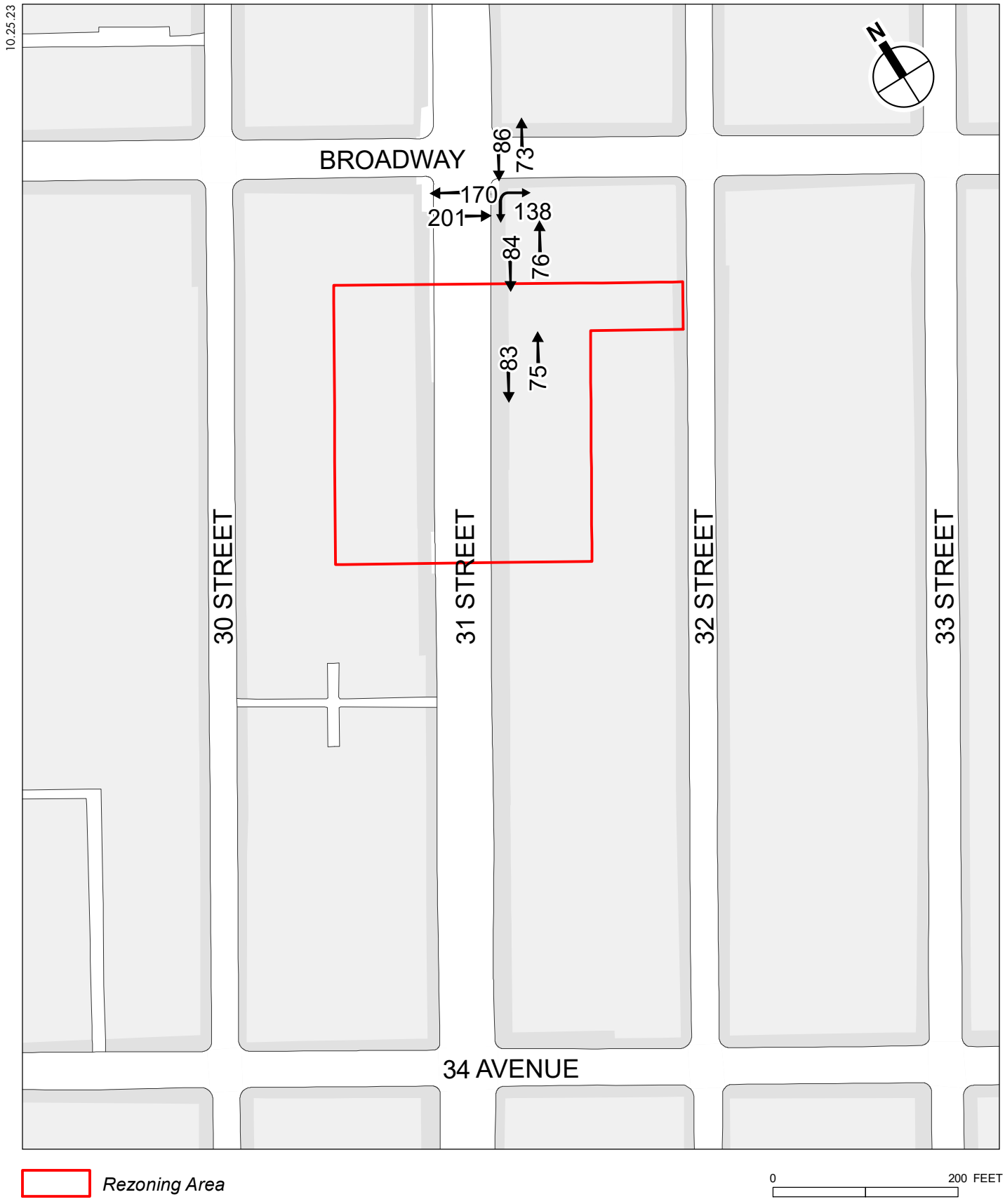

No Build

**IKOS SENIOR HOUSING REZONING & UDAAP**

**Figure H-23**



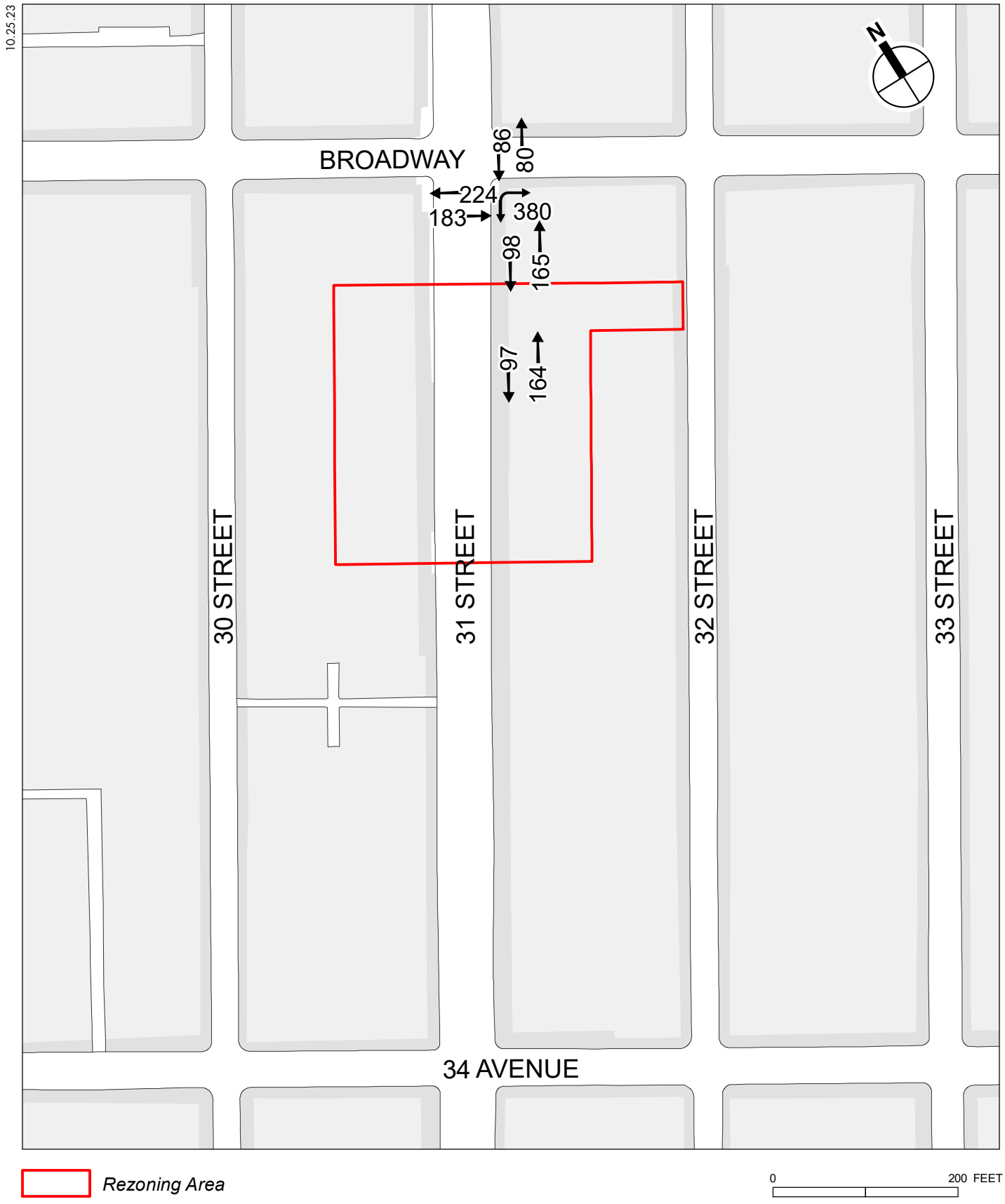

2027 No Action Pedestrian Volumes
Weekday AM Peak Hour




2027 No Action Pedestrian Volumes
Weekday Midday Peak Hour

**IKOS SENIOR HOUSING REZONING & UDAAP**

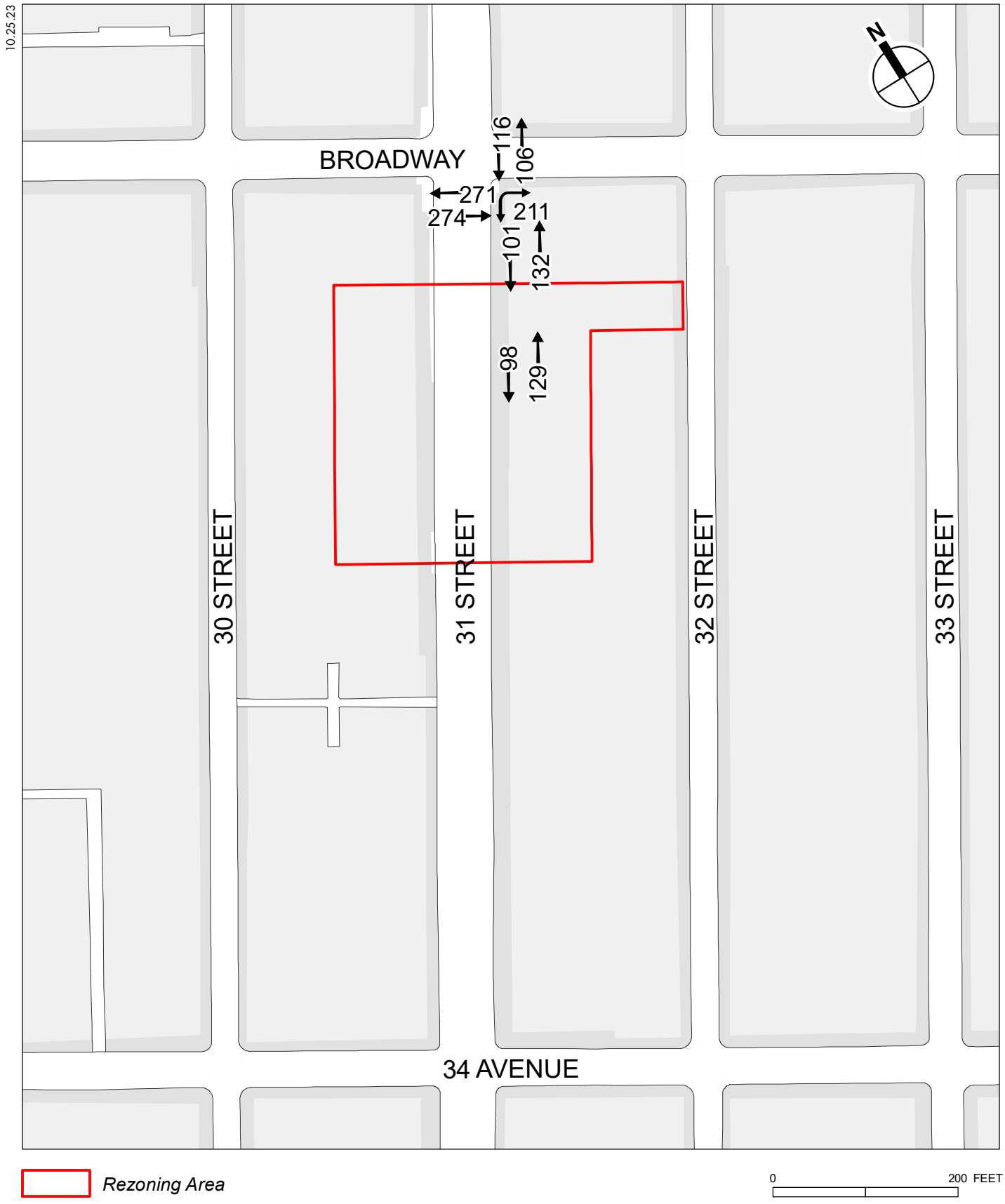
**Figure H-25**




2027 No Action Pedestrian Volumes
Weekday PM Peak Hour

**IKOS SENIOR HOUSING REZONING & UDAAP**

**Figure H-26**




2027 No Action Pedestrian Volumes
Saturday Peak Hour

**IKOS SENIOR HOUSING REZONING & UDAAP**

**Figure H-27**

## Table H-14
## No Action Projects

| Map No. | Project Name/ Address | Development Program | Build Year | Transportation Notes |
|---|---|---|---|---|
| 1 | 25-28 Broadway | 20 DUs residential; 3,049 gsf of retail; 13 parking spaces | 2027 | Cluster A; Assigned |
| 2 | 31-90 29th Street | 92 DUs residential | 2027 | Cluster A; Assigned |
| 3 | 31-35 32nd Street | 5 DUs residential | 2027 | Included in background growth |
| 4 | 31-41 29th Street | 10 DUs residential | 2027 | Included in background growth |
| 5 | 31-31 30th Street | 13 DUs residential; 12 parking spaces | 2027 | Included in background growth |
| 6 | 31-22 29th Street | 14 DUs residential | 2027 | Included in background growth |
| 7 | 31-18 31st Street | 10 DUs residential; 2,228 gsf of retail; 2,508 gsf of community facility | 2027 | Included in background growth |
| 8 | 31-18 30th Street | 14 DUs residential | 2027 | Included in background growth |
| 9 | 34-38 30th Street | 6 DUs residential | 2027 | Included in background growth |
| 10 | 31-19 29th Street | 10 DUs residential | 2027 | Included in background growth |
| 11 | 31-29 Crescent Street | 28 DUs residential | 2027 | Included in background growth |
| 12 | 31-48 Crescent Street | 25 DUs residential | 2027 | Included in background growth |
| 13 | 31-07 31st Avenue | 10 DUs residential; 2,098 gsf of retail; 240 gsf of community facility | 2027 | Included in background growth |

**Notes**: See **Figure H-23**.
Projects for which build year is unknown are assumed to be complete by the analysis year (2027)

As shown in **Tables H-15 and H-16**, all analysis elements will operate at favorable LOS A in the 2027 No Action condition during all analysis peak hours.

