City Environmental Quality Review
ENVIRONMENTAL ASSESSMENT STATEMENT (EAS) FULL FORM

Please fill out and submit to the appropriate agency (see instructions)

Part I: GENERAL INFORMATION

PROJECT NAME The Boulevard at Hylan Plaza

1. *Reference Numbers*

CEQR REFERENCE NUMBER (to be assigned by lead agency) 77DCP281R	BSA REFERENCE NUMBER (if applicable)
ULURP REFERENCE NUMBER (if applicable) N 000213 ZAR, M 00213A ZAR	OTHER REFERENCE NUMBER(S) (if applicable) (*e.g.*, legislative intro, CAPA)

2a. *Lead Agency Information*			**2b. *Applicant Information***		
NAME OF LEAD AGENCY New York City Department of City Planning			NAME OF APPLICANT Hylan Plaza 1339, LLC		
NAME OF LEAD AGENCY CONTACT PERSON Robert Dobruskin			NAME OF APPLICANT'S REPRESENTATIVE OR CONTACT PERSON Ethan Goodman Fox Rothschild, LLP		
ADDRESS 120 Broadway, 31st Floor			ADDRESS 100 Park Avenue, Suite 1500		
CITY New York	STATE NY	ZIP 10271	CITY New York	STATE NY	ZIP 10017
TELEPHONE 212-720-3423	EMAIL rdobrus@planning.nyc.gov		TELEPHONE 212-878-7929	EMAIL egoodman@foxrothschild.com	

3. *Action Classification and Type*

SEQRA Classification

☐ UNLISTED ☒ TYPE I: Specify Category (see 6 NYCRR 617.4 and NYC Executive Order 91 of 1977, as amended): (6)(i)

Action Type (refer to Chapter 2, "Establishing the Analysis Framework" for guidance)

☒ LOCALIZED ACTION, SITE SPECIFIC ☐ LOCALIZED ACTION, SMALL AREA ☐ GENERIC ACTION

4. *Project Description*

The Applicant, Hylan Plaza 1339, LLC, is seeking zoning authorizations pursuant to Section 36-023 of the New York City Zoning Resolution (ZR) for a group parking facility accessory to a commercial enlargement on a zoning lot in excess of 4 acres in a C4-1 zoning district, and for a reduction of the parking requirement of ZR Section 36-21.The applicant is also seeking a cross-access easement certification pursuant to ZR Section 36-592 to certify that cross-access connections have been provided (for locations where they are required).

The existing Hylan Plaza Shopping Center is a 362,462-gross-square foot (gsf) regional shopping center consisting of local- and regional-serving retail stores. The proposed actions would facilitate a proposal by the Applicant to demolish an approximately 290,100-gsf portion of the existing shopping center (see Figure 1) and construct in its place approximately 386,705 gsf of new retail structures and 23,159 gsf of receiving areas (see Figures 2a and 2b). Upon completion of the proposed project, the new regional shopping center would be approximately 459,079 gsf—which is approximately 96,617 gsf more than exists currently. In addition, the proposed project would result in approximately 1,653 parking spaces, which is 239 more spaces than currently exist.

Project Location

BOROUGH Staten Island	COMMUNITY DISTRICT(S) 2	STREET ADDRESS 2600 Hylan Boulevard
TAX BLOCK(S) AND LOT(S) Block 3969: Lots 1, 6, 31 and 35		ZIP CODE 10306
DESCRIPTION OF PROPERTY BY BOUNDING OR CROSS STREETS Hylan Boulevard, Ebbitts Street, Mill Road, Dartmouth Loop		
EXISTING ZONING DISTRICT, INCLUDING SPECIAL ZONING DISTRICT DESIGNATION, IF ANY C4-1		ZONING SECTIONAL MAP NUMBER 27b

5. *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 ZR Sections 36-023; 36-21; and 36-592.

***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 If "yes," specify:

Other City Approvals Subject to CEQR (check all that apply)
☐ LEGISLATION
☐ RULEMAKING
☐ CONSTRUCTION OF PUBLIC FACILITIES
☐ 384(b)(4) APPROVAL
☐ OTHER, explain:
☐ FUNDING OF CONSTRUCTION, specify:
☐ POLICY OR PLAN, specify:
☐ FUNDING OF PROGRAMS, specify:
☐ PERMITS, specify:

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:

6. *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.): 1,033,946 sq. ft. (23.7 acres)
Waterbody area (sq. ft.) and type: 0
Roads, buildings, and other paved surfaces (sq. ft.): 1,019,129
Other, describe (sq. ft.): Area with landscaping: 14,817 sf

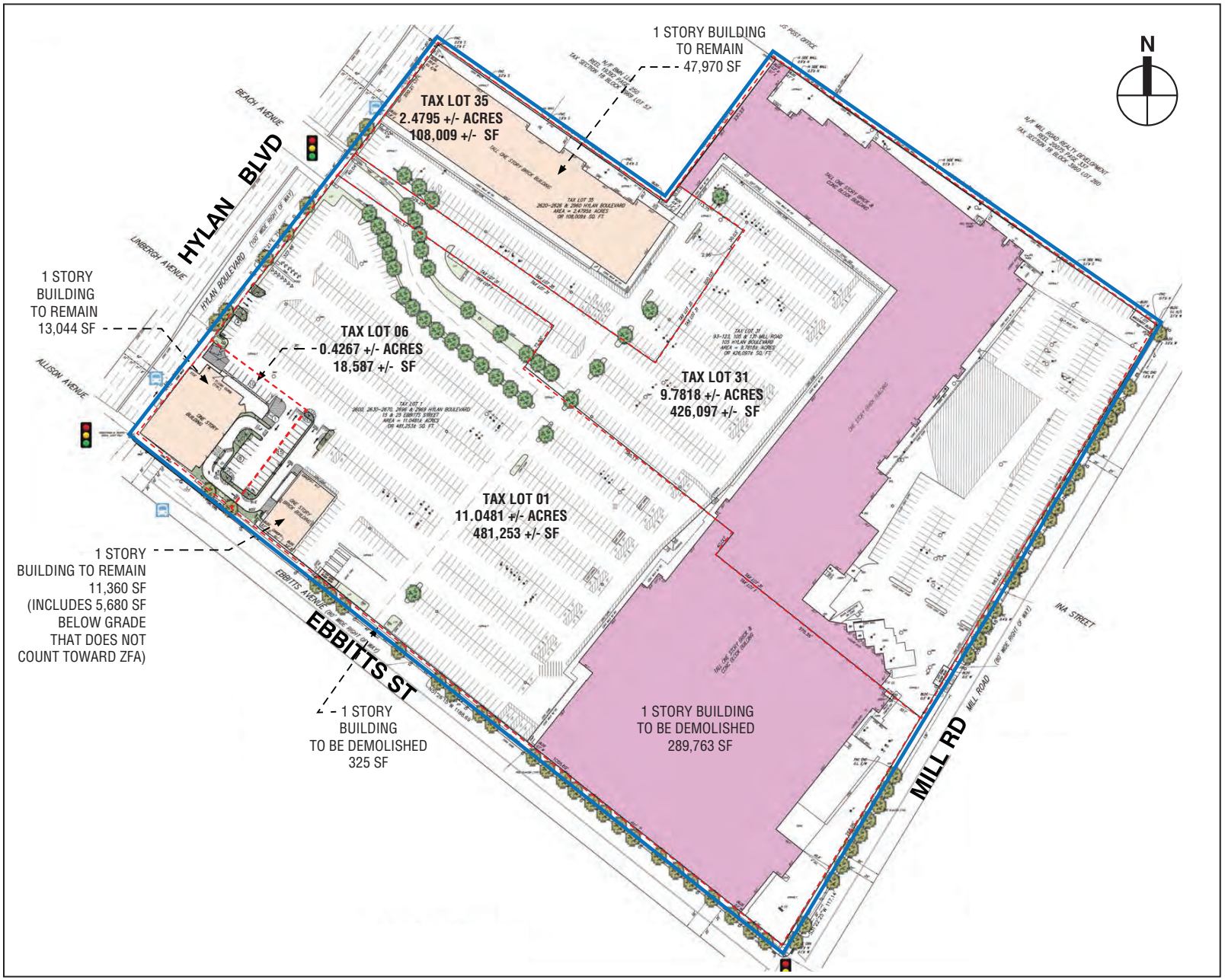
7. *Physical Dimensions and Scale of Project* (if the project affects multiple sites, provide the total development facilitated by the action)
SIZE OF PROJECT TO BE DEVELOPED (gross square feet): 459,079-sf commercial development
NUMBER OF BUILDINGS: 6
GROSS FLOOR AREA OF EACH BUILDING (sq. ft.): Existing A: 47,970 sf, Existing B: 13,044 sf, Existing C: 11,360 sf, Proposed E: 5,336 sf, Proposed G: 142,421, Proposed F: 235,380 sf
HEIGHT OF EACH BUILDING (ft.): Existing Building A: 35'-0"; Existing Building B: 35'-0"; Existing Building C: 35'-0"; Proposed Building E: 35'-0"; Proposed Building F: 53'-0" with 2nd Floor Parking (rear of Building F) at 41'-0"; Proposed Building G: 53'-0' and 88'-0" (cinema portion). Various parapets along Main Street are extending 6'-8' above the roof of retail building. The height of the Sign Tower at Mill Road is about 30' above 88'-0" cinema roof line of Building G.
NUMBER OF STORIES OF EACH BUILDING: Exist = 1; proposed = 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:
The total square feet not owned or controlled by the applicant:

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 disturbance (if known):
AREA OF TEMPORARY DISTURBANCE: TBD sq. ft. (width x length)
VOLUME OF DISTURBANCE: TBD cubic ft. (width x length x depth)
AREA OF PERMANENT DISTURBANCE: TBD sq. ft. (width x length)

8. *Analysis Year* CEQR Technical Manual Chapter 2			
ANTICIPATED BUILD YEAR (date the project would be completed and operational): 2019			
ANTICIPATED PERIOD OF CONSTRUCTION IN MONTHS: 20			
WOULD THE PROJECT BE IMPLEMENTED IN A SINGLE PHASE? ☒ YES	☐ NO	IF MULTIPLE PHASES, HOW MANY?	
BRIEFLY DESCRIBE PHASES AND CONSTRUCTION SCHEDULE: Assuming commencement of construction by early 2018, and an estimated 20-month, single-phase construction period, the proposed project is expected to be complete and occupied by 2019.			
9. *Predominant Land Use in the Vicinity of the Project* (check all that apply)			
☒ RESIDENTIAL	☐ MANUFACTURING	☒ COMMERCIAL	☒ PARK/FOREST/OPEN SPACE	☐ OTHER, specify:

5.6.16



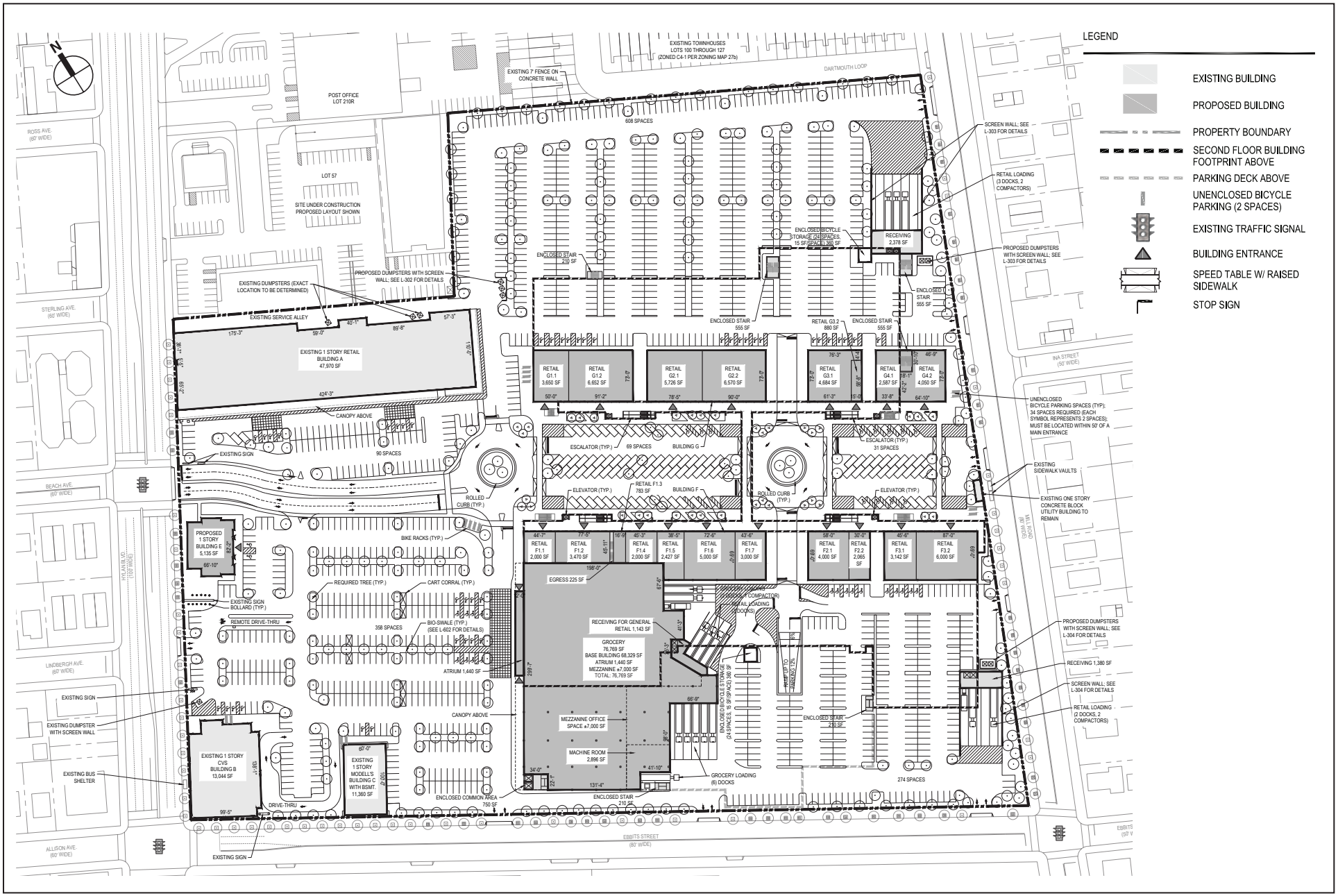
KEY

- EXISTING TO REMAIN
- EXISTING TO BE DEMOLISHED
- EXISTING SITE TREES
- EXISTING STREET TREES
- PROJECT SITE BOUNDARY
- TAX LOT BOUNDARY

Survey of Existing Buildings

Figure 1

The Boulevard at Hylan Plaza

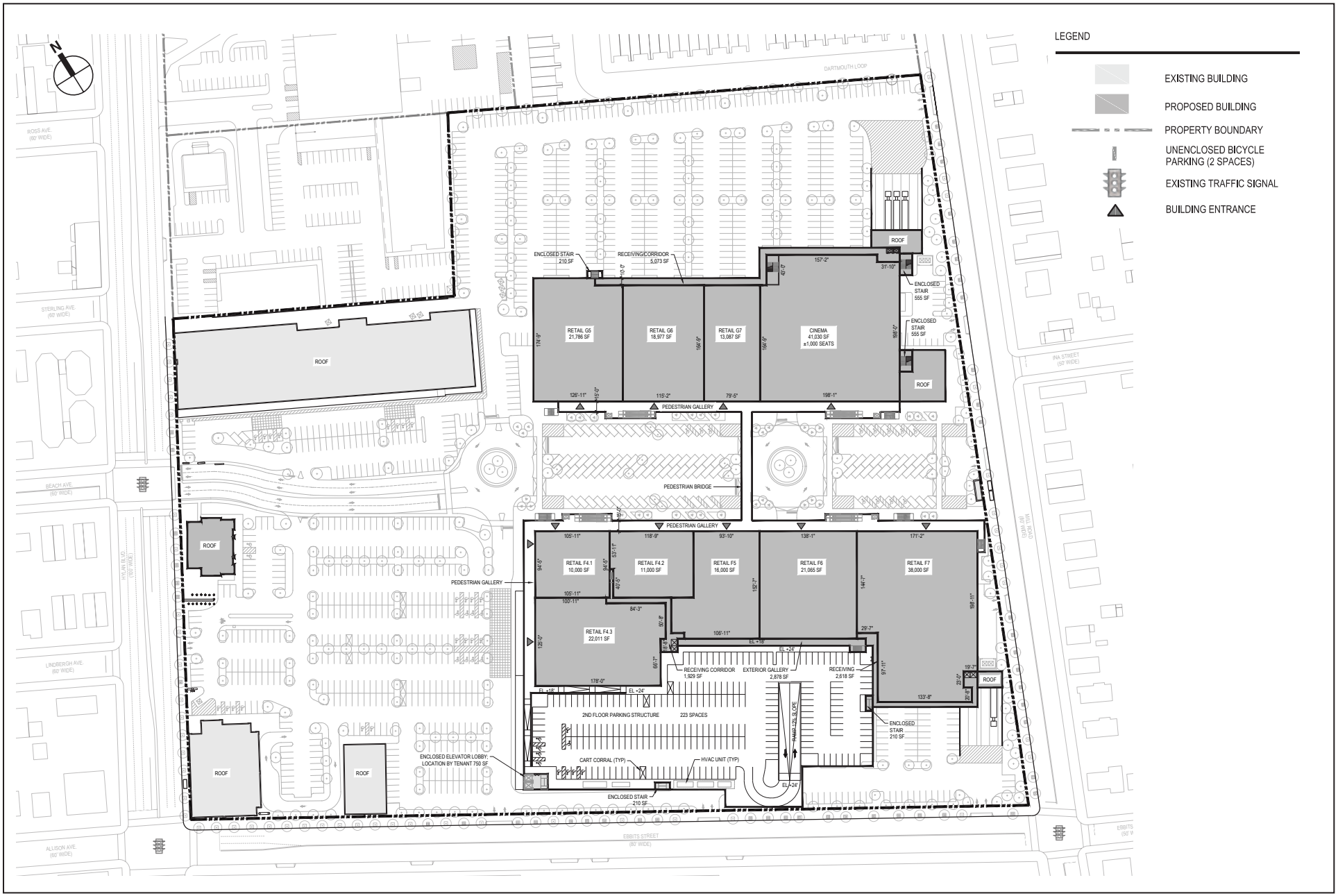


Proposed Ground Floor Plan

The Boulevard at Hylan Plaza

Figure 2a

5.6.16

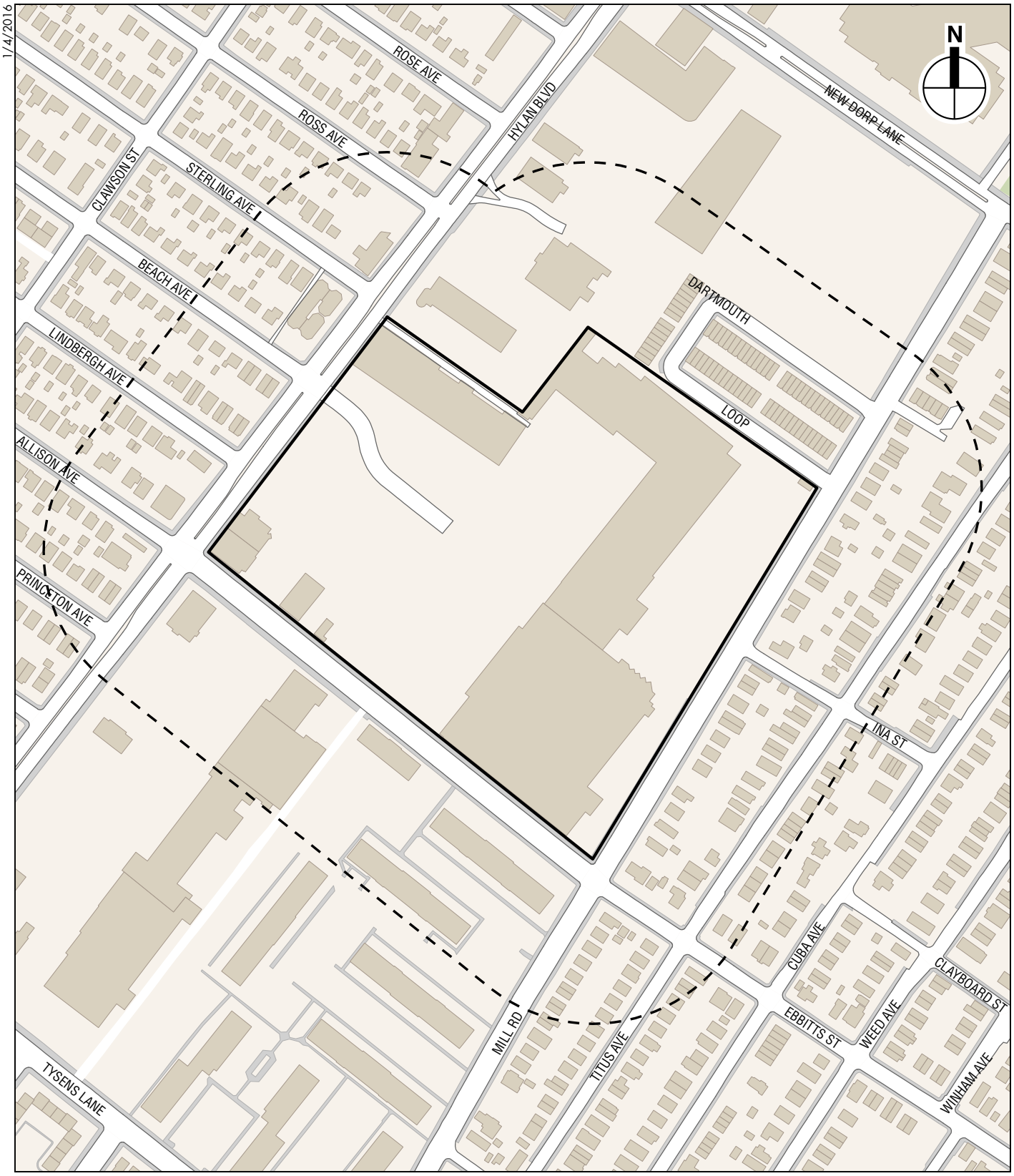


Proposed Second Floor

The Boulevard at Hylan Plaza

Figure 2b

1/4/2016



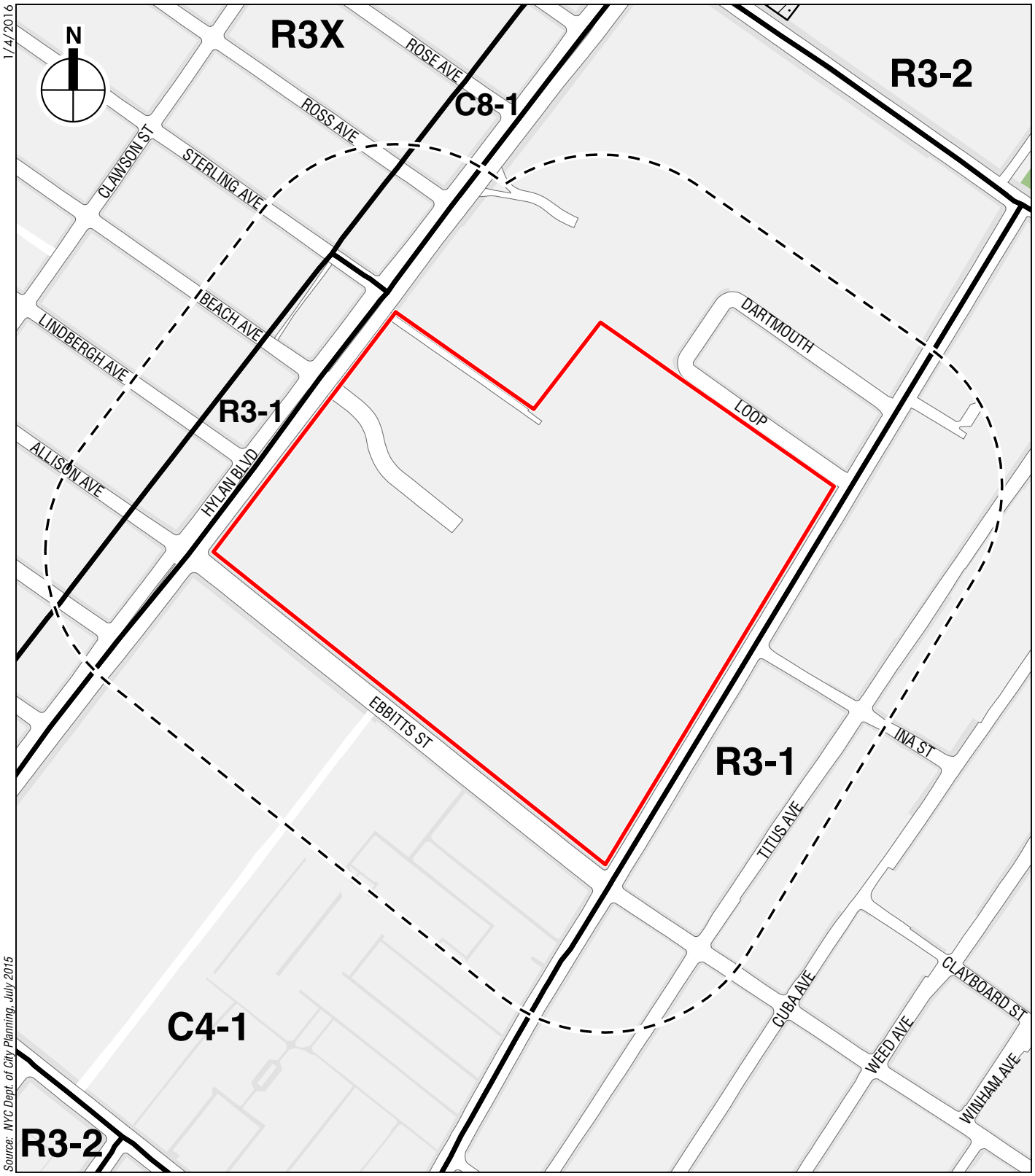
Project Site

Study Area (400-foot boundary)

0 400 FEET

Project Location
Figure 3

The Boulevard at Hylan Plaza



Project Site

Study Area (400-foot boundary)

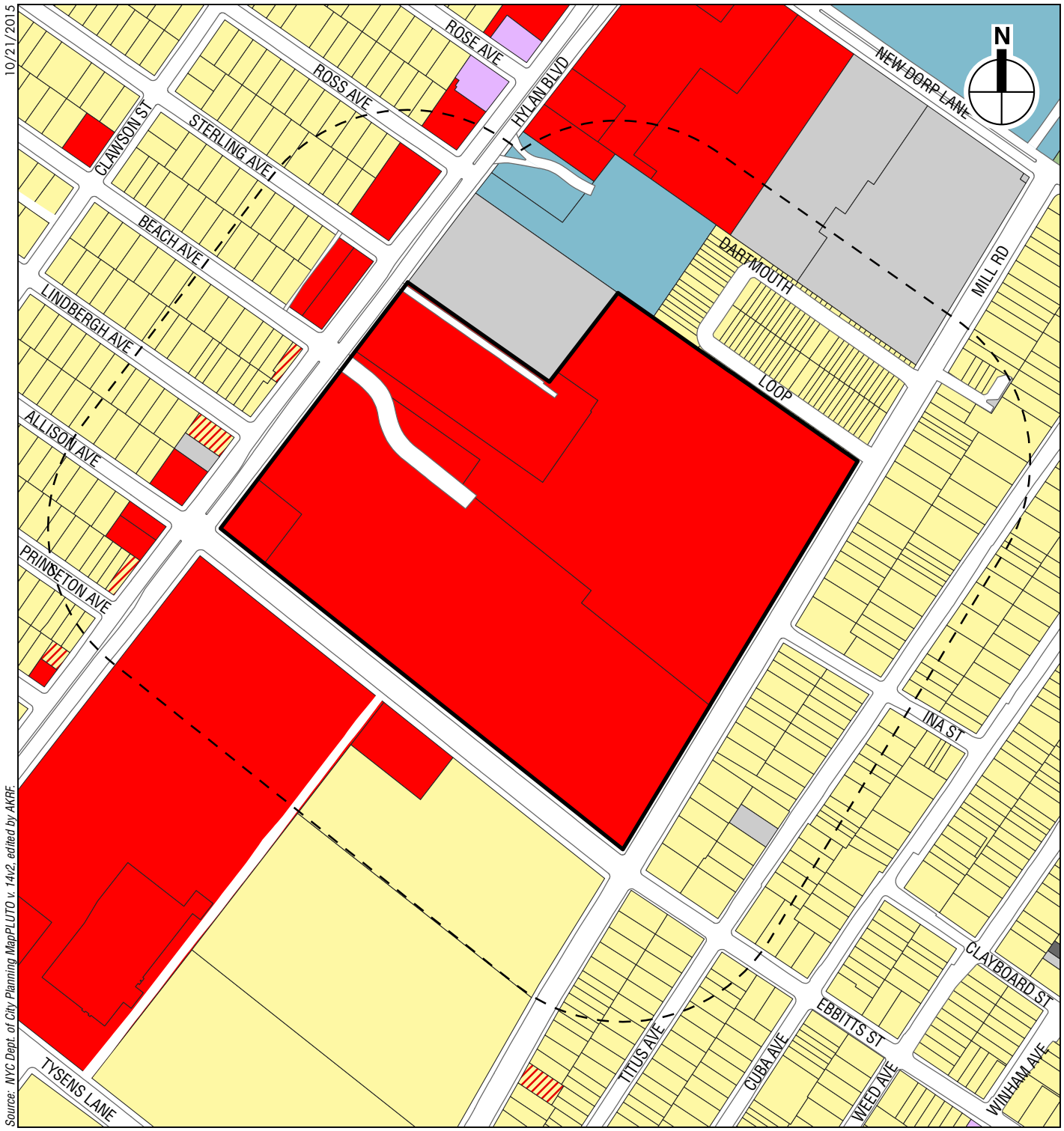
Zoning Districts

C2-1 Commercial Overlay District

0 200 FEET

The Boulevard at Hylan Plaza

Zoning
Figure 4

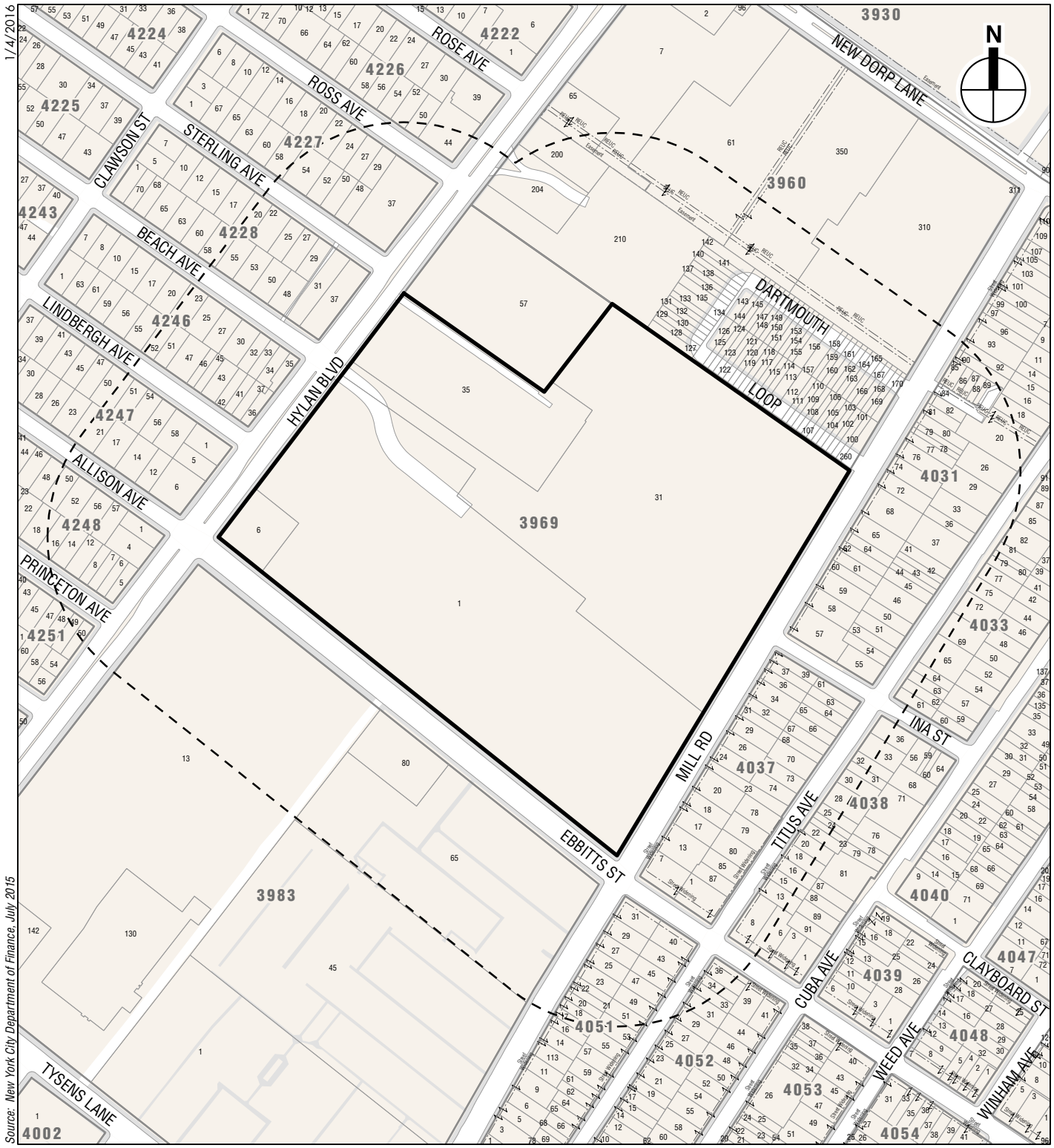


Project Site
Study Area (400-foot boundary)
Commercial and Office Buildings
Open Space and Outdoor Recreation
Parking Facilities
Public Facilities and Institutions
Residential
Residential with Commercial Below
Transportation and Utility
Vacant Land

0 400 FEET

The Boulevard at Hylan Plaza

Land Use
Figure 5



Project Site

Study Area (400-foot boundary)

16124 Tax Block Boundary

Tax Lot Boundary

33 Tax Lot Number

~~33~~ Condo Tax Lot Number

C: 40 Condo Flag/Condo Number

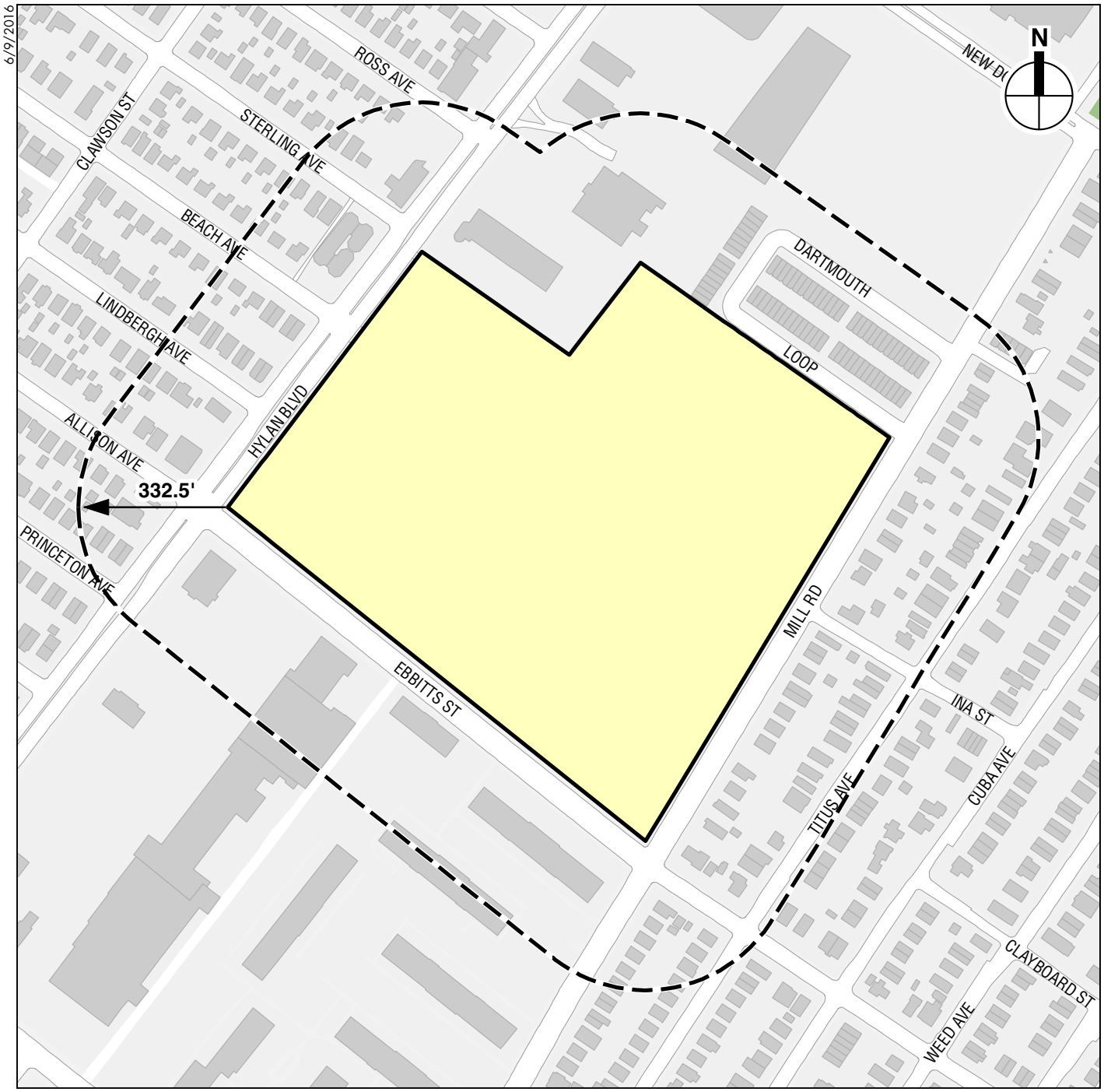
Easement Other Tax Boundary

Possession Hooks

0 400 FEET

The Boulevard at Hylan Plaza

Tax Map
Figure 6



Project Site

Tier 1: Longest shadow study area boundary

Publicly-Accessible Open Space (none located in map extent)

Historic Resources with Sunlight-Sensitive Features (none located in map extent)

0 400 FEET

Tier 1 Assessment
Figure 7

The Boulevard at Hylan Plaza

DESCRIPTION OF EXISTING AND PROPOSED CONDITIONS

The information requested in this table applies to the directly affected area. The directly affected area consists of the project site and the area subject to any change in regulatory control. The increment is the difference between the No-Action and the With-Action conditions.