## Table H-15
## 2027 No Action Conditions: Sidewalk Analysis

| Location | Sidewalk | Effective Width (ft) | Two-way Peak Hour Volume | PHF | SFP | Platoon LOS |
|---|---|---|---|---|---|---|
| **Weekday AM Peak Hour** | | | | | | |
| 31st Street between Broadway and the Project Site's Senior Housing Entrance/Existing Broadway-31st Street Municipal Parking Field North Entrance | East | 14.5 | 181 | 0.78 | 901.2 | A |
| 31st Street between the Project Site's Senior Housing Entrance/Existing Broadway-31st Street Municipal Parking Field North Entrance and Local Retail Entrance/North of Subway Exit Stairs | East | 12.0 | 179 | 0.78 | 754.1 | A |
| **Weekday Midday Peak Hour** | | | | | | |
| 31st Street between Broadway and the Project Site's Senior Housing Entrance/Existing Broadway-31st Street Municipal Parking Field North Entrance | East | 14.5 | 160 | 0.74 | 966.2 | A |
| 31st Street between the Project Site's Senior Housing Entrance/Existing Broadway-31st Street Municipal Parking Field North Entrance and Local Retail Entrance/North of Subway Exit Stairs | East | 12.0 | 158 | 0.74 | 809.7 | A |
| **Weekday PM Peak Hour** | | | | | | |
| 31st Street between Broadway and the Project Site's Senior Housing Entrance/Existing Broadway-31st Street Municipal Parking Field North Entrance | East | 14.5 | 263 | 0.84 | 665.9 | A |
| 31st Street between the Project Site's Senior Housing Entrance/Existing Broadway-31st Street Municipal Parking Field North Entrance and Local Retail Entrance/North of Subway Exit Stairs | East | 12.0 | 261 | 0.84 | 555.3 | A |
| **Saturday Peak Hour** | | | | | | |
| 31st Street between Broadway and the Project Site's Senior Housing Entrance/Existing Broadway-31st Street Municipal Parking Field North Entrance | East | 14.5 | 233 | 0.88 | 789.4 | A |
| 31st Street between the Project Site's Senior Housing Entrance/Existing Broadway-31st Street Municipal Parking Field North Entrance and Local Retail Entrance/North of Subway Exit Stairs | East | 12.0 | 227 | 0.88 | 670.5 | A |

**Note:** SFP = square feet per pedestrian.

**Table H-16**
**2027 No Action Conditions: Corner Analysis**

| Location | Corner | Weekday AM Peak Hour | | Weekday Midday Peak Hour | | Weekday PM Peak Hour | | Saturday Peak Hour | |
|---|---|---|---|---|---|---|---|---|---|
| | | SFP | LOS | SFP | LOS | SFP | LOS | SFP | LOS |
| 31st Street and Broadway | Southeast | 796.8 | A | 638.9 | A | 410.9 | A | 440.3 | A |
| **Note:** SFP = square foot per pedestrian | | | | | | | | | |

## FUTURE WITH THE PROPOSED ACTIONS

The hourly incremental pedestrian volumes presented above in Section B, "Transportation Screening Assessments," were added to the projected 2027 No Action volumes to generate the 2027 With Action pedestrian volumes for analysis (see **Figures H-28 through H-31**). Comparing the Project Site's proposed site plan to existing sidewalk conditions, it was determined that four additional feet of effective sidewalk width would be afforded on the 31st Street east sidewalk segment in front of the Project Site, specifically between the Project Site's senior housing and local retail entrances, and is incorporated into the With Action analysis.

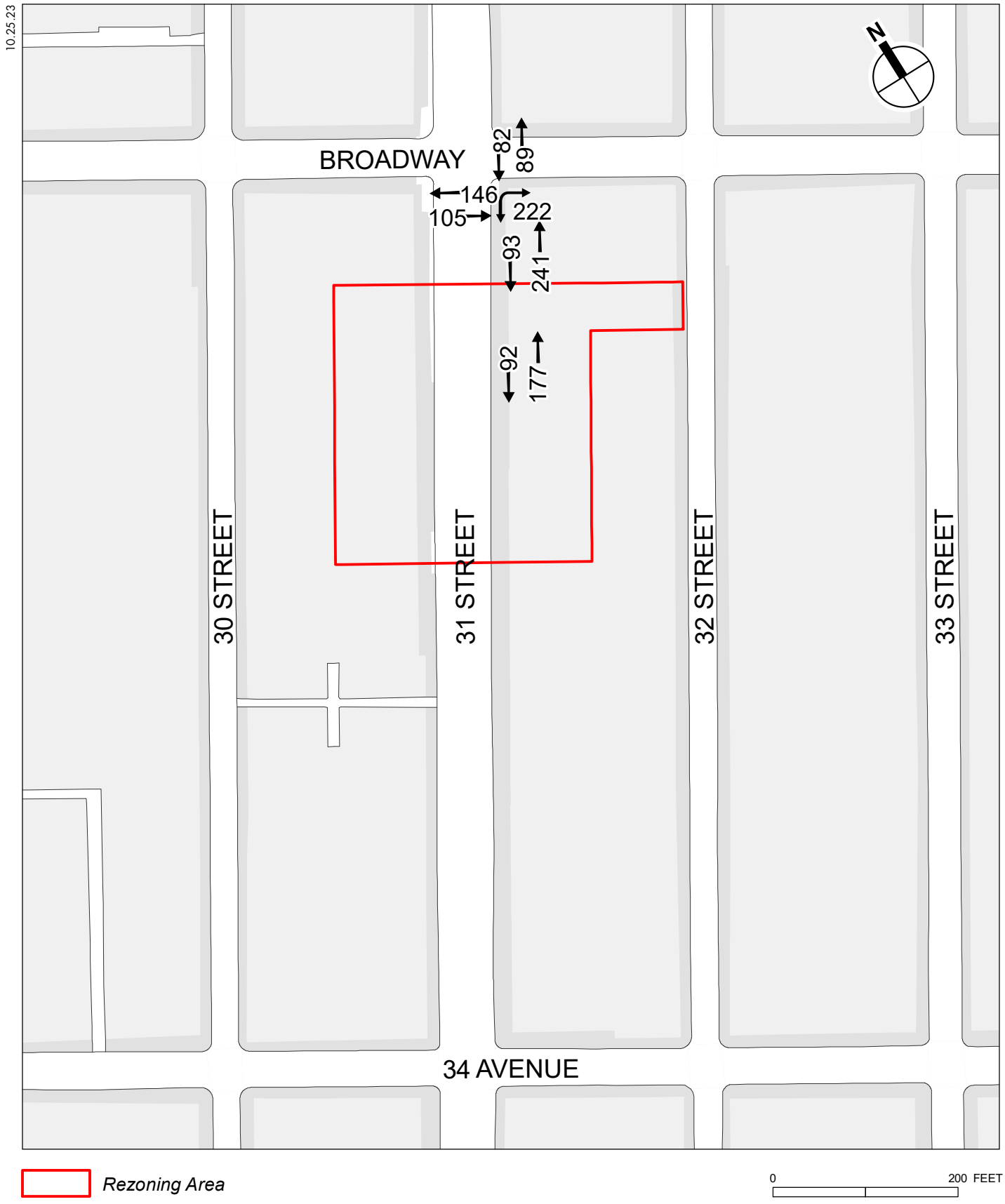
As shown in **Tables H-17 and H-18**, the sidewalk and corner analysis locations would operate at favorable LOS A or B in the 2027 With Action condition during all analysis peak hours. Therefore, the Proposed Actions would not result in any significant adverse pedestrian impacts.

**Table H-17**
**2027 With Action Conditions: Sidewalk Analysis**

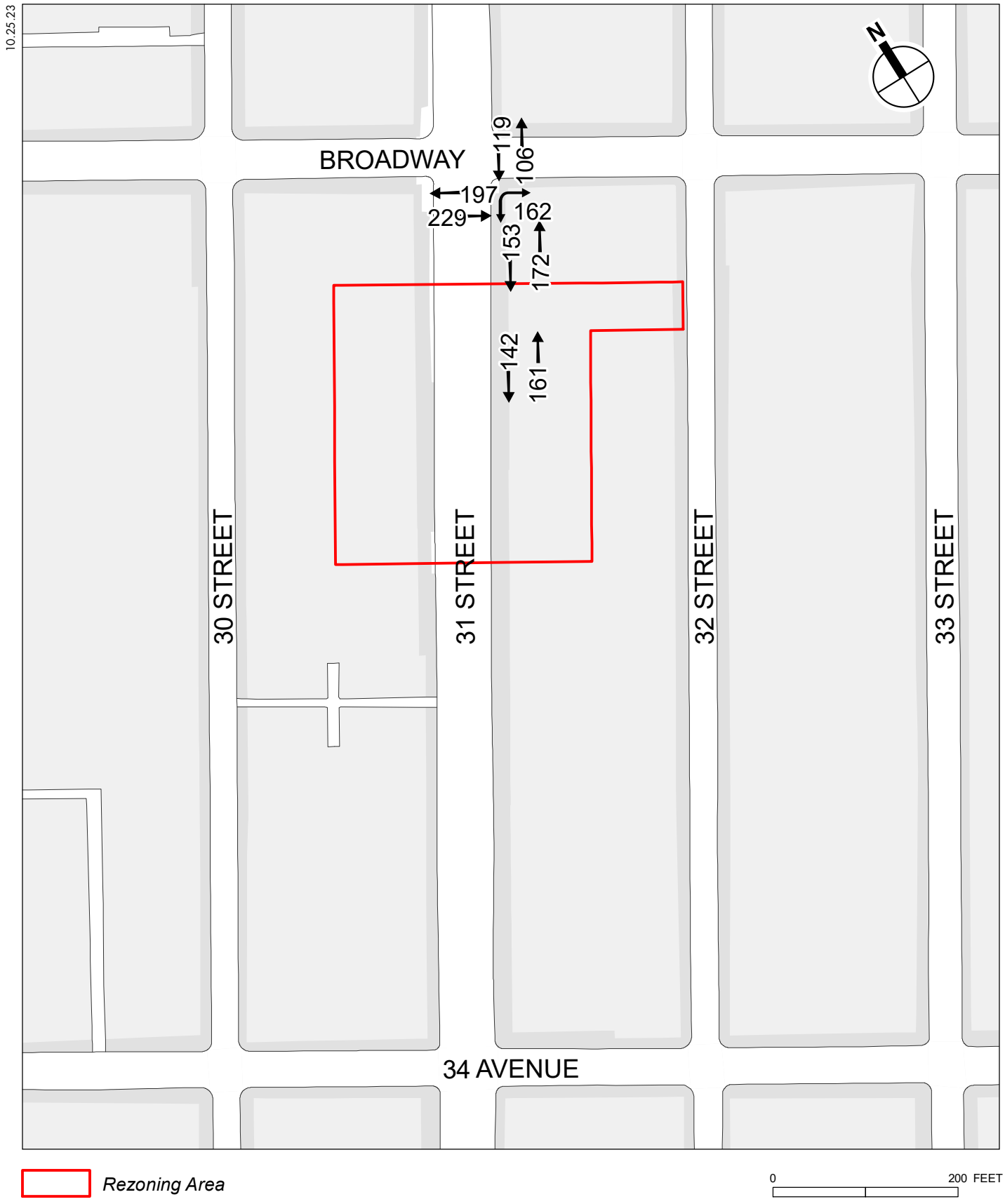
| Location | Sidewalk | Effective Width (ft) | Two-way Peak Hour Volume | PHF | SFP | Platoon LOS |
|---|---|---|---|---|---|---|
| **Weekday AM Peak Hour** | | | | | | |
| 31st Street between Broadway and the Project Site's Senior Housing Entrance | East | 14.5 | 334 | 0.78 | 488.3 | B |
| 31st Street between the Project Site's Senior Housing Entrance and Local Retail Entrance | East | 16.0 | 269 | 0.78 | 669.1 | A |
| **Weekday Midday Peak Hour** | | | | | | |
| 31st Street between Broadway and the Project Site's Senior Housing Entrance | East | 14.5 | 325 | 0.74 | 475.6 | B |
| 31st Street between the Project Site's Senior Housing Entrance and Local Retail Entrance | East | 16.0 | 303 | 0.74 | 562.9 | A |
| **Weekday PM Peak Hour** | | | | | | |
| 31st Street between Broadway and the Project Site's Senior Housing Entrance | East | 14.5 | 454 | 0.84 | 385.7 | B |
| 31st Street between the Project Site's Senior Housing Entrance and Local Retail Entrance | East | 16.0 | 444 | 0.84 | 435.2 | B |
| **Saturday Peak Hour** | | | | | | |
| 31st Street between Broadway and the Project Site's Senior Housing Entrance | East | 14.5 | 452 | 0.88 | 406.8 | B |
| 31st Street between the Project Site's Senior Housing Entrance and Local Retail Entrance | East | 16.0 | 430 | 0.88 | 471.9 | B |
| **Note:** SFP = square feet per pedestrian. | | | | | | |

**Table H-18**
**2027 With Action Conditions: Corner Analysis**

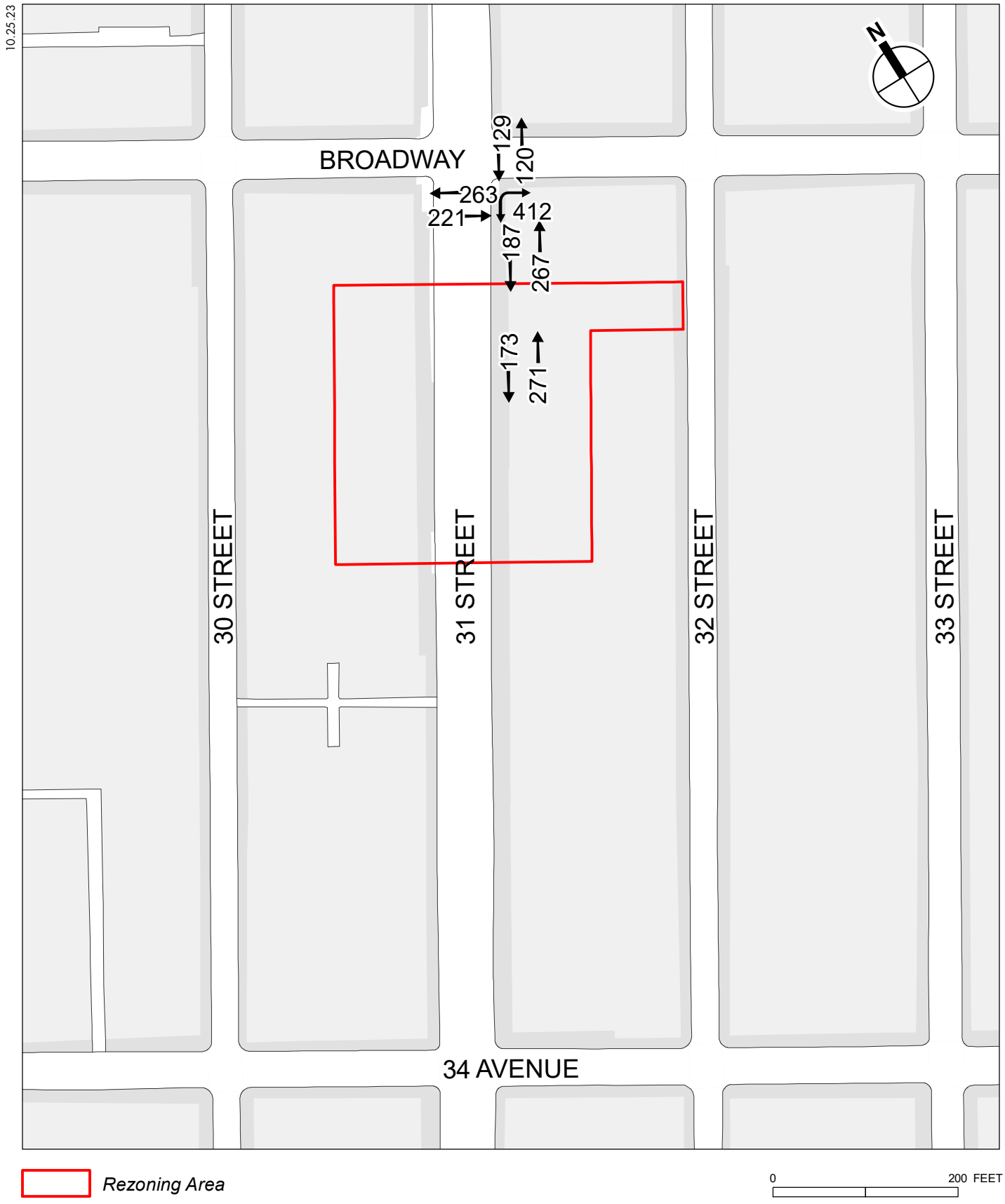
| Location | Corner | Weekday AM Peak Hour | | Weekday Midday Peak Hour | | Weekday PM Peak Hour | | Saturday Peak Hour | |
|---|---|---|---|---|---|---|---|---|---|
| | | SFP | LOS | SFP | LOS | SFP | LOS | SFP | LOS |
| 31st Street and Broadway | Southeast | 663.1 | A | 523.7 | A | 342.2 | A | 359.5 | A |
| **Note:** SFP = square foot per pedestrian | | | | | | | | | |




2027 With Action Pedestrian Volumes
Weekday AM Peak Hour



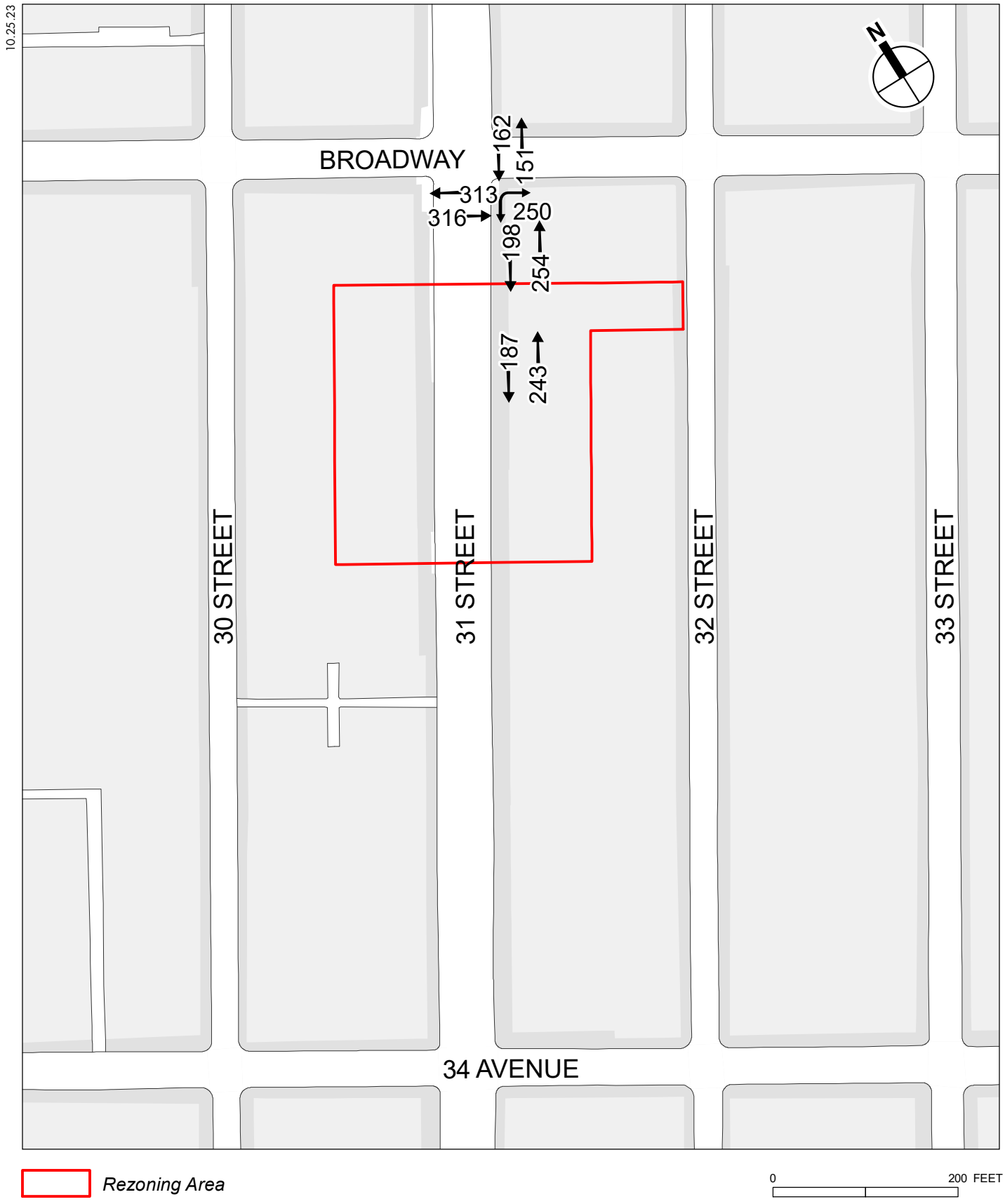

2027 With Action Pedestrian Volumes
Weekday Midday Peak Hour




2027 With Action Pedestrian Volumes
Weekday PM Peak Hour

**IKOS SENIOR HOUSING REZONING & UDAAP**

**Figure H-30**




2027 With Action Pedestrian Volumes
Saturday Peak Hour

**IKOS SENIOR HOUSING REZONING & UDAAP**

**Figure H-31**

## F. CONCLUSION

As demonstrated above, the Proposed Actions would not have any significant adverse transportation-related impacts. ✷

# A. INTRODUCTION

The Proposed Actions would facilitate the development of a mixed-use affordable senior housing development with community facility and commercial space on the Project Site (also referred to as Site 1) located at 31-07 31st Street in Astoria, Queens (the Proposed Project). In addition, the Proposed Actions would facilitate development at two other sites: a Projected Development Site (Site 2) and a Potential Development Site (Site A) within the larger Rezoning Area. The potential for air quality impacts associated with the Proposed Actions is assessed in this attachment.

The maximum projected hourly incremental traffic volumes generated by the Proposed Actions would not exceed the carbon monoxide (CO) screening threshold defined in the 2021 *City Environmental Quality Review (CEQR) Technical Manual* (170 peak hour vehicle trips at an intersection in the study area). The incremental traffic volumes would also not exceed the particulate matter (PM emission screening threshold discussed in Chapter 17, Sections 210 and 311 of the *CEQR Technical Manual)*. Therefore, no mobile source analysis was required.

Based on the current design, the Proposed Project would likely utilize electric-powered systems for space heating and domestic hot water systems. Alternatively, a natural gas-fired system could be installed for domestic hot water heating for the proposed residential building at Site 1, with space heating provided by an electric-powered system (the community facility building would still be served by electric-powered heating and hot water equipment under this design alternative). Therefore, to be conservative, the stationary source analysis was also conducted to evaluate the potential impact from the potential natural gas-fired system on air quality. Also, since design information on the projected and potential development sites was not available, it was assumed these sites would potentially include fossil fuel-fired heating and hot water systems. Therefore, the stationary source analysis was also conducted to evaluate the potential impact from these sources on air quality.

In addition to emissions from the development sites' stationary sources, the potential for emissions from existing large or major sources to impact the three developments was assessed.

# B. METHODOLOGY FOR PREDICTING POLLUTANT CONCENTRATIONS

### HEATING AND HOT WATER SYSTEMS ANALYSIS

To evaluate potential air quality impacts associated with heating and hot water systems associated with the Proposed Actions, a stationary source analysis was conducted using the refined

AERMOD dispersion model referenced in the *CEQR Technical Manual*. [1]

AERMOD is a state-of-the-art dispersion model, applicable to rural and urban areas, flat and complex terrain, surface and elevated releases, and multiple sources and source types. AERMOD is a steady-state plume model that incorporates current concepts about flow and dispersion in complex terrain, including updated treatment of the boundary layer theory and understanding of turbulence and dispersion, and includes handling of the plume interaction with terrain. AERMOD is EPA's preferred regulatory stationary source model.

AERMOD calculates pollutant concentrations from simulated sources (e.g., exhaust stacks) based on hourly meteorological data and surface characteristics, and has the capability to calculate pollutant concentrations at locations where the plume from the exhaust stack is affected by the aerodynamic wakes and eddies (downwash) produced by nearby structures. The analysis of potential impacts from exhaust stacks assumed stack tip downwash, urban dispersion and surface roughness length, and elimination of calms.

AERMOD incorporates the Plume Rise Model Enhancements (PRIME) downwash algorithm, which is designed to predict concentrations in the "cavity region" (i.e., the area around a structure which under certain conditions may affect an exhaust plume, causing a portion of the plume to become entrained in a recirculation region). AERMOD also uses the Building Profile Input Program for PRIME (BPIPPRM) to provide a detailed analysis of downwash influences on a direction-specific basis. BPIPPRM determines the projected building dimensions for modeling with the building downwash algorithm enabled. The modeling of plume downwash accounts for all obstructions within a radius equal to five obstruction heights of the stack.

The analysis was prepared both with and without downwash in order to assess the worst-case impacts at elevated locations close to the height of the source, which would occur without downwash, as well as the worst-case impacts at lower elevations and ground level, which would occur with downwash, consistent with the *CEQR Technical Manual* guidance.

Potential 1-hour average $NO_2$ concentrations, added to representative background concentrations in the area, were compared with the NAAQS. Potential 24-hour and annual average incremental concentrations of $PM_{2.5}$ were compared with the $PM_{2.5}$ *de minimis* criteria defined in the *CEQR Technical Manual*. For the analysis of the 1-hour average $NO_2$ concentration from the buildings' heating and hot water systems, AERMOD's Plume Volume Molar Ratio Method (PVMRM) module was used to analyze chemical transformation within the model. PVMRM incorporates hourly background ozone concentrations to estimate $NO_x$ transformation within the source plume. The model applied ozone concentrations measured in 2016–2020 at the nearest available New York State Department of Environmental Conservation (DEC) ozone monitoring station—the IS 52 monitoring station in the Bronx. An initial $NO_2$ to $NO_x$ ratio of 10 percent at the source exhaust stack was assumed for boilers, which is considered representative.

Five years of surface meteorological data collected at LaGuardia Airport (2016–2020) and concurrent upper air data collected at Brookhaven, New York were used in the analysis.

[1] EPA. User's Guide for the AMS/EPA Regulatory Model (AERMOD). Office of Air Quality Planning and Standards. EPA-454/B-22-007. Research Triangle Park, North Carolina. June 2022.

*EMISSION RATES AND STACK PARAMETERS*

As mentioned above, space heating for Site 1 would be provided by electric-powered systems. While electric-powered hot water equipment may be used, it was conservatively assumed that Site 1 would utilize a natural gas-fired system for domestic hot water heating, using information provided by the design team. Under this design alternative, Site 1 would include two natural gas-fired hot water heaters, each rated at 1.5 million British thermal units per hour (MMBtu/hr) for domestic hot water. Pollutant emission rates were estimated based on peak and annual fuel usage estimates provided by the design team, and applying emission factors for natural gas-fired boilers obtained from EPA AP-42.[2] $PM_{2.5}$ emissions include both the filterable and condensable components. The $NO_x$ emissions from the hot water heaters were calculated assuming the use of low $NO_x$ burners (20 ppm) as per manufacturer specifications provided by the design team. The exhaust from the hot water heater system was assumed to be vented through a single stack located three feet above the roof of the building.

Site 2 and Site A were assumed to utilize fossil-fuel fired heating and hot water systems. Annual emission rates for Site 2 and Site A heating and hot water systems were calculated based on fuel consumption estimates, using energy intensity estimates based on type of development and size of the buildings as recommended in the *CEQR Technical Manual*, and applying emission factors for natural gas-fired boilers.[3] $PM_{2.5}$ emissions include both the filterable and condensable components. The short-term emission rates (24-hour and shorter) were calculated by scaling the annual emissions to account for a 100-day heating season. The exhaust from the heating and hot water systems was assumed to be vented through a single stack located three feet above the roof of each of the buildings.