	EXISTING CONDITION	NO-ACTION CONDITION	WITH-ACTION CONDITION	INCREMENT
LAND USE				
Residential	☐ YES ☒ NO	☐ YES ☒ NO	☐ YES ☒ NO	
If "yes," specify the following:				
Describe type of residential structures				
No. of dwelling units				
No. of low- to moderate-income units				
Gross floor area (sq. ft.)				
Commercial	☒ YES ☐ NO	☒ YES ☐ NO	☒ YES ☐ NO	
If "yes," specify the following:				
Describe type (retail, office, other)	Retail (Use Groups 6, 8, 10)	Retail (Use Groups 6, 8, 10)	Retail (Use Groups 6, 8, 10)	Additional Use Group 6, 8, 10 space
Gross floor area (sq. ft.)	362,462	362,462	459,079	+96,617
Manufacturing/Industrial	☐ YES ☒ NO	☐ YES ☒ NO	☐ YES ☒ NO	
If "yes," specify the following:				
Type of use				
Gross floor area (sq. ft.)				
Open storage area (sq. ft.)				
If any unenclosed activities, specify:				
Community Facility	☐ YES ☒ NO	☐ YES ☒ NO	☐ YES ☒ NO	
If "yes," specify the following:				
Type				
Gross floor area (sq. ft.)				
Vacant Land	☐ YES ☒ NO	☐ YES ☒ NO	☐ YES ☒ NO	
If "yes," describe:				
Publicly Accessible Open Space	☐ YES ☒ NO	☐ YES ☒ NO	☐ YES ☒ NO	
If "yes," specify type (mapped City, State, or Federal parkland, wetland—mapped or otherwise known, other):				
Other Land Uses	☐ YES ☒ NO	☐ YES ☒ NO	☐ YES ☒ NO	
If "yes," describe:				
PARKING				
Garages	☐ YES ☒ NO	☐ YES ☒ NO	☒ YES ☐ NO	
If "yes," specify the following:				
No. of public spaces				
No. of accessory spaces			497	+497
Operating hours				
Attended or non-attended				
Lots	☒ YES ☐ NO	☒ YES ☐ NO	☒ YES ☐ NO	
If "yes," specify the following:				
No. of public spaces				
No. of accessory spaces	1,414	1,414	1,156	-258
Operating hours	Normal business hours	Normal business hours	Normal business hours	
Other (includes street parking)	☐ YES ☒ NO	☐ YES ☒ NO	☐ YES ☒ NO	
If "yes," describe:				
POPULATION				
Residents	☐ YES ☒ NO	☐ YES ☒ NO	☐ YES ☒ NO	
If "yes," specify number:				
Briefly explain how the number of residents				

	EXISTING CONDITION	NO-ACTION CONDITION	WITH-ACTION CONDITION	INCREMENT
was calculated:				
Businesses	☒ YES ☐ NO	☒ YES ☐ NO	☒ YES ☐ NO	
If "yes," specify the following:				
No. and type	±31 Retailers and Dining Establishments, 1 Supermarket, 1 Cinema	±31 Retailers and Dining Establishments, 1 Supermarket, 1 Cinema	±50 Retailers and Dining Establishments, 1 Supermarket, 1 Cinema	±19 Retailers and Dining Establishments
No. and type of workers by business	±632	±893	±1,224	±331
No. and type of non-residents who are not workers	N/A	N/A	N/A	N/A
Briefly explain how the number of businesses was calculated:	Estimated number and types of business provided by the Applicant. Existing, No-Action and With-Action worker estimates based on standard industry employment densities ratios which are frequently utilized in environmental review documents: non-department store (in-line) retail = 1 worker/400 gsf; large-format and department store retail = 1 worker/500 gsf; restaurant = 1 worker/200 gsf; supermarket = 1 worker/250 gsf; cinema employment estimated (30 in Existing and No-Action, 40 in With-Action) based on size, hours, and comparable theaters.			
Other (students, visitors, concert-goers, *etc.*)	☐ YES ☒ NO	☐ YES ☒ NO	☐ YES ☒ NO	
If any, specify type and number:				
Briefly explain how the number was calculated:				
ZONING				
Zoning classification	C4-1	C4-1	C4-1	No change
Maximum amount of floor area that can be developed	1,033,672 ZSF (1.0 FAR)	1,033,672 ZSF (1.0 FAR)	1,033,672 ZSF (1.0 FAR)	No change
Predominant land use and zoning classifications within land use study area(s) or a 400 ft. radius of proposed project	Commercial (C4-1, C8-1), Residential (R3-1 and R3X)	Commercial (C4-1, C8-1), Residential (R3-1 and R3X)	Commercial (C4-1, C8-1), Residential (R3-1 and R3X)	No change
Attach any additional information that may be needed to describe the project. If your project involves changes that affect one or more sites not associated with a specific development, it is generally appropriate to include total development projections in the above table and attach separate tables outlining the reasonable development scenarios for each site.				

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 Full 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.		
(e) Is the project a large, publicly sponsored project?	☐	☒
o 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?	☒	☐
o If "yes," complete the Consistency Assessment Form. See Scope of Work		
2. *SOCIOECONOMIC CONDITIONS*: CEQR Technical Manual Chapter 5		
(a) Would the proposed project:		
o Generate a net increase of more than 200 residential units *or* 200,000 square feet of commercial space?	☐	☒
▪ If "yes," answer *both* questions 2(b)(ii) and 2(b)(iv) below.		
o Directly displace 500 or more residents?	☐	☒
▪ If "yes," answer questions 2(b)(i), 2(b)(ii), and 2(b)(iv) below.		
o Directly displace more than 100 employees?	☒	☐
▪ If "yes," answer questions under 2(b)(iii) and 2(b)(iv) below.		
o Affect conditions in a specific industry?	☐	☒
▪ If "yes," answer question 2(b)(v) below.		
(b) If "yes" to any of the above, attach supporting information to answer the relevant questions below. If "no" was checked for each category above, the remaining questions in this technical area do not need to be answered.		
i. Direct Residential Displacement		
o If more than 500 residents would be displaced, would these residents represent more than 5% of the primary study area population?	☐	☐
o If "yes," is the average income of the directly displaced population markedly lower than the average income of the rest of the study area population?	☐	☐
ii. Indirect Residential Displacement		
o Would expected average incomes of the new population exceed the average incomes of study area populations?	☐	☐
o If "yes:"		
▪ Would the population of the primary study area increase by more than 10 percent?	☐	☐
▪ Would the population of the primary study area increase by more than 5 percent in an area where there is the potential to accelerate trends toward increasing rents?	☐	☐
o If "yes" to either of the preceding questions, would more than 5 percent of all housing units be renter-occupied and unprotected?	☐	☐
iii. Direct Business Displacement		
o Do any of the displaced businesses provide goods or services that otherwise would not be found within the trade area, either under existing conditions or in the future with the proposed project?	☐	☒
o Is any category of business to be displaced the subject of other regulations or publicly adopted plans to preserve,	☐	☒

	YES	NO
enhance, or otherwise protect it?		
iv. Indirect Business Displacement		
o Would the project potentially introduce trends that make it difficult for businesses to remain in the area?	☐	☒
o Would the project capture retail sales in a particular category of goods to the extent that the market for such goods would become saturated, potentially resulting in vacancies and disinvestment on neighborhood commercial streets?	☐	☒
v. Effects on Industry		
o Would the project significantly affect business conditions in any industry or any category of businesses within or outside the study area?	☐	☒
o Would the project indirectly substantially reduce employment or impair the economic viability in the industry or category of businesses?	☐	☒
3. *COMMUNITY FACILITIES*: CEQR Technical Manual Chapter 6		
(a) Direct Effects		
o Would the project directly eliminate, displace, or alter public or publicly funded community facilities such as educational facilities, libraries, health care facilities, day care centers, police stations, or fire stations?	☐	☒
(b) Indirect Effects		
i. Child Care Centers		
o 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)	☐	☒
o If "yes," would the project result in a collective utilization rate of the group child care/Head Start centers in the study area that is greater than 100 percent?	☐	☐
o If "yes," would the project increase the collective utilization rate by 5 percent or more from the No-Action scenario?	☐	☐
ii. Libraries		
o 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)	☐	☒
o If "yes," would the project increase the study area population by 5 percent or more from the No-Action levels?	☐	☐
o If "yes," would the additional population impair the delivery of library services in the study area?	☐	☐
iii. Public Schools		
o 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)	☐	☒
o If "yes," would the project result in a collective utilization rate of the elementary and/or intermediate schools in the study area that is equal to or greater than 100 percent?	☐	☐
o If "yes," would the project increase this collective utilization rate by 5 percent or more from the No-Action scenario?	☐	☐
iv. Health Care Facilities		
o Would the project result in the introduction of a sizeable new neighborhood?	☐	☒
o If "yes," would the project affect the operation of health care facilities in the area?	☐	☐
v. Fire and Police Protection		
o Would the project result in the introduction of a sizeable new neighborhood?	☐	☒
o If "yes," would the project affect the operation of fire or police protection in the area?	☐	☐
4. *OPEN SPACE*: CEQR Technical Manual Chapter 7		
(a) Would the project change or eliminate existing open space?	☐	☒
(b) Is the project located within an under-served area in the Bronx, Brooklyn, Manhattan, Queens, or Staten Island?	☐	☒
(c) If "yes," would the project generate more than 50 additional residents or 125 additional employees?	☐	☐
(d) Is the project located within a well-served area in the Bronx, Brooklyn, Manhattan, Queens, or Staten Island?	☐	☒
(e) If "yes," would the project generate more than 350 additional residents or 750 additional employees?	☐	☐
(f) If the project is located in an area that is neither under-served nor well-served, would it generate more than 200 additional residents or 500 additional employees?	☐	☒
(g) If "yes" to questions (c), (e), or (f) above, attach supporting information to answer the following:		
o If in an under-served area, would the project result in a decrease in the open space ratio by more than 1 percent?	☐	☐
o If in an area that is not under-served, would the project result in a decrease in the open space ratio by more than 5	☐	☐

	YES	NO
percent?		
o If "yes," are there qualitative considerations, such as the quality of open space, that need to be considered? Please specify:	☐	☐
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?	☐	☒
(c) If "yes" to either of the above questions, attach supporting information explaining whether the project's shadow would reach any sunlight-sensitive resource at any time of the year. See page 9a.		
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 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 screening analyses beginning on page 9a.		
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?	☐	☒
(c) If "yes" to either of the above, please provide the information requested in Chapter 10. See screening analyses beginning on page 9a.		
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?	☐	☒
o If "yes," list the resources and attach supporting information on whether the project would affect any of these resources.		
(b) Is any part of the directly affected area within the Jamaica Bay Watershed?	☐	☒
o If "yes," complete the Jamaica Bay Watershed 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) 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?	☐	☒
(c) 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 Appendix 1 (including nonconforming uses)?	☒	☐
(d) 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?	☒	☐
(e) 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)?	☒	☐
(f) 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?	☒	☐
(g) 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?	☒	☐
(h) Has a Phase I Environmental Site Assessment been performed for the site?	☒	☐
o If "yes," were Recognized Environmental Conditions (RECs) identified? Briefly identify: Listed as a Historic Dry Cleaner Site and RCRA-CESQG Site; and properties in vicinity of site are potential sources of vapors that could encroach on to site.	☐	☐
(i) Based on the Phase I Assessment, is a Phase II Investigation needed?	☒	☐
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?	☐	☒

	YES	NO
(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 that listed in Table 13-1 in Chapter 13?	☐	☒
(d) Would the 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 contribute contaminated stormwater to a separate storm sewer system?	☐	☒
(h) Would the project involve construction of a new stormwater outfall that requires federal and/or state permits?	☐	☒
(i) If "yes" to any of the above, conduct the appropriate preliminary analyses and attach supporting documentation.		
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): ±74,226		
o 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?	☐	☒
o If "yes," would the proposed project comply with the City's Solid Waste Management Plan?	☐	☐
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): 21,239,146 MBTU		
(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 appropriate screening analyses, attach back up data as needed for each stage, and answer the following questions:		
o 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.*	☒	☐
o Would the proposed project result in more than 200 subway/rail or bus 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) or 200 subway/rail trips per station or line?	☐	☐
o 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?	☐	☐
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?	☒	☐
o If "yes," would the proposed project exceed the thresholds in Figure 17-3, Stationary Source Screen Graph in Chapter 17? (Attach graph as needed)	☒	☐
(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?	☐	☒
(f) If "yes" to any of the above, conduct the appropriate analyses and attach any supporting documentation. See page 9a.		
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) Would the proposed project result in the development of 350,000 square feet or more?	☐	☒

Additional Technical Information for EAS Part II

A. LAND USE, ZONING, AND PUBLIC POLICY

According to the 2014 *City Environmental Quality Review (CEQR) Technical Manual,* a detailed assessment of land use is appropriate if an action would result in a significant change in land use or would substantially affect regulation or policies governing land use. The analysis considers the proposed actions' compliance with and effects on the area's zoning and other applicable public policies. A description of these conditions is appropriate, even when there is little potential for an action to be inconsistent or affect land use, zoning, or public policy, to establish conditions and provide information for use in other technical areas.

The proposed actions would not result in a change in land use; they would result in commercial (retail) development within the site of an existing retail center. In addition, the proposed project would not substantially affect regulations or policies governing land use. The proposed project is in conformance with existing zoning regulations for the height, bulk, and design of the development, and would not have the potential to affect any public policies, with the exception of the Waterfront Revitalization Program (WRP). Therefore, it is not anticipated that a detailed land use, zoning, and public policy analysis is warranted.

As detailed in the Draft Scope of Work, the EIS will include a preliminary assessment of land use and zoning, which includes a description of existing and future land uses and zoning. The EIS also will include a consistency assessment of the proposed project with the City's WRP policies.

B. SOCIOECONOMIC CONDITIONS

According to the *CEQR Technical Manual*, the five principal issues of concern with respect to socioeconomic conditions are whether a proposed project could result in significant impacts due to: (1) direct residential displacement; (2) direct business displacement; (3) indirect (or secondary) residential displacement; (4) indirect business displacement; or (5) adverse effects on a specific industry.

The proposed actions would not result in the direct displacement of any residents, nor would the project introduce residential uses or commercial uses in excess of 200,000 square feet (sf) that would require an assessment of potential indirect displacement. The proposed project would directly displace businesses located within the retail structure to be demolished (290,100 sf of retail structure to be demolished), and based on standard employment ratios, would result in the direct displacement of approximately 300 employees, exceeding the 100-employee threshold warranting consideration as to whether such displacement should be further assessed. Specifically, this screening-level assessment considers the following:

- Whether any of the displaced businesses provide goods or services that otherwise would not be found within the trade area, either under existing conditions or in the future with the proposed project.
- Whether there is any category of business to be displaced that is the subject of other regulations or publicly adopted plans to preserve, enhance, or otherwise protect it.

The displaced businesses include a 17,334 sf, 700-seat cinema and 153,145 sf of department store and non-department store retail uses, including restaurants. The proposed project's displaced workers represent less than 2 percent of retail employees on Staten Island. In the future with the proposed actions, there would be a net increase of 96,617 sf of retail space; the proposed project would result in approximately 1,224 total employees, which is 592 more employees than in the existing condition.

All goods and services that would be displaced by the proposed project are available at other nearby retail concentrations on Staten Island, as there are an estimated 2,227 retail businesses with 20,907 retail employees on Staten Island.[1] There are no categories of businesses that would be displaced that are the subject of regulations or publicly adopted plans to preserve them; therefore, there is no potential for significant adverse socioeconomic impacts, and further assessment of socioeconomic conditions is not warranted.

C. SHADOWS

According to the *CEQR Technical Manual*, a shadows assessment is warranted for projects that would result in new structures (or additions to existing structures) greater than 50 feet in height or a project located adjacent to, or across the street from, a sunlight-sensitive resource. Such resources include publicly accessible open spaces, important sunlight-sensitive natural features, or historic resources with sun-sensitive features.

The proposed project would include a structure in excess of 50 feet in height, and therefore, following *CEQR Technical Manual* methodology a preliminary screening assessment was conducted. The preliminary screening assessment consists of three tiers of analysis. The first tier determines a simple radius around the proposed buildings representing the longest shadows that could be cast. If there are sunlight-sensitive resources within this radius, the analysis proceeds to the second tier. The second tier refines the area that could be affected by project shadows 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 shadows by looking at specific representative days of the year and modeling the 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.

PRELIMINARY SCREENING ASSESSMENT

A base map was developed using Geographic Information Systems (GIS)[2] showing the location of the proposed project and the surrounding street layout (see **Figure 7**). Potential sunlight-sensitive resources were identified and shown on the map.

For the Tier 1 assessment, the longest shadow that the proposed structure could cast is calculated, and, using this length as the radius, a perimeter is drawn around the project site. Anything outside this perimeter representing the longest possible shadow could never be affected by project generated shadow, while anything inside the perimeter needs 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 December 21, the winter solstice, at the start of the analysis day at 8:51 AM, and is equal to 4.3 times the height of the structure. Therefore, at a maximum height of approximately 65 feet above curb level, including mechanical bulkheads, the proposed building could cast a shadow up to approximately 332.5 feet in length (75 x 4.3). Using this length as the radius, a perimeter was drawn around the project site showing the maximum extent of shadow coverage (see **Figure 7**).

The first tier of the preliminary screening assessment found that the radius delineating the longest shadows that could be cast by the proposed structures does not contain any sunlight-sensitive resources (see **Figure 7)**. Therefore, the proposed project would not result in any significant adverse shadows impacts, and no further shadows analysis is warranted.

D. HISTORIC AND CULTURAL RESOURCES

Historic and cultural resources include both archaeological and architectural resources. For archaeological resources, the study area is generally defined as the project site, i.e. the area that would be disturbed by project construction. In a letter

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[1] Source: ESRI Business Analyst, Business Summary Report for Staten Island

[2] Software: Esri ArcGIS 10.1; Data: New York City Department of Information Technology and Telecommunications (DoITT) and other City agencies, and AKRF site visits.

dated November 23, 2015, the Landmarks Preservation Commission (LPC) was contacted for their preliminary archaeological determination of the project site. In comments dated November 30, 2015, LPC determined that the site had no archeological significance. (see **Appendix 1, Agency Correspondence**).

Study areas for architectural resources are determined based on the area of potential effect for construction-period impacts, such as ground-borne vibrations, and on the area of potential effects for visual or contextual effects, which is usually a larger area. Following the guidelines of the *CEQR Technical Manual*, the architectural resources study area for this project is defined as being within an approximately 400-foot radius of the project site (see **Figure 5, Land Use**). Architectural resources include: designated New York City Landmarks (NYCL); properties calendared for consideration as such; properties listed on or eligible for listing on the State and/or National Register of Historic Places (S/NR); and National Historic Landmarks. In addition, a survey of the study area was undertaken to identify any buildings that could meet S/NR or NYCL eligibility criteria.

There are no architectural resources on the project site. The project site contains the Hylan Plaza shopping center, a multi-building concrete plaza, and surrounding paved parking areas.

There are no architectural resources in the study area. Buildings within the study area are modern or heavily altered single-family homes and modern commercial buildings that would not meet criteria for S/NR listing or NYCL designation in terms of age or architectural significance.

A review of SHPO and NYC Landmarks databases performed in October 2015 found that there are no known architectural resources on the project site or in the study area. As there are no architectural resources on the project site or study area, the proposed actions would have no significant adverse impact on architectural resources, and no further assessment of historic and cultural resources is warranted.

E. URBAN DESIGN AND VISUAL RESOURCES

According to the *CEQR Technical Manual*, an analysis of urban design and visual resources is warranted when a project would result in a physical alteration, observable to the pedestrian at street level, beyond that allowed by existing zoning.

While the proposed project requires a zoning authorization to reduce parking requirements on the project site, the proposed development on the site would comply with the existing zoning regulations related to building height, bulk, and setback requirements. Therefore, an urban design and visual resources analysis is not warranted and no further analysis is required.

F. HAZARDOUS MATERIALS

According to CEQR criteria, a hazardous materials assessment is conducted when elevated levels of hazardous materials exist on a site, when a project would increase pathways to their exposures, either human or environmental, or when an action would introduce new activities or processes using hazardous materials, thereby increasing the risk of human or environmental exposure. An analysis should be conducted for any site with the potential to contain hazardous materials or if any future redevelopment of the property is anticipated. The project site has a documented history of hazardous materials conditions and therefore, the EIS will include an assessment of hazardous materials (see attached Draft Scope of Work).

G. WATER AND SEWER INFRASTRUCTURE

WATER SUPPLY

According to the *CEQR Technical Manual*, an analysis of an action's impact on the water supply system should be conducted only for actions that would have exceptionally large demand for water, such as power plants, very large cooling systems, or large developments (e.g., those that use more than 1 million gallons per day). In addition, actions located at the extremities of the water distribution system should be analyzed.

The proposed project would not result in development that meets any of these criteria. Based on water usage rates in Table 13-2 of the *CEQR Technical Manual* the proposed project would use an estimated 188,869 gallons per day, which is 40,259 gallons per day more than the water usage in the No Action condition (148,609 gallons per day). Also, the proposed project is not located at the extremities of the water distribution system. Therefore, an analysis of water supply is not warranted.

WASTEWATER AND STORMWATER CONVEYANCE AND TREATMENT

According to the guidelines of the *CEQR Technical Manual*, a preliminary analysis of wastewater and stormwater conveyance and treatment is warranted if a project: is located in a combined sewer area and would have an incremental increase above the No Action condition of 400 residential units or 150,000 square feet of commercial, public facility and institution and/or community facility space in Staten Island; is located in a separately sewered area and would exceed 100 residential units or 100,000 square feet of commercial/public and institution/community facility use in all zoning districts except for specific residential zoning districts; is located in an area that is partially sewered or currently unsewered; involves development on a site five acres or larger where the amount of impervious surface would increase; would involve development on a site one acre or larger where the amount of impervious surface would increase and other criteria are met; or would involve construction of a new stormwater outfall that requires federal and/or state permits.

The project site is separately-sewered. Since the proposed project would result in 96,617 sf more retail compared with the No Action condition, which is less than the 100,000-sf threshold, an analysis of the proposed project's effects on wastewater and stormwater infrastructure is not warranted.

H. SOLID WASTE AND SANITATION SERVICES

The *CEQR Technical Manual* specifies that few projects generate substantial amounts of solid waste (50 tons a week or more) that would result in a significant adverse impact. Based on the solid waste generation rates in Table 14-1 of the *CEQR Technical Manual,* the proposed project would generate an estimated 199,948 pounds per week of solid waste, which is 74,226 pounds per week (37.2 tons) more than the solid waste generated from the No Action condition (125,722 pounds per week). Since the approximately 37-ton-increment of solid waste is below the 50-ton threshold, the project would not result in any significant adverse impacts to solid waste and sanitation services and no further analysis is required.

I. TRANSPORTATION

The *CEQR Technical Manual* states that a quantified transportation analysis may be warranted if a proposed project is expected to generate more than 50 peak hour vehicle trips at an intersection, 200 peak hour subway, bus, or railroad riders on a transit facility, and 200 peak hour person trips on a pedestrian element. The proposed actions would generate additional vehicular travel and increase demand for parking, as well as pedestrian traffic and bus riders. The proposed actions would exceed the CEQR thresholds requiring detailed traffic and parking analyses. The proposed actions would not exceed the CEQR thresholds warranting further analysis of transit and pedestrians, and the project would not result in any significant adverse impacts to transit and pedestrians; therefore further quantified analysis of transit and pedestrians is not warranted. However, the proposed project exceeds thresholds requiring further transportation and parking analyses; see attached Draft Scope of Work.

J. AIR QUALITY

Under CEQR, an air quality analysis determines whether a proposed project would result in stationary or mobile sources of pollutant emissions that could have a significant adverse impact on ambient air quality, and also considers the potential of existing sources of air pollution to impact the proposed uses (see attached Draft Scope of Work).

K. NOISE

The *CEQR Technical Manual* requires that a noise study be conducted if the proposed project would result in a significant increase in noise levels (particularly at sensitive land uses such as residences), if building attenuation could result in unacceptable interior noise levels within the proposed buildings, or if building mechanical systems could produce noise levels that would result in significant increases in ambient noise. Given that outdoor mechanical equipment would be designed to meet applicable regulations, an analysis of potential noise impacts due to building HVAC equipment is not required. As detailed in the attached Draft Scope of Work, the EIS will examine the level of building attenuation necessary to meet CEQR interior noise level requirements. The building attenuation study will consider noise levels in the surrounding area associated primarily with traffic noise and assess its potential effect on the proposed project.

MOBILE SOURCE NOISE

The proposed project would generate vehicular trips, but given the background conditions and the anticipated project-generated traffic, it is expected that project-generated traffic would not generate sufficient traffic to have the potential to cause a significant mobile source 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). See attached Draft Scope of Work.

L. 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. The attached Draft Scope of Work outlines the analyses that may be warranted with respect to public health.

M. NEIGHBORHOOD CHARACTER

An assessment of neighborhood character is generally warranted when a proposed project has the potential to result in significant adverse impacts in one of the elements that define a neighborhood's character, or when a project may have moderate effects on several of the elements. Neighborhood character is determined by a number of factors, such as land use, urban design, visual resources, historic resources, socioeconomic conditions, traffic, and noise. See attached Draft Scope of Work.

N. CONSTRUCTION

As with all construction projects, work at the project site 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. Construction of the proposed project is anticipated to occur over a period of approximately 20 months, which is considered short-term (i.e., less than two years) according to the *CEQR Technical Manual*.

Construction of the proposed project 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 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, Maintenance and Protection of Traffic (MPT) plans would be developed for any curb-lane and/or sidewalk closures that may be required. Approval of these plans and implementation of all temporary closures during construction would be coordinated with the New York City Department of Transportation (NYCDOT)'s Office of Construction Mitigation and Coordination (OCMC). Through implementation of the measures described above, adverse effects associated with the proposed construction activities would be minimized. Accordingly, the proposed project would not result in significant adverse impacts during construction, and no further analysis of construction impacts is required.

	YES	NO
(d) If "yes" to any of the above, would the project require a GHG emissions assessment based on guidance in Chapter 18?	☐	☐
o If "yes," would the project result in inconsistencies with the City's GHG reduction goal? (See Local Law 22 of 2008; § 24-803 of the Administrative Code of the City of New York). Please attach supporting documentation.	☐	☐
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 124 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?	☐	☒
(e) If "yes" to any of the above, conduct the appropriate analyses and attach any supporting documentation. See page 9a.		
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 9a.		
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 9a.		
19. *CONSTRUCTION*: CEQR Technical Manual Chapter 22		
(a) Would the project's construction activities involve:		
o Construction activities lasting longer than two years?	☐	☒
o Construction activities within a Central Business District or along an arterial highway or major thoroughfare?	☐	☒
o Closing, narrowing, or otherwise impeding traffic, transit, or pedestrian elements (roadways, parking spaces, bicycle routes, sidewalks, crosswalks, corners, *etc.*)?	☐	☒
o Construction of multiple buildings where there is a potential for on-site receptors on buildings completed before the final build-out?	☒	☐
o The operation of several pieces of diesel equipment in a single location at peak construction?	☒	☐
o Closure of a community facility or disruption in its services?	☐	☒
o Activities within 400 feet of a historic or cultural resource?	☐	☒
o Disturbance of a site containing or adjacent to a site containing natural resources?	☐	☒
o 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 screening analyses beginning on page 9a.		

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	SIGNATURE	DATE
John Neill, AKRF, Inc.	JR Neill	6/16/16

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	Potentially Significant Adverse Impact 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? ☐ ☐

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
NAME	DATE
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, 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 that finds the proposed project:

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
NAME	DATE
SIGNATURE	

A. INTRODUCTION

The applicant, Hylan Plaza 1339, LLC, proposes to enlarge an existing commercial center currently known as the Hylan Plaza Shopping Center, located at 2600 Hylan Boulevard (Block 3969, Lots 1, 6, 31, and 35) in the New Dorp Beach neighborhood of Staten Island Community District 2 (see **Figure A-1**). The 23.7-acre project site for the proposed project is located in a C4-1 zoning district and is bounded by Hylan Boulevard, Ebbitts Street, Mill Road, and Dartmouth Loop.

The proposed actions include zoning authorizations pursuant to Section 36-023 of the New York City Zoning Resolution (ZR) for a group parking facility accessory to a commercial enlargement on a zoning lot in excess of 4 acres in a C4-1 zoning district and for a reduction of the parking requirement of ZR Section 36-21. The project would also require a certification of cross-access easements pursuant to ZR Sections 36-592 and 36-596(a); this certification is a ministerial action and is not subject to environmental review. The proposed actions would facilitate a proposal by the applicant to demolish an approximately 290,100-gross-square-foot (gsf) portion of the existing 362,462-gsf commercial center and construct in its place approximately 386,705 gsf of new retail structures, including: approximately 240,612 gsf of local and destination retail uses (Use Group 6 or 10, depending on the retail use and size of establishment), approximately 41,030 gsf of Use Group 8 cinema uses, and approximately 23,159 gsf of receiving/common areas for the proposed retail uses (see proposed site plan in **Figures A-2a and A-2b**). The applicant intends the additional space to be occupied by: a supermarket (Use Group 6); cinema (Use Group 8); restaurant space (Use Group 6); department store retail uses (Use Group 10); other non-department store retail uses (Use Group 6 or 10, depending on the size and type of establishment); and receiving/common areas.

In conjunction with the retail enlargement, the project would also reconfigure and landscape the project site's parking areas. As described in more detail below, the overall number of parking spaces provided on the project site would increase by 239 spaces (from an existing 1,414 spaces to the proposed 1,653 spaces.) The proposed actions would facilitate the applicant's proposal by allowing the reconfiguration of the existing parking lot to create the building footprints for the commercial enlargement, which requires a reduction in the amount of parking at the site. It is anticipated that the proposed project would be completed by 2019.