To calculate exhaust velocity for each of the heating and hot water systems, the fuel consumption rates were multiplied by EPA's fuel factor for natural gas,[4] providing the exhaust flow rate at standard temperature; the flow rate was then corrected for the exhaust temperature, and exhaust velocity was calculated based on the stack diameter. Assumptions for stack diameter and exhaust temperature for the proposed systems were obtained from a survey of boiler exhaust data provided by New York City Department of Environmental Protection (DEP),[5] and were used to calculate the exhaust velocity.

The emission rates and exhaust stack parameters used in the modeling analyses are presented in **Table I-1**.

[2] EPA. Compilation of Air Pollutant Emission Factors AP-42. 5th Ed., V. I, Ch. 1.4. September, 1998.

[3] EPA. Compilation of Air Pollutant Emission Factors AP-42. 5th Ed., V. I, Ch. 1.4. September, 1998.

[4] EPA. Standards of Performance for New Stationary Sources. 40 CFR Chapter I Subchapter C Part 60. Appendix A-7, Table 19-2. 2013.

[5] DEP. Boiler Database. August 11, 2017.

**Table I-1**
**Exhaust Stack Parameters and Emission Rates**

| Stack Parameter | Site 1 (Project Site) | Projected Development Site 2 | Potential Development Site A |
|---|---|---|---|
| Stack Height (feet) | 137.3 | 97.3 | 97.3 |
| Stack Diameter (feet) | 1.0 | 2.0(1) | 1.0(1) |
| Exhaust Velocity (feet/second)(2) | 14.49 | 4.31 | 6.79 |
| Exhaust Temperature (degrees Fahrenheit) | 200 | 307.8(1) | 307.8(1) |
| *Emission Rate (grams/second)* | | | |
| $NO_2$ (1-hour average) | 0.0092(3) | 0.037 | 0.01495 |
| $NO_2$ (Annual average) | 0.00066(3) | 0.010 | 0.0041 |
| $PM_{2.5}$ (24-hour average) | 0.00059 | 0.0028 | 0.0011 |
| $PM_{2.5}$ (Annual average) | 0.00020 | 0.00076 | 0.00031 |

**Notes:**
1. Stack parameter assumptions were obtained from a survey of boiler exhaust data prepared and provided by DEP.
2. The stack exhaust flow rate and velocity estimated based on the type of fuel and heat input rate or estimated fuel usage.
3. Emission rate based on 20 ppm low NOx burners as per manufacturer specifications.

*BACKGROUND CONCENTRATIONS*

To estimate the maximum expected pollutant concentration at a given location (receptor), the predicted impacts must be added to a background value that accounts for existing pollutant concentrations from other sources that are not directly accounted for in the model (see **Table I-2**). Total 1-hour $NO_2$ concentrations were refined following a more detailed approach (EPA "Tier 3"). The methodology used to determine the total 1-hour $NO_2$ concentrations from the facility was based on adding the monitored background to modeled concentrations, as follows: hourly modeled concentrations from the proposed combustion sources were first added to the seasonal hourly background monitored concentrations; then the highest combined daily 1-hour $NO_2$ concentration was determined at each location and the 98th percentile daily 1-hour maximum concentration for each modeled year was calculated within the AERMOD model; finally the 98th percentile concentrations were averaged over the latest five years.

$PM_{2.5}$ impacts are assessed on an incremental basis and compared with the $PM_{2.5}$ *de minimis* criteria. The $PM_{2.5}$ 24-hour average background concentration based on the 98th percentile concentration, averaged over the years 2017–2019[6] was used to establish the *de minimis* value of 8.4 ug/$m^3$. $PM_{2.5}$ annual average impacts are assessed on an incremental basis and compared to the $PM_{2.5}$ *de minimis* criteria, without considering the annual background. Therefore, the annual $PM_{2.5}$ background is not presented in the table.

**Table I-2**
**Maximum Background Pollutant Concentrations**

| Pollutant | Average Period | Location | Concentration (µg/$m^3$) | NAAQS (µg/$m^3$) |
|---|---|---|---|---|
| $NO_2$ | 1-hour | IS 52, Bronx | 110.6 | 188 |
| | Annual | | 32.8 | 100 |
| $PM_{2.5}$ | 24-hour | JHS 45, Manhattan | 18.3 | 35 |

**Source:** New York State Air Quality Report Ambient Air Monitoring System, NYSDEC, 2017–2019.

[6] The 2020 and later background data were not used because of uncertainties in the representativeness of background concentrations due to effects of COVID-19.

*RECEPTOR PLACEMENT*

Receptors (locations at which concentrations are projected) generally include operable windows in residential or other buildings, air intakes, and publicly accessible open space locations, as applicable. Discrete receptors were modeled along existing and proposed-building façades (including the development sites) to represent potentially sensitive locations such as operable windows and intake vents. Rows of receptors at spaced intervals on the modeled buildings were analyzed at multiple elevations.

**ADDITIONAL SOURCES**

The *CEQR Technical Manual* requires an analysis of projects that may result in a significant adverse impact due to certain types of new uses located near a "large" or "major" emissions source. Major sources are defined as those located at facilities that have a Title V or Prevention of Significant Deterioration air permit, while large sources are defined as those located at facilities that require a State Facility Permit. To assess the potential effects of these existing sources on the projected and potential development sites, a review of existing permitted facilities was conducted. Sources of information reviewed included the NYSDEC Title V and State Facility Permit websites. The review of major- and large-sources permits[7] found no such facilities within 1,000 feet of the project site. Therefore, no analysis is required, and no significant adverse impacts would occur on the project site from major or large stationary sources of emissions.

## C. PROBABLE IMPACTS OF THE PROPOSED ACTONS

**Tables I-3** and **I-4** present the maximum predicted concentrations from the heating and hot water systems from the Proposed Actions at off-site and project receptors, respectively. As shown in the tables, maximum predicted concentrations at both off-site and project receptors are below the NAAQS and $PM_{2.5}$ *de minimis* criteria. Therefore, the Proposed Actions' heating and hot water systems would not result in any significant adverse air quality impacts.

[7] DEC. *Access to DEC Air Permits*. https://www.dec.ny.gov/chemical/8569.html. Accessed December 30, 2021.

**Table I-3**
**Maximum Modeled Pollutant Concentrations from Heating and Hot Water Systems Off-Site Receptors (µg/m³)**

| Pollutant | Averaging Period | Maximum Modeled Impact | Background | Total Concentration | Criterion |
|---|---|---|---|---|---|
| $NO_2$ | 1-hour | (1) | (1) | 61.1 | 188 (2) |
| | Annual | 0.49 | 32.8 | 33.3 | 100 (2) |
| $PM_{2.5}$ | 24-hour | 0.70 | N/A | 0.70 | 8.3 (3) |
| | Annual | 0.04 | N/A | 0.04 | 0.3 (4) |
| | Annual - Neighborhood | 0.002 | N/A | 0.002 | 0.1 (5) |

**Notes:**
N/A – Not Applicable
1. The 1-hour $NO_2$ increment, and background concentration is not presented in the table since AERMOD model determines the total 98th percentile 1-hour NO2 concentration at each receptor.
2. NAAQS.
3. $PM_{2.5}$ *de minimis* criteria—24-hour average, not to exceed more than half the difference between the background concentration and the 24-hour standard of 35 µg/m³.
4. $PM_{2.5}$ *de minimis* criteria—annual (discrete receptor).
5. $PM_{2.5}$ *de minimis* criteria-neighborhood scale.

**Table I-4**
**Maximum Modeled Pollutant Concentrations from Heating and Hot Water Systems On the Proposed Actions (µg/m³)**

| Pollutant | Averaging Period | Maximum Modeled Impact | Background | Total Concentration | Criterion |
|---|---|---|---|---|---|
| $NO_2$ | 1-hour | (1) | (1) | 180.1 | 188 (2) |
| | Annual | 2.41 | 32.8 | 35.2 | 100 (2) |
| $PM_{2.5}$ | 24-hour | 5.67 | N/A | 5.67 | 8.3 (3) |
| | Annual | 0.18 | N/A | 0.18 | 0.3 (4) |

**Notes:**
N/A – Not Applicable
1. The 1-hour $NO_2$ increment, and background concentration is not presented in the table since AERMOD model determines the total 98th percentile 1-hour NO2 concentration at each receptor.
2. NAAQS.
3. $PM_{2.5}$ *de minimis* criteria—24-hour average, not to exceed more than half the difference between the background concentration and the 24-hour standard of 35 µg/m³.
4. $PM_{2.5}$ *de minimis* criteria—annual (discrete receptor).

To ensure that there are no potential significant adverse impacts of $NO_x$ and $PM_{2.5}$ heating and hot water system emissions, certain restrictions would be required as part of the Proposed Actions through the Land Disposition Agreement (LDA) and Regulatory Agreement for Site 1 and an Air Quality (E) Designation **(E-771)** that would be placed on Sites 2 and A. These restrictions were determined based on the analysis results presented in **Tables I-3 and I-4** and would avoid the potential for significant air quality impacts from stationary sources based on the conservative assumptions used in the analysis. The restrictions would be as follows:

**SITE 1 (BLOCK 611, LOT 25)**

Any new residential development must exclusively use electrically powered equipment for space heating. Any fossil fuel-fired hot water equipment for this development must have no more than a 3,000 MBH capacity, utilize only natural gas, be fitted with low NOx (20 ppm) burners, and the

exhaust vent(s) must be located at least 137.3 feet above grade, to avoid any potential significant adverse air quality impacts.

**SITE 2 (BLOCK 587, LOT 43)**

Any new residential development must exclusively use natural gas as the type of fuel for heating and hot water systems, and ensure that the heating and hot water exhaust stack(s) must be located at least 97.3 feet above grade, and at least 34 feet away from the lot line facing 31st Street, to avoid any potential significant adverse air quality impacts.

**SITE A (BLOCK 611, LOT 21)**

Any new residential development must exclusively use natural gas as the type of fuel for heating and hot water systems, and ensure that the heating and hot water exhaust stack(s) must be located at least 97.3 feet above grade, and at least 60 feet away from the lot line facing Broadway, to avoid any potential significant adverse air quality impacts.

With these restrictions in place, there would be no potential for significant adverse air quality impacts as a result of the Proposed Actions. ✷

## A. INTRODUCTION

This attachment considers the potential for the Proposed Actions to result in significant adverse noise impacts. The Proposed Actions include zoning changes to facilitate the development of a mixed-use building with senior housing, support services, and ground floor retail space and a community facility building (the "Proposed Project") at 31-07 31st Street in Astoria, Queens (the "Project Site" or "Site 1"). In addition, the proposed zoning changes could result in new development on two other development sites not controlled by the city or the project sponsors.

In terms of mobile sources, the number of vehicle trips generated by the Proposed Actions would be lower than the threshold that would require any detailed analysis. Consequently, it is not expected that the Proposed Development would generate sufficient traffic to have the potential to cause a significant noise impact (i.e., it would not result in a doubling of noise passenger car equivalents [Noise PCEs], which would be necessary to cause a 3 dBA increase in noise levels). Therefore, significant adverse mobile source noise impacts are unlikely, and further assessment is not warranted.

Consequently, the noise analysis is focused on the level of building attenuation necessary to ensure that interior noise levels within the proposed building would satisfy applicable interior noise criteria.

## B. ACOUSTICS FUNDAMENTALS

Sound is a fluctuation in air pressure. Sound pressure levels are measured in units called "decibels" (dB). The particular character of the sound that we hear is determined by the speed, or "frequency," at which the air pressure fluctuates, or "oscillates." Frequency defines the oscillation of sound pressure in terms of cycles per second. One cycle per second is known as 1 Hertz (Hz). People can hear over a relatively limited range of sound frequencies, generally between 20 Hz and 20,000 Hz, and the human ear does not perceive all frequencies equally well. High frequencies (e.g., a whistle) are more easily discernable and therefore more intrusive than many of the lower frequencies (e.g., diesel engine).

### "A"-WEIGHTED SOUND LEVEL (DBA)

In order to establish a uniform noise measurement that simulates people's perception of loudness and annoyance, the decibel measurement is weighted to account for those frequencies most audible to the human ear. This is known as the A-weighted sound level, or "dBA," and it is the descriptor of noise levels most often used for community noise. As shown in **Table J-1**, the threshold of human hearing is defined as 0 dBA; very quiet conditions (e.g., a library) are approximately 40 dBA; levels between 50 dBA and 70 dBA define the range of noise levels generated by normal daily activity; levels above 70 dBA would be considered noisy, and then loud, intrusive, and deafening as the scale approaches 130 dBA.

**Table J-1**
**Noise Levels of Common Sources**

| Sound Source | SPL (dBA) |
|---|---|
| Air Raid Siren at 50 feet | 120 |
| Maximum Levels at Rock Concerts (Rear Seats) | 110 |
| On Platform by Passing Subway Train | 100 |
| On Sidewalk by Passing Heavy Truck or Bus | 90 |
| On Sidewalk by Typical Highway | 80 |
| On Sidewalk by Passing Automobiles with Mufflers | 70 |
| Typical Urban Area | 60-70 |
| Typical Suburban Area | 50–60 |
| Quiet Suburban Area at Night | 40–50 |
| Typical Rural Area at Night | 30-40 |
| Isolated Broadcast Studio | 20 |
| Audiometric (Hearing Testing) Booth | 10 |
| Threshold of Hearing | 0 |
| **Source:** 2021 *CEQR Technical Manual* | |

In considering these values, it is important to note that the dBA scale is logarithmic, meaning that each increase of 10 dBA describes a doubling of perceived loudness. Thus, the background noise in an office, at 50 dBA, is perceived as twice as loud as a library at 40 dBA. For most people to perceive an increase in noise, it must be at least 3 dBA. At 5 dBA, the change will be readily noticeable.

## SOUND LEVEL DESCRIPTORS

Because the sound pressure level unit of dBA describes a noise level at just one moment and few noises are constant, other ways of describing noise that fluctuates over extended periods have been developed. One way is to describe the fluctuating sound heard over a specific time period as if it had been a steady, unchanging sound. For this condition, a descriptor called the "equivalent sound level," $L_{eq}$, can be computed. $L_{eq}$ is the constant sound level that, in a given situation and time period (e.g., 1 hour, denoted by $L_{eq(1)}$, or 24 hours, denoted by $L_{eq(24)}$), conveys the same sound energy as the actual time-varying sound. The Day-Night Sound Level (i.e., $L_{dn}$) refers to a 24-hour average noise level with a 10 dB penalty applied to the noise levels during the hours between 10 PM and 7 AM, due to increased sensitivity to noise levels during these hours. Statistical sound level descriptors such as $L_1$, $L_{10}$, $L_{50}$, $L_{90}$, and $L_x$, are used to indicate noise levels that are exceeded 1, 10, 50, 90, and x percent of the time, respectively.

The relationship between $L_{eq}$ and levels of exceedance is worth noting. Because $L_{eq}$ is defined in energy rather than straight numerical terms, it is not simply related to the levels of exceedance. If the noise fluctuates little, $L_{eq}$ will approximate $L_{50}$ or the median level. If the noise fluctuates broadly, the $L_{eq}$ will be approximately equal to the $L_{10}$ value. If extreme fluctuations are present, the $L_{eq}$ will exceed $L_{90}$ or the background level by 10 or more decibels. Thus, the relationship between $L_{eq}$ and the levels of exceedance will depend on the character of the noise. In community noise measurements, it has been observed that the $L_{eq}$ is generally between $L_{10}$ and $L_{50}$.

The 1-hour $L_{10}$ and the $L_{dn}$ are the noise descriptors used in the 2021 *CEQR Technical Manual* noise exposure guidelines for City environmental impact review classification. The $L_{dn}$ is the noise descriptor used in the *HUD Noise Guidebook* to set exterior noise standards for housing construction projects receiving federal funds.

# C. NOISE STANDARDS AND CRITERIA

## NEW YORK CEQR NOISE CRITERIA

The 2021 *CEQR Technical Manual* sets external noise exposure standards; these standards are shown in **Table J-2**. Noise exposure is classified into four categories: acceptable, marginally acceptable, marginally unacceptable, and clearly unacceptable. The noise level specified for outdoor areas requiring serenity and quiet is 55 dBA $L_{10(1)}$.

**Table J-2**
**Noise Exposure Guidelines for Use in City Environmental Impact Review**

| Receptor Type | Time Period | Acceptable General External Exposure | Airport[3] Exposure | Marginally Acceptable General External Exposure | Airport[3] Exposure | Marginally Unacceptable General External Exposure | Airport[3] Exposure | Clearly Unacceptable General External Exposure | Airport[3] Exposure |
|---|---|---|---|---|---|---|---|---|---|
| Outdoor area requiring serenity and quiet[2] | | $L_{10} \leq 55$ dBA | ---------- DNL ≤ 60 dBA ---------- | **NA** | ---------- 60 < DNL ≤ 65 dBA ---------- | **NA** | (i) 65 < DNL ≤ 75 dBA | **NA** | ---------- 75 dBA < DNL ---------- |
| Hospital, nursing home | | $L_{10} \leq 55$ dBA | | 55 < $L_{10}$ ≤ 65 dBA | | 65 < $L_{10}$ ≤ 80 dBA | | $L_{10} > 80$ dBA | |
| Residence, residential hotel, or motel | 7 AM to 10 PM | $L_{10} \leq 65$ dBA | | 65 < $L_{10}$ ≤ 70 dBA | | 70 < $L_{10}$ ≤ 80 dBA | | $L_{10} > 80$ dBA | |
| | 10 PM to 7 AM | $L_{10} \leq 55$ dBA | | 55 < $L_{10}$ ≤ 70 dBA | | 70 < $L_{10}$ ≤ 80 dBA | | $L_{10} > 80$ dBA | |
| School, museum, library, court, house of worship, transient hotel or motel, public meeting room, auditorium, outpatient public health facility | | Same as Residential Day (7 AM–10 PM) | | Same as Residential Day (7 AM–10 PM) | | Same as Residential Day (7 AM–10 PM) | | Same as Residential Day (7 AM–10 PM) | |
| 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–10PM) | |
| Industrial, public areas only[4] | Note 4 | Note 4 | | Note 4 | | Note 4 | | Note 4 | |

**Notes:**
(i) In addition, any new activity shall not increase the ambient noise level by 3 dBA or more.
(ii) *CEQR Technical Manual* noise criteria for train noise are similar to the above aircraft noise standards; the noise category for train noise is found by taking the $L_{dn}$ value for such train noise to be an $L^{V}_{dn}$ ($L_{dn}$ contour) value.
[1] Measurements and projections of noise exposures are to be made at appropriate heights above site boundaries as given by American National Standards Institute (ANSI) Standards; all values are for the worst hour in the time period.
[2] Tracts of land where serenity and quiet are extraordinarily important and serve an important public need, and where the preservation of these qualities is essential for the area to serve its intended purpose. Such areas could include amphitheaters, particular parks, or portions of parks, or open spaces dedicated or recognized by appropriate local officials for activities requiring special qualities of serenity and quiet.
[3] One may use Federal Aviation Administration (FAA)-approved $L_{dn}$ contours supplied by the Port Authority of New York and New Jersey, or the noise contours may be computed from the federally approved Integrated Noise Model (INM) Computer Model using flight data supplied by the Port Authority of New York and New Jersey.
[4] External Noise Exposure standards for industrial areas of sounds produced by industrial operations other than operating motor vehicles or other transportation facilities are spelled out in the New York City Zoning Resolution, Sections 42-20 and 42-21. The referenced standards apply to M1, M2, and M3 manufacturing districts and to adjoining residence districts (performance standards are octave band standards).
**Source:**
New York City Department of Environmental Protection (DEP) (adopted policy 1983).

**Table J-3**
**Required Attenuation Values to Achieve Acceptable Interior Noise Levels**

| | Marginally Unacceptable | | | | Clearly Unacceptable |
|---|---|---|---|---|---|
| Vehicular Traffic | $70 < L_{10} \leq 73$ | $73 < L_{10} \leq 76$ | $76 < L_{10} \leq 78$ | $78 < L_{10} \leq 80$ | $80 < L_{10}$ |
| Aircraft[A] | $65 < DNL \leq 68$ | $68 < DNL \leq 71$ | $71 < DNL \leq 73$ | $73 < DNL \leq 75$ | $75 < DNL$ |
| Train | $65 < L_{dn} \leq 68$ | $68 < L_{dn} \leq 71$ | $71 < L_{dn} \leq 73$ | $73 < L_{dn} \leq 75$ | $75 < L_{dn}$ |
| Attenuation[B] | (I) 28 dBA | (II) 31 dBA | (III) 33 dBA | (IV) 35 dBA | See note [C] |

**Notes:**
[A] DNL descriptor based on average values of $L_{dn}$ over a year period.
[B] The above composite window-wall attenuation values are for residential dwellings and community facility development. Commercial office spaces and meeting rooms would be 5 dBA less in each category. All the above categories require a closed window situation and hence an alternate means of ventilation.
[C] The required attenuation value is the difference between $L_{build}$ and $L_{interior}$, using the appropriate noise descriptor
Where:
$L_{build}$ is the projected noise level under the build condition rounded up to the whole number
$L_{interior}$ is the designed interior noise level (45 dBA for vehicular noise, 40 dBA for aircraft and train noise)
**Source:** New York City Department of Environmental Protection.

The *CEQR Technical Manual* defines attenuation requirements for buildings based on exterior noise level (see **Table J-3**). The maximum acceptable interior noise level thresholds for residential or community facility uses will be 40 dBA $L_{dn}$ where rail activity is the dominant noise source or 45 dBA $L_{10(1)}$ where vehicular traffic is the dominant noise source. The maximum acceptable interior noise level thresholds for commercial office uses will be 5 dBA greater. Storage, corridor, stairwells, lobbies, and other spaces with non-noise-sensitive uses would not require any specific level of attenuation.

**HUD DEVELOPMENT GUIDELINES**

Pursuant to 24 CFR Part 51, Subpart B, the HUD *Noise Guidebook* sets exterior noise standards for housing construction projects based on $L_{dn}$ values (see **Table J-4**). If the exterior noise level is 65 $L_{dn}$ to 70 $L_{dn}$, 25 dBA of noise attenuation must be provided; if the exterior noise level is 70 $L_{dn}$ to 75 $L_{dn}$, 30 dBA of noise attenuation is required; and if the exterior noise level exceeds 75 $L_{dn}$, sufficient attenuation must be provided to bring interior levels down to 45 $L_{dn}$ or lower for residential uses.

**Table J-4**
**HUD Exterior Noise Standards**

| | Acceptable | Normally Unacceptable | Unacceptable |
|---|---|---|---|
| Noise Level With Proposed Project | $L_{dn} \leq 65$ | $65 < L_{dn} \leq 75$ | $75 < L_{dn}$ |
| **Source:** HUD *Noise Guidebook* (March 2009) | | | |

For this analysis, $L_{dn}$ noise levels were estimated using the following equation:

$$Ldn = Leq - 2$$

The method used to determine $L_{dn}$ noise levels utilizes the maximum measured 1-hour noise level collected between 7AM and 7PM to calculate the existing $L_{dn}$, which is consistent with federal guidance on estimating $L_{dn}$ from hourly noise data.[1]

## D. EXISTING NOISE LEVELS

Existing noise levels at the Project Site were measured at receptors 1, 2, 3, and 4 as shown in **Figure J-1.**

At the receptor sites, the existing noise levels were measured for 60-minute periods during the four weekday peak periods—AM (7:00 AM to 9:00 AM), midday (MD) (12:00 PM to 2:00 PM), PM (4:00 PM to 6:00 PM), and late night (LN) (10:00 PM – 5:00 AM). Measurements were performed on October 19, 2021.

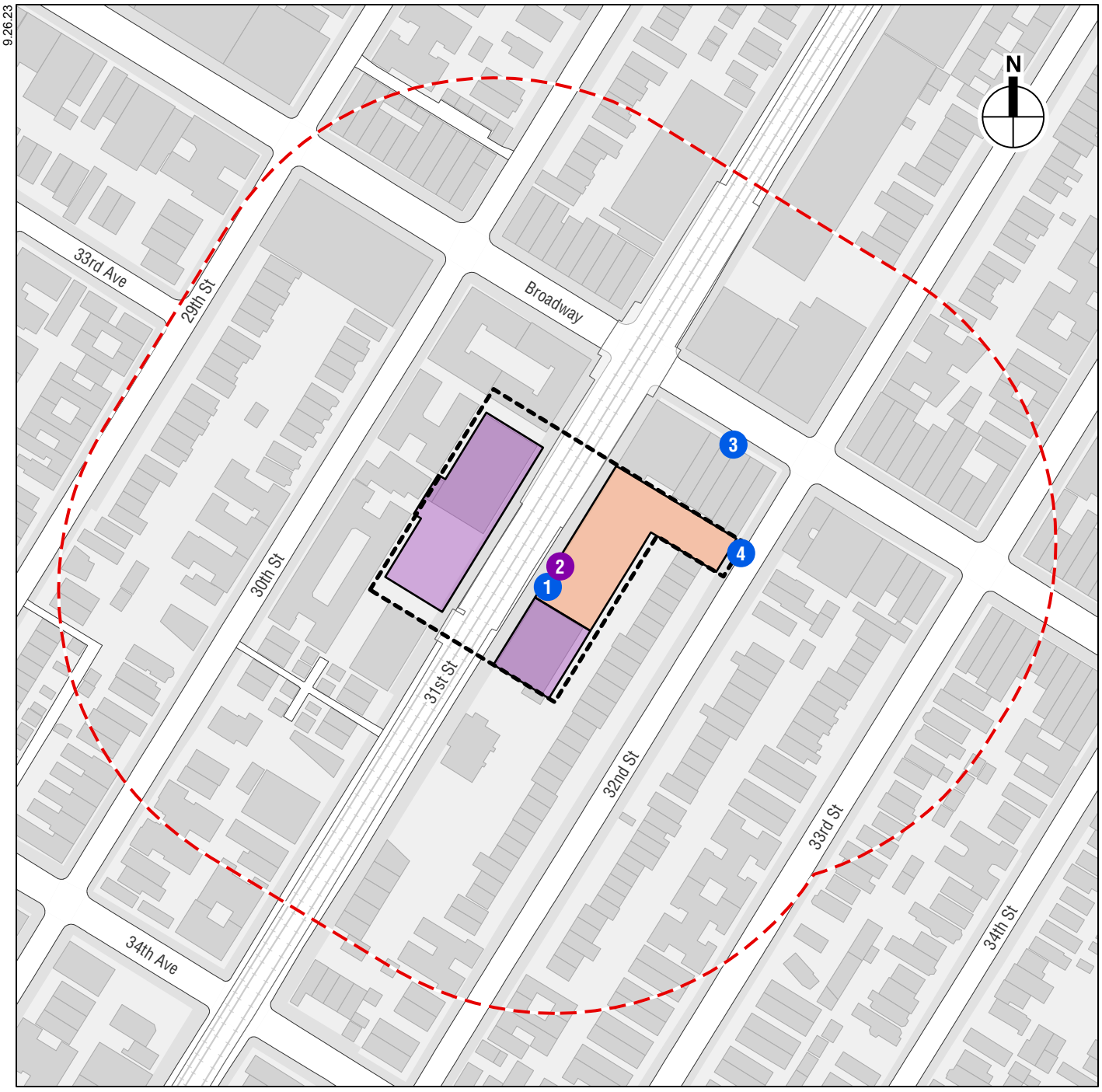
### EQUIPMENT USED DURING NOISE MONITORING

Measurements were performed using two Brüel & Kjær Type 2270 Sound Level Meters (SLM), one Brüel & Kjær Type 2250 SLM, three Brüel & Kjær Type 4189 1/2-inch microphones, and a Brüel & Kjær Sound Level Type 4231 Calibrator. The Brüel & Kjær SLM is a Class 1 instrument according to ANSI Standard S1.4-1983 (R2006). The SLM has a laboratory calibration date within 1 year of the date of the measurements, as is standard practice. At all the receptor sites except location 2, the microphone was mounted on a tripod at a height of approximately 5 feet above the ground. At location 2, the microphone was mounted on a pole approximately 15 feet above the ground. The microphone was mounted away from any large reflecting surfaces that could affect the sound level measurements. The SLM was calibrated before and after readings with a Brüel & Kjær Type 4231 Sound Level Calibrator. Measurements at the location were made on the A-scale (dBA). The data were digitally recorded by the SLM and displayed at the end of the measurement period in units of dBA. Measured quantities included $L_{eq}$, $L_1$, $L_{10}$, $L_{50}$, and $L_{90}$. A windscreen was used during the sound measurements except for calibration. All measurement procedures were based on the guidelines outlined in ANSI Standard S1.13-2005.