B. PROJECT DESCRIPTION

PROPOSED ACTIONS

The applicant is seeking zoning authorizations pursuant to the ZR Section 36-023 for:

1) Approval of the layout of a group parking facility accessory to a commercial development; and

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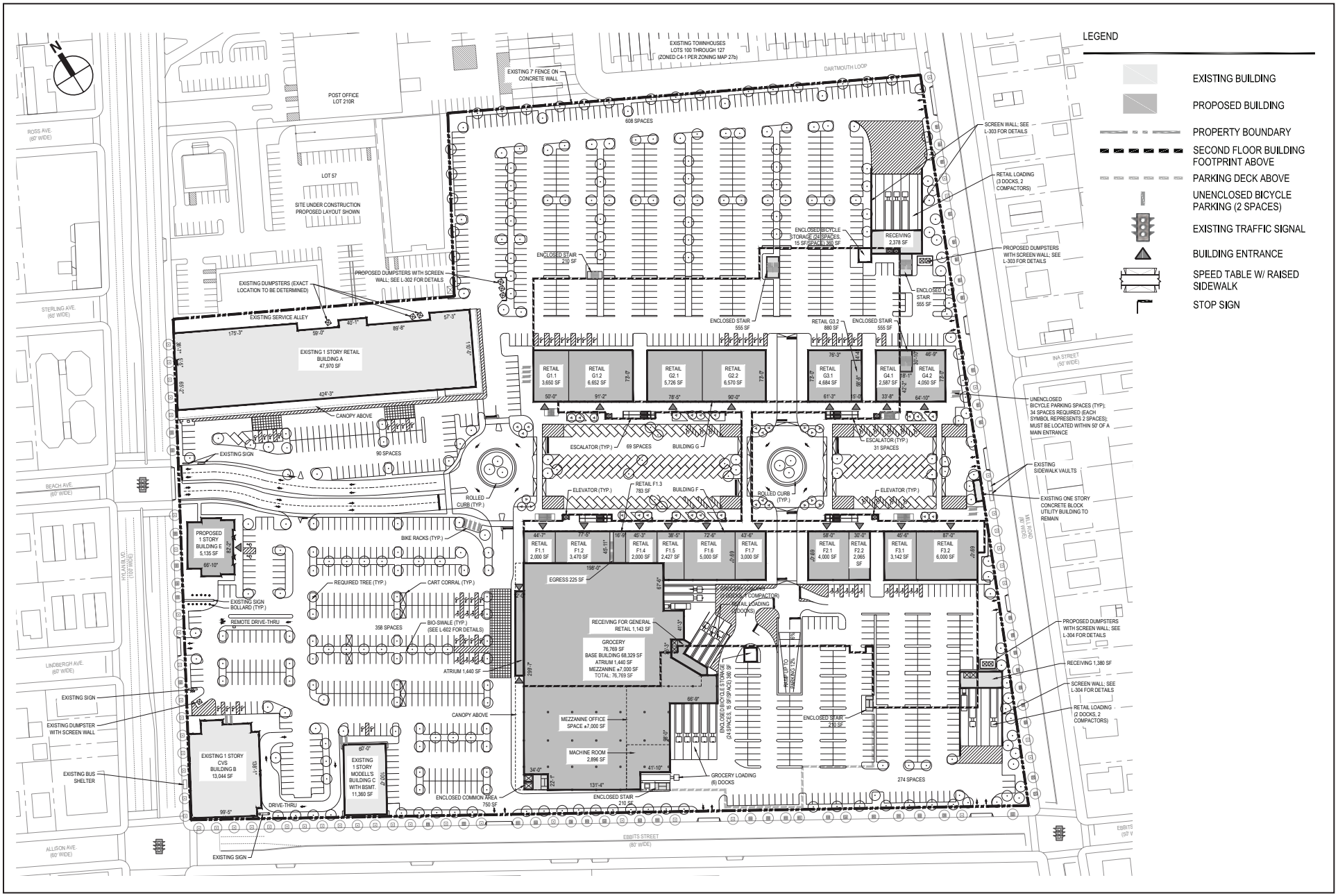
Project Site

0 1 MILE
SCALE

The Boulevard at Hylan Plaza

Regional Context
Figure A-1



Proposed Ground Floor Plan

The Boulevard at Hylan Plaza

Figure A-2a

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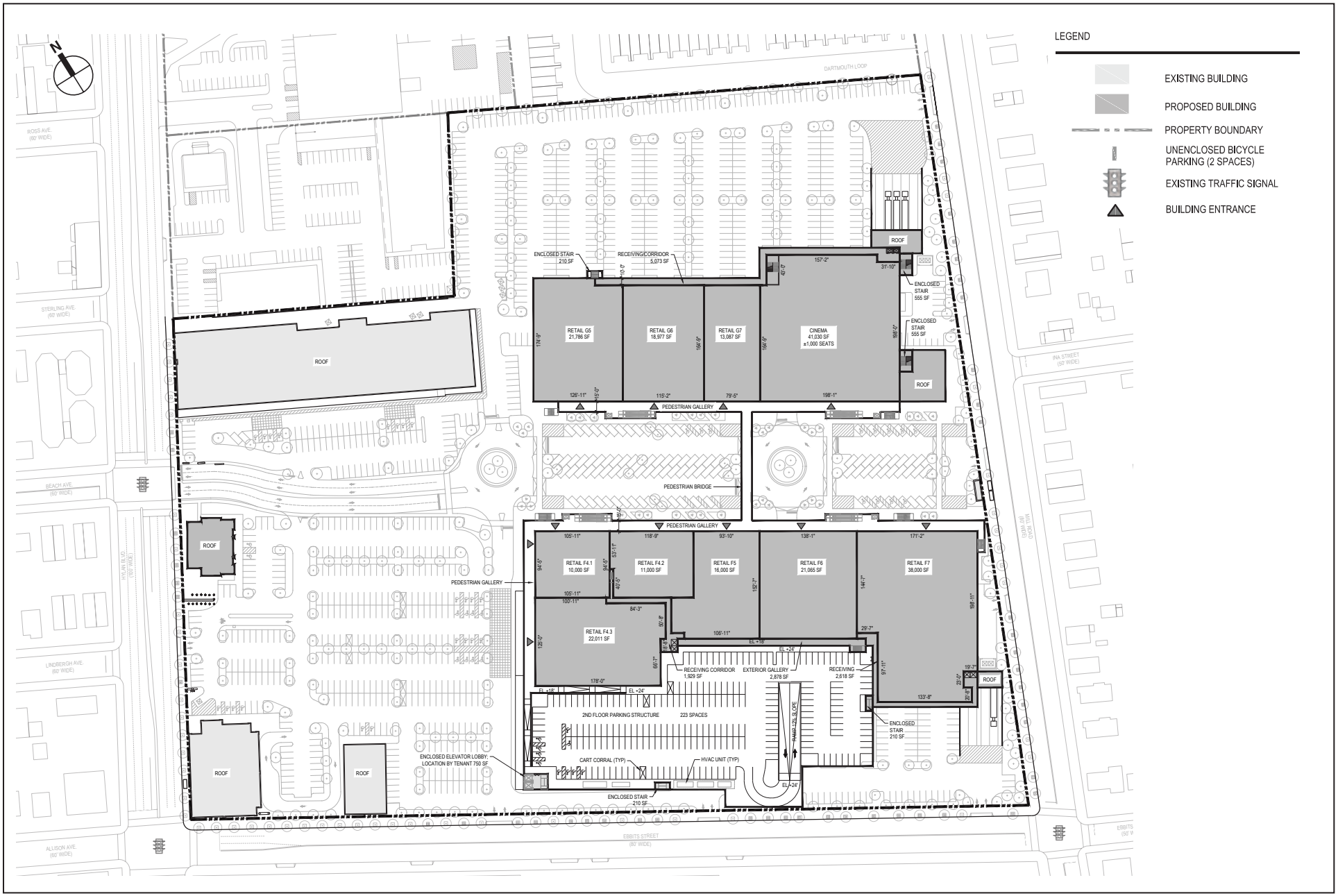


Proposed Second Floor

The Boulevard at Hylan Plaza

Figure A-2b

2) A reduction by up to 50 percent of the ZR Section 36-21 parking requirement.

In addition, the applicant is seeking a cross-access easement certification pursuant to: ZR Section 36-592 to certify that cross-access connections have been provided (for locations where they are required). In the Borough of Staten Island, existing or new open parking lots adjacent to one another on the same or separate zoning lots shall be required to provide vehicular passageways between such open parking lots, referred to as "cross access connections." This certification is a ministerial action and not subject to environmental review.

DESCRIPTION OF THE PROJECT SITE

The Hylan Plaza Shopping Center is a regional shopping center consisting of local- and regional-serving retail stores arranged within one-story retail structures fronted by surface parking. Current tenants include a K-mart department store, a Toys"R"Us/Babies"R"Us, a United Artists Movie Theater, a Modell's sporting goods store, and a CVS pharmacy among other uses. In late 2015 an approximately 60,000-gsf space in the shopping center was vacated by Pathmark Supermarket; this space is currently vacant. As shown in **Figure A-3**, the shopping center is comprised of four tax lots:

- Tax lot 1, which includes surface parking, a one-story retail building (currently occupied by Modell's) that would remain on the project site in the future with the proposed actions, and a portion of the existing one-story retail building that would be demolished in the future with the proposed actions;
- Tax lot 6, which includes a one-story retail building (currently occupied by CVS) that would remain on the project site in the future with the proposed actions and an accompanying surface parking lot;
- Tax lot 31, which includes surface parking and the remaining portion of the one-story retail building that would be demolished in the future with the proposed actions; and
- Tax lot 35, which includes a one-story retail structure (currently occupied by multiple retail tenants) that would remain on the project site in the future with the proposed actions and an accompanying surface parking lot.

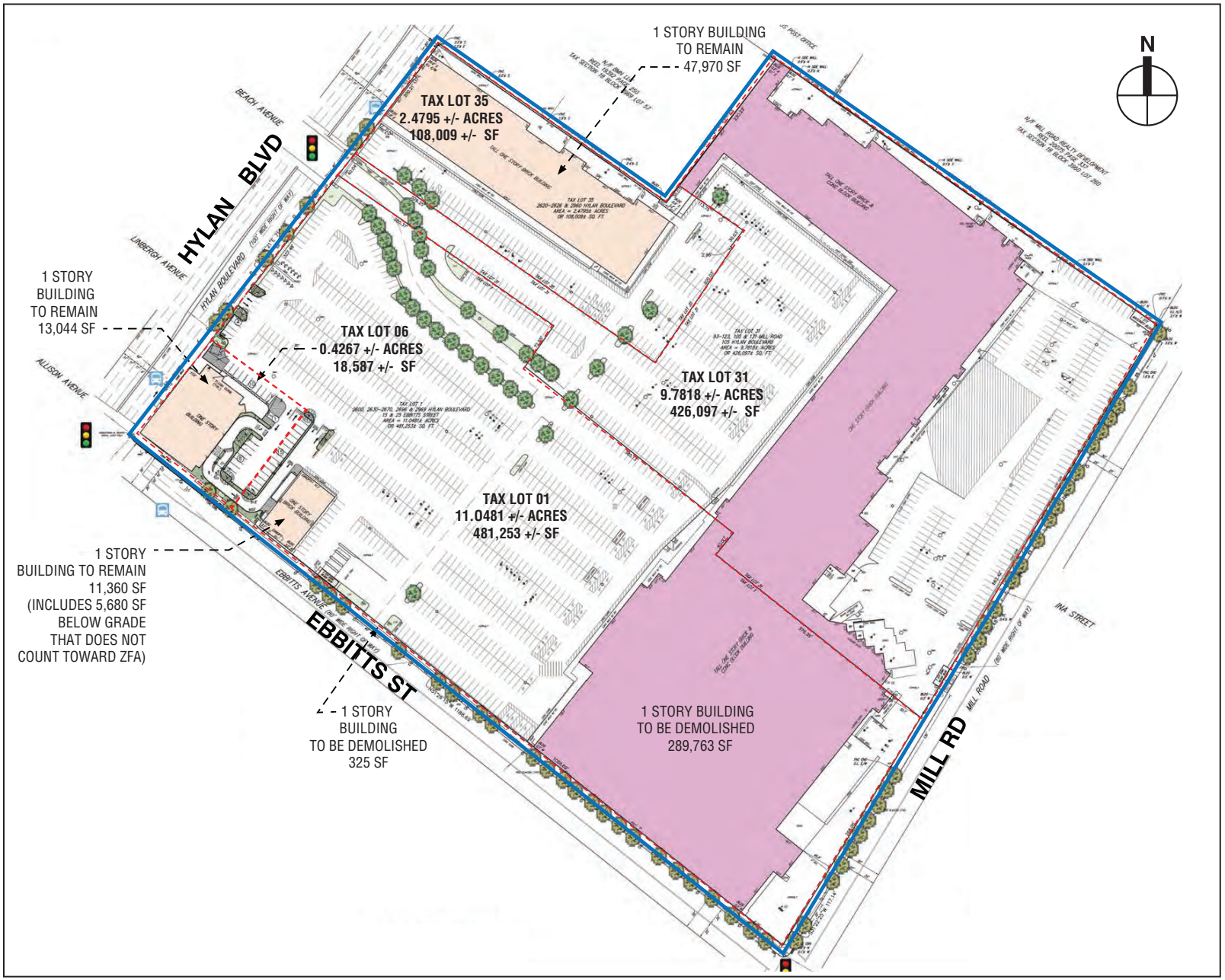
The project site (Staten Island Block 3969, Lots 1, 6, 31, and 35) is a 1,033,946-sf, approximately 23.7-acre site generally bounded by Hylan Boulevard, Ebbitts Street, Mill Road, and commercial and residential properties lots (properties) to the north. The project site is located within a C4-1 zoning district, and contains 362,462 sf of retail uses and 1,414 parking spaces. The existing retail uses on the project site are Use Group 6, Use Group 8 and Use Group 10. There are an estimated 632 workers on the project site.

PRIOR CITY PLANNING COMMISSION (CPC) APPROVALS

Prior CPC approvals on the site include:

(1) Authorization pursuant to ZR 36-023 for reduction of on-site parking requirement to facilitate the provision of approximately 34,500 sf of additional retail space on the subject site. This project, N000213ZAR, was approved by CPC in October 2001. The 46 percent parking reduction allowed 1,522 required parking spaces. Environmental review was completed under CEQR #00DCP010R.

- The shopping center, originally built in 1958, had 347,997 square feet of floor area and 1,448 accessory parking spaces prior to CPC approval of this 2001



KEY

- EXISTING TO REMAIN
- EXISTING TO BE DEMOLISHED
- EXISTING SITE TREES
- EXISTING STREET TREES
- PROJECT SITE BOUNDARY
- TAX LOT BOUNDARY

Project Site Tax Lots

Figure A-3

authorization. The expansion approved in 2001 permitted 32,433 additional square feet of floor area and a 46 percent parking reduction from the Section 36-21 requirements to allow 1,522 required parking spaces.

(2) Minor modification, M000213(A) ZAR, to the 2001 site plan further reduced the on-site parking requirement. CPC approved this project in 2011. The modification allowed 1,540 required parking spaces, a 37.2 percent parking reduction. Environmental review was completed under CEQR #10DCP026R.

- The modification was sought as the 2001 approved expansion was only partially built. Of the additional 32,433 sf of floor area approved in 2001, 25,300 sf were not built. The M000213AZAR modification application was determined to be consistent with the 2001 approval and was approved by the CPC on January 24, 2011.
- This modification eliminated the possibility of building the remaining 25,300 sf of floor area. It permitted replacement of an 11,392-sf building with a 13,044-sf building. The approved floor area was reduced to 356,782 sf. Required accessory parking was increased from 1,522 spaces to 1,540 spaces, a 37.2-percent parking requirement reduction from the Section 36-21 requirement.

DESCRIPTION OF THE PROPOSED PROJECT

RETAIL PROGRAM

Approval of the proposed actions would facilitate the demolition of an approximately 290,100-gsf portion of existing retail and cinema uses at the project site, and the development of approximately 386,705 gsf of new retail, cinema, and receiving/common area uses, for a net increase of approximately 96,617 gsf. Uses within the building that would be demolished are (in approximate sf): a 59,800-gsf vacant supermarket; a 17,300-gsf, 700-seat cinema; and 212,900 gsf of department store and smaller retail establishments, including restaurants. The uses within the proposed two-story retail buildings are intended to include: a 76,769-gsf supermarket on the ground floor; a 41,030-gsf, 1,000-seat cinema on the second floor; 68,686 gsf of smaller-format non-department store retail and restaurants on the ground floor; 171,926 gsf of larger-format retail stores and restaurants on the second floor; and 23,159 gsf of receiving/common areas. The proposed new retail uses also would include a new 5,135-gsf single-story retail pad near the project site entrance at Hylan Boulevard. The retail components within the existing shopping center, within the building proposed to be demolished, and within the proposed new buildings are shown in **Table A-1**.

Also shown in **Table A-1** is the increment between the No Action condition (which is the existing condition) and the With Action condition (which is the future condition with the proposed actions). With the proposed actions, the amount of destination retail would increase by 55,961sf (and would include 23,159 sf of receiving areas), supermarket space would increase by 16,960 sf and cinema space would increase by 23,696 gsf. The overall incidental change between the No Action and the With Action condition is 96,617 gsf.

Table A-1
Proposed Development Program – Retail Components

Proposed Use	ZR Use Group[1]	Existing Floor Area (GSF)	Proposed Floor Area to be Demolished (GSF)	Proposed New Retail Development (GSF)	Total With Proposed Actions (GSF)	Net Addition with Proposed Actions (GSF)
Destination Retail	6/10	285,319	212,945	268,906[2]	341,280[2]	55,961[2]
Supermarket	6	59,809	59,809	76,769	76,769	16,960
Cinema	8	17,334	17,334	41,030	41,030	23,696
TOTAL		**362,462**	**290,088**	**386,705**	**459,079**	**96,617**

Notes: 1. Retail establishments could fall into Use Groups 6 or 10.
2. Proposed destination retail amount includes 23,159 gsf of receiving/common areas for the proposed retail uses.
Sources: S9 Architects and Hylan Plaza 1339, LLC.

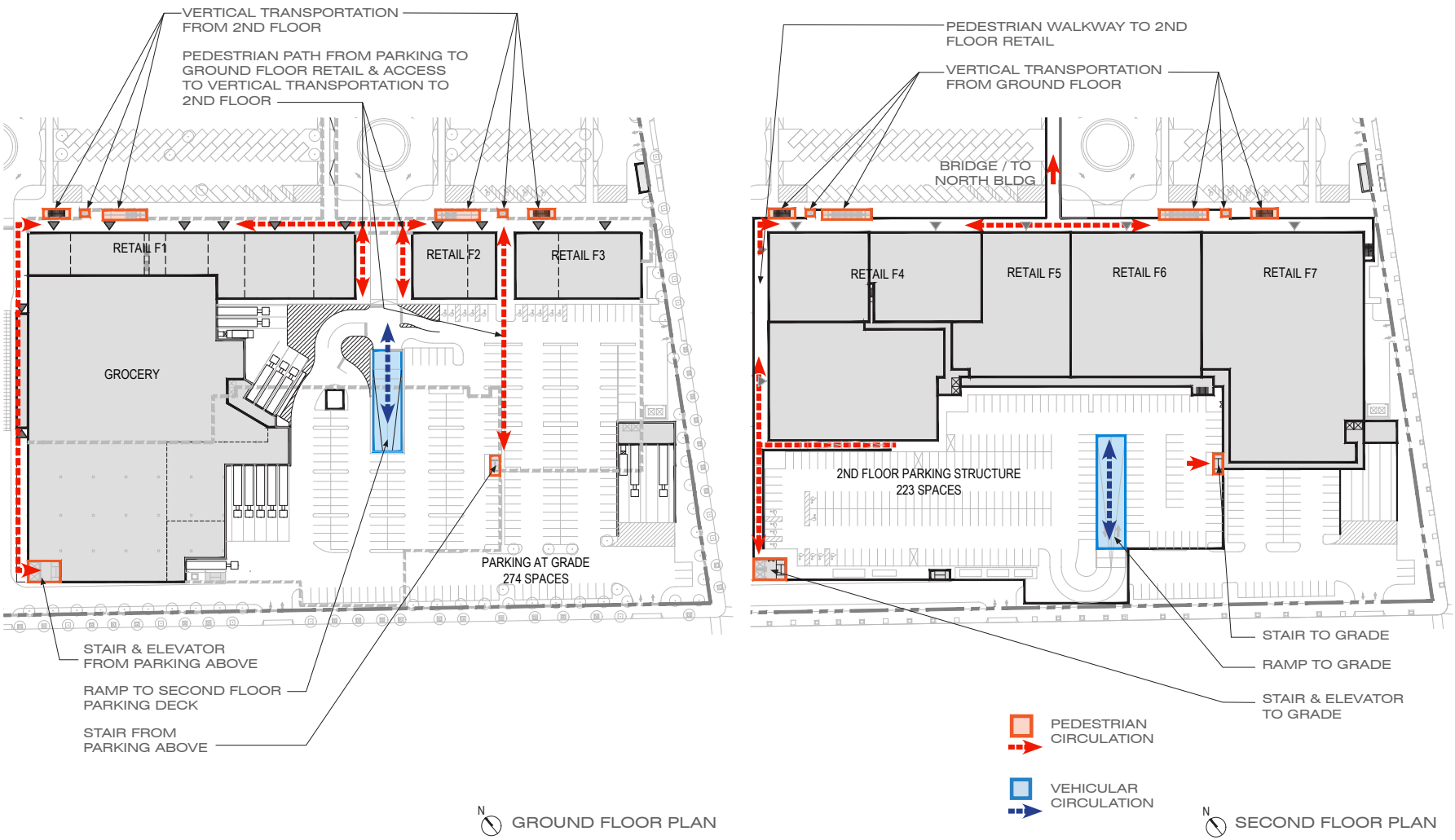
Use Group 6 includes a wide variety of local retail stores and personal service establishments. Examples of such uses include gift shops, toy stores, candy stores, clothing stores of 10,000 sf or less, furniture stores of 10,000 sf or less, and eating and drinking establishments with a capacity of 200 patrons or fewer and supermarkets. Use Group 8 primarily includes amusement uses such as cinemas and bowling alleys, and service establishments, such as automobile driving schools and television repair shops. Use Group 10 includes large retail uses intended to serve a wide area, including department stores, wholesale stores, and large clothing or furniture stores.

PARKING

As noted above, the project site is located within a C4-1 zoning district. According to Section 36-21 of the Zoning Resolution, C4-1 zoning districts require one accessory parking space for every 150 sf of floor area for retail/service uses. For other uses, one parking space must be provided for every 100 sf of floor area for supermarket uses and for every 4 cinema seats. As shown in **Table A-2**, for the existing development on the project site, a total of 2,454 spaces would be required based on C4-1 zoning requirements; however, as part of a previously-approved authorization, the project site received a reduction in required parking to facilitate the existing development.

To accommodate the development of the proposed project, the existing surface parking areas would be substantially reconfigured and landscaped, requiring the temporary displacement of parking spaces during the demolition of the existing retail building, and during construction of the proposed project.

Upon completion, the proposed project would provide an estimated 1,653 spaces (a net increase of 239 parking spaces as compared to existing parking). Approximately 210 of the 1,653 spaces would be provided as part of a new parking deck located at the second level of the proposed Building F, partially above the contemplated grocery store use and partially above the at-grade parking in the rear of Building F (see **Figure A-4**). As illustrated in **Figure A-4**, pedestrians would access the parking deck at ground level through a parking lobby located at the southwest corner of the contemplated grocery store building via elevators and convenience stair. A second point of access would be provided by pedestrian walkway from the second level pedestrian gallery/circulation at the main entrances of Building F. There would be another convenience



Building F and Parking Circulation Diagram

Figure A-4

stair at the east side of the parking deck that also connects the parking with at-grade parking, and provides an access to the main circulation spine through the alley between portions of the ground floor retail of Building F.

As shown in **Table A-2**, the 1,653 parking spaces proposed would be approximately 50 percent fewer than the 3,293 spaces required by Section 36-21; thus an approximate 50 percent reduction in required spaces is requested by the applicant.

Table A-2
Parking Calculations

	Existing	Proposed	Net Addition
Total Site Building Area	**362,462 gsf[1]**	**459,079 gsf**	**96,617 gsf**
Total Retail	285,319 gsf	341,280[2] gsf	55,961 gsf
Total Grocery/Food Store	59,809 gsf	76,769 gsf	16,960 gsf
Total Cinema	700 seats	1,000 seats	300 seats
Parking Provided	**1,414[3]**	**1,653 spaces**	**239 spaces**

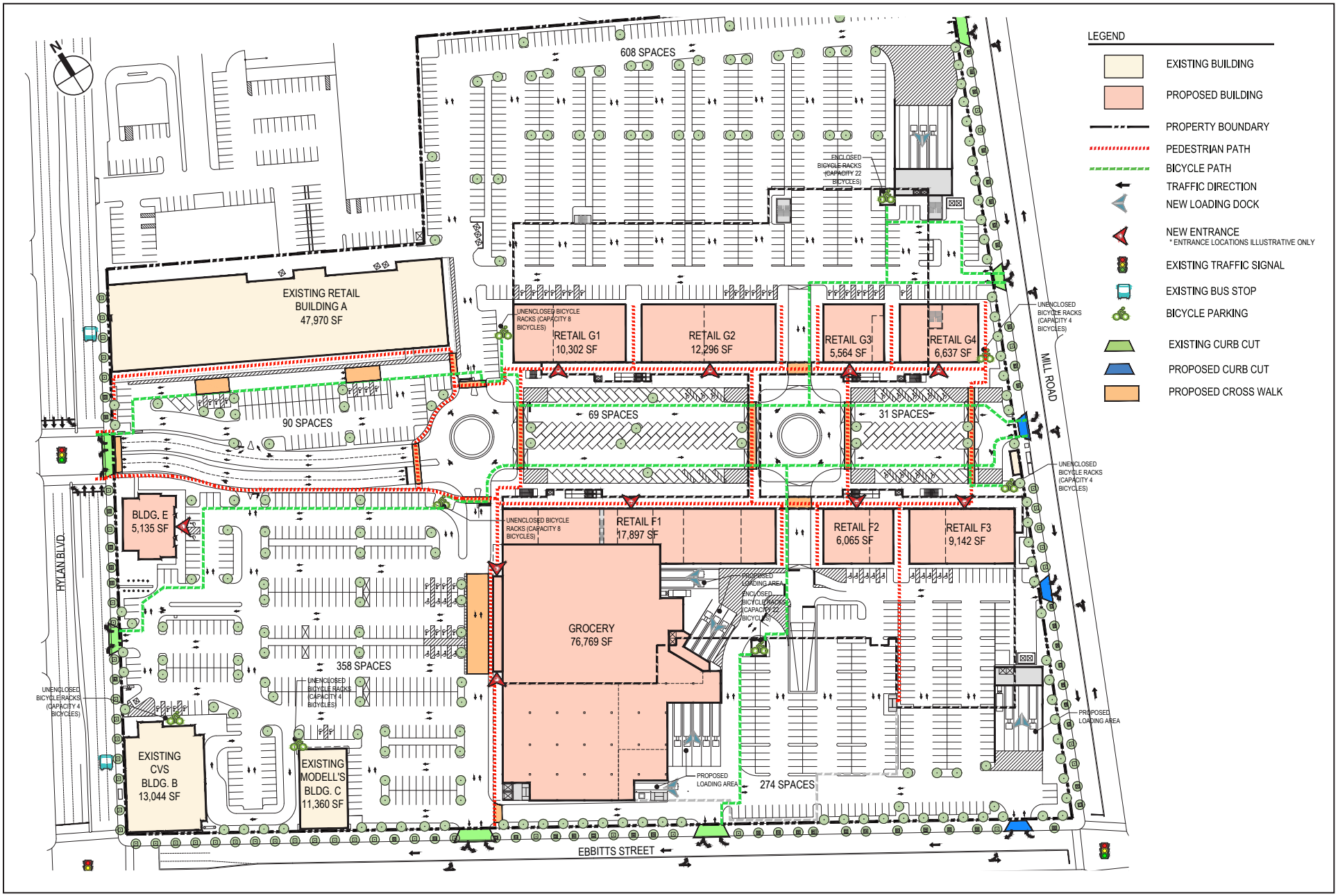
Notes: 1. Totals are from plan previously approved by DCP.
2. Proposed retail amount includes approximately 23,159 gsf of common/receiving areas.
3. Actual number of parking spaces based on survey of existing shopping center.

Source: S9 Architects and Hylan Plaza 1339, LLC.

SITE ACCESS AND CIRCULATION

The proposed project site would be accessed as follows (see also **Figure A-5**):

- At Hylan Boulevard, from two existing curb cuts: one curb cut at the existing traffic signal at the proposed two-way internal drive that is designed to be the main entrance to the site; the second is near the existing CVS building.
- At Ebbits Street from two existing curb cuts and one proposed curb cut: one existing curb cut connects the drive in front of the Grocery with the western roundabout; the other existing curb cut provides easy access to Building F loading and parking at the back of Building F; and a proposed curb cut near the corner of Ebbits Street and Mill Road.
- At Mill Road from one existing and three proposed curb cuts: the existing curb cut at the North property line connects the parking and loading of Building G; one proposed curb cut in the middle of the property would connect to the main circulation spine and angled parking and roundabouts in front of main entrances of Buildings G and F; and two other proposed curb cuts would provide access directly to and from the parking field at the back of Buildings G and F. Both at-grade parking areas are partially covered and connected to the main circulation spine by vehicular and pedestrian access through the breezeways at Buildings G and F.



Site Circulation Diagram

Figure A-5

The Boulevard at Hylan Plaza

LANDSCAPING PLAN

The proposed project would include landscape improvements throughout the project's site surface parking areas in compliance with the requirements of the Zoning Resolution, including planting new trees. These trees would be planted in areas including the perimeter of the proposed parking structure, as well as within and along the edges of various parking areas.

C. BUILD YEAR

Assuming commencement of construction by or before early 2018, and an estimated 20-month, single-phase construction period, the proposed project is expected to be complete and occupied by or before 2019. Although the applicant would not be obligated to retain required parking spaces during the construction period, spaces would be retained or replaced on a temporary basis, to the extent practicable. For the purposes of analyzing the Reasonable Worst-Case Development Scenario (RWCDS), a future build year of 2019 will be examined to assess the potential impacts of the proposed project.

D. PURPOSE AND NEED OF THE PROPOSED ACTIONS

The proposed actions are necessary to facilitate new commercial development on the project site. Without the proposed approval of parking facility layout and relief from requirements regarding the provision of off-street accessory parking, no new development could occur on the project site, even though development on the site is substantially below the maximum allowable floor area ratio (FAR). In Fact, the proposed enlargement would trigger the need for authorization approval, regardless of parking requirements. Currently, despite the commercial success of the shopping center, the applicant believes that the existing retail layout is insufficient.

The proposed project would be built on the site of an existing commercial center, and would therefore not require major new infrastructure. The site is accessible to major roadways, including Hylan Boulevard, and is located near eastern Staten Island's numerous residential neighborhoods.

Without the proposed zoning authorizations to approve the proposed site plan and reduce the amount of parking required on the site, the proposed project could not be built.

E. DEVELOPMENT SITES

The proposed actions would be limited to the project site, which is controlled by the applicant. No other projected or potential development sites would be affected by the proposed actions.

F. FRAMEWORK FOR ANALYSIS

The 2014 *CEQR Technical Manual* serves as the general guide on the methodologies and impact criteria for evaluating the proposed project's potential effects on the various environmental areas of analysis. As noted above, the proposed project is expected to be complete and occupied by 2019. Because the proposed project is anticipated to be fully operational in 2019, its environmental setting is not the current environment, but the future environment. Therefore, the technical analyses and consideration of alternatives assess current conditions and forecast these conditions to 2019 for the purposes of determining potential impacts. Specifically, the EAS Attachments provide a description of "Existing Conditions" and forecasts these conditions to the future 2019

or 2019 analysis year without and with the proposed project ("No Action" and "With Action" conditions, respectively).

To forecast the No Action condition, information on known land-use proposals (as identified in Attachment B, "Land Use, Zoning, and Public Policy"), are incorporated. The differences between No Action and With Action conditions are assessed to determine whether such differences are adverse and/or significant; and any significant adverse environmental impacts are disclosed.

Based on the preliminary screening assessments provided as part of the EAS form, the following environmental areas do not require supplemental analysis: community facilities; socioeconomic conditions; open space; shadows; historic and cultural resources; urban design and visual resources; natural resources; water and sewer infrastructure; solid waste and sanitation services; energy; greenhouse gas emissions; public health; neighborhood character; and construction impacts.

The reasonable worst-case development scenario (RWCDS) for the purpose of analyzing the potential environmental impacts of the proposed project is described below, including the No Action scenario and the With Action scenario.

NO ACTION SCENARIO

Absent the proposed actions, no new development is anticipated to occur on the project site. Any such development, including changes to the parking site plan, would require an authorization pursuant to ZR Section 36-023, which is a discretionary action and subject to environmental review, to assure that the layout of parking space is arranged and located in relation to the uses on the site so as to provide adequate ingress, egress, and circulation with respect to the abutting streets. Therefore, in the future without the proposed actions the conditions on the project site are expected to remain unchanged from existing conditions, with the exception of the now-vacant supermarket space. Absent the proposed actions it is assumed that the vacant, approximately 60,000-gsf space would be re-tenanted by another grocery store use. The FAR on the project site would continue to be 0.345. Project site conditions under the No Action Scenario are summarized in **Table A-3**.

Table A-3
No Action Scenario

Site	Total SF	Retail SF	Office SF	Community Facility SF	Residential SF	# Residential Units	# Public Parking Spaces
Block 3969, Lots 1, 6, 31, and 35	362,462	362,462	0	0	0	0	1,414

WITH ACTION SCENARIO

Table A-4 summarizes project site conditions in the future with the proposed actions (With Action scenario). In total, the project would contain 459,079 sf of retail uses and 1,653 parking spaces, which represents a 96,617-sf increase in retail space and a 239-space increase in parking as compared to the No Action scenario.

Table A-4
With Action Scenario

Site	Total SF	Retail SF	Office SF	Community Facility SF	Residential SF	# Residential Units	# Public Parking Spaces
Block 3969, Lots 1, 6, 31, and 35	459,079	459,079*	0	0	0	0	1,653

***Note:** Proposed retail amount includes approximately 23,159 gsf of common/receiving areas.
Source: S9 Architects and Hylan Plaza 1339, LLC. (March 25th, 2016)

The proposed actions would facilitate the applicant's proposal by allowing the reconfiguration of the existing parking lot to create the building footprints for the commercial enlargement, which requires a reduction in the amount of parking at the site. The proposed enlargement will be limited to the building footprints shown on the authorized site plan, the layout and number of parking spaces, and will limit the floor area that may be developed on the site. Substantial deviation from the site plan by reconfiguring the layout of the parking spaces, providing parking lower percentage of parking, or shifting the building footprints or to modify these authorizations would require the applicant to seek an additional authorization pursuant to ZR Section 36-023. However, the site plan does not set the size and location of the proposed Use Groups 6, 8, and 10 and allows flexibility for where the uses are located within the proposed footprints. For instance: the proposed cinema (UG-8) shown on the site plan (**Figure A-2b**) could be sited at another location on the second floor of that proposed building (Building G) or on the second floor of the proposed Building F; or the larger-format retail stores envisioned on the second floor of the proposed retail buildings could be redesigned within the same footprint to provide for a greater number of smaller-format stores.

In order to provide a conservative environmental review, a RWCDS for the With Action scenario was developed based on the incremental development attributable to the proposed actions (i.e., the proposed new retail development, after discounting for the existing uses within the building to be demolished), and based on the size and distribution of typical retail uses in similar developments that generate a high number of vehicle trips. The incremental development associated with the proposed actions is shown in **Table A-5**.

Table A-5
Summary of Incremental Development Associated with the Proposed Actions

Block/Lot	Project Info	Existing Condition	No Action Condition	With Action Condition	Increment
3969/ 1, 6, 31, 35	Zoning Lot Size (SF)	1,033,946	1,033,946	1,033,946	0
	GSF Above Grade	356,782	1,228,814	453,399	96,617
	GSF Below Grade	5,680	5,680	5,680	0
	Commercial GSF	362,462	362,462	459,079	96,617
	Uses	Retail (UG 6, 8, 10)	Retail (UG 6, 8, 10)	Retail (UG 6, 8, 10)	0
	Community Fac. GSF	0	0	0	0
	Residential GSF	0	0	0	0
	Manufacturing GSF	0	0	0	0
	Dwelling Units	0	0	0	0
	Affordable Dwelling Units	0	0	0	0
	Accessory Parking Spaces	1,414	1,414	1,653	+239
	Building Height	Up to 35'	Up to 35'	Up to 88'	Up to 53'
	Workers[1]	±632	±893	±1,224	±331
	TOTAL GSF	**362,462**	**362,462**	**459,070**	**96,617**

Notes: [1]Assumptions use the following standard industry employment densities which are frequently utilized in environmental review documents: non-department store (in-line) retail = 1 worker/400 gsf; large-format and department store retail = 1 worker/500 gsf; restaurant = 1 worker/200 gsf; supermarket = 1 worker/250 gsf; cinema employment estimated (30 in Existing and No-Action, 40 in With-Action) based on size, hours, and comparable theaters.

Using the 96,617 sf project increment, the specific retail types assumed for the RWCDS program increment are as follows: 32,802 sf of destination retail uses (UG 6 or 10, depending on the retail use and size of establishment); 16,960 sf of supermarket use (UG-6); 23,696 sf (300 seats) of cinema space (UG-8); and 23,159 sf of receiving/common area (see **Table A-6**).

Table A-6
RWCDS Program Assumptions

Use	No Action Scenario Floor Area (SF)	With Action Scenario Floor Area (SF)	With Action Increment (SF)
Destination Retail	285,319	318,121	32,802
Supermarket	59,809	76,769	16,960
Cinema	17,334 (700 seats)	41,030 (1,000 seats)	23,696 (300 seats)
Receiving/Common Areas	0	23,159	23,159
TOTAL	**362,462**	**459,079**	**96,617**

Source: S9 Architects and Hylan Plaza 1339, LLC. (March 25th, 2016)

A. INTRODUCTION

Under the 2014 *City Environmental Quality Review (CEQR) Technical Manual* guidelines, a land use analysis evaluates the uses and development trends in the area that may be affected by a project, and determines whether that project is compatible with those conditions or may affect them.

As detailed in Attachment A, "Project Description," the proposed actions would facilitate the redevelopment of the existing Hylan Plaza Shopping Plaza, including the demolition of approximately 290,100 gross square feet (gsf) of existing retail space at the site and the development of approximately 386,705 gsf of new retail structures, for a total of 459,079 gsf of retail space on the project site. The proposed project also would substantially reconfigure and landscape the surface parking areas, and would provide a new parking deck adjacent to one of the new retail buildings. This chapter considers the proposed project's potential impacts on land use, zoning, and public land use policies. It provides an assessment of existing and future conditions with and without the proposed project for the project site and the surrounding study area, which are described below.

PRINCIPAL CONCLUSIONS

The analysis finds that the proposed project would not have any significant adverse impacts on land use, zoning, and public policy.

B. METHODOLOGY

According to the *CEQR Technical Manual*, a preliminary land use assessment, which includes a basic description of existing and future land uses and public policy, should be provided for all projects that would affect land use or public policy, regardless of the project's anticipated effects. Accordingly, a preliminary analysis has been prepared that describes existing and anticipated future conditions for the 2019 analysis year, assesses the nature of any changes on these conditions that would be created by the proposed project, and identifies those changes, if any, that could be significant or adverse.

The study area for this analysis of land use, zoning, and public policy encompasses the area within 400 feet of the project site. As shown on **Figure B-1**, the 400-foot study area roughly extends north past the Dartmouth Loop, east past Titus Avenue, south past Allison Avenue, and west past Hylan Boulevard.

Sources for this analysis include field reconnaissance conducted by AKRF in November 2015, the New York City Department of City Planning (DCP) and the New York City Department of Buildings (DOB).

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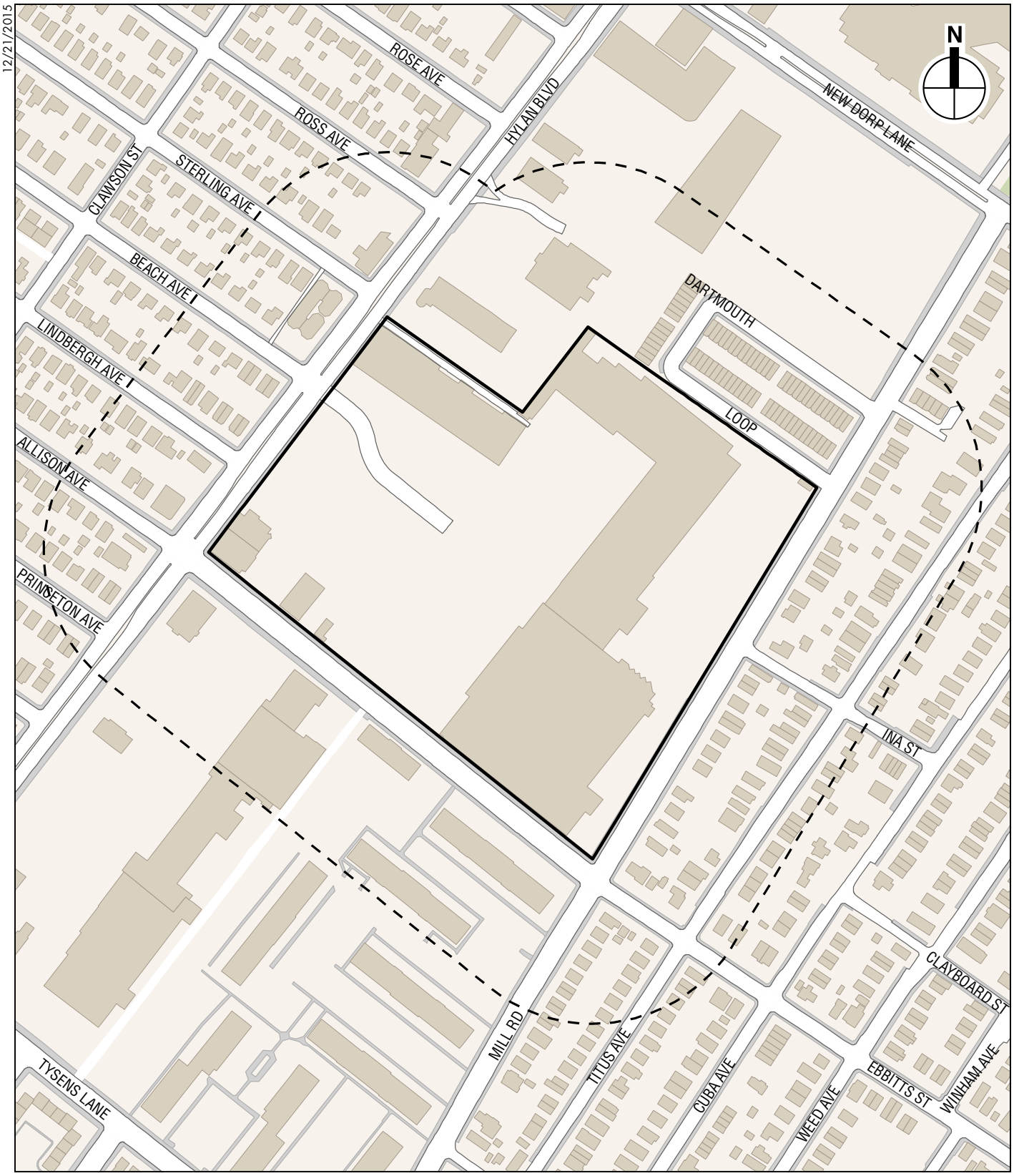


Project Site

Study Area (400-foot boundary)

0 400 FEET

The Boulevard at Hylan Plaza

Project Location
Figure B-1

C. EXISTING CONDITIONS

LAND USE

PROJECT SITE

The project site is located at 2600 Hylan Boulevard (Staten Island Block 3969, Lots 1, 6, 31, and 35) in the New Dorp Beach neighborhood of Staten Island Community District 2. The approximately 23.74-acre site is generally bounded by Hylan Boulevard, Ebbits Street, Mill Road, and commercial and residential lots (properties) to the north (see **Figure B-1**). The Hylan Plaza Shopping Center is a regional shopping center consisting of local- and regional-serving retail stores arranged within one-story retail structures fronted by surface parking. Current tenants include a K-mart department store, a Toys"R"Us/Babies"R"Us, a United Artists Movie Theater, a Sleepy's mattress store, a Modell's sporting goods store, and a CVS pharmacy among other uses. In late 2015 an approximately 60,000-gsf space in the shopping center was vacated by Pathmark supermarket; the space is currently vacant. As shown in **Figure B-2**, the shopping center is comprised of four tax lots:

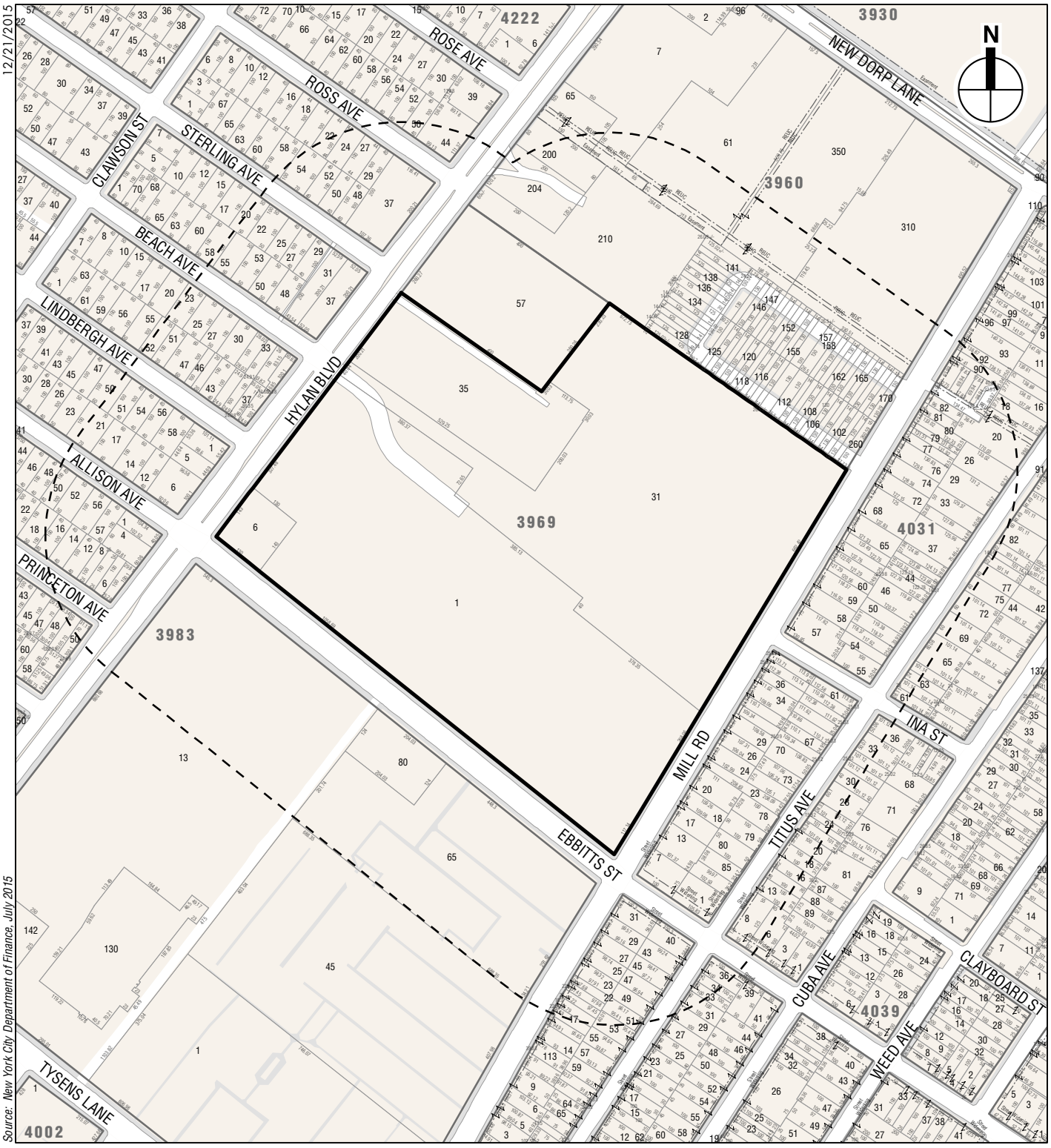
- Tax lot 1, which includes surface parking, a one-story retail building (currently occupied by Modells's) that would remain on the project site in the future with the proposed actions, and a portion of the existing one-story retail building that would be demolished in the future with the proposed actions;
- Tax lot 6, which includes a one-story retail building (currently occupied by CVS) that would remain on the project site in the future with the proposed actions and an accompanying surface parking lot;
- Tax lot 31, which includes surface parking and the remaining portion of the one-story retail building that would be demolished in the future with the proposed actions; and
- Tax lot 35, which includes a one-story retail structure (currently occupied by multiple retail tenants) that would remain on the project site in the future with the proposed actions and an accompanying surface parking lot.

The project site contains 362,462 gsf of Use Group 6 and Use Group 10 retail uses, including local and destination retail, a supermarket, and a cinema. The worker population on the project site is approximately 632. The project site also currently contains 1,414 accessory parking spaces. The existing built floor area ratio (FAR) of the project site is approximately 0.345, which is below the maximum allowable FAR of 1.0 (see "Zoning," below).

STUDY AREA

The 400-ft study area contains commercial uses, residential uses, and one public facility/ institutional use.

Hylan Boulevard is a major commercial corridor on Staten Island. In addition to Hylan Plaza, commercial uses are located to the west and south of the project site. In the western portion of the study area, lays a strip of commercial and retail uses along Hylan Boulevard, including a Firestone Tires, a restaurant, and the Richmond County Savings Bank. To the south of the project site, there is a strip mall retail development on the south side of Allison Avenue, containing a Dunkin Doughnuts, Home Goods, Weight Watchers, Radio Shack and other big-box commercial vendors. Just outside of the study area, to the north of the project site, is the



Project Site

Study Area (400-foot boundary)

16124 Tax Block Boundary

Tax Lot Boundary

33 Tax Lot Number

~~33~~ Condo Tax Lot Number

C: 40 Condo Flag/Condo Number

Easement Other Tax Boundary

Possession Hooks

206.73 Tax Lot Dimension

0 400 FEET

The Boulevard at Hylan Plaza

Tax Map
Figure B-2

Hylan Commons strip mall at Hylan Boulevard and New Dorp Lane. Hylan Commons includes: Applebee's, Starbucks, TJ Maxx, Boston Market, and other big-box commercial vendors.

The study area contains residential uses located to the north, southeast, and west of the project site. Residential uses are immediately adjacent to the project site, and include: single family homes (to the east and west), attached townhouses (to the north), and seven-story apartment buildings (to the south). Many residential developments in the area include private open space and recreational amenities for residents. Ross Ave, Sterling Ave, Beach Ave, Lindbergh Ave and Prinseton Ave have commercial frontages along Hylan Boulevard but are primarily residential streets with single family homes. As shown in **Figure B-3**, The Tysens Park Apartments, immediately adjacent to the south-side of the project site, reach seven-stories and represent the highest density dwelling units in the study area. The Dartmouth Loop, immediately adjacent to the north-side of the project site, is a similarly dense residential development comprised of attached three-story townhouses (see **Figure B-3**).

Also in the study area, United States Postal Service (USPS) has an office on the east side of Hylan Boulevard. 2582 Hylan Boulevard (block 3969, lot 57) is currently under construction with an anticipated build of 2,600 sf of retail use (currently shown as "Vacant Land" on **Figure B-3**). Other than the USPS Office and the retail development under construction described above, the remainder of the study area includes a large vacant parking lot in poor condition. The vacant parking lot (450 New Dorp Lane) is slated for development of 100,000 sf retail and 370 parking spaces; the development is included in the No Action condition, as described below.

ZONING

PROJECT SITE

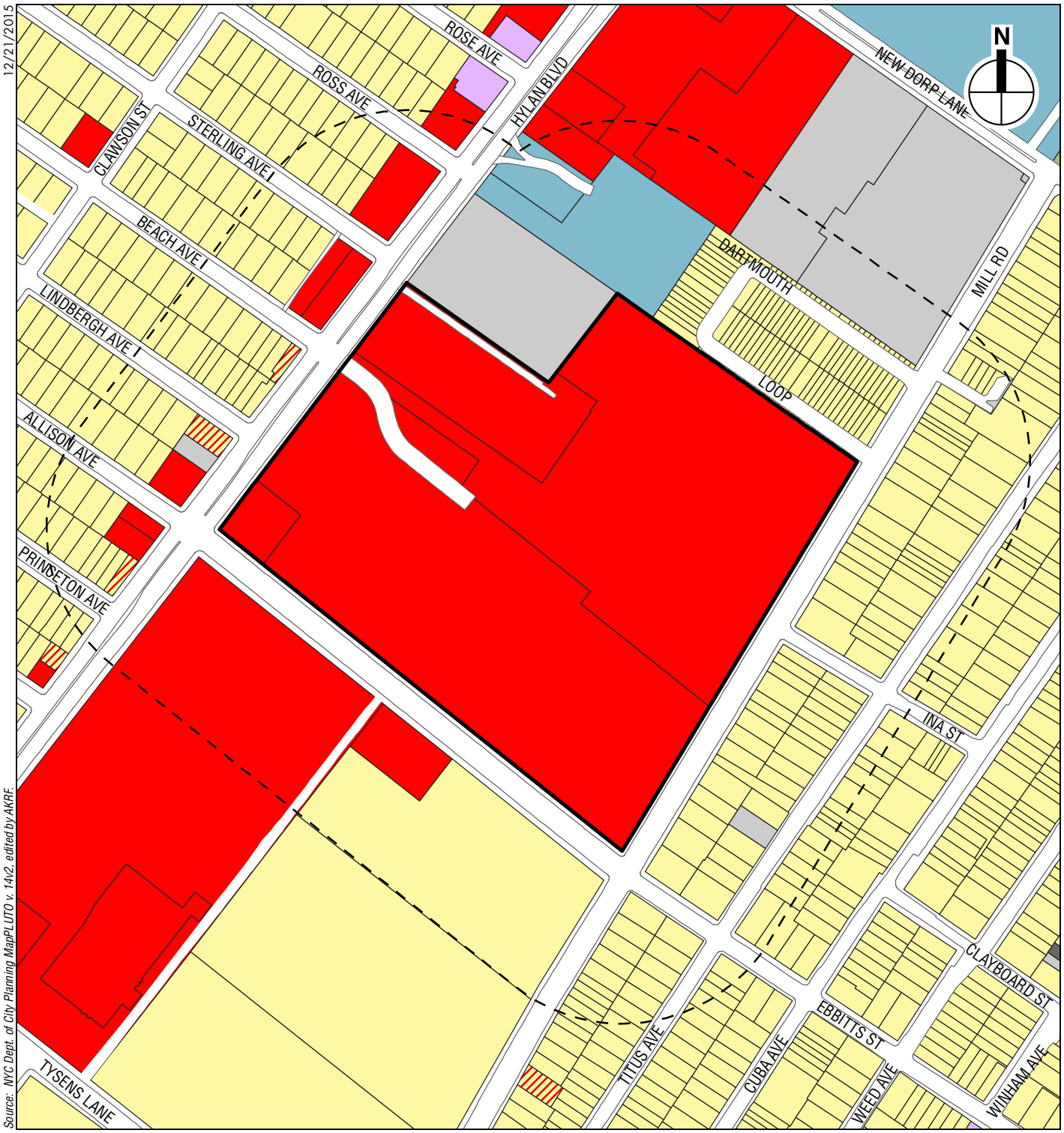
As shown in **Figure B-4**, the project site is within a C4-1 commercial zoning district, which allows commercial uses up to a maximum FAR of 1.0, residential uses of up to 1.25 FAR, and community facility uses of up to 2.0 FAR. C4-1 districts are generally mapped for outlying regional commercial centers and have high parking requirements.

STUDY AREA

In addition to the C4-1 district, the study area also contains C8-1, R3-1 and R3X residential districts. A summary of these zoning districts is provided in **Table B-1**.

The C8-1 zone is located northeast of Sterling Avenue, 100 feet west of Hylan Boulevard. C8-1 districts provide for automotive and other heavy commercial uses, such as automobile showrooms and repair shops, warehouses, and gas stations—although most commercial uses are also permitted. The maximum FAR in these districts is 1.0.

The residential uses located east of the project site, and southwest of Sterling Avenue, 100 feet west of Hylan Boulevard, are within an R3-1 residential district. R3-1 districts are low-density residential districts that allow semi-detached one- and two-family residences, as well as detached houses. The maximum FAR is 0.5, which can be increased to 0.6 with an attic bonus. The northwestern portion of the study area contains an R3X, which permit only one- and two-family detached homes of up to 0.5 FAR (or 0.6 FAR with an attic bonus).

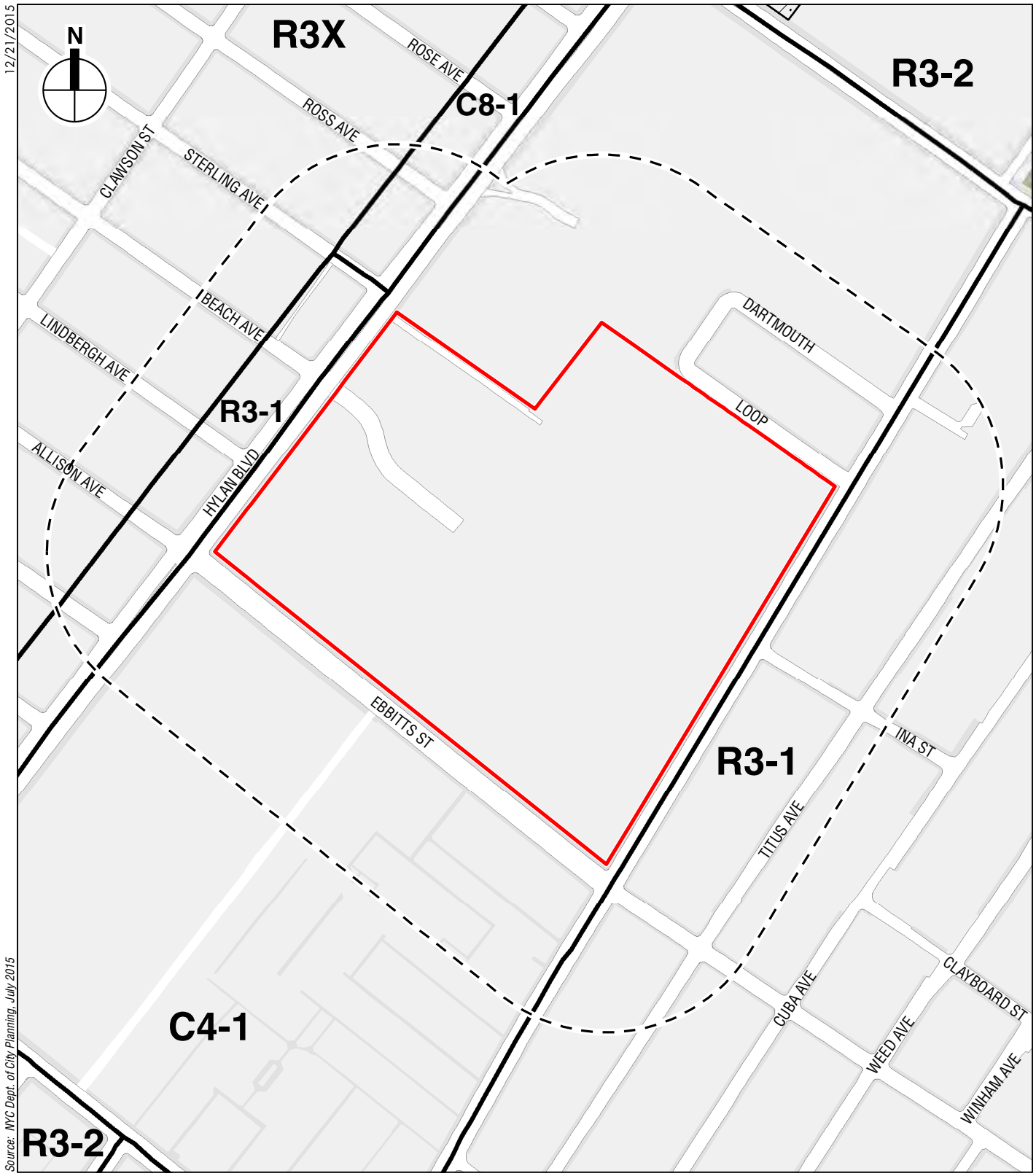


Project Site
Study Area (400-foot boundary)
Commercial and Office Buildings
Open Space and Outdoor Recreation
Parking Facilities
Public Facilities and Institutions
Residential
Residential with Commercial Below
Transportation and Utility
Vacant Land

0 400 FEET

The Boulevard at Hylan Plaza

Land Use
Figure B-3



Project Site

Study Area (400-foot boundary)

Zoning Districts

C2-1 Commercial Overlay District

0 200 FEET

The Boulevard at Hylan Plaza

Zoning
Figure B-4

Table B-1
Zoning Districts in the Study Area

Zoning District	Maximum FAR[1]	Uses/Zone Type
C4-1	1.0 commercial, 1.25 residential, 2.0 community facility	Regional commercial center district.
C8-1	1.0 commercial, 2.4 community facility	Automotive/heavy commercial uses district.
R3-1	0.5 residential (0.6 with attic bonus), 1.0 community facility	General residence district, low-density housing.
R3X	0.5 residential (0.6 with attic bonus), 1.0 community facility	Low-density residence district.

Notes:
1. FAR is a measure of density establishing the amount of development allowed in proportion to the base lot area. For example, a lot of 10,000 sf with an FAR of 1 has an allowable building area of 10,000 sf. The same lot with an FAR of 10 has an allowable building area of 100,000 sf.

Source: *New York City Zoning Resolution*.

PUBLIC POLICY

The project site and study area are located within the Staten Island Lower Density Growth Management Area (LDGMA). In comparison to elsewhere in the City, areas within a LDGMA District have far less land zoned for commercial use. Thus special rules prohibit residential-only development in commercial overlays and commercial districts within the LDGMA. To encourage retail stores and services needed by a growing population, the traditional mixed use arrangement of apartments located above shops at the street level is recommended. In LDGMA areas residences are not allowed on the ground floor in any C1 or C2 commercial overlay districts or established town centers within C4 districts; any residential or mixed use development would require a City Planning Commission special permit.

The proposed project would not include any residential or mixed use development requiring a special permit. Furthermore, the existing Floor Area Ratio (FAR) on the project site is 0.345; the project site's location within an LDGMA District has no implications on the allowable FAR or on the proposed actions, because the proposed project would not include any residential or mixed use residential development.

D. FUTURE WITHOUT THE PROPOSED PROJECT

LAND USE

PROJECT SITE

Absent the proposed project, no new development is anticipated to occur on the project site. Any such development or enlargement, including changes to the parking site plan, would require an authorization pursuant to Zoning Resolution (ZR) Section 36-023 (which is a discretionary action and subject to environmental review) to assure that the layout of parking space is arranged and located in relation to the uses on the site so as to provide adequate ingress, egress, and circulation with respect to the abutting streets. Therefore, in the future No Action condition, the project site is expected to remain unchanged from existing conditions, with the exception of the now-vacant supermarket space. Absent the proposed actions it is assumed that the vacant,

approximately 60,000-gsf space would be re-tenanted by another grocery store use. The FAR on the project site would continue to be 0.345.

STUDY AREA

No major changes in land use are anticipated in the study area by 2019. The portion of the study area along Hylan Boulevard is expected to remain a regional commercial center, while low- and medium-density residential communities will continue to exist to the north, south east and west of the project site.

At the northern boundary of the 400-foot study area a future commercial development project is planned at 450 New Dorp Lane. The project will introduce an approximately 100,000-square-foot retail facility and 370 parking spaces. The portion of the study area that includes the 450 New Dorp Lane development site is currently vacant land.

The currently vacant lot located immediately north-west of the project site is slated for the development of two commercial projects. The 2590 Hylan Boulevard project will introduce approximately 30,000 sf of retail and 200 parking spaces. Directly adjacent, the 2602 Hylan Boulevard project will introduce approximately 8,400 sf of retail and 55 parking spaces.

Also north of the project site within the study area, at 2580 Hylan Boulevard, the development of a 2,600 sf bank facility is proposed near the intersection of Hylan Boulevard and Ross Avenue.

ZONING

No changes to zoning on the project site or in the study area are currently anticipated by 2019. Current zoning, as described above, is expected to remain in force.

PUBLIC POLICY

No changes to public policies affecting the project site or the study area are anticipated by 2019.

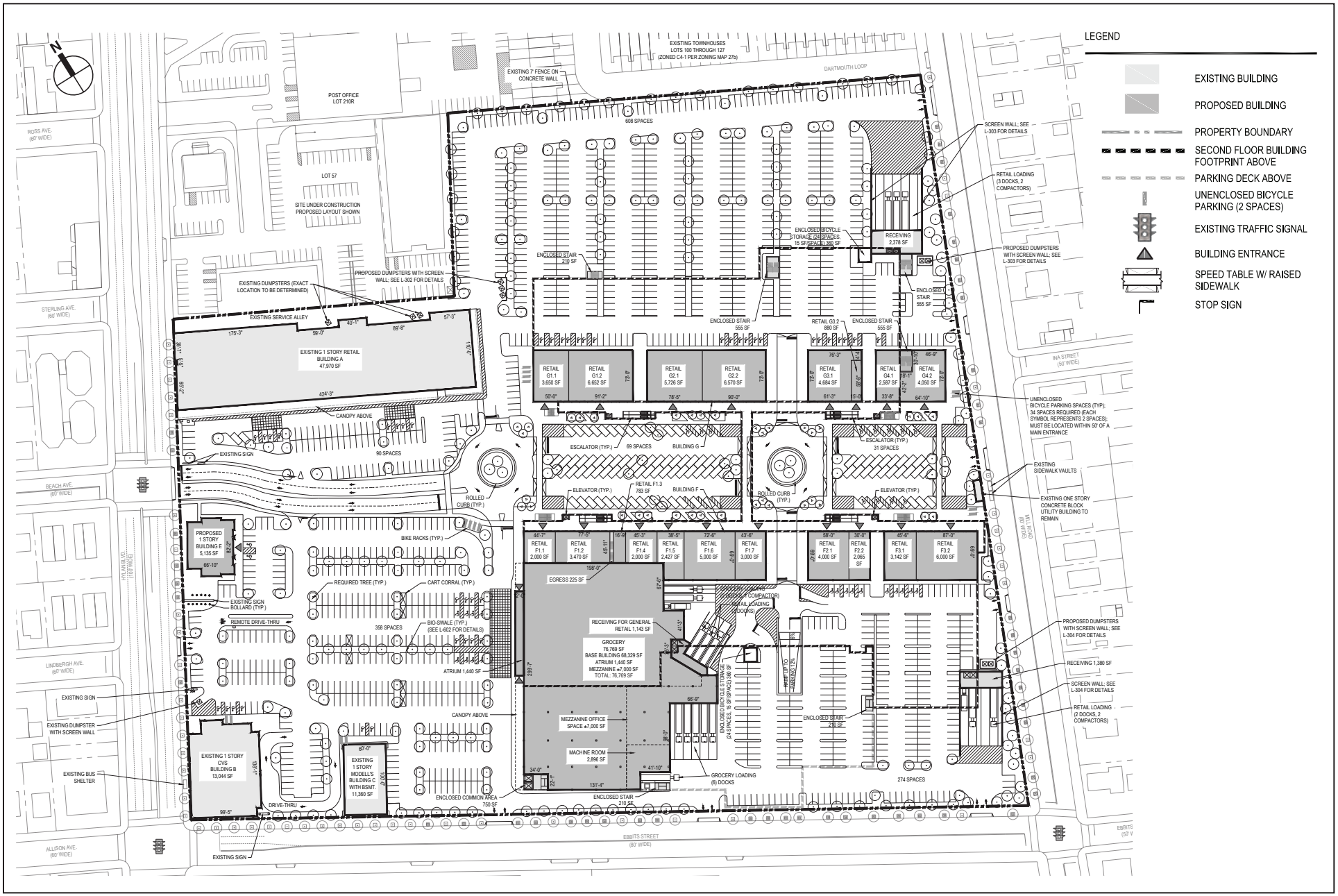
E. FUTURE WITH THE PROPOSED PROJECT

LAND USE

PROJECT SITE

Approval of the proposed actions would facilitate the development of an approximately 459,079 gsf of retail space and 1,653 parking spaces, which represents a 96,617-gsf increase in retail space and a 239-space increase in the number of parking spaces. **Table B-2** presents the size of each use component of the proposed development program.

The proposed actions would facilitate a proposal by the applicant to demolish an approximately 290,100-gsf portion of an existing approximately 362,462-gsf commercial center known as the Hylan Plaza Shopping Center and construct in its place 386,705 gsf of new retail structures, including approximately 245,747 gsf of local and destination retail uses (Use Group 6 or 10, depending on the retail use and size of establishment), 76,769-gsf of Use Group 6 grocery or food store use, approximately 41,030-gsf of Use Group 8 cinema use, and approximately 23,159-gsf of receiving areas for the proposed retail uses (see proposed site plan in **Figures B-5a and 5b**). The applicant intends the additional space to be occupied by: a supermarket (Use



Proposed Ground Floor Plan

The Boulevard at Hylan Plaza

Figure B-5a

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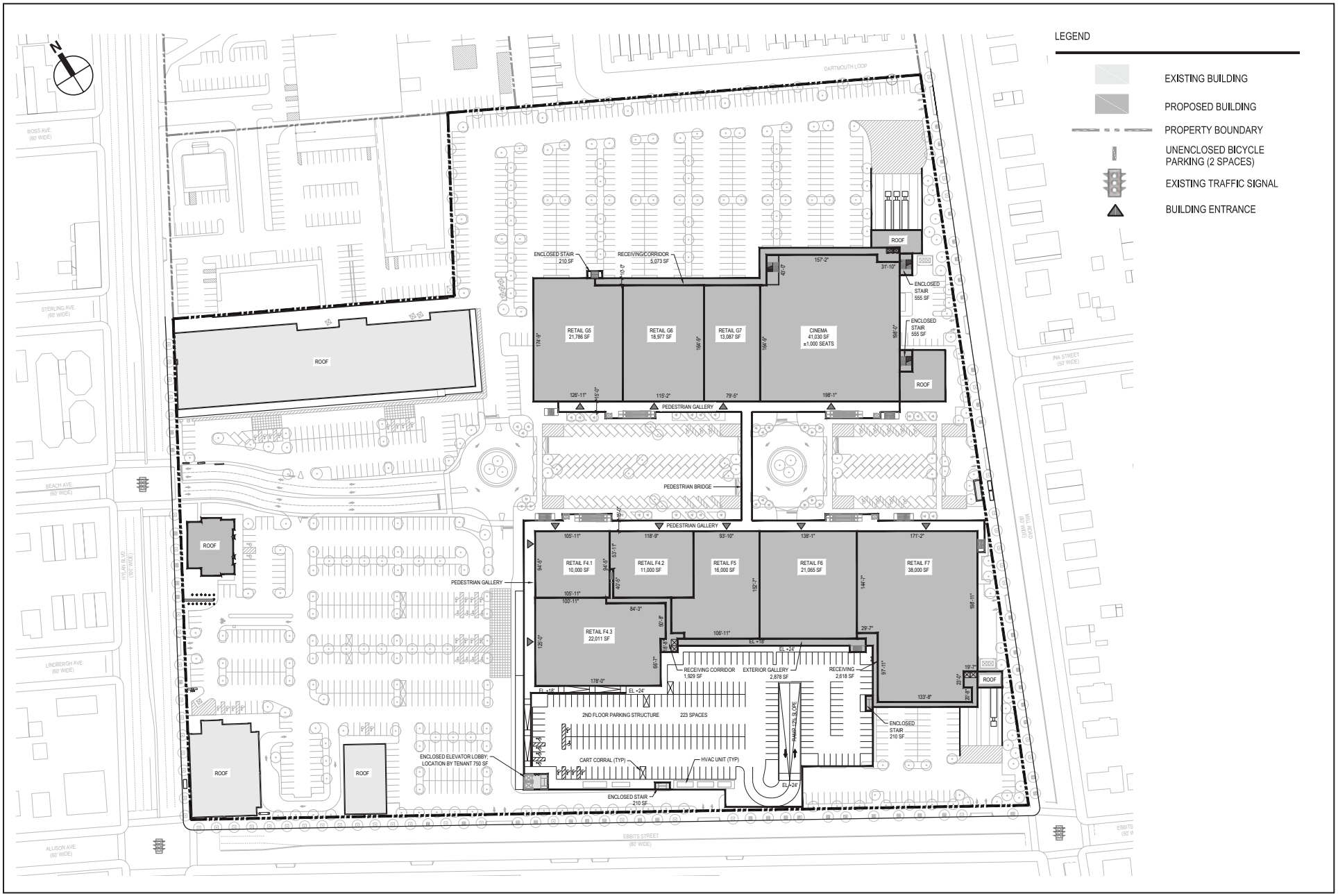


Proposed Second Floor

The Boulevard at Hylan Plaza

Figure B-5b

Group 6); cinema (Use Group 8); restaurant space (Use Group 6); department store retail uses (Use Group 10); other non-department store retail uses (Use Group 6 or 10, depending on the size and type of establishment); and receiving areas. In conjunction with the retail enlargement, the project would also reconfigure and landscape the project site's parking areas. As described in more detail below, the overall number of parking spaces provided on the project site would increase by 239 spaces (from an existing 1,414 spaces to the proposed 1,653 spaces).