### NOISE MEASUREMENT RESULTS

The results of the peak-hour existing noise level measurements conducted at the Project Site are summarized in **Table J-5**.

[1] Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual, September 2018*




Noise Receptor Locations

**IKOS SENIOR HOUSING REZONING & UDAAP**

**Figure J-1**

**Table J-5**
**Existing Noise Levels in dBA**

| Site | Location | Time Period | $L_{eq}$ | $L_1$ | $L_{10}$ | $L_{50}$ | $L_{90}$ | $L_{dn}$ |
|---|---|---|---|---|---|---|---|---|
| 1 | Adjacent to Project Site on East 31st Street, at grade | AM | 76.7 | 88.3 | 78.7 | 66.3 | 58.2 | 76.3 |
| | | MD | 75.8 | 87.0 | 79.8 | 65.7 | 58.3 | |
| | | PM | 78.3 | 90.2 | 81.7 | 66.0 | 58.9 | |
| | | LN | 76.7 | 89.2 | 78.4 | 63.7 | 54.8 | |
| 2 | Adjacent to Project Site on East 31st Street, elevated | AM | 75.6 | 86.9 | 77.7 | 66.0 | 57.8 | 75.2 |
| | | MD | 74.7 | 85.8 | 78.7 | 65.4 | 58.2 | |
| | | PM | 77.2 | 88.9 | 80.8 | 65.6 | 58.7 | |
| | | LN | 75.7 | 88.1 | 77.7 | 63.7 | 55.3 | |
| 3 | Broadway, between East 31st and East 32nd Streets | AM | 68.5 | 78.5 | 71.7 | 63.9 | 58.7 | 66.5 |
| | | MD | 67.0 | 75.2 | 69.6 | 65.0 | 62.2 | |
| | | PM | 67.6 | 75.9 | 68.9 | 64.2 | 61.4 | |
| | | LN | 65.0 | 74.5 | 66.6 | 59.4 | 55.1 | |
| 4 | East 32nd Street, near intersection with Broadway | AM | 63.7 | 73.2 | 66.9 | 57.4 | 54.0 | 61.7 |
| | | MD | 63.5 | 72.4 | 66.6 | 60.0 | 55.2 | |
| | | PM | 61.8 | 71.5 | 65.6 | 57.5 | 54.5 | |
| | | LN | 61.1 | 70.2 | 64.5 | 57.3 | 54.4 | |

**Note:** Noise measurements were performed by AKRF, Inc. on October 19, 2021.

At receptor sites 1 and 2, the elevated train was the dominant noise source. At receptor sites 3 and 4, vehicular traffic was the dominant noise source. In terms of the CEQR criteria, the existing noise levels at receptors 1 and 2 are categorized as "clearly unacceptable" category, existing noise levels at receptor 3 are categorized as "marginally unacceptable" category, and the existing noise levels at receptor 4 are categorized as "marginally acceptable" category.

## E. NOISE ATTENUATION MEASURES

As described above and shown in **Tables J-3** and **J-4**, the 2021 *CEQR Technical Manual* and the HUD *Noise Guidebook* set noise attenuation values for buildings that constitute newly introduced noise-sensitive receptors. These requirements are based on exterior noise levels and are intended to ensure interior noise levels of no more than 40 dBA $L_{dn}$ where rail activity is the dominant noise source or no more than 45 dBA $L_{10(1)}$ where vehicular traffic is the dominant noise source. Commercial office uses require 5 dBA less window/wall attenuation. **Table J-6** shows the minimum window/wall attenuation necessary to meet 2021 *CEQR Technical Manual* and HUD requirements for internal noise levels at each of the noise measurement locations.

**Table J-6**
**CEQR and HUD-Required Attenuation at Noise Measurement Locations (in dBA)**

| Receptor | Location | Maximum $L_{10(1)}$ Value | $L_{dn}$ Value | Minimum Required CEQR Attenuation[1,2] | Minimum Required HUD Attenuation[3] |
|---|---|---|---|---|---|
| 1 | Adjacent to Project Site on East 31st Street, at grade | 81.7 | 76.3 | 37 | 36 |
| 2 | Adjacent to Project Site on East 31st Street, elevated | 80.8 | 75.2 | 36 | 35 |
| 3 | Broadway, between East 31st and East 32nd Streets | 71.7 | 66.5 | 28 | 25 |
| 4 | East 32nd Street, near intersection with Broadway | 66.9 | 61.7 | N/A | 25 |

**Notes:**
[1] Attenuation values are shown for residential or community facility uses; commercial office uses would require 5 dBA less attenuation.
[2] "N/A" indicates that the highest calculated $L_{10}$ is below 70 dBA. The *CEQR Technical Manual* does not specify minimum attenuation guidance for exterior $L_{10(1)}$ values below this level.
[3] HUD attenuation values are only applicable for residential uses.

Based on the values shown in **Table J-6**, required attenuation levels in order to provide sufficient attenuation to achieve both HUD and 2021 *CEQR Technical Manual* interior noise level guidelines were determined for the development sites. These values are shown in **Table J-7**.

Window-wall attenuation at Site 1 (Project Site) would be required through the Land Disposition Agreement (LDA) and Regulatory Agreement between New York City Department of Housing Preservation and Development (HPD) and the project sponsors. To ensure an acceptable interior noise environment, future residential/community facility/commercial office uses must provide a closed-window condition with a minimum of 28 dBA window/wall attenuation on the northern and southern façades beyond 70 feet from the western lot line, 37 dBA window/wall attenuation up to 26 feet above grade and 36 dBA window/wall attenuation more than 26 feet above grade on the northern and southern façades within 70 feet of the western lot line and along the western façade. To maintain a closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, air conditioning. The required attenuation measures will be documented in a professional certification letter to be prepared by the project architect of record for review and approval by HPD prior to construction of the Proposed Project.

To require attenuation at the additional projected and potential development sites, an (E) Designation for noise would be applied, specifying the appropriate amount of window/wall attenuation.

**Table J-7**
**Minimum Required Attenuation at Development Sites (in dBA)**

| Development Site | Block | Lot | Façade(s) | Associated Noise Measurement Site(s) | CEQR Required Attenuation[1,2] | HUD Required Attenuation[3] |
|---|---|---|---|---|---|---|
| Site 1 - Project Site | 611 | 25 | North, within 70 feet from western lot line, up to 26 feet above grade | 1 | 37 | 36 |
| | | | North, within 70 feet from western lot line, more than 26 feet above grade | 2 | 36 | 35 |
| | | | North and South, beyond 70 feet from western lot line | 3 | 28 | 25 |
| | | | East | 4 | N/A | 25 |
| | | | South within 70 feet from western lot line and West, up to 26 feet above grade | 1 | 37 | 36 |
| | | | South within 70 feet from western lot line and West, more than 26 feet above grade | 2 | 36 | 35 |
| Site 2 - Projected Development Site | 587 | 43 | All, up to 26 feet above grade | 1 | 37 | 36 |
| | | | All, more than 26 feet above grade | 2 | 36 | 35 |
| Site A - Potential Development Site (Cretan's Association Community Building) | 611 | 21 | All, up to 26 feet above grade | 1 | 37 | 36 |
| | | | All, more than 26 feet above grade | 2 | 36 | 35 |

**Notes:**
[1] Attenuation values are shown for residential or community facility uses; commercial office uses would require 5 dBA less attenuation.
[2] "N/A" indicates that the highest calculated $L_{10}$ is below 70 dBA. The *CEQR Technical Manual* does not specify minimum attenuation guidance for exterior $L_{10}$ values below this level.
[3] HUD attenuation values are only applicable for residential uses.

The text of the (E) Designation (E-771) restrictions that would be placed on the projected and potential development sites would be as follows:

**Block 587, Lot 43 (Site 2): To ensure an acceptable interior noise environment, future residential/community facility/commercial office uses must provide a closed-window condition with a minimum of 37 dBA window/wall attenuation up to 26 feet above grade and 36 dBA window/wall attenuation more than 26 feet above grade on all façades in order to maintain an interior $L_{dn}$ noise level not greater than 40 dBA for residential and community facility uses or not greater than 45 dBA for commercial office uses. To maintain a closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, air conditioning.**

**Block 611, Lot 21 (Site A): To ensure an acceptable interior noise environment, future residential/community facility/commercial office uses must provide a closed-window condition with a minimum of 37 dBA window/wall attenuation up to 26 feet above grade and 36 dBA window/wall attenuation more than 26 feet above grade on all façades in order to maintain an interior $L_{dn}$ noise level not greater than 40 dBA for residential and community facility uses or not greater than 45 dBA for commercial office uses. To maintain a closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, air conditioning.**

The attenuation of a composite structure is a function of the attenuation provided by each of its component parts and how much of the area is made up of each part. Normally, a building façade is composed of the wall, glazing, and any vents or louvers for HVAC systems in various ratios of area. Buildings proposed to be located on the (E) Designated sites would be designed to provide composite window/wall attenuation greater than or equal to the attenuation requirements listed in **Table J-7**.

By adhering to the requirements described above, buildings to be developed as a result of the Proposed Actions would provide sufficient attenuation to meet the *CEQR Technical Manual* and the HUD *Noise Guidebook* interior noise level guidelines. Therefore, the Proposed Project would not result in any significant adverse noise impacts.

## F. MECHANICAL SYSTEM

The building mechanical systems (i.e., heating, ventilation, and air conditioning systems) would be designed to meet all applicable noise regulations (i.e., Subchapter 5, §24-227 of the New York City Noise Control Code and the New York City Department of Buildings Code) and to avoid producing levels that would result in any significant increase in ambient noise levels. ✷

# Appendix A

440 Park Avenue South, 7th Floor
New York, NY 10016
tel: 212.696.0670
www.akrf.com

# Memorandum

| | |
|---|---|
| **To:** | Annabelle Meunier, HPD |
| **From:** | AKRF. Inc. |
| **Date:** | March 28, 2025 |
| **Re:** | IKOS Senior Housing Rezoning & UDAAP – City of Yes |
| **cc:** | IKOS Development Team |

This memo provides information on the development implications of City of Yes for Housing Opportunity (COYHO) and the potential to affect the conclusions of the Environmental Assessment Statement (EAS) prepared for the IKOS Senior Housing Rezoning. As discussed in the EAS, the disposition and rezoning would result in the IKOS development (the Proposed Project) on Site 1. The zoning change is also projected to result in development on Site 2 (Block 587, Lot 43; the former Rite Aid site across the street from Site 1). The rezoning could potentially result in development on Site A (Block 611, Lot 21; Cretan's Association site), which is assessed for only site-specific technical areas in the EAS. The potential changes on each site are described below:

- Site 1 (Block 611, Lot 25; the Project Site): City of Yes for Housing Opportunity allows for certain changes to the bulk zoning envelope for the Proposed Project, including height and yards. However, COYHO does not allow for additional floor area, as the Proposed Project was already subject to a maximum FAR of 5.01 by providing affordable independent residences for seniors (AIRS). As a result, the design of the Proposed Project would not change due to COYHO because increasing the height and/or depth of the building would decrease efficiency and raise costs without benefit to the project.
- Site 2 (Block 587, Lot 43; former Rite Aid site): the With Action condition projected development would be a 9-story mixed-use residential building totaling approximately 121,600 gsf, with approximately 107,100 gsf of residential space (126 DUs) and approximately 14,500 gsf of retail space.
    - Under the COYHO regulations, the building would have two additional floors: the building would be 11 stories, totaling approximately 145,000 gsf, with approximately 131,000 gsf of residential space (154 DUs) and approximately 14,500 gsf of retail space.
- Site A (Block 611, Lot 21; Cretan's Association site) is a potential development site and is therefore only analyzed for site-specific technical areas. The With Action potential development is a 9-story mixed-use building totaling approximately 49,000 gsf, with approximately 45,000 gsf of residential space (53 DUs) and approximately 4,000 gsf of retail space.
    - Under the COYHO regulations, the building would have two additional floors: the building would be 11 stories, totaling approximately 58,500 gsf, with approximately 54,500 gsf of residential space (64 DUs) and approximately 4,000 gsf of retail space (see section diagram).
- Under the RWCDS, the COYHO alternative would result in a residential increment of 322 DUs (on the IKOS Site and Site 2), approximately 30 more DUs compared to the With Action scenario (294 DUs), as shown in the table below. There would be no change in the amount of retail space. **Table 1** presents the RWCDS under the COYHO alternative.