Table B-2
Proposed Development Program

Use	ZR Use Group[1]	Proposed New Retail Development (GSF)
Destination Retail	6/10	245,747
Supermarket	6	76,769
Cinema	8	41,030
Receiving Areas	6/10	23,159
Total		**386,705**

Note: [1] Retail establishments could fall into Use Groups 6 or 10
Sources: S9 Architects and Hylan Plaza 1339, LLC.

Pursuant to Section 36-21 of the Zoning Resolution, the proposed project would require 3,293 parking spaces. However, the Applicant is requesting a reduction of parking to better suit their development needs. To accommodate the development of the proposed project, the existing surface parking areas would be substantially reconfigured and landscaped, requiring the temporary displacement of parking spaces during the demolition of the existing retail building, and during construction of the proposed project. Upon completion, the proposed project would provide an estimated 1,653 spaces (a net increase of 239 parking spaces as compared to existing parking). These 1,653 provided spaces would be 50 percent fewer than the 3,293 spaces required by ZR Section 36-21, thus a 50 percent reduction in required spaces is being requested by the applicant.

The proposed project would include landscape improvements throughout the project's site surface parking areas, including planting new trees. These trees would be planted in areas including the perimeter of the various parking areas.

Within the 459,079 gsf of the proposed project, the project site would contain approximately 386,705 gsf of new retail uses. The proposed project would result in the addition of retail uses that similar to those already present on the project site. Therefore, the proposed development would be compatible and consistent with existing land uses on the project site.

STUDY AREA

The proposed project would not alter the land use mix of the study area, which would continue to be characterized by a concentration of regional commercial uses. The bulk of the new uses would be located on the east side Hylan Plaza and would be setback from Ebbitts Street and Mill Road by parking uses and landscaping. Therefore, the portions of the study area containing low- and medium-density residential communities with supporting open space and community facility uses—which are located north, south east and west of the project site—would not be affected by the proposed project. Overall, the proposed project would be compatible with existing land use trends in the study area, and would not result in any significant adverse land use impacts.

ZONING

PROJECT SITE

In order to facilitate the proposed project, the Applicants are seeking a zoning authorization pursuant to the ZR Section 36-023 for:

- Approval of the layout of a group parking facility accessory to a commercial development; and
- A reduction by up to 50 percent of the ZR Section 36-21 parking requirement.

In addition, the applicant is seeking a cross-access easement certification pursuant to: ZR Section 36-592 to certify that cross-access connections have been provided (for locations where they are required).In the Borough of Staten Island, existing or new open parking lots adjacent to one another on the same or separate zoning lots shall be required to provide vehicular passageways between such open parking lots, referred to as "cross access connections." This certification is a ministerial action and is not subject to environmental review.

As noted above, the project site is located within a C4-1 zoning district. According to Section 36-21 of the Zoning Resolution, C4-1 zoning districts require one accessory parking space for every 150 sf of floor area for retail/service uses. For other uses, one parking space must be provided for: every 100 sf of floor area for supermarket uses; and every 4 cinema seats.

In the With Action condition, 1,653 parking spaces would be provided on the project site, which represents a 50.2 percent reduction compared to the 3,293 spaces required by zoning. Therefore, an up to 50.2 percent reduction in required spaces is required in order to facilitate the proposed project. As detailed in the parking analysis in **Attachment D, "Transportation,"** the proposed supply of parking at Hylan Plaza would be adequate to fulfill future needs with the proposed project. Therefore, the proposed project would not result in any significant adverse impacts to zoning on the project site.

STUDY AREA

The proposed actions would apply only to the project site and would have no effect on zoning in the surrounding area. Existing zoning controls, as described above, would continue to be in force. Therefore, the proposed project would not result in a significant adverse impact to zoning in the surrounding study area. ✷

A. INTRODUCTION

This attachment addresses the potential for the presence of hazardous materials resulting from previous and existing uses both on-site and in the surrounding area, and potential risks related to the proposed project with respect to any such hazardous materials. The project site is currently a commercial center known as the Hylan Plaza Shopping Center. The proposed development would entail the demolition of existing structures and excavation for the foundation construction of the new retail structures, and would reconfigure and landscape the parking areas.

This assessment is based on: a March 2015 *Phase I ESA* prepared by ALC Group; a February 2005 *Phase II (Subsurface) Investigation* prepared by Enviroscience Consultants; an August 2013 *Dry Cleaning Inspection* conducted by Leggett, Brashears & Graham; and, a March 2014 *Phase II (Subsurface) Investigation* prepared by Soil Mechanics Corp. The Phase I ESA included the findings of a reconnaissance of the proposed 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. The February 2005 Phase II Investigation was based on a 1996 Phase I ESA completed by Warren & Panzer Engineers. The August 2013 dry cleaning inspection at the active on-site facility included a visual inspection of the facility operations and verification of compliance. The 2005 Phase II investigation included a geophysical investigation, and the collection of 4 groundwater and 1 sediment sample (from a storm drain located behind the drycleaner) for laboratory analysis. The 2014 Phase II investigation included the advancement of 7 geotechnical borings and the collection of 14 soil samples from the borings for laboratory analysis.

B. EXISTING CONDITIONS

SUBSURFACE CONDITIONS

The proposed project site is approximately 18 feet above sea level. The Phase II borings encountered sand, silt, clay and rock fragments, underlain by sand and silt. No field evidence of potential contamination were detected during the investigations.

Groundwater was first encountered at between approximately 10 and 15 feet below grade and is assumed to flow in a southeasterly direction towards the New York Harbor/Lower Bay, approximately 0.75-mile east. However, actual groundwater depth and flow direction may be influenced by other factors. Groundwater in Staten Island is not used as a source of potable water.

PHASE I ESA

The ESA identified evidence of “Recognized Environmental Conditions” (RECs), including the presence, or likely presence, of petroleum contamination to soil and groundwater from a closed-

in-place underground storage tank (UST), the presence of hazardous waste observed in containers inside the storage room of the Kmart on-site, and the potential release of chlorinated solvents from the dry cleaning facility operating at the Site. Historical Sanborn maps identified nearby commercial/automotive uses, including a drycleaner (southwest) and an auto repair garage (north).

PHASE II INVESTIGATIONS

Phase II activities were conducted in 2005 by Enviroscience Consultants and in 2014 by Soil Mechanics. During the 2005 investigation, one sediment sample and four groundwater samples were collected for laboratory analysis of volatile organic compounds (VOCs), and a geophysical survey was conducted to investigate the potential for buried tanks at the site. The groundwater analytical results indicated that no compounds were above the New York State Department of Environmental Conservation (NYSDEC) Groundwater Quality Standards. Results of the sediment sample analysis indicated that VOCs were detected above the NYSDEC Recommended Soil Cleanup Objective standards (the relevant standards at the time of the investigation).

During the 2014 investigation, 14 soil samples were collected from 7 geotechnical borings and analyzed for VOCs, semivolatile organic compounds (SVOCs), pesticides, polychlorinated biphenyls (PCBs) and Target Analyte Metals (TAL) list. The results were compared to 6 NYCRR Part 375 Soil Cleanup Objectives for Unrestricted Use (UUSCOs), Residential Use (RSCOs) and Commercial Use (CSCOs). The USCOs assume long-term exposure to soil by both human and ecological receptors, which do not currently occur and would not occur with the proposed project. The RRSCOs were developed for multifamily residences with some potential for contact with the current site soils; again, an overly conservative scenario for both the current and proposed use of the Site. The CSCOs were developed for sites with commercial use only. No VOCs, SVOCs or pesticides were detected above the RSCOs. No PCBs were detected in any of the samples. Certain metals did exceed the RSCOs standards but the detections were below the CSCOs except for one sample where nickel was detected above the CSCOs. Nonetheless, the detected levels were consistent with results typically found when testing fill materials and were not indicative of a significant release.

C. THE FUTURE WITHOUT THE PROPOSED PROJECT (NO ACTION CONDITION)

In the No Action condition, the development site would remain a commercial center; no specific hazardous materials conditions requiring action would be anticipated.

D. PROBABLE IMPACTS OF THE PROPOSED PROJECT (WITH ACTION CONDITION)

The proposed project would entail demolition of existing building structures and excavation for the new construction. Although this could increase pathways for human exposure, impacts would be avoided by performing the following:

- The proposed development will be assigned an E-Designation for hazardous materials and therefore subjected to OER oversight and approval of remedial activities conducted as part of construction to satisfy the E-Designation requirements. Specifically, a Remedial Action Work Plan (RAWP) and associated Construction Health and Safety Plan (CHASP) would be

prepared and implemented during the subsurface disturbance associated with the proposed project. The RAWP and CHASP, which would be prepared based on the results of the Phase I ESA and Phase II Investigation, would address requirements for items such as: soil management, stockpiling and disposal; dust control; and contingency measures should unforeseen petroleum tanks or soil contamination be encountered. The RAWP would also include any necessary measures required to be incorporated into the new building. OER approval of the RAWP would be required in order for the DOB to issue excavation/foundation permits.

With these measures, the proposed development would not result in significant adverse impacts related to hazardous materials. ✷

A. INTRODUCTION

According to the 2014 *CEQR Technical Manual*, the objective of a transportation analysis is to determine whether a proposed project may result in significant adverse impacts to travelers (commuting by means of private car, taxi, subway and rail, bus, ferry, bicycle, and foot) within their respective study areas near the project site, and to identify measures to mitigate significant impacts or to incorporate improvement measures as part of the project to eliminate significant impacts.

B. METHODOLOGY AND ANALYTICAL FRAMEWORK

According to the 2014 *CEQR Technical Manual* procedures for transportation analysis, a two-tiered screening process is to be undertaken to determine whether a quantified analysis is necessary. The first step, the Level 1 (Trip Generation) screening, determines whether the volume of peak hour person and vehicle trips generated by the Hylan Plaza Study (the "proposed project") would remain below the minimum thresholds for further study. These thresholds are:

- 50 peak hour vehicle trip ends;
- 200 peak hour subway/rail or bus transit riders; and
- 200 peak hour pedestrian trips.

If the proposed project results in increments that would exceed any of these thresholds, a Level 2 (Trip Assignment) screening assessment is usually performed. Under this assessment, project-generated trips that exceed Level 1 thresholds are assigned to and from the site through their respective networks (streets, buses, subway lines, sidewalks, etc.) based on expected origin-destination patterns and travel routes. This determines the volume of peak hour vehicular traffic that would be added per intersection, the volume of riders that would be added per subway line or bus route, and the walk trips that would be added per individual pedestrian network element (crosswalk, corner reservoir area, etc.). If the Level 2 screening assessment determines that any single traffic location, transit line or station element, or pedestrian network element would experience an increase of trips beyond the above thresholds for any peak hour, then a detailed analysis is typically warranted.

The proposed project, which is anticipated to be completed by 2019, would include the demolition of portions of the existing shopping center, development of new shopping center buildings, as well as a reconfiguration of the shopping center and its parking lot, resulting in a net increase of approximately 36,300 sf of destination retail space (12 percent more than existing), approximately 17,000 sf of supermarket use (28 percent more than existing), and a net increase of 300 seats of movie theater use (43 percent more than existing). Since the proposed project is an expansion of the existing shopping center and no new land uses are anticipated, the characteristics of the existing plaza were considered in the determination of project increments. Existing counts were conducted to quantify typical traffic volumes in and out of the shopping center and to form the basis for projecting future increases as a result of the proposed expansion;

however with the different land uses present, it is difficult to determine the association between each vehicle and its land use generator. A trip generation estimate in accordance with the 2014 *CEQR Technical Manual* was then prepared to determine the percentages of the counted total vehicle trips attributed to each land use (i.e. general retail, supermarket and cinema). Finally the projected new trips were then allocated to each land use based on these percentages.

The existing driveways along Hylan Boulevard (at Beach Street) and along Ebbitts Street would continue to provide access to the site; additional driveways would be provided along Mill Road, and along Ebbitts Street near its intersection with Mill Road. **Figures D-1** and **D-2** depict the existing and proposed site layouts.

LEVEL 1 SCREENING ASSESSMENT (TRIP GENERATION)

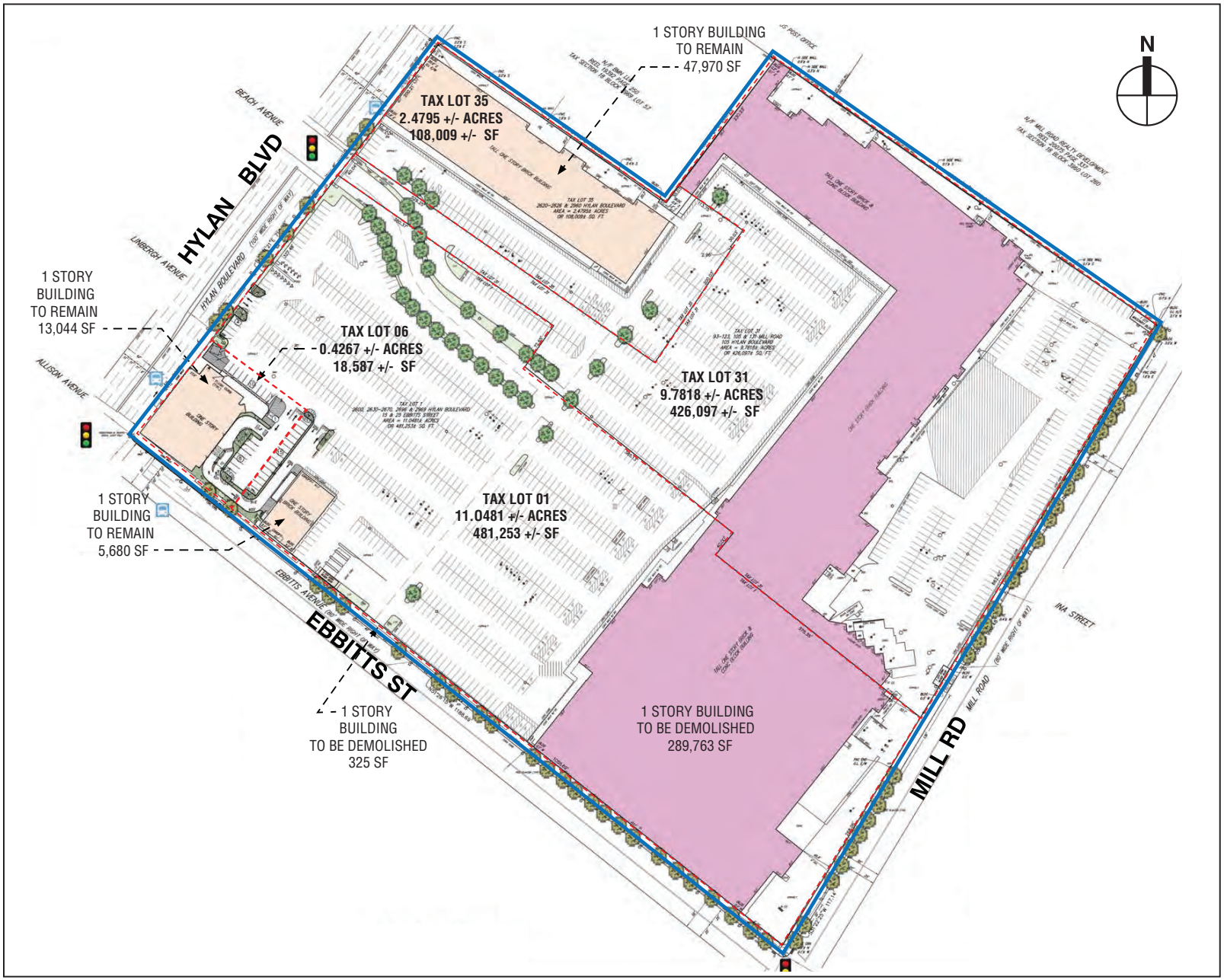
The Hylan Plaza Shopping Center is located at 2600 Hylan Boulevard and is bounded by Hylan Boulevard to the west, Mill Road to the east, Sterling Avenue to the north, and Allison Avenue/Ebbitts Street to the south in the New Dorp section of Staten Island (Block 3969, Lots 1, 6, 31, and 35). The existing shopping center is largely categorized into three land uses – destination retail (285,300 sf), supermarket (59,800 sf), and movie theatre (700 seats), totaling to about 362,500 square feet (sf) of floor area with about 1,414 accessory parking spaces. The proposed project consists of an expansion of the existing shopping center by an additional 96,617 sf of floor area and 239 additional parking spaces. This section details the travel demand assumptions used to determine the number of trips generated by the proposed project. The analysis below has determined that the increase in vehicle trips generated by the proposed project would exceed the *CEQR* Level 1 screening threshold for vehicular traffic during the weekday midday, PM and the Saturday midday peak hours. As a result, a Level 2 screening analysis was conducted for these peak hours and is also detailed in this section. The analysis has also determined that the increase in transit and pedestrian trips generated by the proposed project would not exceed the CEQR Level 1 screening for these categories; therefore, no further transit or pedestrian analysis are needed.

Table D-1 provides the travel demand assumptions used for the weekday midday and PM peak, and Saturday midday peak hours for each land use.

DESTINATION RETAIL

The travel demand factors used to determine the percentage allocation of existing destination retail trips that could be applied to the projected new trips were obtained primarily from the 2014 *CEQR Technical Manual*, and previously-approved New York City Environmental Impact Studies (EISs) and Assessments (EASs) such as the *Charleston Mixed-Use Development FEIS* (2013).

A trip generation rate of 78.2 daily weekday person trips per 1,000 sf and temporal distributions of 9 percent for the weekday midday and PM peak hours, were obtained from the 2014 *CEQR Technical Manual*. The weekday midday and PM peak hour modal splits of 90 percent by auto, 1 percent by taxi, 5 percent by bus, and 4 percent by walk, were based on the *Charleston Mixed-Use Development FEIS* and adjusted to account for the characteristics of the area (proximity to residential communities, density of developed areas, presence of Select Bus Service (SBS) and several bus lines along Hylan Boulevard). The Charleston Shopping Center is located in a section of Staten Island that is less conducive to walk or transit trips (offering limited alternatives to driving) as compared to Hylan Plaza. Vehicle occupancies of 1.45 persons per auto and 1.60 per taxi were obtained from the *Charleston Mixed-Use Development FEIS*. Directional distributions of 54 percent "in" for the weekday midday peak hour, and 52 percent "in" for the weekday PM peak hour were obtained from the *Charleston Mixed-Use Development FEIS*.



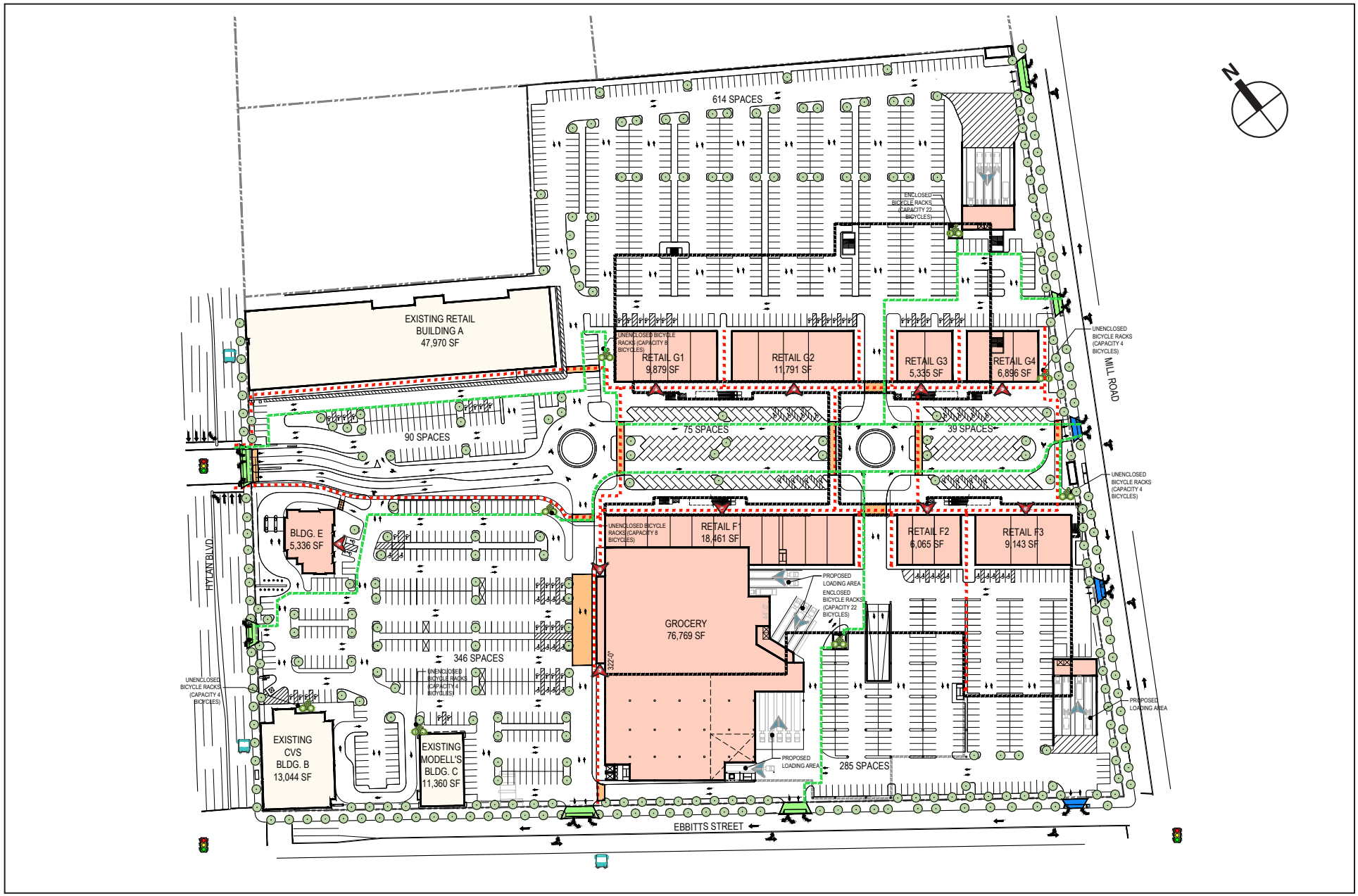
KEY

- EXISTING TO REMAIN
- EXISTING TO BE DEMOLISHED
- EXISTING SITE TREES
- EXISTING STREET TREES
- PROJECT SITE BOUNDARY
- TAX LOT BOUNDARY

Survey of Existing Buildings

Figure D-1

The Boulevard at Hylan Plaza



Site Circulation Diagram

Figure D-2

Table D-1
Travel Demand Characteristics

Rates	Destination Retail (285,300 sf)	Supermarket (59,800)	Movie Theater (700 seats)
Weekday Person Trip Gen Rate	78.2 [1]	175.0 [1]	3.26 [1]
	per 1,000 SF	*per 1,000 SF*	*per seat*
Saturday Person Trip Gen Rate	92.5 [1]	231.0 [1]	6.25 [1]
	per 1,000 SF	*per 1,000 SF*	*per seat*
Temporal Distribution			
Weekday Midday/PM Peak	9% / 9% [1]	6% / 10% [1]	3% / 8% [1]
Saturday Midday Peak	11% [1]	9% [1]	5% [5]
Linkage			
	0%	15% [8]	0%
Modal Split			
Auto	90% [6]	90% [7]	90% [7]
Taxi	1% [6]	1% [7]	1% [7]
Bus	5% [6]	5% [7]	5% [7]
Walk/Other	4% [6]	4% [7]	4% [7]
Vehicle Occupancy			
Auto	1.45 [3]	1.65 [2]	2.52 [4]
Taxi	1.60 [3]	1.40 [2]	2.30 [4]
Directional Split (Ins)			
Weekday Midday/PM Peak	54% / 52% [3]	46% / 47% [2]	62% / 54% [4]
Saturday Midday Peak	54% [3]	51% [2]	62% [5]
Weekday Truck Trip Gen	0.35 [3]	0.35 [2]	0.02 [4]
	per 1,000 SF	*per 1,000 SF*	*per seat*
Saturday Truck Trip Gen	0.04 [3]	0.04 [2]	0.00 [5]
	per 1,000 SF	*per 1,000 SF*	*per seat*
Truck Temporal Distribution			
Weekday Midday/PM Peak	11% / 2% [3]	11% / 2% [2]	11% / 1% [4]
Saturday Midday Peak	11% [3]	11% [2]	0% [5]
Truck Trip Directional Split - 50% Ins			

Sources:
(1) *2014 CEQR Technical Manual*
(2) *Seward Park Mixed-Use Development Project FGEIS (2012)*
(3) *Charleston Mixed-Use Development FEIS (2013)*
(4) *Staten Island Lighthouse Point EAS (2013)*
(5) *Willets Point Development Plan FGEIS (2013)*
(6) VHB assumption of local traffic characteristics modified from *Charleston Mixed-Use Development*
(7) Assumed to be similar to destination retail
(8) VHB assumption based on *Seward Park Mixed-Use Development Project FGEIS,* reduced to be more conservative

For delivery trips, a trip generation rate of 0.35 daily weekday trucks per 1,000 sf and a temporal distribution of 11 percent for the weekday midday peak hour and 2 percent for the weekday PM peak hour were obtained from the *Charleston Mixed-Use Development FEIS*.

For the Saturday peak hour, a trip generation rate of 92.5 person trips per 1,000 sf and a temporal distribution of 11 percent were obtained from the 2014 *CEQR Technical Manual*. Similar to the weekday peak hours, modal splits of 90 percent by auto, 1 percent by taxi, 5 percent by bus, and 4 percent by walk, and vehicle occupancies of 1.45 persons per auto and 1.60 per taxi were used. A directional split of 54 percent "in" was used, similarly to the weekday midday peak hour.

For delivery trips, a trip generation rate of 0.04 daily trucks per 1,000 sf and a temporal distribution of 11 percent were obtained from the *Charleston Mixed-Use Development FEIS*.

SUPERMARKET

The travel demand factors used to determine the percentage allocation of existing supermarket trips that could be applied to the projected new trips were obtained primarily from the 2014 *CEQR Technical Manual* and the *Seward Park Mixed-Use Development Project* (2013).

A trip generation rate of 175 daily weekday person trips per 1,000 sf and temporal distributions of 6 percent and 10 percent for the weekday midday and PM peak hours, respectively, were obtained from the 2014 *CEQR Technical Manual*. The weekday midday and PM peak hour modal splits of 90 percent by auto, 1 percent by taxi, 5 percent by bus, and 4 percent by walk, were assumed to be similar to the destination retail use based on travel characteristics around the shopping center. Vehicle occupancies of 1.65 persons per auto and 1.40 per taxi were obtained from the *Seward Park Mixed-Use Development Project*. Directional distributions of 46 percent "in" for the weekday midday peak hour, and 47 percent "in" for the weekday PM peak hour were obtained from the *Seward Park Mixed-Use Development Project*.

For delivery trips, a trip generation rate of 0.35 daily weekday trucks per 1,000 sf and a temporal distribution of 11 percent for the weekday midday peak hour, and 2 percent for the weekday PM peak hour were obtained from the *Seward Park Mixed-Use Development Project*.

For the Saturday peak hour, a trip generation rate of 231 person trips per 1,000 sf and a temporal distribution of 9 percent were obtained from the 2014 *CEQR Technical Manual*. Similar to the weekday peak hours, modal splits of 90 percent by auto, 1 percent by taxi, 5 percent by bus, and 4 percent by walk, and vehicle occupancies of 1.65 persons per auto and 1.40 per taxi were used. A directional split of 51 percent "in" was obtained from the *Seward Park Mixed-Use Development Project*.

For delivery trips, a trip generation rate of 0.04 daily trucks per 1,000 sf and a temporal distribution of 11 percent were obtained from the *Seward Park Mixed-Use Development Project*.

A linked trip credit of 15 percent was applied to both the weekday and Saturday peak hours based on *Seward Park Mixed-Use Development Project* and reduced to be more conservative.

MOVIE THEATER

The travel demand factors used to determine the percentage allocation of existing movie theater trips that could be applied to the projected new trips were obtained from the 2014 *CEQR Technical Manual*, the *Staten Island Lighthouse Point EAS* (2013), and the *Willets Point Development Plan FGEIS* (2013).

A trip generation rate of 3.26 daily weekday person trips per seat and temporal distributions of 3 percent and 8 percent for the weekday midday and PM peak hours, respectively, were obtained from the 2014 *CEQR Technical Manual*. The weekday midday and PM peak hour modal splits of 90 percent by auto, 1 percent by taxi, 5 percent by bus, and 4 percent by walk, were assumed to be similar to the destination retail use based on travel characteristics around the shopping center. Vehicle occupancies of 2.52 persons per auto and 2.30 per taxi were obtained from the *Staten Island Lighthouse Point EAS*. Directional distributions of 62 percent "in" for the weekday midday peak hour, and 54 percent "in" for the weekday PM peak hour were obtained from the *Staten Island Lighthouse Point EAS*.

For delivery trips, a trip generation rate of 0.02 daily weekday trucks per seat and a temporal distributions of 11 percent for the weekday midday peak hour, and 1 percent for the weekday PM peak hour were also obtained from the *Staten Island Lighthouse Point EAS*.

For the Saturday peak hour, a trip generation rate of 6.25 person trips per seat and a temporal distribution of 5 percent were obtained from the 2014 *CEQR Technical Manual*. Similar to the weekday peak hours, modal splits of 90 percent by auto, 1 percent by taxi, 5 percent by bus, and 4 percent by walk, and vehicle occupancies of 2.52 persons per auto and 2.30 per taxi were used. A directional split of 62 percent "in" was used, similarly to the weekday midday. No daily delivery trips were anticipated for the Saturday peak hour for movie theater use.

LEVEL 1 SCREENING RESULTS

TRAFFIC

Since the proposed project is an expansion of an existing shopping center with no new land uses anticipated, existing traffic counts were conducted at its driveways in order to quantify vehicular activity at the shopping center. However, determining the associated land use for each trip into and out of the shopping center is difficult. In order to determine the distribution of trips by each land use, trip generation projections were calculated from the 2014 *CEQR Technical Manual* and other approved studies. In this way, the percentages of the total existing vehicle trips attributed to each existing land use could be calculated. Finally, these percentages were then applied to the projected new trips to determine the volume of vehicle trips by each land use's expansion in order to determine the volume of new project-generated vehicular trips by land use.

Using the travel demand assumptions mentioned above and applying them to existing square footages the trip generation projections for the existing site could be derived as shown in **Table D-2** below.

Table D-2
Trip Generation Summary – Trip Generation Projections based on CEQR Assumptions

Land Use	Weekday Midday			Weekday PM			Saturday Midday		
	In	Out	Total	In	Out	Total	In	Out	Total
Destination Retail	685	586	1,271	656	606	1,262	984	839	1,823
Supermarket	138	161	299	231	260	491	298	286	584
Movie theater	16	10	26	35	30	65	49	31	80
Total	**839**	**757**	**1,596**	**922**	**896**	**1,818**	**1,331**	**1,156**	**2,487**

These projections were then used to determine the trip percentage distributions by land use as shown in **Table D-3** below.

Table D-3
Trip Generation Summary – Existing Distribution of Vehicle Trips by Land Use

Land Use	Weekday Midday			Weekday PM			Saturday Midday		
	In	Out	Total	In	Out	Total	In	Out	Total
Destination Retail	82%	77%	80%	71%	68%	69%	74%	72%	73%
Supermarket	16%	21%	18%	25%	29%	27%	22%	25%	24%
Movie theater	2%	2%	2%	4%	3%	4%	4%	3%	3%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

From Table D-3 above, it can be seen that during the midday peak period, approximately 80 percent of existing trips were associated with destination retail, approximately 18 percent were associated with the supermarket, and approximately 2 percent were associated with the movie theater. During the PM peak period, approximately 69 percent of existing trips were associated with destination retail, approximately 27 percent were associated with the supermarket, and approximately 4 percent were associated with the movie theater. During the Saturday midday peak period, approximately 73 percent of existing trips were associated with destination retail, approximately 24 percent were associated with the supermarket, and approximately 3 percent were associated with the movie theater.

These percentages were then applied to the existing shopping center driveway counts to establish the existing volumes for each land use for each peak period. **Table D-4**, below, provides the existing peak hour driveway counts, while **Table D-5** summarizes the total peak hour vehicular volumes ("ins" plus "outs") after applying the distribution percentages from Table D-3 to the existing driveway counts in Table D-4.

Table D-4
Trip Generation Summary – Existing Driveway Counts

	Weekday Midday			Weekday PM			Saturday Midday		
	In	Out	Total	In	Out	Total	In	Out	Total
Shopping Center	611	639	1,250	557	577	1,134	847	779	1,626

Table D-5
Trip Generation Summary – Existing Vehicle Trips by Land Use

	Weekday Midday			Weekday PM			Saturday Midday		
Land Use	In	Out	Total	In	Out	Total	In	Out	Total
Destination Retail	499	495	994	396	391	787	626	565	1,191
Supermarket	100	136	236	140	167	307	190	193	383
Movie theater	12	8	20	21	19	40	31	21	52
Total	**611**	**639**	**1,250**	**557**	**577**	**1,134**	**847**	**779**	**1,626**

In order to calculate the future trips associated with the expansion of the shopping center, the existing vehicle trips were increased proportionally to the increase in square footage (or number of seats for the theater) associated with each land use. The proposed expansion of the existing shopping center would include an increase in retail size by approximately 12 percent, the supermarket would increase by approximately 28 percent, and the movie theater would increase (in seats) by approximately 43 percent. The existing counts for each land use were increased by the corresponding percentage increment for that land use to determine future demand associated with that land use shown in **Table D-6**, below.

Table D-6
Trip Generation Summary – Future Expansion Vehicle Trips

	Weekday Midday			Weekday PM			Saturday Midday		
Land Use	In	Out	Total	In	Out	Total	In	Out	Total
Destination Retail	558	554	1,112	443	438	881	700	632	1,332
Supermarket	128	175	303	180	214	394	244	248	492
Movie theater	17	11	28	30	27	57	44	30	74
Total	**703**	**740**	**1,443**	**653**	**679**	**1,332**	**988**	**910**	**1,898**

Subtracting the existing number of trips from the trips with the proposed expansion yields the project increments. As shown in **Table D-7**, below, the proposed project would generate 193 vehicles per hour (vph) in the weekday midday peak hour, 198 vph in the weekday PM peak hour, and 272 vph during the Saturday peak hour. Since the volume of incremental vehicle trips generated by the proposed project is expected to exceed the 50 vehicle trip threshold during each peak hour, a Level 2 (Trip Assignment) screening assessment is warranted for those peak hours.

Table D-7
Trip Generation Summary – Vehicle Trip Increments

	Weekday Midday			Weekday PM			Saturday Midday		
Land Use	**In**	**Out**	**Total**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Destination Retail	59	59	118	47	47	94	74	67	141
Supermarket	28	39	67	40	47	87	54	55	109
Movie theater	5	3	8	9	8	17	13	9	22
Total	**92**	**101**	**193**	**96**	**102**	**198**	**141**	**131**	**272**

TRANSIT AND PEDESTRIANS

The transit and pedestrian trips were also calculated using similar methodologies mentioned above. a combination of the project increments from Table D-7, and the vehicle occupancies and modal splits from Table D-1 to generate the person trips associated with bus and walk trips. As shown in **Tables D-8** through **D-10**, the number of transit and pedestrian trips generated by the proposed project is not expected to exceed the 2014 *CEQR Technical Manual* Level 1 screening thresholds and therefore no further transit or pedestrian analyses are needed.

Table D-8
Bus Trips

	Weekday Midday			Weekday PM			Saturday Midday		
Land Use	**In**	**Out**	**Total**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Destination Retail	5	5	10	4	4	8	6	5	11
Supermarket	2	3	5	4	4	8	5	5	10
Movie theater	1	0	1	1	1	2	2	1	3
Total	**8**	**8**	**16**	**9**	**9**	**18**	**13**	**11**	**24**

Table D-9
Walk / Other Trips

	Weekday Midday			Weekday PM			Saturday Midday		
Land Use	**In**	**Out**	**Total**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Destination Retail	4	4	8	3	3	6	5	4	9
Supermarket	2	3	5	3	3	6	4	4	8
Movie theater	1	0	1	1	1	2	1	1	2
Total	**7**	**7**	**14**	**7**	**7**	**14**	**10**	**9**	**19**

Table D-10
Total Bus and Walk / Other Trips

Land Use	Weekday Midday			Weekday PM			Saturday Midday		
	In	Out	Total	In	Out	Total	In	Out	Total
Destination Retail	9	9	18	7	7	14	11	9	20
Supermarket	4	6	10	7	7	14	9	9	18
Movie theater	2	0	2	2	2	4	3	2	5
Total	**15**	**15**	**30**	**16**	**16**	**32**	**23**	**20**	**43**

LEVEL 2 SCREENING (TRIP ASSIGNMENT) RESULTS

The following section details the assumptions used for the Level 2 screening assessment for vehicular traffic.

TRAFFIC

A trip assignment was performed for vehicular traffic based on our knowledge of travel characteristics within the study area and the proximity of the Hylan Plaza Shopping Center to other similar retail destinations.

For the destination retail use, the majority of the trips are expected to originate from neighborhoods along Hylan Boulevard, such as Dongan Hills, Midland Beach, New Dorp Beach, Bay Terrace, and Oakwood. Other significant shopping centers located on Staten Island such as the Staten Island Mall in New Springville, the Forest Avenue Plaza in Elm Park, and shopping centers in Eltingville and in Charleston were also considered while assigning trips for the proposed project. Approximately 40 percent of destination retail trips are assumed to originate from north of New Dorp Lane and arrive at the site via southbound Hylan Boulevard or eastbound New Dorp Lane, while another 43 percent are expected to originate from south of Tysens Lane and use northbound Hylan Boulevard or eastbound Tysens Lane. Another 10 percent of the trips would arrive from west of the project site, and likely use Beach Avenue, while 7 percent would be expected to originate from the neighborhood south and east of the site and travel to the shopping center via New Dorp Lane, Ebbitts Street, and Mill Road. Multiple entrances to the site would be provided on the east, west, and south sides of the site—along Mill Road, Hylan Boulevard, and Ebbitts Street, respectively.

Trips associated with supermarket would assume similar assignment patterns as destination retail.

Consideration was given to the locations of similar movie theaters situated on Staten Island such as the United Artists in Graniteville and the Atrium in Great Kills. Given the location of the Atrium, fewer trips were anticipated from south of Ebbitts Street as compared to the destination retail use. About 50 percent of the movie theater trips are expected to originate from north of New Dorp Lane, while 35 percent would travel from south of Tysens Lane. Similar to destination retail, 10 percent of the trips would arrive from west of the project site and likely use Beach Avenue, while 5 percent would be expected to originate from the neighborhood south and east of the site via New Dorp Lane, Ebbitts Street, and Mill Road. A higher percentage of trips would enter the site via Mill Road due to the location of the movie theater within the eastern section of the shopping plaza.

Traffic volume increments for the midday, PM, and Saturday midday peak hours are provided in **Figures D-3** through **D-5**.

C. TRANSPORTATION ANALYSIS

The Level 1 and Level 2 screening assessments show that detailed traffic analyses are needed. Further analysis was conducted using methodologies presented in the *2000 Highway Capacity Manual* (*HCM 2000*) as detailed in the 2014 *CEQR Technical Manual*.

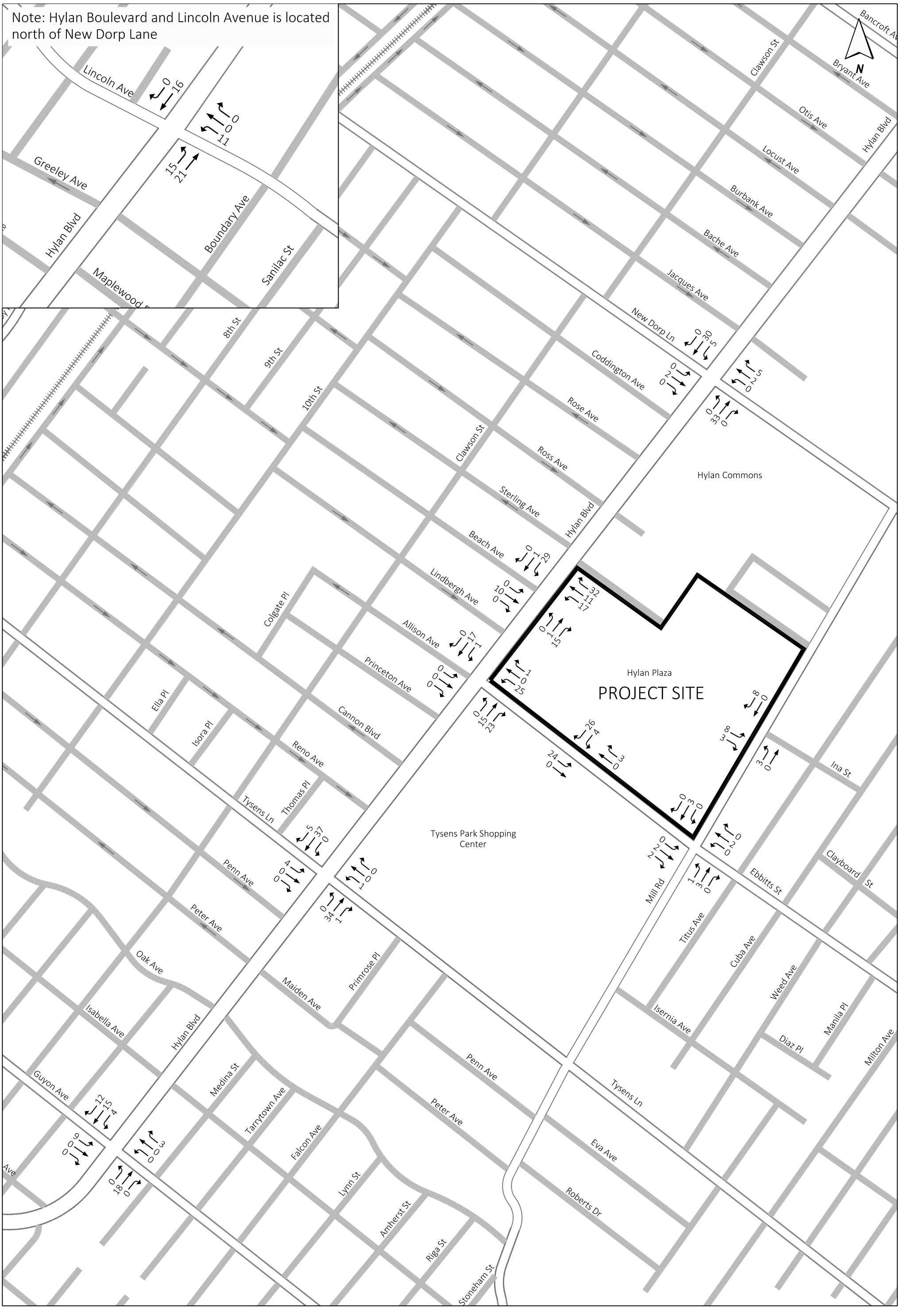
METHODOLOGY

Analyses of traffic conditions in urban areas are based on critical conditions at intersections and are defined in terms of levels of service. According to the *HCM 2000*, levels of service (LOS) at signalized intersections are defined in terms of a vehicle's control delay at the intersection, as follows:

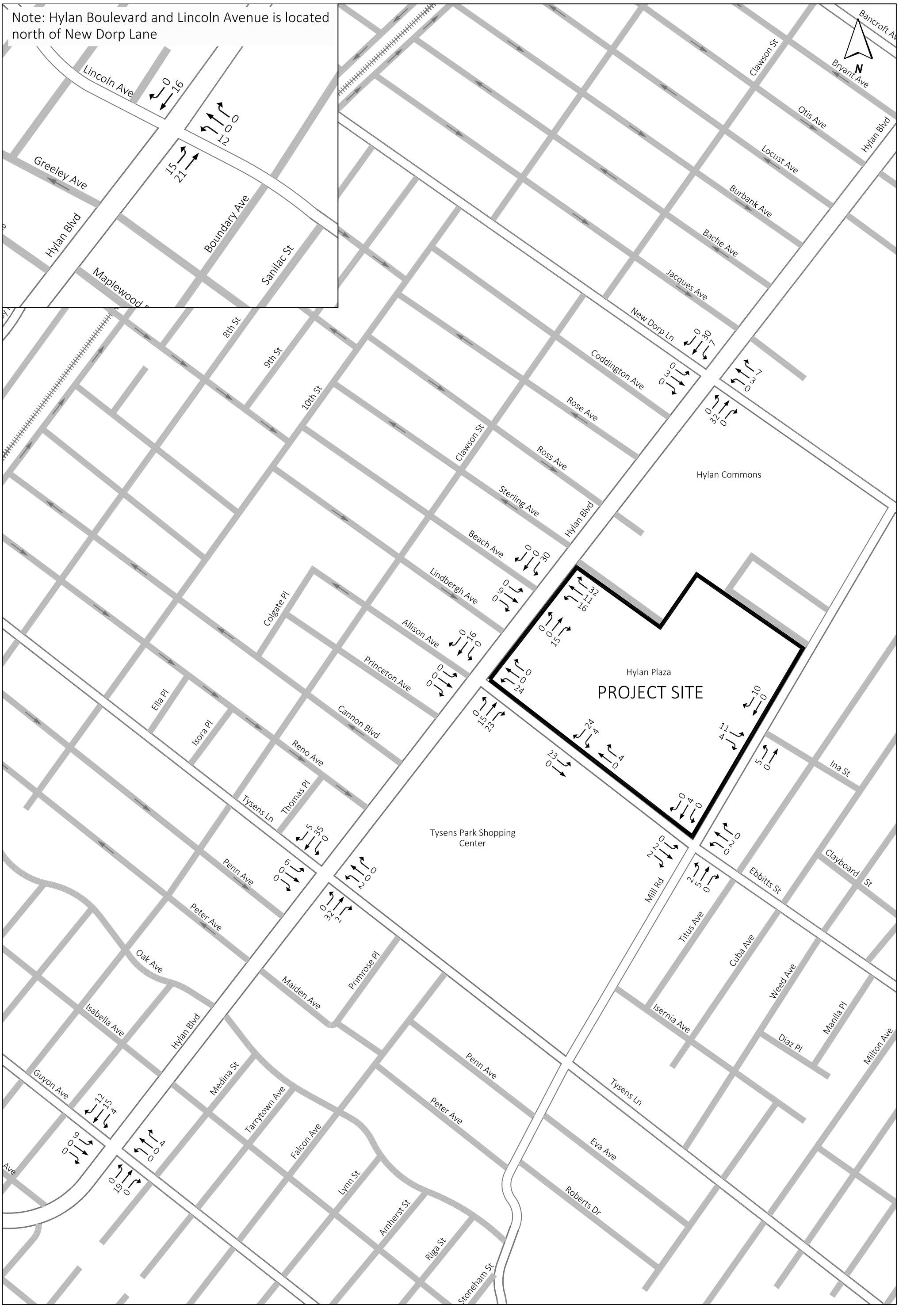
- LOS A describes operations with very low delays, i.e., 10.0 seconds or less per vehicle. This occurs when signal progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all.
- LOS B describes operations with delays in excess of 10.0 seconds up to 20.0 seconds per vehicle. This generally occurs with good progression and/or short cycle lengths. Again, most vehicles do not stop at the intersection.
- LOS C describes operations with delays in excess of 20.0 seconds up to 35.0 seconds per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. The number of vehicles stopping is noticeable at this level, although many still pass through the intersection without stopping.
- LOS D describes operations with delays in excess of 35.0 seconds up to 55.0 seconds per vehicle. At LOS D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume-to-capacity (v/c) ratios. Many vehicles stop, and the proportion of vehicles not stopping declines.
- LOS E describes operations with delays in excess of 55.0 seconds up to 80.0 seconds per vehicle. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios.
- LOS F describes operations with delays in excess of 80.0 seconds per vehicle. This is considered to be unacceptable to most drivers. This condition often occurs with oversaturation, i.e., when arrival flow rates exceed the capacity of the intersection. It may also occur at high v/c ratios with cycle failures. Poor progression and long cycle lengths may also contribute to such delays. Often, vehicles do not pass through the intersection in one signal cycle.

Based on *CEQR Technical Manual* guidelines, LOS A, B, and C are considered acceptable, LOS D is generally considered marginally acceptable up to mid-LOS D (45 seconds of delay for signalized intersections) and unacceptable above mid-LOS D, and LOS E and F indicate congestion. These guidelines are applicable to individual traffic movements and overall intersection levels of service.

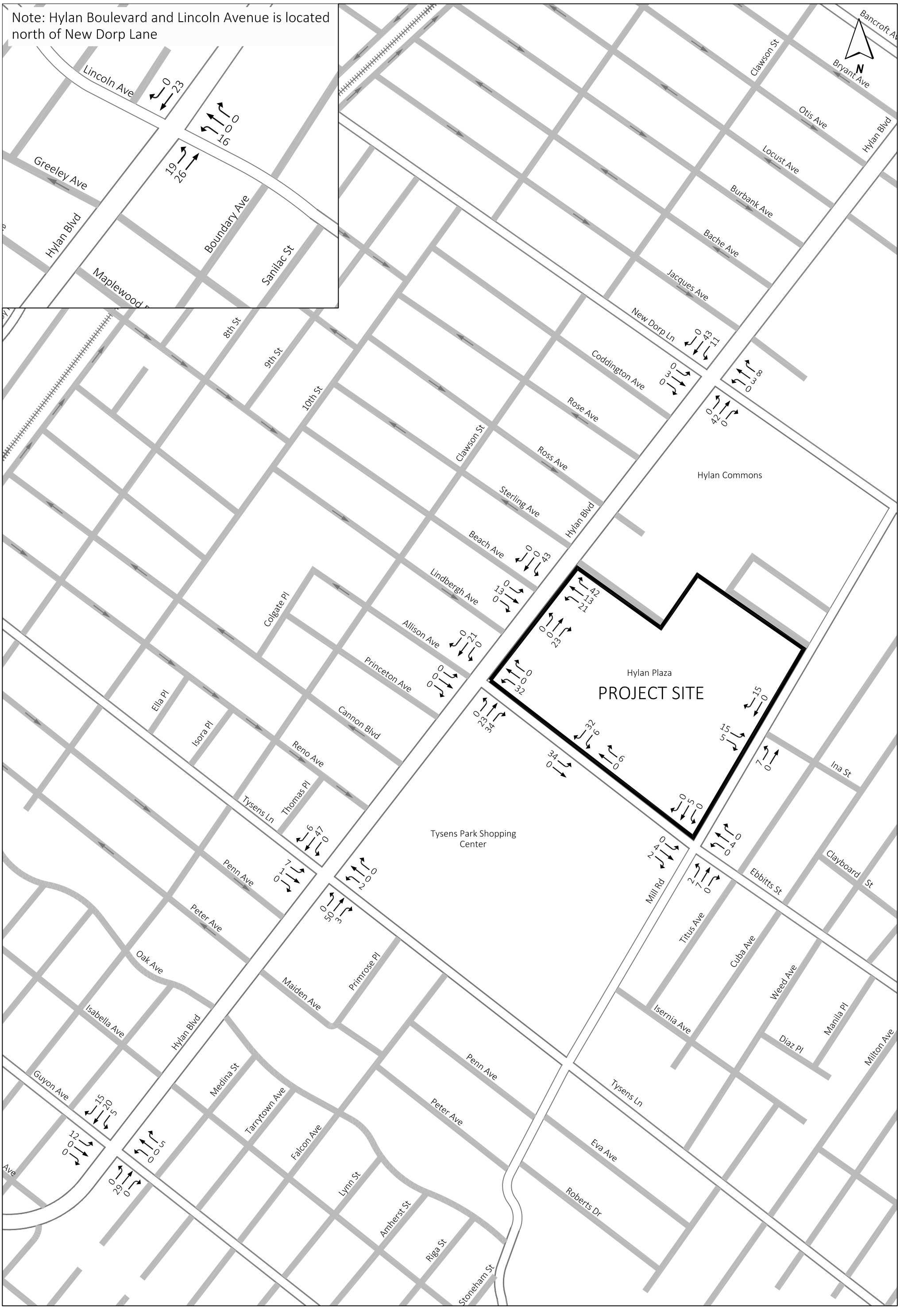
For unsignalized intersections, delay is defined as the total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line: LOS A describes



Hylan Plaza Study
Figure D-3
Project Trip Increments
Weekday Midday Peak Hour



Hylan Plaza Study
Figure D-4
Project Trip Increments
Weekday PM Peak Hour



Hylan Plaza Study
Figure D-5
Project Trip Increments
Saturday Midday Peak Hour

operations with very low delay, i.e., 10.0 seconds or less per vehicle; LOS B describes operations with delays in excess of 10.0 seconds up to 15.0 seconds; LOS C has delays in excess of 15.0 seconds up to 25.0 seconds; LOS D, excess of 25.0 seconds up to 5.0 seconds per vehicle; and LOS E, excess of 35.0 seconds up to 50.0 seconds per vehicle, which is considered to be the limit of acceptable delay. LOS F describes operation with delays in excess of 50.0 seconds per vehicle, which is considered unacceptable to most drivers. This condition exists when there are insufficient gaps of suitable size in a major vehicular traffic stream to allow side street traffic to cross safely.

SIGNIFICANT IMPACT CRITERIA

A quantified analysis is needed to determine if a proposed project may result in a significant traffic impact as defined by the 2014 *CEQR Technical Manual*. Traffic movements that operate at acceptable levels of service under the No-Action conditions (45 seconds of delay or less for signalization intersections and 30 seconds of delay or less for unsignalized intersections) that deteriorate to unacceptable levels of service under the With-Action condition, and experience an increase in delay in excess of five seconds, would be considered a significantly impact. These impacted movements would need to be mitigated to acceptable LOS D or better for the impact to be considered mitigated.

For traffic movements operating at unacceptable LOS D under the No-Action condition, an increase in delay in excess of five seconds under the With-Action condition would be considered a significant traffic impact. An increase in delay under the With-Action condition in excess of four seconds for a traffic movement operating at LOS E, and in excess of three seconds for a traffic movement operating at LOS F, would be considered a significant impact. Mitigation measures identified would need to restore the significantly impacted movement to the No-Action delay or better.

ROADWAY NETWORK AND STUDY AREA

The traffic study area encompasses eight intersections (seven signalized and one unsignalized) as shown in **Figure D-6** and listed below:

1. Hylan Boulevard and New Dorp Lane
2. Hylan Boulevard and Beach Avenue
3. Hylan Boulevard and Allison Avenue/Ebbitts Street
4. Hylan Boulevard and Tysens Lane
5. Hylan Boulevard and Lincoln Avenue
6. Hylan Boulevard and Guyon Avenue
7. Ebbitts Street and Mill Road
8. Ebbitts Street and Plaza Driveway

Access to the project site will be provided at the existing intersection at Hylan Boulevard and Beach Avenue, as well as existing and proposed curb cuts along Ebbitts Street and Mill Road. The majority of trips to the project site are assumed to utilize the main signalized entrance at Hylan Boulevard and Beach Avenue and the existing driveway along Ebbitts Street.

Analysis Location

Hylan Plaza Study
Figure D-6
Traffic Analysis Locations

HYLAN BOULEVARD

Hylan Boulevard is the key north-south commuter arterial along the eastern region of Staten Island, extending from Edgewater Street to the north near the Alice Austen Park to Satterlee Street to the south near the Conference House Park. Within the study area, Hylan Boulevard consists of three travel lanes in each direction with left-turn bays and a raised median in the middle of the roadway. Parking is prohibited along both directions near the analysis locations, and commuter traffic peaks in the northbound direction during the AM peak period and in the southbound direction during the PM peak. Multiple local and express bus lines operate along this roadway within the vicinity of the project site such as the S78, S79, X1, X2, X3, X8, and X9.

EBBITTS STREET

Ebbitts Street extends east-west from Hylan Boulevard to Cedar Grove Avenue. It consists of one travel lane with parking in each direction; however, the section with parking prohibitions (near the Hylan Plaza Shopping Center driveway) is wide enough to accommodate two lanes of traffic in each direction if needed. Ebbitts Street is used by bus lines such as the S57, S76/S86, X2, X3, and X9.

MILL ROAD

Mill Road is a north-south roadway that extends from New Dorp Lane to the north to the Oakwood Beach Water Control Plant to the south. It generally has one travel lane with parking in each direction and services the S57, S76/S86, X2, X3, and X9 bus lines.

EXISTING CONDITIONS – YEAR 2015

TRAFFIC

Traffic Volumes

Existing traffic counts were conducted in June 2015 for the weekday midday and PM, and Saturday midday peak periods using manual turning movement counts and 24-hour Automatic Traffic Recorder (ATR) machine counts. Additional turning movement counts were conducted in April 2016 at the intersections of Lincoln Avenue and Guyon Avenue with Hylan Boulevard, and were verified using ATR machine counts. These volumes were used along with observations of traffic conditions to determine the levels of service for the weekday peak hours of 1:00 PM to 2:00 PM and 5:00 PM to 6:00 PM, and the Saturday peak hour of 12:30 PM to 1:30 PM.

Within the study area, traffic volumes along northbound Hylan Boulevard range between approximately 990 vph to 1,425 vph during the weekday midday peak hours, approximately 1,020 vph to 1,395 vph during the weekday PM peak hour, and approximately 1,320 vph to 1,725 vph during the Saturday midday peak hour. Southbound Hylan Boulevard carries between approximately 1,145 vph to 1,540 vph during the weekday midday peak hours, approximately 1,550 vph to 2,050 vph during the weekday PM peak hour, and approximately 1,185 vph to 1,820 vph during the Saturday midday peak hour.

Traffic volumes along eastbound Ebbitts Street between Hylan Boulevard and Mill Road range between 175 vph to 350 vph during the weekday midday peak hour, 270 vph to 315 vph during the weekday PM peak hour, and 200 vph to 400 vph during the Saturday midday peak hour. Westbound Ebbitts Street carries between approximately 245 vph to 425 vph during the

weekday midday peak hour, 235 vph to 355 vph during the weekday PM peak hour, and 285 vph to 455 vph during the Saturday midday peak hour.

Existing traffic volumes are provided in **Figures D-7** through **D-9**.

Levels of Service

Tables D-11 and **D-12** provide an overview of levels of service that characterize existing "overall" intersection conditions and individual traffic movements, respectively, during the weekday midday and PM, and Saturday midday peak hours. Detailed existing conditions traffic levels of service are provided in **Table D-13**.

Table D-11
2015 Existing Traffic Levels of Service – Overall Intersections

	Weekday Midday Peak Hour	Weekday PM Peak Hour	Saturday Midday Peak Hour
Intersections at Overall LOS A/B/C	7	6	6
Intersections at Overall LOS D	1	2	2
Intersections at Overall LOS E	0	0	0
Intersections at Overall LOS F	0	0	0
Note: Includes seven signalized and one unsignalized intersections			

Table D-12
2015 Existing Traffic Levels of Service – Traffic Movements

	Weekday Midday Peak Hour	Weekday PM Peak Hour	Saturday Midday Peak Hour
Traffic Movements at Overall LOS A/B/C or Acceptable LOS D	44	36	35
Traffic Movements at Unacceptable LOS D	4	10	8
Traffic Movements at Overall LOS E	4	5	4
Traffic Movements at Overall LOS F	1	3	6
Number of individual traffic movements	53	54	53
Note: The weekday PM consists of 1 additional movement due to the southbound Hylan Boulevard bus lane operating during the PM peak			

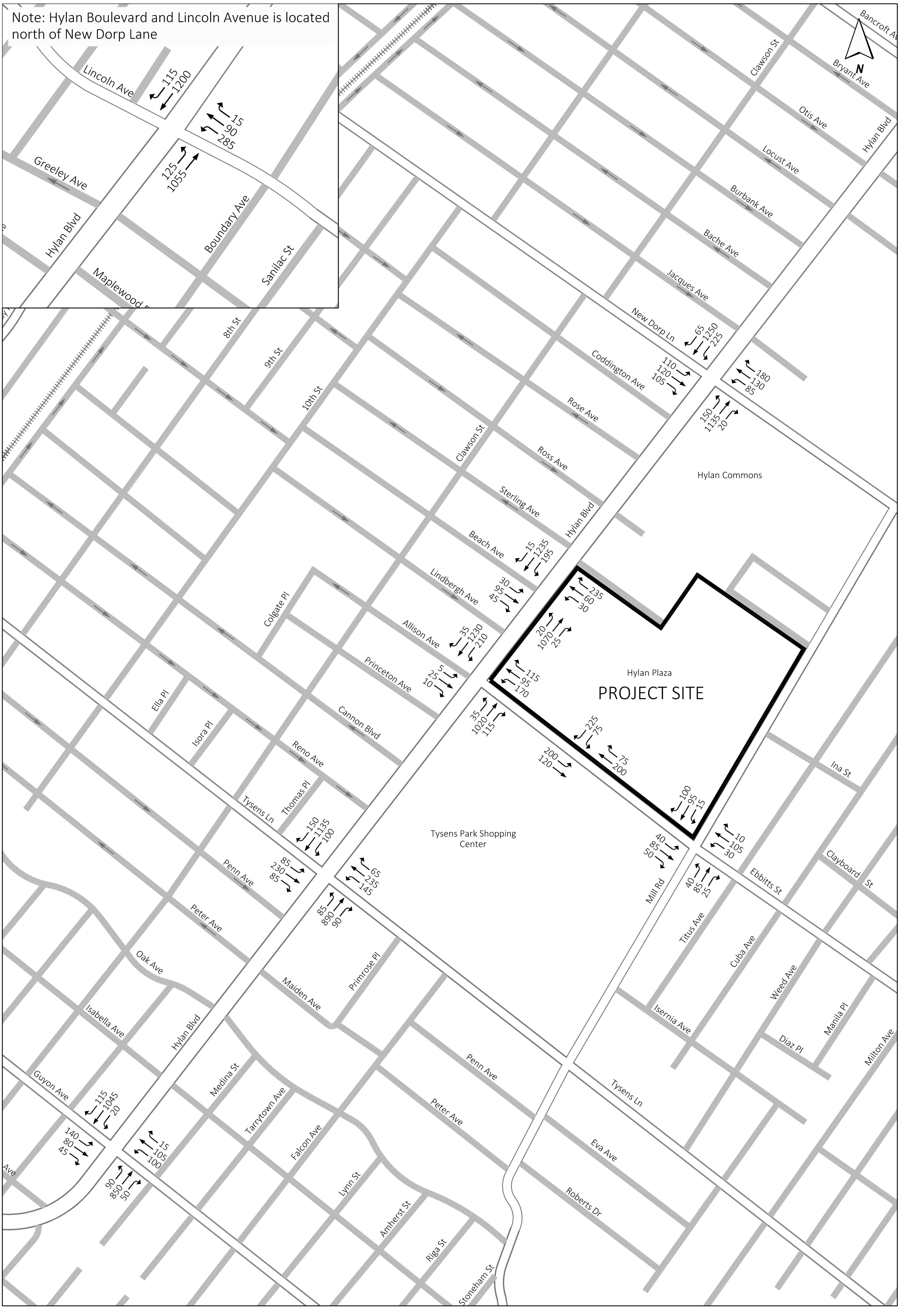
The summary overview of existing conditions indicates that:

- During the weekday midday peak hour, none of the eight intersections operate at overall level of service (LOS) E or F. "Overall" LOS E or F means that serious congestion exists – either one specific traffic movement has severe delays, or two or more of the specific traffic movements at the intersections are at LOS E or F with significant delays (the overall intersection level of service is a weighted average of all the individual traffic movements). Five individual traffic movements out of approximately 53 such movements analyzed operate at LOS E or F (e.g., left turns from one street to another, through traffic passing through the intersections, etc.), while four movements operate at unacceptable LOS D.
- In the weekday PM peak hour, all eight intersections operate at overall acceptable levels of service. Eight individual movements operate at LOS E or F, while 10 movements operate at unacceptable LOS D.