**Table 1**
**Reasonable Worst Case Development Scenario**

| | With Action Condition | | | | COYHO Alternative With Action Condition[4] | | | | COYHO Alternative Increment | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sites** | Site 1 | Site 2 | **Sites 1 & 2 Total** | Site A[1] | Site 1 | Site 2 | **Sites 1 & 2 Total** | Site A[1] | Site 1 | Site 2 | **Sites 1 & 2 Total** | Site A[1] |
| Retail GSF | 7,000 | 14,500 | **21,500** | 4,000 | 7,000 | 14,500 | **21,500** | 4,000 | - | - | **-** | - |
| Comm Fac GSF | 7,000 | 0 | **7,000** | 0 | 7,000 | 0 | **7,000** | 0 | - | - | **-** | - |
| Total DU | 168 | 126 | **294** | 53 | 168 | 154 | **322** | 64 | - | +28 | **+28** | +11 |
| Senior DU | 167 | 0 | **167** | 0 | 167 | 0 | **167** | 0 | - | - | **-** | - |
| MIH DU | 0 | 38 | **38** | 16 | 0 | 46 | **46** | 19 | - | - | **+8** | +3 |
| Building Height (Stories) | 13 / 3 | 9 | **-** | 9 | 13 / 3 | 11 | **-** | 11 | - | +2 | **-** | +2 |
| Building Height (Feet) | 135 / 37 | 94 | **-** | 94 | 135 / 37 | 114 | **-** | 114 | - | +20 | **-** | +20 |
| Residential Pop.[2] | 253 | 281 | **534** | 118 | 253 | 343 | **596** | 144 | - | +62 | **+62** | +26 |
| Worker Pop.[3] | 40 | 63 | **103** | 18 | 40 | 64 | **104** | 19 | - | +1 | **+1** | +1 |

**Notes:**
[1] Site A is considered a potential development site. Potential developments are assessed for site-specific technical areas of the EAS; these sites are not considered under the density-based analyses.
[2] Residential population estimates based on an average household size of 1.5 persons per senior housing unit and 2.23 persons per general housing unit (average household size for Queens CD 1 as of 2020 Census)
[3] Worker population estimates based on rates of one worker per 250 sf of retail; one worker per 1,000 sf of community facility space; and one worker per 25 residential units.
[4] Changes to the RWCDS development scenarios under the COYHO alternative are shown with highlights.
**Sources:** AKRF, Inc.; SLCE Architects

The effects of the increased development on Site 2 and Site A under the COYHO alternative scenario would be minimal in the analysis areas considered in the EAS. Given these minimal effects, the alterative scenario can be included and assessed qualitatively, as outlined for the key technical areas below.

*COMMUNITY FACILITIES*

With the addition of approximately 30 DUs to the RWCDS increment, the Proposed Actions would continue to fall below the screening thresholds for Community Facilities (e.g., schools and child care facilities), therefore it would not trigger new analysis.

*OPEN SPACE*

Under the alternative scenario, the percent change between the With Action and No Action conditions for total, active, and passive open space ratios would be 1 percent (compared to 0.89 percent in the EAS analysis); this would be at the quantitative threshold for a significant adverse open space impact (see **Table 2**).

**Table 2**
**Open Space Ratio COYHO Summary**

| Ratio | *CEQR Technical Manual* Open Space Guideline | Open Space Ratios per 1,000 | | | Percent Change |
|---|---|---|---|---|---|
| | | Existing | No Action | With Action | |
| **Residential (½-Mile) Study Area** | | | | | |
| Total—Residents | 2.5 | 0.024 | 0.022 | 0.022 | -1.00% |
| Active—Residents | 2.0 | 0.020 | 0.018 | 0.018 | -1.00% |
| Passive—Residents | 0.5 | 0.004 | 0.004 | 0.004 | -1.00% |
| **Notes:** Open space ratios and percent change are calculated using unrounded values; open space ratios are presented as rounded to three digits. | | | | | |

According to the *CEQR Technical Manual*, this does not constitute an absolute impact threshold: projects that may result in significant quantitative impacts on open space are typically further assessed in the qualitative assessment approach to determine the overall significance of the impact. Therefore, the same qualitative factors discussed in the EAS would continue to apply, i.e., open spaces within the study area are in excellent condition and exhibit low to moderate utilization, indicating a capacity to tolerate additional users; three additional open spaces that are adjacent to the study area (not considered in the quantitative analysis) provide an additional 6.09 acres of publicly accessible open space; and the Proposed Project would include private open space, including indoor and outdoor recreational space for seniors.

Furthermore, there are several parks located outside the study area along the waterfront. These include Rainey Park and Astoria Park. Although temporarily closed for construction, Rainey Park will feature over 8 acres of reconstructed playground space, a picnic grove, and a basketball court, set to re-open by the end of 2024. Astoria Park, located further north, features approximately 60 acres of open space. This includes a pool, multiple sports courts, playgrounds, and running/walking paths. Combined, these open spaces provide abundant recreation space for all age groups.

When such qualitative factors are taken into consideration, the Proposed Actions would not result in a significant adverse impact on open space, and the alternative scenario would not alter this conclusion.

*SHADOWS*

The taller buildings on Site 2 and Site A would not result in any new shadows that would be long enough to reach any sunlight-sensitive resources in the surrounding area. Therefore, under the alternative scenario, the Proposed Actions would continue to screen out of a detailed shadows analysis.

*TRANSPORTATION*

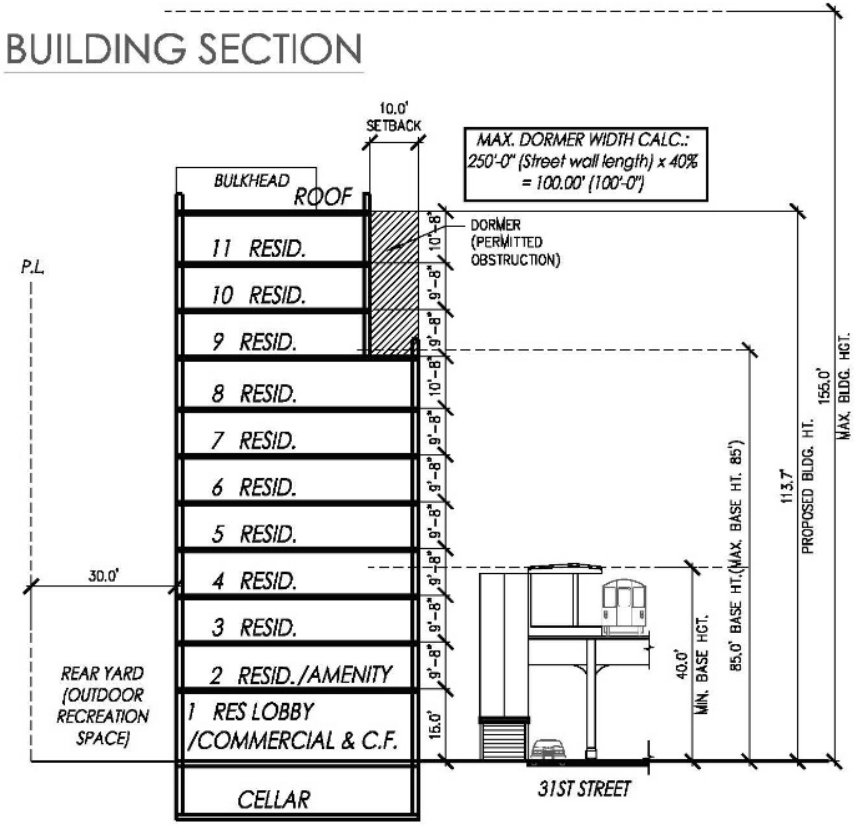
The alternative scenario with approximately 30 additional DUs would not alter the analysis findings that the Proposed Actions would not result in any significant adverse transportation impacts:

- Traffic—Level 1 vehicle trip increments show that the Saturday peak hour (in addition to the weekday PM peak hour) would also be over the 50 incremental vehicle trip threshold to warrant a Level 2 trip assignment screening. The Level 2 trip assignment screening is expected to show that detailed traffic and parking analysis would continue to screen out.

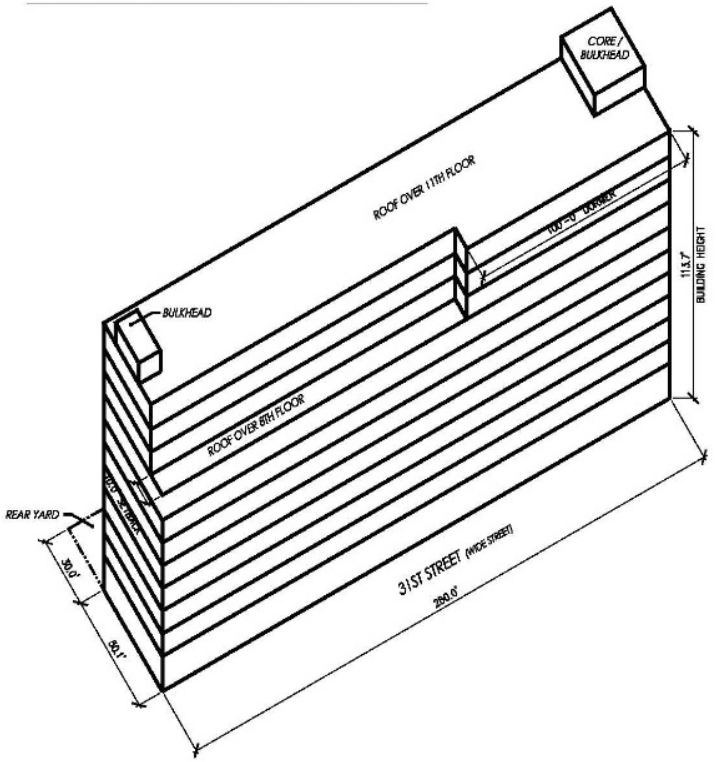
- Transit (subway and bus)—Incremental trips would continue to be below the CEQR incremental trip thresholds to warrant further detailed analysis.
- Pedestrians—the alternative scenario would result in up to approximately 30 additional incremental person trips during peak hours.
    - The additional incremental person trips would be concentrated along the west side of 31st Street where the Projected Development Site is located.
    - The current EAS Level 2 pedestrian screening results show that there are two other pedestrian analysis elements on the west side of 31st Street that are close to the 200 incremental trip threshold. The additional incremental person trips may trip these two other pedestrian elements—one corner (currently at 198 incremental trips) and a sidewalk segment (currently at 187 incremental trips)—into detailed analysis. However, the detailed analysis results at these two additional pedestrian elements, as well as the pedestrian elements already analyzed, are expected to continue to show that the Proposed Actions would not result in any significant adverse pedestrian impacts. The already analyzed pedestrian elements (sidewalks and corners) in the study area operate at favorable levels of service (LOS A's and B's) such that these elements, as well as the potential additional pedestrian elements, are anticipated to have sufficient capacity to handle the relatively small person trip increases attributed to the additional dwelling units.

**SITE 2 (RITE AID)**

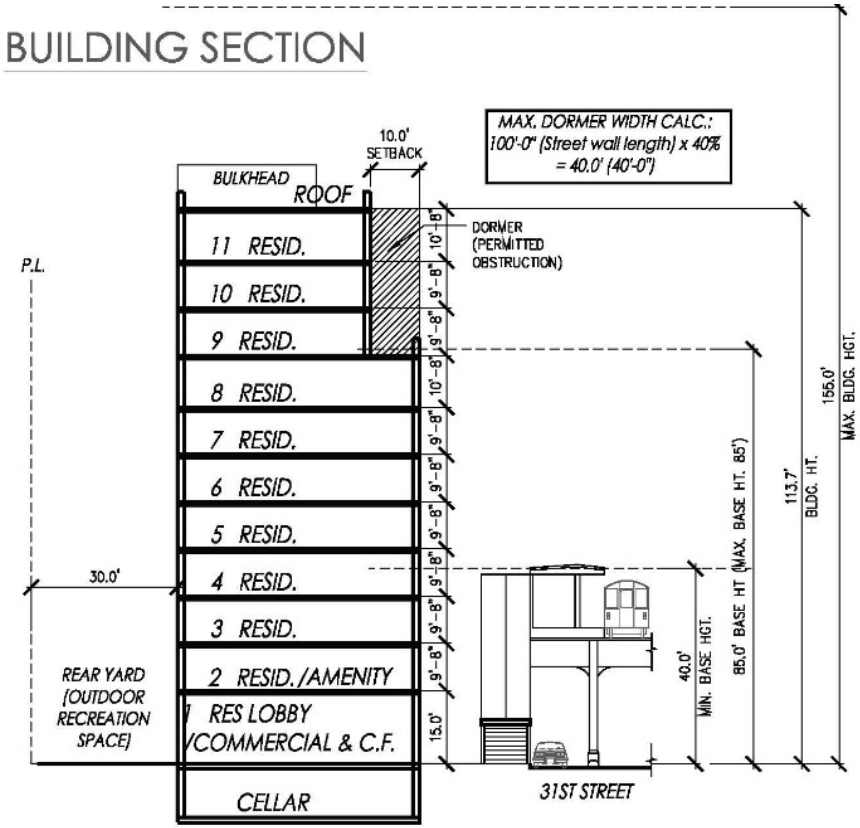
## BUILDING SECTION

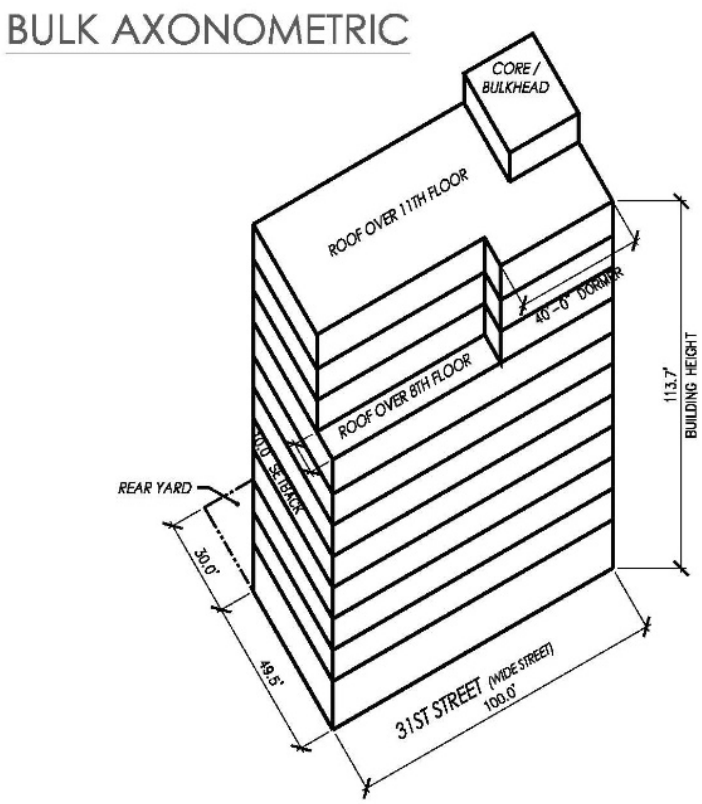



## BULK AXONOMETRIC



**SITE A (CRETAN'S ASSOCIATION)**




AKRF, Inc.

# Appendix B

Landmarks Preservation Commission

1 Centre Street
9th Floor North
New York, NY 10007

Voice (212)-669-7700
Fax (212)-669-7960
http://nyc.gov/landmarks

# ENVIRONMENTAL REVIEW

**Project number:** HOUSING PRESERVATION AND DEV / LA-CEQR-Q
**Project:** IKOS SENIOR LIVING
**Date Received:** 1/27/2022

**Properties with no Architectural or Archaeological significance:**

1) 32-14 31 STREET, BBL: 4005870043
2) 32-33 31 STREET, BBL: 4006110021
3) 31-07 31 STREET, BBL: 4006110025

**Comments:**

POTENTIAL HISTORIC RESOURCES AT 03-01 TO 30-17 BROADWAY APPEAR TO BE S/NR ELIGIBLE.

Gina Santucci

2/3/2022

SIGNATURE DATE
Gina Santucci, Environmental Review Coordinator

**File Name:** 36096_FSO_DNP_02032022.docx

# Appendix C

**Rohit T. Aggarwala**
*Commissioner*

**Angela Licata**
*Deputy Commissioner*
*Sustainability*

59-17 Junction Blvd.
Flushing, NY 11373

Tel. (718) 595-4398
Fax (718) 595-4422
alicata@dep.nyc.gov

October 18, 2022

Mr. Alexander Schaefer
NYC Department of Housing Preservation and Development
100 Gold Street
New York, NY 10038

**Re: IKOS Senior Living**
**Block 611, Lot 25**
**CEQR # 22HPD043Q**

Dear Alexander:

The New York City Department of Environmental Protection, Bureau of Environmental Planning and Analysis (DEP) has reviewed the Response to Comments Memo dated September 20, 20221, Air Quality and Noise chapters of the Environmental Assessment Statement (EAS) dated September 16, 2022 and support files prepared by AKRF, on behalf of the Department of Housing Preservation and Development (HPD) for the above referenced project. It is our understanding that HPD is proposing zoning amendments to facilitate a mixed-use development containing senior housing at 32-11 31st Street (Site 1) which will include construction of two new buildings containing 135 units of senior housing, 7,000 gross square feet (gsf) of retail space, and 12,196 gsf of community facility space (the Proposed Project). The 11-story, 115 feet high building will consist of residential units and ground floor retail and the 5-story, 60 feet high building will consist of community facility use. The buildings will be separated by an outdoor passive recreational space. The zoning amendments could result in new development on two other development sites not controlled by the City or the project sponsors (Site A and Site 2). The proposed project is located in the Astoria neighborhood of Queens Community District 1.

Per HPD request, we have reviewed the mentioned above documents and our office has the following conclusions:

**Noise**:

1. Please note that the consultant may have overestimated the $L_{dn}$. The current calculation is conservative and may lead to excessive attenuation requirement. The consultant may want to revise the $L_{dn}$ calculation using method from Option 4 in the Federal Transit Administration's Transit Noise and Vibration Impact Assessment Manual (September 2018).

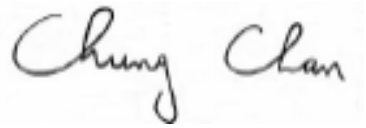
2. Please revise the text in the document and the values in Table J-6 regarding to the 'Minimum Required CEQR Attenuation' for receptors 1 and 2. These monitoring locations are dominated by rail activities and their attenuation requirement based on $L_{dn}$ should also be presented. The higher attenuation requirement between the traffic and rail noise should be the attenuation requirement in the "E" designation for the project sites.

3. In Table J-7, please use the distance from the lot lines instead of the rail for the requirements for associated window-wall attenuation. For example, instead of providing a distance from the rail, provide the distance from property lot lines. In addition, rather than state window-wall attenuation needs 'below' or 'above' tracks, provide corresponding distance above grade.

4. When stating the (E) Designations, incorporate comment 2 as well as make sure to provide attenuation needs for all facades.

If you have any questions, you may contact me at chungc2@dep.nyc.gov.

Sincerely,



Chung Chan,
Director
Air Quality and Noise Review and Planning

**From:** Estesen, Terrell
**To:** Schaefer, Alexander (HPD)
**Cc:** Howard, Anthony (HPD); Wimbish, Mitchell; Chan, Chung
**Subject:** RE: request for CEQR # 22HPD043Q (IKOS SENIOR LIVING) Reference # 22HPD043Q-13-21092022100914
**Date:** Tuesday, October 18, 2022 4:16:03 PM
**Attachments:** 22HPD043Q IKOS Senior Living DEP Noise 10.18.22.pdf

---

Hi Alexander – Attached is DEP's comment letter for IKOS Senior Living.

Air Quality looks fine, our only note is that HPD may want to consider incorporating language into the "E" designation to reflect that under Local Law 154 potential sites A and 2 may require electrical heat and hot water systems should the application for building approval be submitted on January 1, 2024 or later.

On noise, please note that the consultant estimated the Ldn from the rail activities very conservatively, and this may lead to excessive noise attenuation requirements. It is up to HPD to decide if they want to revise the Ldn so the attenuation requirements are lower. The rest of the comments are edits that do not require additional analysis.

I will mark the requests complete and load the letter to CEQRView; please acknowledge and close the requests when you have a chance. Thanks.

---

**From:** Estesen, Terrell
**Sent:** Wednesday, September 21, 2022 12:09 PM
**To:** Schaefer, Alexander (HPD) <SchaefeA@hpd.nyc.gov>
**Cc:** Howard, Anthony (HPD) <HowardA@hpd.nyc.gov>; Wimbish, Mitchell <MitchellW@dep.nyc.gov>; Chan, Chung <ChungC2@dep.nyc.gov>
**Subject:** RE: request for CEQR # 22HPD043Q (IKOS SENIOR LIVING) Reference # 22HPD043Q-13-21092022100914

Air and Noise requests received and acknowledged. No promise date given workload and resources. Thanks.

---

**From:** Schaefer, Alexander (HPD) <SchaefeA@hpd.nyc.gov>
**Sent:** Wednesday, September 21, 2022 10:58 AM
**To:** Estesen, Terrell <TerrellE@dep.nyc.gov>; Wimbish, Mitchell <MitchellW@dep.nyc.gov>
**Cc:** Howard, Anthony (HPD) <HowardA@hpd.nyc.gov>
**Subject:** request for CEQR # 22HPD043Q (IKOS SENIOR LIVING) Reference # 22HPD043Q-13-21092022100914
**Importance:** High

CEQR #: 22HPD043Q
Project Name: IKOS SENIOR LIVING

Reference #: 22HPD043Q-13-21092022100914

Hello,

Please log into CEQR-View to view the details of this request and provide an acknowledgement that you have recorded it.

Thank you

---

Additional Notes:

DEP,

HPD is requesting DEP's review of a revised Noise chapter dated september 2022. You will find the revised chapter, a memo from the consulant responding to comments from a DEP letter dated September 12, 2022 as well as noise backup data in the following folder: \\csc.nycnet\oec\oec\CEQR_View\2022\22HPD043Q\non_record_documents\working_docs\Revised Noise AQ 9 21 2022

Please let me know if you have any questions.

Environmental Protection

**Rohit T. Aggarwala**
*Commissioner*

**Angela Licata**
*Deputy Commissioner*
*Sustainability*

59-17 Junction Blvd.
Flushing, NY 11373

Tel. (718) 595-4398
alicata@dep.nyc.gov

March 20, 2024

Anthony Howard
Director, Environmental Planning
New York City Department of Housing Preservation and Development
100 Gold Street
New York, NY 10038

**Re: IKOS Senior Living**
**31-07 31st Street**
**Block 611, Lot 25 (Site 1)**
**CEQR # 22HPD043Q**

Dear Mr. Howard:

The New York City Department of Environmental Protection, Bureau of Sustainability (DEP) has reviewed the January 2024 Subsurface (Phase II) Investigation Report prepared by AKRF, Inc. on behalf of the New York City Department of Housing Preservation and Development (HPD) (applicant) for the above referenced project. It is our understanding that the proposal involves an application by HPD, on behalf of Mega Contracting Group and Hanac (project sponsors), for approvals to facilitate a mixed-use development containing 135 units of senior housing, 7,000 gross square feet (gsf) of retail space, and 12,196 gsf of community facility space (Proposed Project) at Block 611, Lot 25 (Project Site) (Site 1) in the Astoria neighborhood of Queens Community District 1. The Proposed Project is comprised of two buildings: a 11-story mixed-used residential building on the Project Site's 31st Street frontage with 135 affordable senior dwelling units and approximately 7,000 gsf of ground-floor retail; and a 5-story, 12,196-gsf community facility building on the Project Site's 32nd Street frontage. The community facility building would be separated from the residential building by an outdoor passive recreational space. The commercial and residential entrances for the residential building would be located on 31st Street, while the entrance for the community facility building would be located on 32nd Street. The Proposed Project would be financed through HPD's Senior Affordable Rental Apartments program. The Proposed Project would be facilitated by the disposition of City-owned property, approval and designation of an Urban Development Action Area Plan and project, and a zoning map amendment and a zoning text amendment. The requested zoning map and zoning text amendments would affect an area that extends beyond the Project Site. The zoning map amendment would change an existing R5 and R5/C1-2 district on 31st and 32nd Streets and an existing C4-2A district on Broadway to a C4- 3 district (Rezoning Area). In addition to the Project Site, the zoning changes would affect the eastern and western frontages of 31st Street south of Broadway and the southern frontage of Broadway between 31st Street and 32nd Street. The zoning text amendment would establish the Rezoning Area as a Mandatory Inclusionary Housing Area in

Appendix F of the Zoning Resolution. In addition to Site 1, the Rezoning Area includes two sites that would be rezoned from R5/C1-2 to C4-3 that could reasonably experience redevelopment under the proposed zoning changes: Site 2 (Block 587, Lot 43) and Site A (Block 611, Lot 21).

**Block 611, Lot 25 (Site 1)**

During the October 2022 fieldwork, seven soil borings (SB-01 through SB-07), four temporary wells (TW-01 through TW-04), and five soil vapor probes (SV-01 through SV-05) were installed. Soil borings were advanced approximately 5 feet into the water table to approximately 40 feet below grade surface (bgs), except for SB-04, which was advanced to 45 feet bgs. Two soil samples were collected from each boring. Soil samples were collected from the 0-2 foot bgs interval of each boring and from the 29-31 feet bgs, 31-33 feet bgs, or 32-34 feet bgs interval of each boring. Soil and groundwater samples were analyzed for volatile organic compounds (VOCs) by United States Environmental Protection Agency (EPA) Method 8260, semi-volatile organic compounds (SVOCs) by EPA Method 8270, pesticides by EPA Method 8081, and polychlorinated biphenyls (PCBs) by EPA Method 8082, and Target Analyte List metals by EPA 6000/7000 Methods (total and dissolved for groundwater samples). Five soil vapor samples were collected and analyzed for VOCs by EPA Method TO-15.

The soil analytical results revealed that PCBs were either non-detect (ND) or below their New York State Department of Environmental Conservation (NYSDEC) 6 NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives (SCOs). One VOC (acetone), several SVOCs (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, and indeno(1,2,3-c,d)pyrene), one pesticide (4,4'-DDT), and several metals (copper, lead, mercury, and zinc) were detected above their NYSDEC Unrestricted Use and/or Restricted Residential Use SCOs.

The groundwater analytical results revealed that pesticides and PCBs were either ND or below their NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1 Class GA Ambient Water Quality Standards and Guidance Values. Several VOCs (chloroform, cis-1,2-dichloroethylene, and tetrachloroethylene (PCE)), several SVOCs (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, bis(2-ethylhexyl)phthalate, chrysene, and indeno(1,2,3-c,d)pyrene), and several metals (arsenic, barium, beryllium, chromium, copper, iron, lead, magnesium, manganese, mercury, nickel, sodium, thallium, and zinc) were detected above their NYSDEC TOGS 1.1.1 Class GA Ambient Water Quality Standards and Guidance Values. PCE was detected at concentrations up to 330 µg/L.

The soil vapor analytical results revealed that several VOCs (1,1,2-trichloro-1,2,2-trifluoroethane, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,3-butadiene, 1,3-dichlorobenzene, 2,2,4-trimethylpentane, 2-hexanone, 4-ethyltoluene, acetone, benzene, butane, carbon disulfide, carbon tetrachloride, chlorodifluoromethane, chloroform, chloromethane, cis-1,2-dichloroethylene, cyclohexane, cymene, dichlorodifluoromethane, ethylbenzene, isopropanol, isopropylbenzene, m,p-xylenes, methyl ethyl ketone, methyl isobutyl ketone, methyl methacrylate, methylene chloride, n-heptane, n-hexane, n-propylbenzene, o-xylene, styrene, tert-butyl alcohol, PCE, toluene, trans-1,2-dichloroethene, trichloroethylene (TCE),

trichlorofluoromethane) were detected. PCE was detected at concentrations up to 1,900 $\mu g/m^3$ and TCE was detected at concentrations up to 45 $\mu g/m^3$.

Based upon our review of the submitted documentation, we have the following comments and recommendations to HPD:

**Block 611, Lot 25 (Site 1)**

- Based on the contamination identified, DEP recommends that an (E) Designation for hazardous materials should be placed pursuant to Section 11-15 of the New York City Zoning Resolution for the subject property. The (E) Designation will ensure that testing and mitigation will be provided as necessary before any future development and/or soil disturbance. Further hazardous materials assessments should be coordinated through the Mayor's Office of Environmental Remediation. The Environmental Assessment Statement should also be revised to incorporate the placement of the (E) Designation.

Future correspondence and submittals related to this project should include the following CEQR # **22HPD043Q**. If you have any questions, you may contact me at (718) 595-4358.

Sincerely,

Wei Yu

Wei Yu
Deputy Director, Hazardous Materials

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