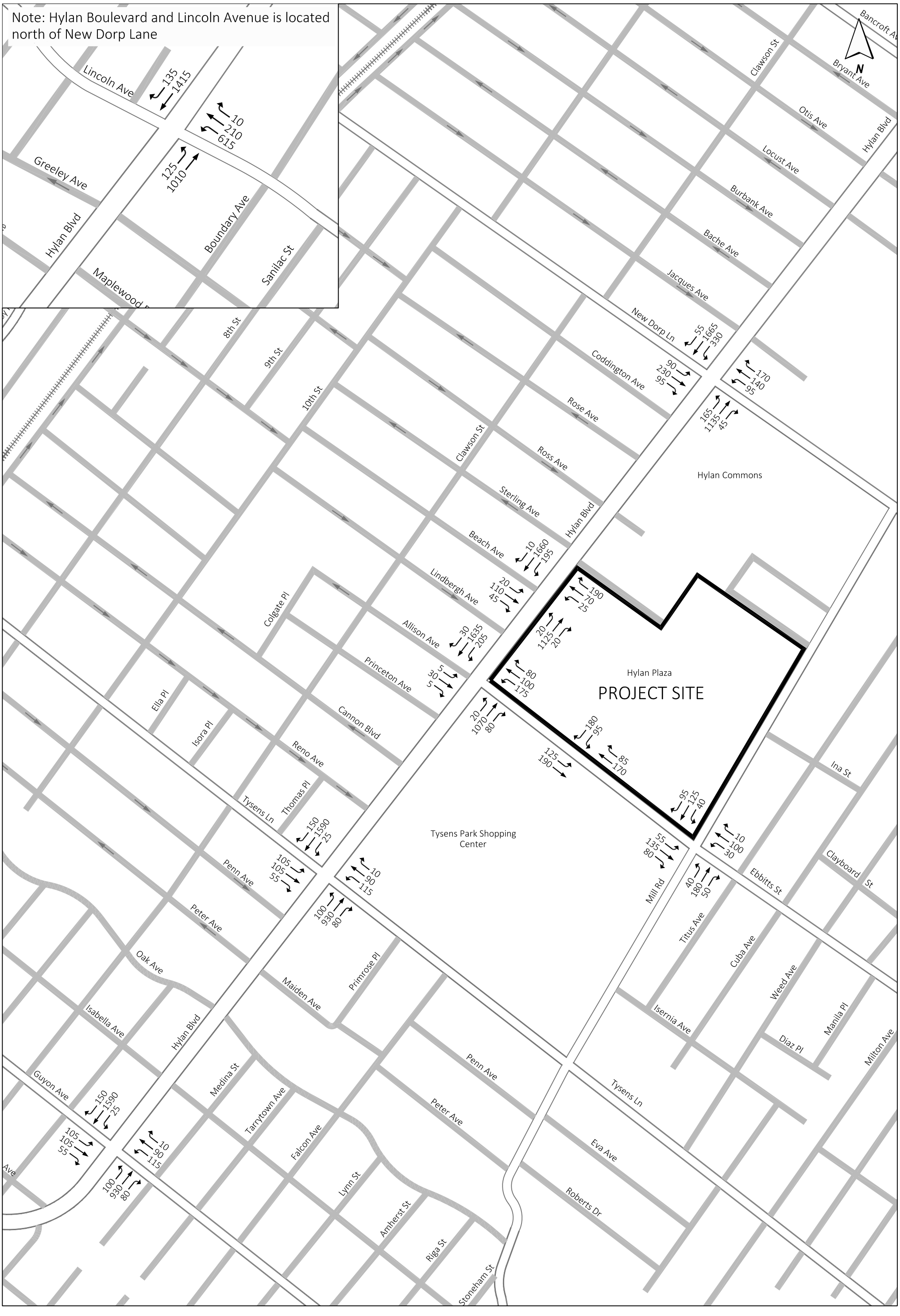
TABLE D-13
2015 EXISTING TRAFFIC LEVELS OF SERVICE

INTERSECTION & APPROACH		Midday (1:00 - 2:00PM) Mvt.	V/C	Control Delay	LOS	PM (5:00 - 6:00PM) Mvt.	V/C	Control Delay	LOS	SAT (12:30 - 1:30PM) Mvt.	V/C	Control Delay	LOS
Hylan Boulevard & New Dorp Lane													
New Dorp Lane	EB	L	0.55	44.7	D	L	0.48	42.8	D	L	0.59	49.9	D
		TR	0.61	42.9	D	TR	0.90	66.7	E	TR	0.74	52.0	D
	WB	L	0.59	49.4	D	L	0.94	111.9	F	L	0.91	94.1	F
		T	0.34	35.5	D	T	0.34	36.2	D	T	0.45	39.4	D
		R	0.64	46.4	D	R	0.63	47.4	D	R	0.83	63.5	E
Hylan Bouelvard	NB	L	0.58	43.8	D	L	0.66	52.5	D	L	0.70	52.8	D
		TR	0.64	24.7	C	TR	0.65	26.8	C	TR	0.76	28.1	C
	SB	L	0.81	59.0	E	L	0.97	81.4	F	L	0.98	92.4	F
		TR	0.69	26.1	C	TR	1.01	56.9	E	TR	0.75	27.8	C
Overall Intersection		**-**	**0.84**	**32.1**	**C**	**-**	**1.04**	**51.0**	**D**	**-**	**0.97**	**39.7**	**D**
Hylan Boulevard & Beach Avenue													
Beach Avenue	EB	LTR	0.45	38.1	D	LTR	0.50	40.0	D	LTR	0.63	43.9	D
	WB	LT	0.25	34.0	C	LT	0.29	35.3	D	LT	0.53	40.9	D
		R	0.40	21.7	C	R	0.38	22.0	C	R	0.45	22.9	C
Hylan Boulevard	NB	L	0.21	25.2	C	L	0.30	29.7	C	L	0.18	24.2	C
		TR	0.66	29.2	C	TR	0.67	28.7	C	TR	0.84	34.6	C
	SB	L	0.78	38.5	D	L	0.68	29.2	C	L	0.97	81.4	F
		TR	0.52	13.7	B	TR	0.64	8.4	A	TR	0.51	13.5	B
Overall Intersection		**-**	**0.66**	**23.6**	**C**	**-**	**0.67**	**19.8**	**B**	**-**	**0.81**	**30.8**	**C**
Hylan Boulevard & Ebbitts Street													
Ebbitts Street	EB	LTR	0.14	33.0	C	LTR	0.14	32.8	C	LTR	0.17	32.6	C
	WB	L	0.70	50.4	D	L	0.72	50.8	D	L	0.60	43.6	D
		T	0.23	34.1	C	T	0.28	34.8	C	T	0.24	33.5	C
		R	0.28	26.2	C	R	0.20	24.9	C	R	0.33	26.5	C
Hylan Boulevard	NB	L	0.32	21.9	C	L	0.26	21.9	C	L	0.23	18.7	B
		TR	0.60	21.4	C	TR	0.59	21.1	C	TR	0.72	24.4	C
	SB	L	0.97	63.0	E	L	0.98	60.9	E	L	1.03	92.5	F
		TR	0.53	13.3	B	TR	0.67	8.5	A	TR	0.46	12.7	B
Overall Intersection		**-**	**0.89**	**23.3**	**C**	**-**	**0.90**	**20.0**	**B**	**-**	**0.94**	**26.5**	**C**
Hylan Boulevard & Tysens Lane													
Tysens Lane	EB	L	0.60	51.3	D	L	0.63	57.6	E	L	0.67	61.1	E
		T	0.57	41.3	D	T	0.70	50.1	D	T	0.66	47.8	D
		R	0.24	33.8	C	R	0.39	40.1	D	R	0.20	36.1	D
	WB	L	0.94	93.0	F	L	0.99	114.6	F	L	1.00	117.3	F
		T	0.63	43.3	D	T	0.65	47.7	D	T	0.64	47.0	D
		R	0.23	33.8	C	R	0.26	37.4	D	R	0.26	37.4	D
Hylan Boulevard	NB	L	0.38	40.2	D	L	0.44	45.5	D	L	0.20	25.2	C
		TR	0.59	27.1	C	TR	0.55	23.9	C	TR	0.75	30.1	C
	SB	L	0.42	30.3	C	L	0.45	28.1	C	L	0.68	52.4	D
		TR	0.81	32.9	C	TR	0.95	34.1	C	TR	0.67	28.4	C
Overall Intersection		**-**	**0.91**	**36.2**	**D**	**-**	**1.05**	**37.2**	**D**	**-**	**0.99**	**37.5**	**D**
Mill Road & Ebbitts Streets													
Ebbitts Street	EB	LTR	0.48	18.1	B	LTR	0.72	22.9	C	LTR	0.51	17.7	B
	WB	LTR	0.47	19.8	B	LTR	0.44	19.2	B	LTR	0.54	21.3	C
Mill Road	NB	LTR	0.27	9.7	A	LTR	0.45	11.7	B	LTR	0.29	9.8	A
	SB	LTR	0.35	10.4	B	LTR	0.44	11.6	B	LTR	0.34	10.2	B
Overall Intersection		**-**	**0.40**	**14.2**	**B**	**-**	**0.56**	**16.0**	**B**	**-**	**0.42**	**14.7**	**B**
Ebbitts Street & Plaza Driveway (Unsignalized)													
Ebbitts Street	EB	LT	-	9.0	A	LT	-	8.6	A	LT	-	9.4	A
	WB	TR	-	-	-	TR	-	-	-	TR	-	-	-
Plaza Driveway	SB	LR	-	25.9	D	LR	-	22.2	C	LR	-	34.6	D
Overall Intersection		**-**	**-**	**10.8**	**B**	**-**	**-**	**8.8**	**A**	**-**	**-**	**13.7**	**B**
Hylan Boulevard & Lincoln Avenue													
Lincoln Avenue	WB	L	0.42	37.3	D	L	0.79	48.3	D	L	0.58	39.1	D
		TR	0.31	36.5	D	TR	0.64	46.0	D	TR	0.54	40.3	D
Hylan Boulevard	NB	L	0.69	30.7	C	L	0.81	49.0	D	L	1.04	110.1	F
		T	0.45	11.8	B	T	0.40	10.8	B	T	0.53	13.9	B
	SB	TR	0.66	22.2	C	T	0.91	26.8	C	TR	0.82	28.5	C
		-	-	-	-	R	0.44	14.5	B	-	-	-	-
Overall Intersection		**-**	**0.61**	**20.8**	**C**	**-**	**0.89**	**27.3**	**C**	**-**	**0.93**	**28.8**	**C**
Hylan Boulevard & Guyon Avenue													
Guyon Avenue	EB	L	0.83	73.5	E	L	0.43	42.1	D	L	0.84	73.5	E
		TR	0.47	44.9	D	TR	0.51	42.8	D	TR	0.51	46.0	D
	WB	L	0.62	55.5	E	L	0.59	50.7	D	L	0.72	64.0	E
		TR	0.43	43.6	D	TR	0.27	37.0	D	TR	0.36	42.0	D
Hylan Boulevard	NB	L	0.53	21.0	C	L	0.79	59.6	E	L	0.69	31.5	C
		TR	0.38	11.5	B	TR	0.47	14.5	B	TR	0.51	13.1	B
	SB	L	0.12	15.5	B	L	0.18	13.9	B	L	0.23	18.5	B
		TR	0.63	21.5	C	TR	1.01	36.2	D	TR	0.66	22.3	C
Overall Intersection		**-**	**0.71**	**24.9**	**C**	**-**	**0.87**	**31.1**	**C**	**-**	**0.74**	**25.4**	**C**

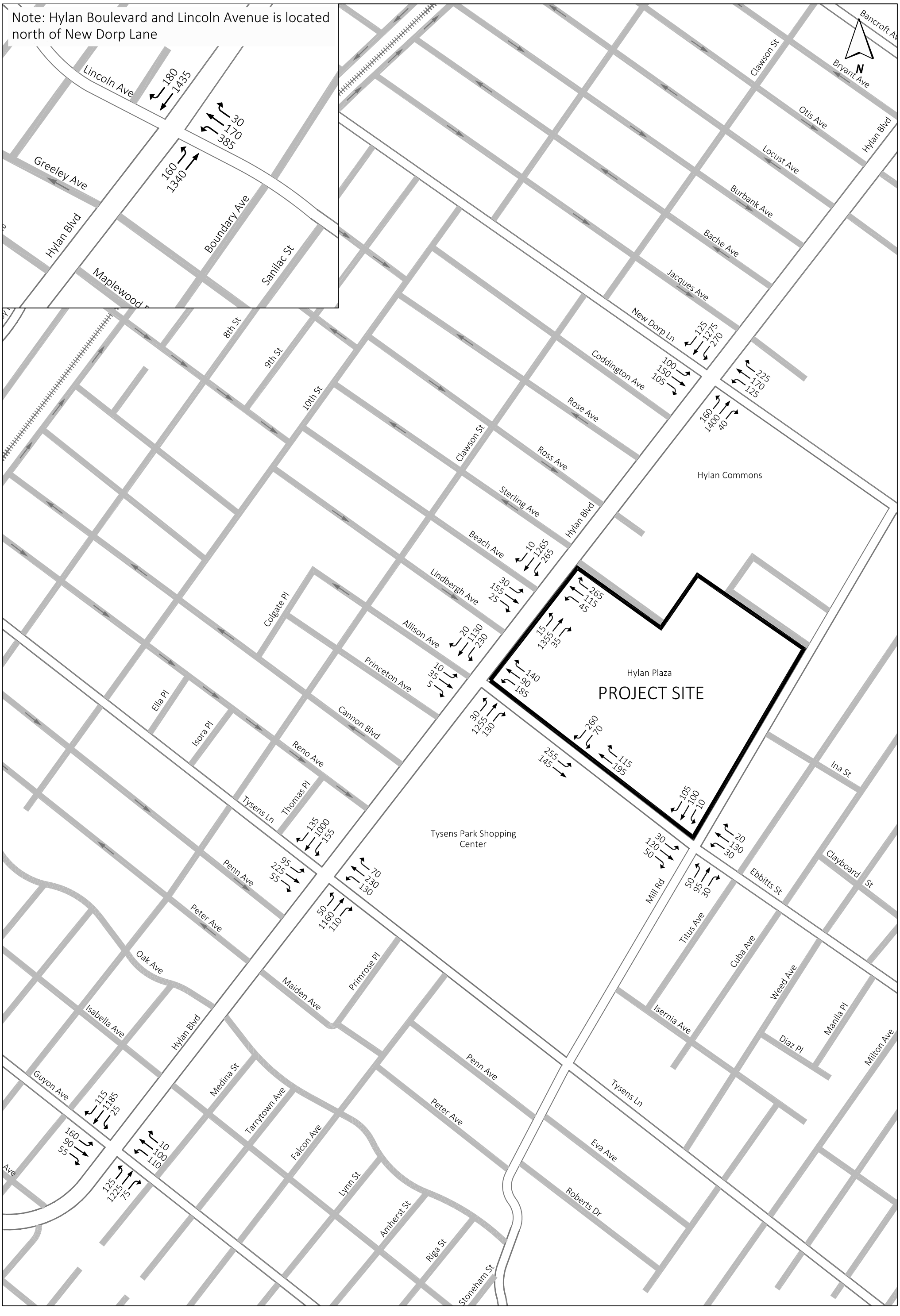
Notes
(1): Control delay is measured in seconds per vehicle.
(2): Level of service (LOS) for signalized intersections is based upon average control delay per vehicle (sec/veh) for each lane group as listed in the 2000 Highway Capacity Manual -- TRB.
(3): Overall intersection V/C ratio is the critical lane groups' V/C ratio, not the weighted average of all the movements.



Hylan Plaza Study
Figure D-7
2015 Existing Traffic Volumes
Midday Peak Hour



Hylan Plaza Study
Figure D-8
2015 Existing Traffic Volumes
Weekday PM Peak Hour



Hylan Plaza Study
Figure D-9
2015 Existing Traffic Volumes
Saturday Midday Peak Hour

- In the Saturday midday peak hour, all eight intersections operate at overall acceptable levels of service. Ten individual movements operate at LOS E or F, while eight movements operate at unacceptable LOS D.

During each peak hour, southbound left-turns at the intersections of Hylan Boulevard and New Dorp Lane, and at Hylan Boulevard and Ebbitts Street, and westbound left-turns at Hylan Boulevard at Tysens Lane each operate at unacceptable LOS E or F.

FUTURE CONDITIONS WITHOUT THE PROPOSED PROJECT (NO-ACTION CONDITION – YEAR 2019)

This section establishes the baseline (No-Action) condition against which potential impacts of the project can be identified. Future year conditions were analyzed for the year 2019. No-Action traffic volumes were established by applying a background growth of one percent per year in accordance with the 2014 *CEQR Technical Manual* guidelines for Staten Island projects. Four background projects were also included as part of the No-Action condition analysis including three retail developments totaling 41,000 square feet located just north of the main entrance of the proposed project along Hylan Boulevard, and a 100,000 square foot retail development north of the proposed project at New Dorp Lane and Mill Road (As per the *450 New Dorp Lane Project EAS*). In addition, mitigation measures proposed in the *450 New Dorp Lane Project EAS* were incorporated to three of the analysis locations. These measures include the following:

- Geometric improvements at the intersection of Hylan Boulevard and New Dorp Lane (roadway widening, pavement marking restriping, centerline shifting, curb reconstruction)
- Signal phasing and timing plan changes at the intersections of Hylan Boulevard and New Dorp Lane, and at Hylan Boulevard and Ebbitts Street
- Signal timing shift at the intersection of Ebbitts Street and Mill Road

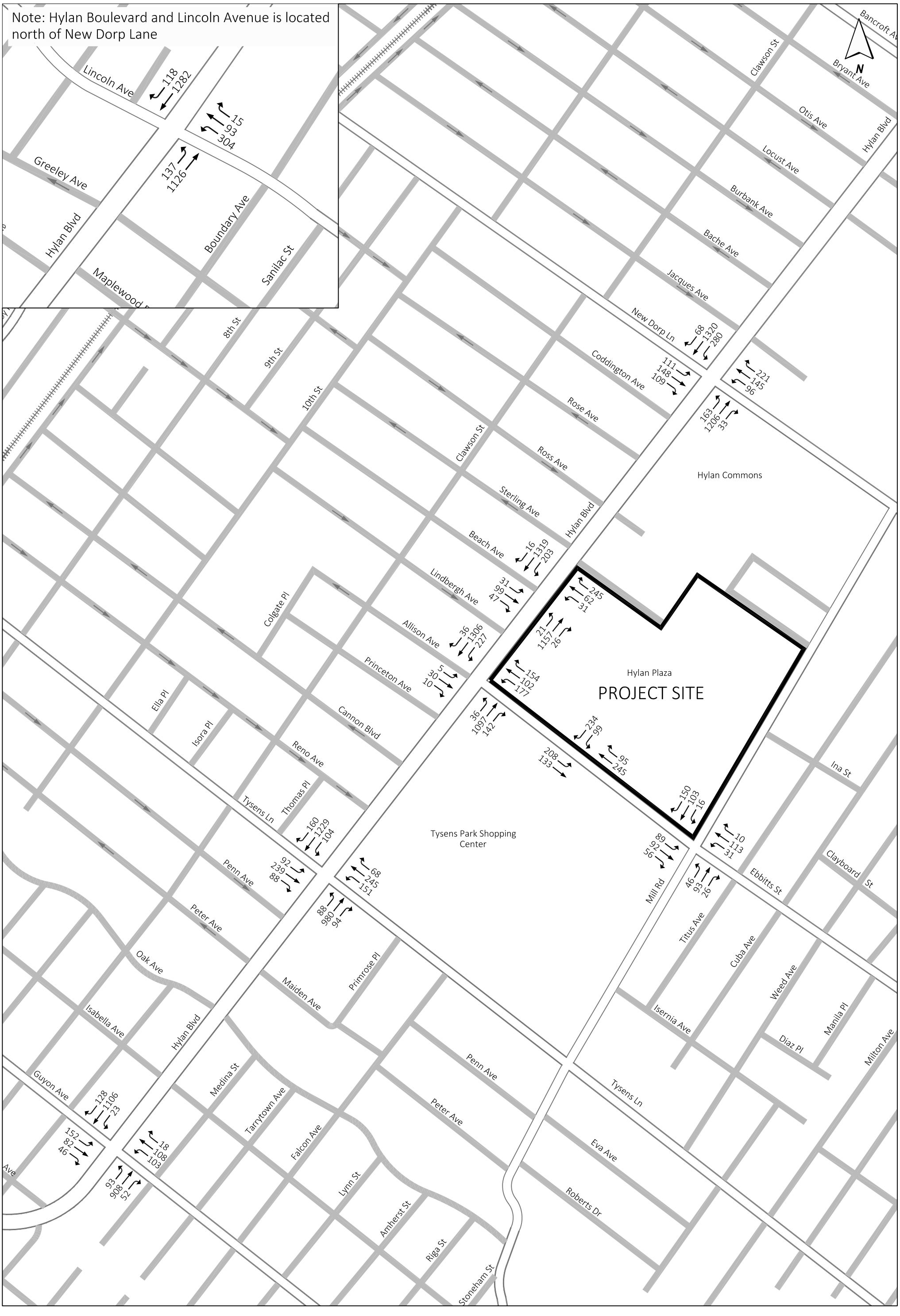
These geometric improvements would potentially result in an enhancement to the levels of service for certain movements despite the increase in background volume between the existing and No-Action conditions.

TRAFFIC

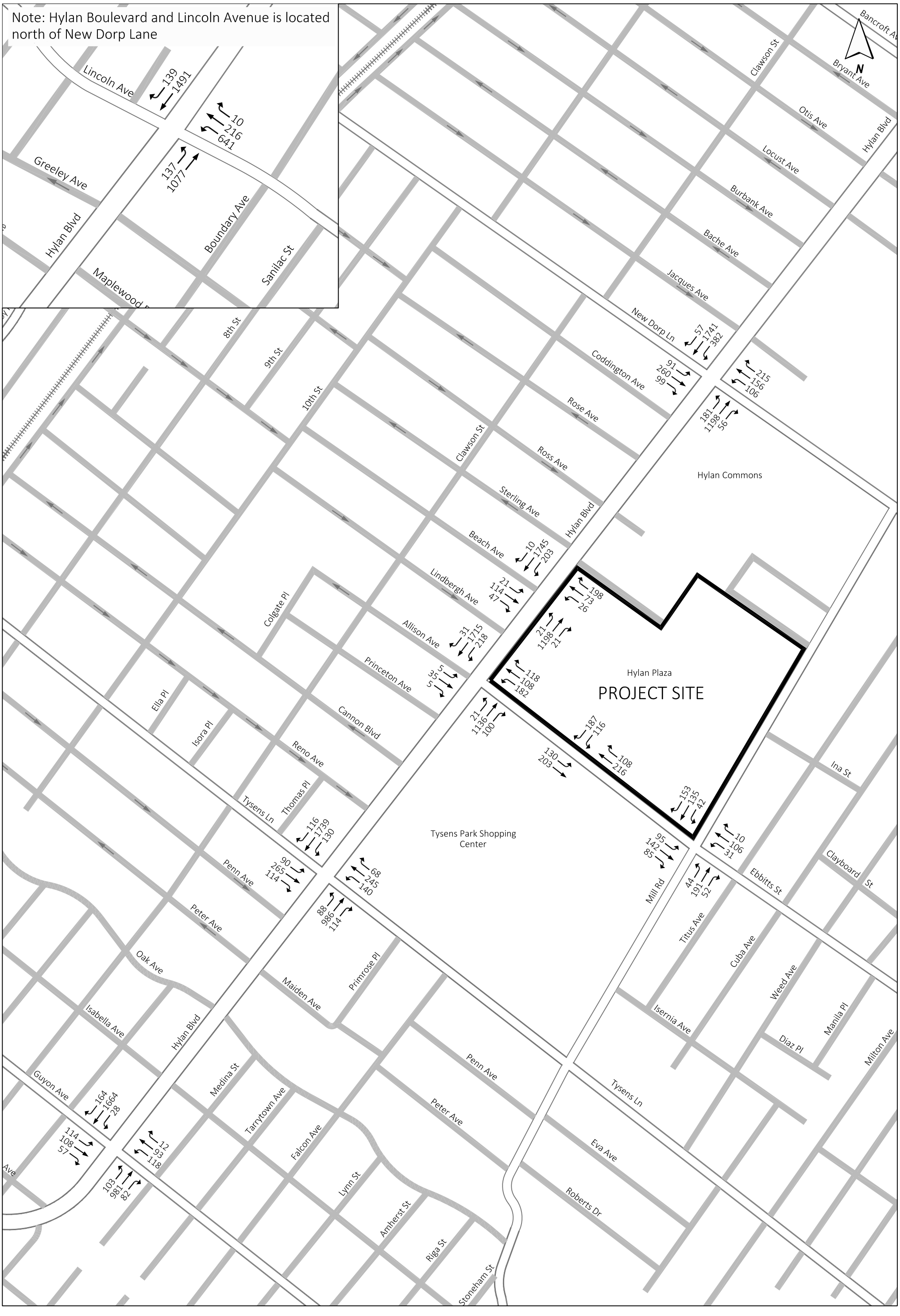
Traffic Volumes

The combined 41,000 square foot retail developments along Hylan Boulevard are expected to generate approximately 155 vph during the weekday midday peak hour, approximately 80 vph during the weekday PM peak hour, and approximately 95 vph during the Saturday midday peak hour. The vast majority of these trips (approximately 80 percent) would travel through the project's study locations. The *450 New Dorp Lane Project EAS* is expected to generate approximately 250 vph during the weekday midday peak hour, 245 vph during the weekday PM peak hour, and approximately 355 vph during the Saturday midday peak hour. Nearly all of these trips would travel through the project's study locations except for a nominal amount (under 1%) which would originate from New Dorp Lane, east of Mill Road. The growth of existing traffic volumes and the addition of the retail development trips to the traffic network are discussed below. The No-Action traffic volumes are shown in **Figures D-10** through **D-12**.

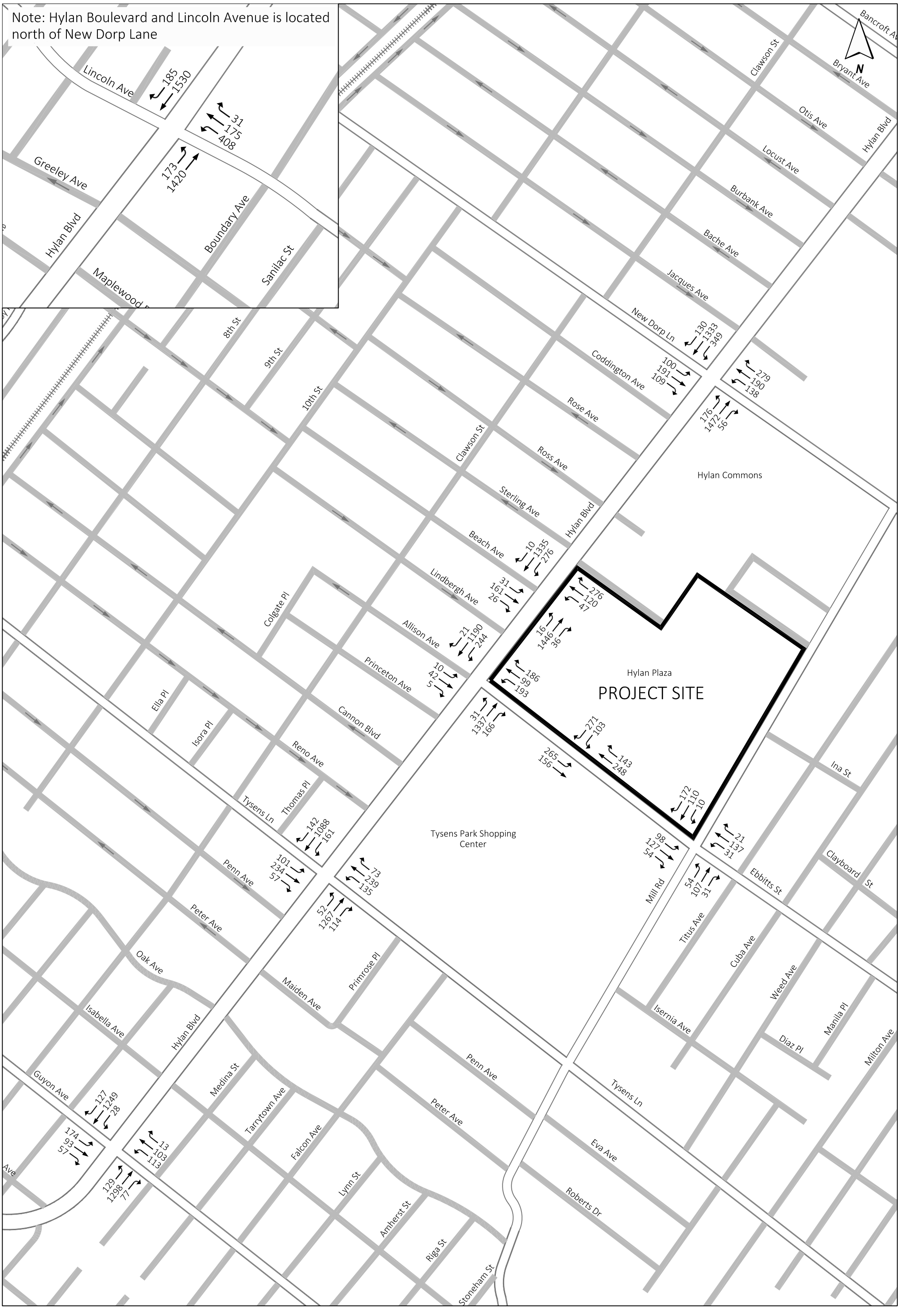
Traffic volumes along Hylan Boulevard within the study area are expected to increase by approximately 55 vph to 130 vph in the northbound direction and 65 vph to 140 vph in the southbound direction during the peak hours. East of Bloomingdale Road, traffic volumes along



Hylan Plaza Study
Figure D-10
2019 No-Action Traffic Volumes
Weekday Midday Peak Hour



Hylan Plaza Study
Figure D-11
2019 No-Action Traffic Volumes
Weekday PM Peak Hour



Hylan Plaza Study
Figure D-12
2019 No-Action Traffic Volumes
Saturday Midday Peak Hour

Ebbitts Street between Hylan Boulevard and Mill Road are expected to increase by approximately 20 vph to 80 vph in the eastbound direction and 55 vph to 80 vph in the westbound direction.

Levels of Service

Based on the traffic increases mentioned above, the 2019 No-Action traffic levels of service were determined for the eight analysis locations. **Tables D-14** and **D-15** provide an overview of the levels of service that characterize 2019 No-Action overall intersection conditions and individual traffic movements, respectively, during the weekday midday, PM, and Saturday midday peak hours. Detailed traffic levels of service for the No-Action condition are provided in **Table D-16**.

Table D-14
2015 Existing vs. 2019 No-Action Traffic Levels of Service – Overall Intersections

	2015 Existing			2019 No-Action		
	Weekday Midday Peak Hour	Weekday PM Peak Hour	Saturday Midday Peak Hour	Weekday Midday Peak Hour	Weekday PM Peak Hour	Saturday Midday Peak Hour
Intersections at Overall LOS A/B/C	7	6	6	7	4	4
Intersections at Overall LOS D	1	2	2	1	3	3
Intersections at Overall LOS E	0	0	0	0	1	1
Intersections at Overall LOS F	0	0	0	0	0	0
Note: Includes seven signalized and one unsignalized intersections						

Table D-15
2015 Existing vs. 2019 No-Action Traffic Levels of Service – Traffic Movements

	2015 Existing			2019 No-Action		
	Weekday Midday Peak Hour	Weekday PM Peak Hour	Saturday Midday Peak Hour	Weekday Midday Peak Hour	Weekday PM Peak Hour	Saturday Midday Peak Hour
Traffic Movements at Overall LOS A/B/C or acceptable LOS D	44	36	35	41	37	38
Traffic Movements at Unacceptable LOS D	4	10	8	6	9	4
Traffic Movements at Overall LOS E	4	5	4	3	5	5
Traffic Movements at Overall LOS F	1	3	6	4	4	7
Number of individual traffic movements	53	54	53	54	55	54

The summary overview of 2019 No-Action condition indicates that:

- During the weekday midday peak hour, none of the eight intersections analyzed would operate at overall LOS E or F (similar to the existing conditions). Seven individual traffic movements out of the approximately 54 movements analyzed would operate at LOS E or F

TABLE D-16
2019 NO-ACTION TRAFFIC LEVELS OF SERVICE

INTERSECTION & APPROACH		Midday (1:00 - 2:00PM) Mvt.	V/C	Control Delay	LOS	PM (5:00 - 6:00PM) Mvt.	V/C	Control Delay	LOS	SAT (12:30 - 1:30PM) Mvt.	V/C	Control Delay	LOS
Hylan Boulevard & New Dorp Lane													
New Dorp Lane	EB	L	0.54	43.5	D	L	0.50	43.5	D	L	0.53	44.1	D
		T	0.37	35.4	D	T	0.64	44.5	D	T	0.48	38.0	D
		R	0.32	34.8	C	R	0.41	39.1	D	R	0.35	35.8	D
	WB	L	0.46	39.9	D	L	0.68	58.1	E	L	0.66	50.8	D
		T	0.37	35.4	D	T	0.38	37.0	D	T	0.46	37.3	D
		R	0.50	26.4	C	R	0.50	26.6	C	R	0.60	28.9	C
Hylan Bouelvard	NB	L	0.61	47.6	D	L	0.70	54.3	D	L	0.74	58.2	E
		TR	0.74	29.8	C	TR	0.71	28.8	C	TR	0.89	37.7	D
	SB	L	0.89	69.1	E	L	1.02	93.6	F	L	1.11	128.4	F
		TR	0.79	31.5	C	TR	1.08	79.1	E	TR	0.86	35.7	D
Overall Intersection		**-**	**0.83**	**35.0**	**C**	**-**	**0.97**	**57.5**	**E**	**-**	**1.01**	**44.8**	**D**
Hylan Boulevard & Beach Avenue													
Beach Avenue	EB	LTR	0.48	38.7	D	LTR	0.52	40.6	D	LTR	0.64	44.5	D
	WB	LT	0.26	34.2	C	LT	0.30	35.5	D	LT	0.42	37.3	D
		R	0.42	22.0	C	R	0.40	22.3	C	R	0.47	23.3	C
Hylan Boulevard	NB	L	0.25	26.7	C	L	0.35	32.8	C	L	0.20	25.1	C
		TR	0.72	30.6	C	TR	0.71	29.7	C	TR	0.89	37.1	D
	SB	L	0.85	52.3	D	L	0.73	38.1	D	L	1.01	93.7	F
		TR	0.56	14.3	B	TR	0.67	8.8	A	TR	0.53	13.9	B
Overall Intersection		**-**	**0.69**	**25.3**	**C**	**-**	**0.71**	**21.0**	**C**	**-**	**0.97**	**32.7**	**C**
Hylan Boulevard & Ebbitts Street													
Ebbitts Street	EB	LTR	0.15	30.9	C	LTR	0.14	30.0	C	LTR	0.18	31.4	C
	WB	L	0.67	45.9	D	L	0.66	44.3	D	L	0.59	41.7	D
		T	0.23	31.9	C	T	0.27	31.8	C	T	0.25	32.2	C
		R	0.47	37.5	D	R	0.36	33.9	C	R	0.58	40.4	D
Hylan Boulevard	NB	L	0.24	15.8	B	L	0.15	16.8	B	L	0.18	13.1	B
		TR	0.72	27.0	C	TR	0.69	26.3	C	TR	0.85	30.8	C
	SB	L	1.12	116.3	F	L	1.15	123.3	F	L	1.10	121.8	F
		TR	0.74	27.6	C	TR	0.93	31.1	C	TR	0.62	24.7	C
Overall Intersection		**-**	**1.06**	**34.8**	**C**	**-**	**1.08**	**35.7**	**D**	**-**	**1.12**	**35.9**	**D**
Hylan Boulevard & Tysens Lane													
Tysens Lane	EB	L	0.68	58.2	E	L	0.70	65.0	E	L	0.75	70.7	E
		T	0.60	42.1	D	T	0.73	51.6	D	T	0.68	49.1	D
		R	0.25	34.0	C	R	0.41	40.5	D	R	0.21	36.3	D
	WB	L	1.03	116.1	F	L	1.07	140.1	F	L	1.09	144.8	F
		T	0.66	44.4	D	T	0.68	48.9	D	T	0.67	48.2	D
		R	0.24	34.0	C	R	0.27	37.7	D	R	0.28	37.6	D
	NB	L	0.40	44.6	D	L	0.46	47.4	D	L	0.22	28.1	C
		TR	0.64	28.3	C	TR	0.59	24.7	C	TR	0.81	32.3	C
	SB	L	0.46	35.4	D	L	0.50	32.7	C	L	0.75	60.5	E
		TR	0.87	36.1	D	TR	1.01	47.0	D	TR	0.73	29.8	C
Overall Intersection		**-**	**1.04**	**39.4**	**D**	**-**	**1.09**	**44.3**	**D**	**-**	**1.04**	**40.5**	**D**
Mill Road & Ebbitts Street													
Ebbitts Street	EB	LTR	0.71	23.6	C	LTR	0.86	29.0	C	LTR	0.65	17.5	B
	WB	LTR	0.50	20.7	C	LTR	0.44	18.5	B	LTR	0.48	16.7	B
Mill Road	NB	LTR	0.31	10.1	B	LTR	0.51	13.2	B	LTR	0.38	13.4	B
	SB	LTR	0.46	11.8	B	LTR	0.59	14.9	B	LTR	0.55	15.9	B
Overall Intersection		**-**	**0.56**	**16.5**	**B**	**-**	**0.70**	**19.1**	**B**	**-**	**0.60**	**16.0**	**B**
Ebbitts Street & Plaza Driveway (Unsignalized)													
Ebbitts Street	EB	LT	-	9.4	A	LT	-	9.0	A	LT	-	10.0	B
	WB	TR	-	-	-	TR	-	-	-	TR	-	-	-
Plaza Driveway	SB	LR	-	51.9	F	LR	-	35.8	E	LR	-	115.6	F
Overall Intersection		**-**	**-**	**19.3**	**C**	**-**	**-**	**12.9**	**B**	**-**	**-**	**40.0**	**E**
Hylan Boulevard & Lincoln Avenue													
Lincoln Avenue	WB	L	0.45	37.8	D	L	0.82	50.3	D	L	0.61	40.0	D
		TR	0.32	36.7	D	TR	0.65	46.6	D	TR	0.56	40.9	D
Hylan Boulevard	NB	L	0.81	45.9	D	L	0.99	95.9	F	L	1.14	146.8	F
		T	0.48	12.2	B	T	0.42	11.1	B	T	0.56	14.4	B
	SB	TR	0.70	23.3	C	T	0.96	33.6	C	TR	0.87	31.1	C
		-	-	-	-	R	0.45	14.7	B	-	-	-	-
Overall Intersection		**-**	**0.65**	**22.1**	**C**	**-**	**0.94**	**32.2**	**C**	**-**	**1.19**	**31.8**	**C**
Hylan Boulevard & Guyon Avenue													
Guyon Avenue	EB	L	0.92	89.7	F	L	0.48	43.7	D	L	0.94	91.1	F
		TR	0.47	45.1	D	TR	0.53	43.3	D	TR	0.52	46.4	D
	WB	L	0.65	57.4	E	L	0.62	52.8	D	L	0.75	67.6	E
		TR	0.45	44.2	D	TR	0.28	37.3	D	TR	0.39	42.5	D
Hylan Boulevard	NB	L	0.59	25.1	C	L	0.81	64.0	E	L	0.77	40.9	D
		TR	0.40	11.8	B	TR	0.50	14.9	B	TR	0.54	13.5	B
	SB	L	0.15	16.0	B	L	0.22	14.4	B	L	0.28	20.2	C
		TR	0.67	22.3	C	TR	1.06	54.0	D	TR	0.70	23.2	C
Overall Intersection		**-**	**0.76**	**26.5**	**C**	**-**	**0.91**	**40.4**	**D**	**-**	**0.79**	**27.4**	**C**

Notes
(1): Control delay is measured in seconds per vehicle.
(2): Level of service (LOS) for signalized intersections is based upon average control delay per vehicle (sec/veh) for each lane group as listed in the 2000 Highway Capacity Manual -- TRB.
(3): Overall intersection V/C ratio is the critical lane groups' V/C ratio, not the weighted average of all the movements.

compared to five in the existing conditions, while six movements would operate at unacceptable LOS D compared to four in the existing conditions.

- In the weekday PM peak hour, one intersection (Hylan Boulevard and New Dorp Lane) would operate at overall unacceptable LOS E compared to none in the existing conditions. Nine individual traffic movements would operate at LOS E or F compared to eight in the existing conditions, while nine movements would operate at unacceptable LOS D compared to ten in the existing conditions.
- In the Saturday midday peak hour, one intersection (Ebbitts Street and the Plaza Driveway) would operate at unacceptable LOS E compared to none in the existing conditions. Twelve individual movements would operate at LOS E or F compared to ten in the existing conditions, while four movements would operate at unacceptable LOS D compared to eight in the existing conditions.

Based on the analysis results, the majority of traffic movements would continue to operate at acceptable levels of services. The following five movements would operate at unacceptable LOS E or F during each peak hour:

- Southbound left turns at Hylan Boulevard and New Dorp Lane
- Southbound left turns at Hylan Boulevard and Ebbitts Street
- Eastbound left turns at Hylan Boulevard and Tysens Lane
- Westbound left turns at Hylan Boulevard and Tysens Lane
- Southbound shared left and right turns at Ebbitts Street and the Plaza Driveway

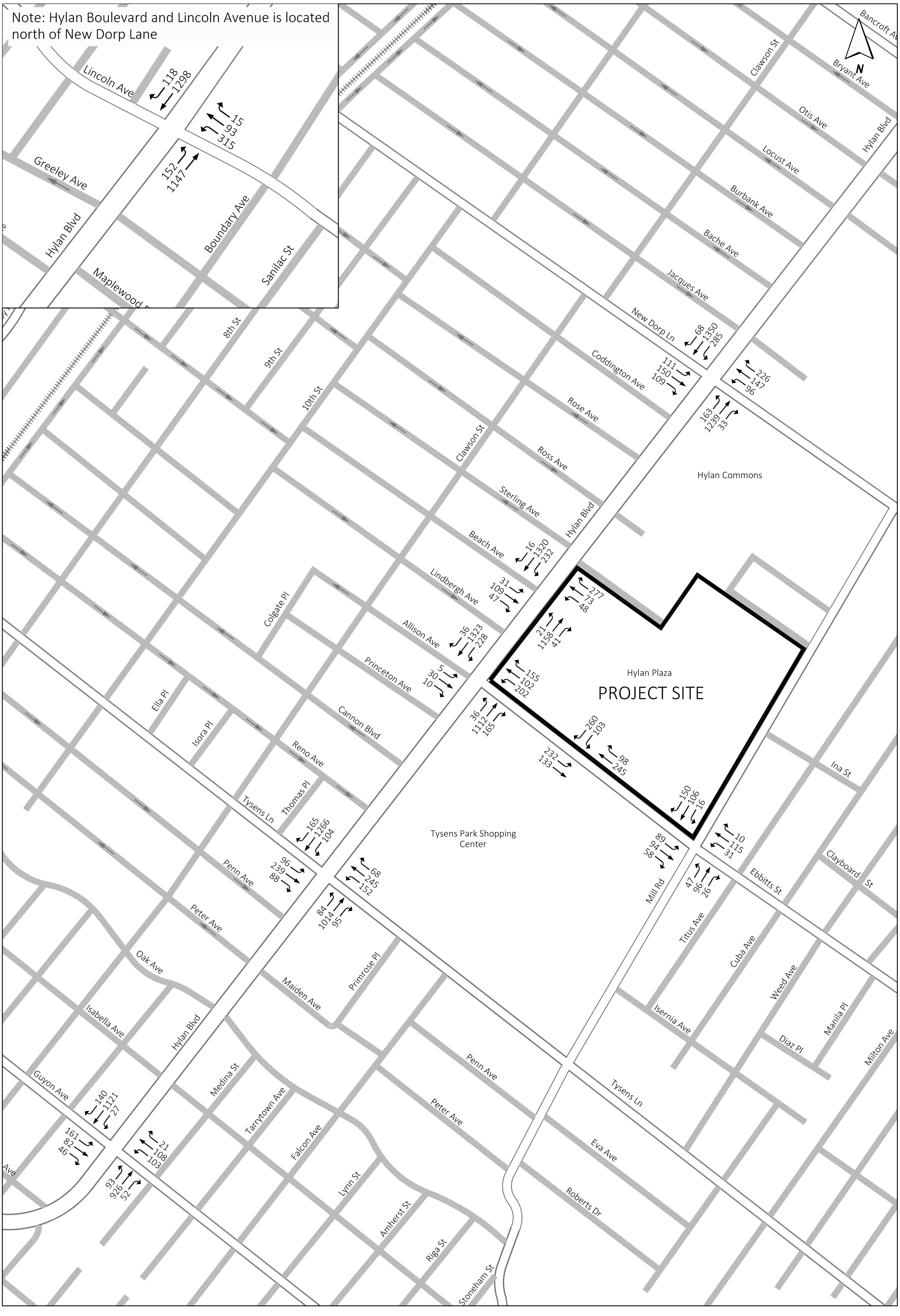
FUTURE CONDITIONS WITH THE PROPOSED PROJECT (WITH-ACTION CONDITION – YEAR 2019)

TRAFFIC

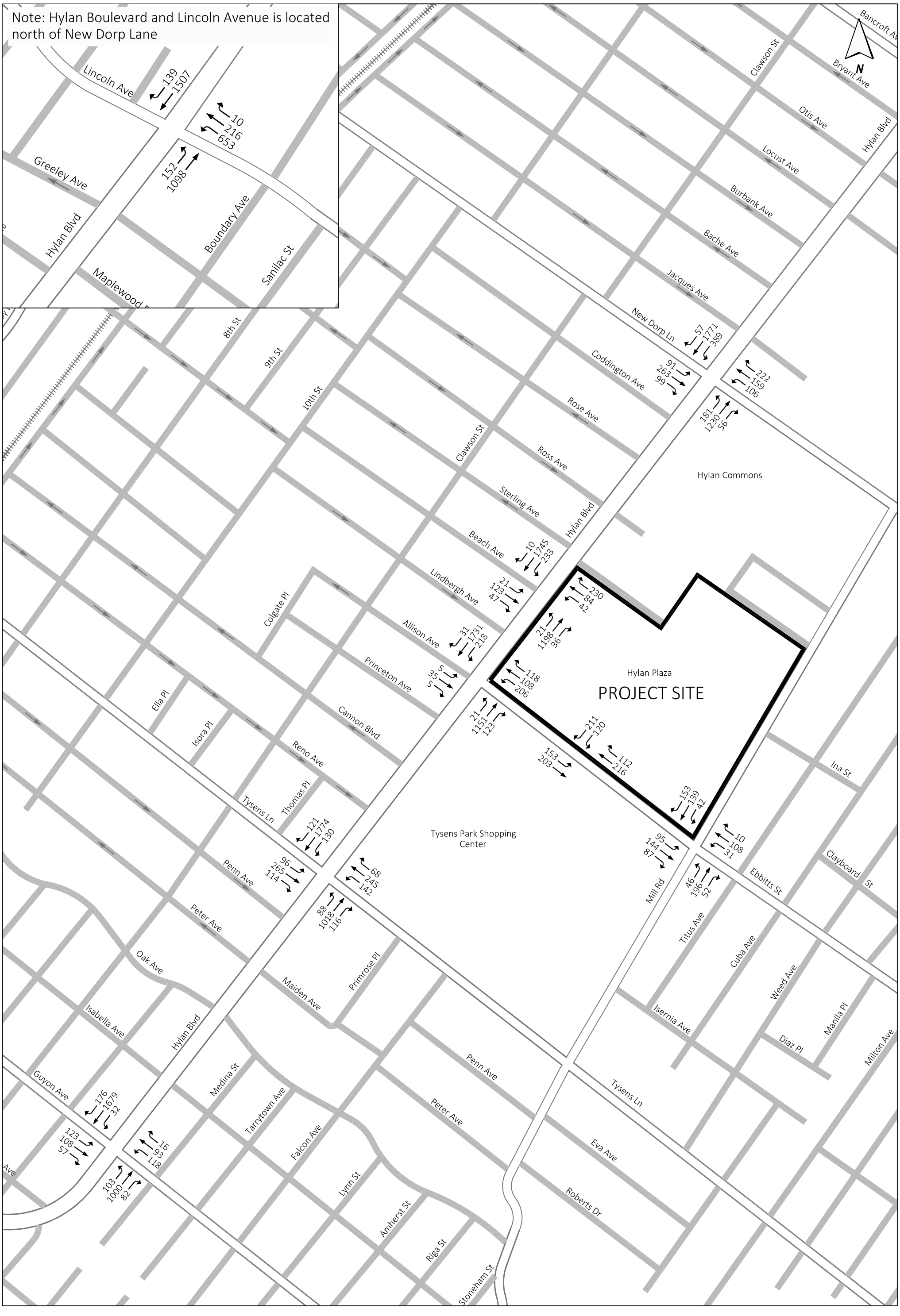
The proposed project would expand the existing shopping center, resulting in a net increase of 36,300 sf of retail space (12 percent more than existing), 17,000 sf of supermarket space (28 percent more than existing), and an addition of 300 seats to the movie theater (43 percent more than existing). The net expansion would generate 193 total vehicle trips (92 “ins” and 101 “outs”) during the weekday midday peak hour, 198 total vehicle trips (96 “ins” and 102 “outs”) during the weekday PM peak hour, and 272 total vehicle trips (141 “ins” and 131 “outs”) during the Saturday midday peak hour. These project-generated trips were added to No-Action peak hour volumes to develop the With-Action condition traffic volumes.

Traffic Volume Increments

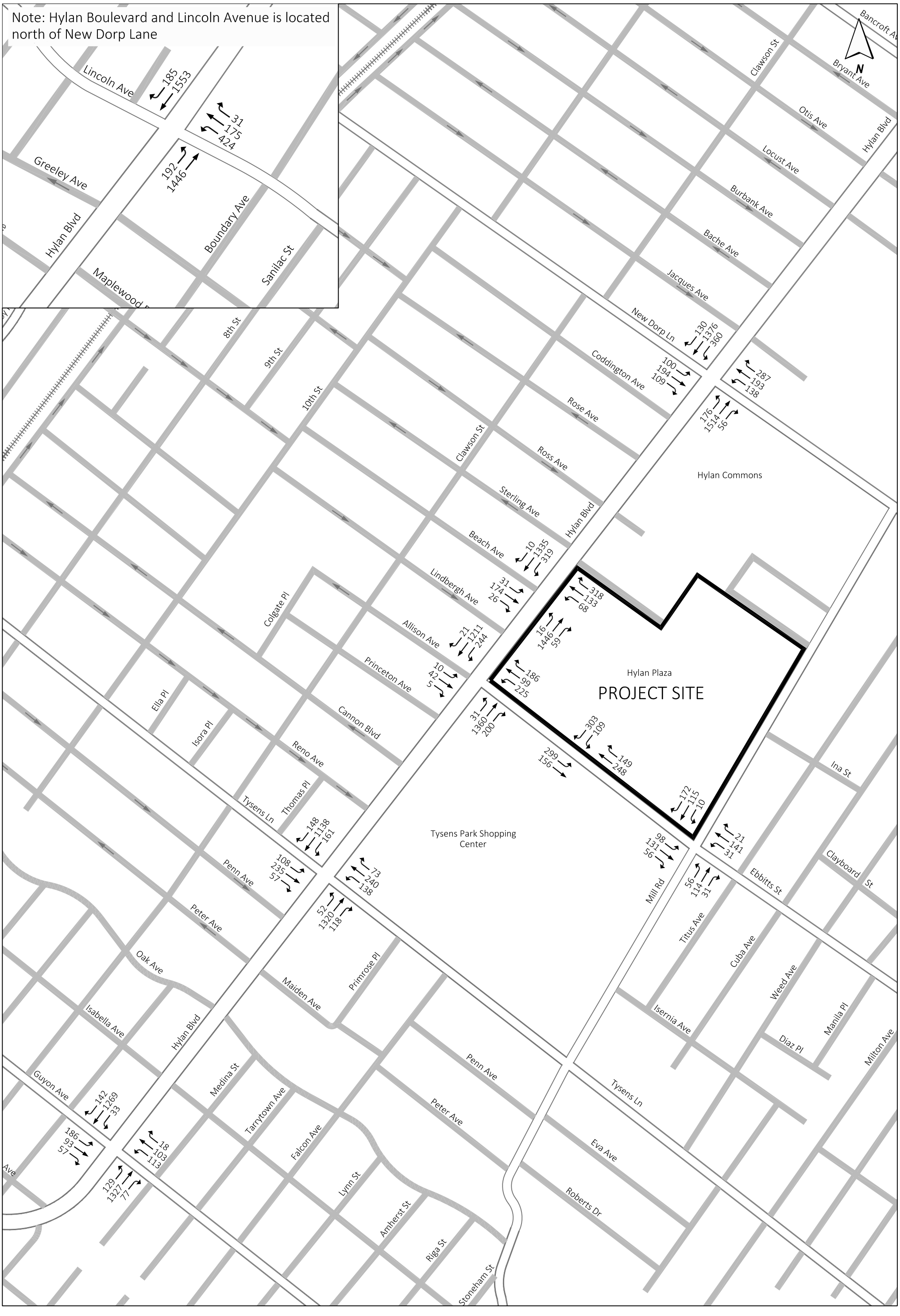
Project-generated trips were assigned to the project site primarily along Hylan Boulevard, Ebbitts Street and Mill Road. Traffic volumes along Hylan Boulevard both north and south of the site are expected to increase by approximately 15 vph to 55 vph in each direction during each of the peak hours. Along Ebbitts Street, traffic volumes are expected to increase by 5 vph to 35 vph in each direction during each of the peak hours, while along Mill Road, traffic volumes are expected to increase by 5 vph to 20 vph in each direction during each of the peak hours. With-Action traffic volumes are provided in **Figures D-13** through **D-15**.



Hylan Plaza Study
Figure D-13
2019 With-ActionTraffic Volumes
Weekday Midday Peak Hour



Hylan Plaza Study
Figure D-14
2019 With-Action Traffic Volumes
Weekday PM Peak Hour



Hylan Plaza Study
Figure D-15
2019 With-Action Traffic Volumes
Saturday Midday Peak Hour

Proposed Traffic Improvements

As part of the proposed project, traffic improvements would be implemented at seven of the eight intersections analyzed.

- Hylan Boulevard and New Dorp Lane
  - Restripe the southbound approach of Hylan Boulevard from one 12-foot wide shared through-right turn lane, two 10-foot wide through lanes, and one 12-foot wide exclusive left-turn lane to one 12-foot wide shared through-right turn lane, one 12-foot wide through lane, one 11-foot wide through lane, and one 11-foot wide exclusive left-turn lane. Restripe the northbound receiving side from two 10-foot wide travel lanes and one 12-foot wide travel lane to three 10-foot wide travel lanes for 250 feet. This would shift the southbound centerline two feet to the east.
  - Restripe the westbound approach of New Dorp Lane from one 10-foot wide exclusive right-turn lane, one 10-foot wide through lane, one 10-foot wide exclusive left-turn lane, one 2-foot wide hatched median, and one 18-foot wide eastbound receiving lane to one 10-foot wide exclusive right-turn lane, one 10-foot wide through lane, one 12-foot wide exclusive left-turn lane, a 2-foot wide hatched median, and one 16-foot eastbound receiving lane for 200 feet. This would shift the westbound centerline two feet to the south.
  - Install bollards to the proposed westbound double yellow lane in order to prevent vehicles from turning left onto westbound New Dorp Lane from the driveway of the retail lot located at the southeast corner of the intersection.
  - Modify the signal timing during all three peak periods. During the weekday midday peak period, shift two seconds of green time from the eastbound/westbound phase to the northbound/southbound exclusive left-turn phase. During the weekday PM peak period, shift one second of green time from the eastbound/westbound phase and one second of green time from the northbound/southbound phase to the northbound/southbound exclusive left-turn phase. During the Saturday midday peak period, shift one second of green time from the eastbound/westbound phase and one second of green time from the northbound/southbound phase to the northbound/southbound exclusive left-turn phase.
- Hylan Boulevard and Beach Avenue:
  - Shift eastbound approach centerline three feet to the north and restripe the eastbound approach of Beach Avenue from one 17-foot wide travel lane and one 17-foot wide receiving lane to one 10-foot wide shared through-right lane, one 10-foot wide exclusive left-turn lane, and one 14-foot wide receiving lane.
  - Widen westbound Plaza Driveway to have one 13-foot wide shared left-through lane and one 11-foot wide exclusive right-turn lane.
  - Prohibit parking on the south curb of the eastbound approach of Beach Avenue for 180 feet resulting in a loss of approximately six to seven spaces.
  - Modify the signal timing during all three peak periods. During the weekday midday peak period, shift three seconds of green time from the eastbound/westbound phase to the southbound lead phase. During the weekday PM peak period, shift two seconds of green time from the eastbound/westbound phase to the southbound lead phase. During the Saturday midday peak period, shift two seconds of green time from the eastbound/westbound phase and two seconds of green time from the northbound/southbound phase to the southbound lead phase.

- Hylan Boulevard and Ebbitts Street:
  - Modify the signal timing during the weekday midday and PM peak periods. During the weekday midday peak period, shift two seconds of green time from the northbound/southbound phase to the northbound/southbound exclusive left-turn phase and one second green time from the northbound/southbound phase to the eastbound/westbound phase. During the weekday PM peak period, shift one second of green time from the northbound/southbound phase to the eastbound/westbound phase and two seconds of green time from the northbound/southbound phase to northbound/southbound exclusive left-turn phase.
- Hylan Boulevard and Tysens Lane:
  - Modify the signal timing during the weekday PM and Saturday midday peak periods. During the weekday PM peak period, shift one second of green time from the northbound/southbound lead left-turn phase to the eastbound/westbound phase and one second of green time from the northbound/southbound lead left-turn phase to the northbound/southbound phase. During the Saturday midday peak period, shift one second of green time from the northbound/southbound phase to the eastbound/westbound phase.
- Ebbitts Street and the Plaza Driveway:
  - Restripe the eastbound approach of Ebbitts Street from one 25-foot wide lane to one 12-foot wide and one 13-foot wide travel lane for 250 feet.
  - Restripe the westbound approach of Ebbitts Street from one 25-foot wide lane to one 12-foot wide and one 13-foot wide travel lane for 250 feet.
  - Prohibit parking along the north curb of the westbound approach of Ebbitts Street for 120 feet resulting in a loss of approximately six to seven spaces.
- Hylan Boulevard and Lincoln Avenue:
  - Modify the signal timing during all three peak periods. During the weekday midday peak period, shift two seconds of green time from the eastbound/westbound phase to the northbound lead phase. During the weekday PM peak period, shift one second green time from the eastbound/westbound phase and two seconds of green time from the northbound/southbound phase to the northbound lead phase. During the Saturday midday peak period, shift two seconds of green time from the eastbound/westbound phase to the northbound lead phase.
- Hylan Boulevard and Guyon Avenue:
  - Modify the signal timing during all three peak periods. During the weekday midday peak period, shift two seconds of green time from the northbound/southbound phase to the eastbound/westbound phase. During the weekday PM peak period, shift one second green time from the eastbound/westbound phase to the northbound/southbound phase. During the Saturday midday peak period, shift one second of green time from the northbound/southbound phase to the northbound lead phase and two seconds of green time from the northbound/southbound phase to the eastbound/westbound phase.

These traffic improvements would provide sufficient capacity to accommodate project-generated trips without creating significant adverse traffic impacts. It should further be noted that all geometric improvements proposed as part of the project would be located at the intersections immediately abutting the project block.

Levels of Service

The 2019 With-Action traffic levels of service were determined for the eight analysis locations. **Tables D-17** and **D-18** provide an overview of the levels of service that characterize 2019 With-Action "overall" intersection conditions and individual traffic movements during the weekday midday and PM, and Saturday midday peak hours, respectively. Detailed traffic level of service comparisons for No-Action and With-Action conditions are provided in **Tables D-19** through **D-21**.

Table D-17
2019 No-Action vs. 2019 With-Action Traffic Levels of Service – Overall Intersections

	2019 No-Action			2019 With-Action		
	Weekday Midday Peak Hour	Weekday PM Peak Hour	Saturday Midday Peak Hour	Weekday Midday Peak Hour	Weekday PM Peak Hour	Saturday Midday Peak Hour
Intersections at Overall LOS A/B/C	7	4	4	5	3	3
Intersections at Overall LOS D	1	3	3	3	4	4
Intersections at Overall LOS E	0	1	1	0	1	1
Intersections at Overall LOS F	0	0	0	0	0	0
Note: Includes seven signalized and one unsignalized intersection						

Table D-18
2019 No-Action vs. 2019 With-Action Traffic Levels of Service – Traffic Movements

	2019 No-Action			2019 With-Action		
	Weekday Midday Peak Hour	Weekday PM Peak Hour	Saturday Midday Peak Hour	Weekday Midday Peak Hour	Weekday PM Peak Hour	Saturday Midday Peak Hour
Traffic Movements at Overall LOS A/B/C or acceptable LOS D	41	37	38	44	35	39
Traffic Movements at Unacceptable LOS D	6	9	4	4	12	6
Traffic Movements at Overall LOS E	3	5	5	4	5	3
Traffic Movements at Overall LOS F	4	4	7	3	4	7
Number of individual traffic movements	54	55	54	55	56	55

The summary overview of 2019 With-Action conditions indicates that:

- During the weekday midday peak hour, none of the eight intersections analyzed would operate at overall LOS E or F (similar to the No-Action conditions). Seven individual traffic movements out of the approximately 55 movements analyzed would operate at LOS E or F

TABLE D-19
NO-ACTION VS WITH-ACTION TRAFFIC LEVELS OF SERVICE COMPARISON - MIDDAY PEAK HOUR

INTERSECTION & APPROACH		2019 No-Action Mvt.	V/C	Control Delay	LOS	2019 With-Action Mvt.	V/C	Control Delay	LOS	Improvement Measures
Hylan Boulevard & New Dorp Lane										
New Dorp Lane	EB	L	0.54	43.5	D	L	0.59	47.9	D	- Shift SB centerline 2 foot to the east
		T	0.37	35.4	D	T	0.40	37.6	D	- Restripe NB receiving from two 10-foot and one 12-foot wide lanes to three 10-foot wide lanes.
		R	0.32	34.8	C	R	0.34	36.7	D	- Restripe SB approach from one 12-foot wide exclusive left-turn lane, two 10-foot wide through lanes,
	WB	L	0.46	39.9	D	L	0.47	41.5	D	and one 12-foot wide shared through-right lane to one 11-foot wide exlcusive left-turn lane, one 11-foot
		T	0.37	35.4	D	T	0.40	37.4	D	wide through lane, one 12-foot wide through lane, and one 12-foot wide shared through-right lane.
		R	0.50	26.4	C	R	0.52	26.9	C	- Shift WB center median on east leg of New Dorp Lane 2 feet to the south to provide one 12-foot
Hylan Bouelvard	NB	L	0.61	47.6	D	L	0.57	44.7	D	exclusive left-turn lane, one 10-foot wide through lane, and one 10-foot wide exclusive right-turn lane.
		TR	0.74	29.8	C	TR	0.76	30.4	C	- Modify signal timing: shift 2 sec. green time from EB/WB phase to NB/SB left-turn lag phase.
	SB	L	0.89	69.1	E	L	0.88	67.0	E	
		TR	0.79	31.5	C	TR	0.78	31.0	C	
Overall Intersection		**-**	**0.83**	**35.0**	**C**	**-**	**0.85**	**35.1**	**D**	
Hylan Boulevard & Beach Avenue										
Beach Avenue	EB	LTR	0.48	38.7	D	L	0.16	35.1	D	- Shift EB centerline 3 feet to the north to provide one 10-foot wide exclusive left-turn lane and one 10-foot
		-	-	-	-	TR	0.45	40.4	D	wide shared through-right lane.
	WB	LT	0.26	34.2	C	LT	0.40	39.7	D	- Restripe WB approach to have one 13-foot wide shared left-through lane, and one 11-foot wide
		R	0.42	22.0	C	R	0.47	23.2	C	exclusive right-turn lane.
Hylan Boulevard	NB	L	0.25	26.7	C	L	0.25	26.7	C	- Prohibit parking on the south curb of the EB approach of Beach Avenue for 180 feet.
		TR	0.72	30.6	C	TR	0.73	31.0	C	- Modify signal timing: shift 3 sec. green time from EB/WB phase to SB lead phase.
	SB	L	0.85	52.3	D	L	0.87	55.6	E	
		TR	0.56	14.3	B	TR	0.53	12.5	B	
Overall Intersection		**-**	**0.69**	**25.3**	**C**	**-**	**0.71**	**25.7**	**C**	
Hylan Boulevard & Ebbitts Street										
Ebbitts Street	EB	LTR	0.15	30.9	C	LTR	0.14	30.1	C	- Modify signal timing: shift 2 sec. green time from NB/SB phase to NB/SB lead left-turn phase and 1 sec.
	WB	L	0.67	45.9	D	L	0.74	49.6	D	green time from NB/SB phase to EB/WB phase.
		T	0.23	31.9	C	T	0.22	31.1	C	
		R	0.47	37.5	D	R	0.47	36.5	D	
Hylan Boulevard	NB	L	0.24	15.8	B	L	0.22	16.5	B	
		TR	0.72	27.0	C	TR	0.79	31.1	C	
	SB	L	1.12	116.3	F	L	1.08	107.9	F	
		TR	0.74	27.6	C	TR	0.79	31.1	C	
Overall Intersection		**-**	**1.06**	**34.8**	**C**	**-**	**1.05**	**37.3**	**D**	
Hylan Boulevard & Tysens Lane										
Tysens Lane	EB	L	0.68	58.2	E	L	0.71	61.2	E	- No improvements needed.
		T	0.60	42.1	D	T	0.60	42.1	D	
		R	0.25	34.0	C	R	0.25	34.0	C	
	WB	L	1.03	116.1	F	L	1.03	117.7	F	
		T	0.66	44.4	D	T	0.66	44.4	D	
		R	0.24	34.0	C	R	0.24	34.0	C	
	NB	L	0.40	44.6	D	L	0.40	45.0	D	
		TR	0.64	28.3	C	TR	0.66	28.8	C	
	SB	L	0.46	35.4	D	L	0.47	37.1	D	
		TR	0.87	36.1	D	TR	0.90	37.8	D	
Overall Intersection		**-**	**1.04**	**39.4**	**D**	**-**	**1.04**	**40.3**	**D**	
Mill Road & Ebbitts Street										
Ebbitts Street	EB	LTR	0.71	23.6	C	LTR	0.72	23.9	C	- No improvements needed.
	WB	LTR	0.50	20.7	C	LTR	0.51	20.9	C	
Mill Road	NB	LTR	0.31	10.1	B	LTR	0.32	10.2	B	
	SB	LTR	0.46	11.8	B	LTR	0.46	11.8	B	
Overall Intersection		**-**	**0.56**	**16.5**	**B**	**-**	**0.56**	**16.6**	**B**	
Ebbitts Street & Plaza Driveway (Unsignalized)										
Ebbitts Street	EB	LT	-	9.4	A	LT	-	9.6	A	- Restripe EB approach from one 25-foot wide lane to one 12-foot lane and one 13-foot lane for 250 feet.
	WB	TR	-	-	-	TR	-	-	-	- Restripe WB approach from one 25-foot wide lane to one 12-foot lane and one 13-foot lane for 250 feet.
Plaza Driveway	SB	LR	-	51.9	F	LR	-	45.1	E	- Prohibit parking on the north curb of the WB approach of Ebbitts Street for 120 feet.
Overall Intersection		**-**	**-**	**19.3**	**C**	**-**	**-**	**17.6**	**C**	
Hylan Boulevard & Lincoln Avenue										
Lincoln Avenue	WB	L	0.45	37.8	D	L	0.50	40.2	D	- Modify signal timing: shift 2 sec. green time from EB/WB phase to NB lead phase.
		TR	0.32	36.7	D	TR	0.34	38.6	D	
Hylan Boulevard	NB	L	0.81	45.9	D	L	0.80	45.5	D	
		T	0.48	12.2	B	T	0.47	11.2	B	
	SB	TR	0.70	23.3	C	TR	0.71	23.5	C	
		-	-	-	-	-	-	-	-	
Overall Intersection		**-**	**0.65**	**22.1**	**C**	**-**	**0.68**	**22.3**	**C**	
Hylan Boulevard & Guyon Avenue										
Guyon Avenue	EB	L	0.92	89.7	F	L	0.90	82.4	F	- Modify signal timing: shift 2 sec. green time from NB/SB phase to EB/WB phase.
		TR	0.47	45.1	D	TR	0.44	42.5	D	
	WB	L	0.65	57.4	E	L	0.59	51.5	D	
		TR	0.45	44.2	D	TR	0.43	42.1	D	
Hylan Boulevard	NB	L	0.59	25.1	C	L	0.63	29.1	C	
		TR	0.40	11.8	B	TR	0.42	12.9	B	
	SB	L	0.15	16.0	B	L	0.18	17.7	B	
		TR	0.67	22.3	C	TR	0.71	24.3	C	
Overall Intersection		**-**	**0.76**	**26.5**	**C**	**-**	**0.79**	**27.1**	**C**	

Notes
(1): Control delay is measured in seconds per vehicle.
(2): Level of service (LOS) for signalized intersections is based upon average control delay per vehicle (sec/veh) for each lane group as listed in the 2000 Highway Capacity Manual -- TRB.
(3): Overall intersection V/C ratio is the critical lane groups' V/C ratio, not the weighted average of all the movements.

TABLE D-20
NO-ACTION VS WITH-ACTION TRAFFIC LEVELS OF SERVICE COMPARISON - PM PEAK HOUR

INTERSECTION & APPROACH		2019 No-Action Mvt.	V/C	Control Delay	LOS	2019 With-Action Mvt.	V/C	Control Delay	LOS	Improvement Measures
Hylan Boulevard & New Dorp Lane										
New Dorp Lane	EB	L	0.50	43.5	D	L	0.53	45.7	D	- Shift SB centerline 2 foot to the east
		T	0.64	44.5	D	T	0.67	46.5	D	- Restripe NB receiving from two 10-foot and one 12-foot wide lanes to three 10-foot wide lanes.
		R	0.41	39.1	D	R	0.43	40.4	D	- Restripe SB approach from one 12-foot wide exclusive left-turn lane, two 10-foot wide through lanes,
	WB	L	0.68	58.1	E	L	0.68	58.7	E	and one 12-foot wide shared through-right lane to one 11-foot wide exlcusive left-turn lane, one 11-foot
		T	0.38	37.0	D	T	0.40	38.2	D	wide through lane, one 12-foot wide through lane, and one 12-foot wide shared through-right lane.
		R	0.50	26.6	C	R	0.51	26.3	C	- Shift WB center median on east leg of New Dorp Lane 2 feet to the south to provide one 12-foot
Hylan Bouelvard	NB	L	0.70	54.3	D	L	0.65	50.0	D	exclusive left-turn lane, one 10-foot wide through lane, and one 10-foot wide exclusive right-turn lane.
		TR	0.71	28.8	C	TR	0.74	30.4	C	- Modify signal timing: shift 1 sec. green time from EB/WB phase to NB/SB left-turn lag phase; and 1 sec.
	SB	L	1.02	93.6	F	L	1.03	95.3	F	green time from NB/SB phase to NB/SB left-turn lag phase.
		TR	1.08	79.1	E	TR	1.08	80.0	E	
Overall Intersection		**-**	**0.97**	**57.5**	**E**	**-**	**0.98**	**58.4**	**E**	
Hylan Boulevard & Beach Avenue										
Beach Avenue	EB	LTR	0.52	40.6	D	L	0.11	34.3	C	- Shift EB centerline 3 feet to the north to provide one 10-foot wide exclusive left-turn lane and one 10-foot
		-	-	-	-	TR	0.54	42.9	D	wide shared through-right lane.
	WB	LT	0.30	35.5	D	LT	0.45	41.0	D	- Restripe WB approach to have one 13-foot wide shared left-through lane, and one 11-foot wide
		R	0.40	22.3	C	R	0.47	23.8	C	exclusive right-turn lane.
Hylan Boulevard	NB	L	0.35	32.8	C	L	0.35	32.8	C	- Prohibit parking on the south curb of the EB approach of Beach Avenue for 180 feet.
		TR	0.71	29.7	C	TR	0.72	30.1	C	- Modify signal timing: shift 2 sec. green time from EB/WB phase to SB lead phase.
	SB	L	0.73	38.1	D	L	0.79	44.7	D	
		TR	0.67	8.8	A	TR	0.66	7.4	A	
Overall Intersection		**-**	**0.71**	**21.0**	**C**	**-**	**0.73**	**21.6**	**C**	
Hylan Boulevard & Ebbitts Street										
Ebbitts Street	EB	LTR	0.14	30.0	C	LTR	0.13	29.3	C	- Modify signal timing: shift 1 sec. green time from NB/SB phase to EB/WB phase; shift 2 sec. green time
	WB	L	0.66	44.3	D	L	0.73	47.4	D	from NB/SB phase to NB/SB lead left-turn phase phase.
		T	0.27	31.8	C	T	0.26	31.0	C	
		R	0.36	33.9	C	R	0.35	32.9	C	
Hylan Boulevard	NB	L	0.15	16.8	B	L	0.13	17.9	B	
		TR	0.69	26.3	C	TR	0.76	30.1	C	
	SB	L	1.15	123.3	F	L	1.10	111.6	F	
		TR	0.93	31.1	C	TR	0.99	43.5	D	
Overall Intersection		**-**	**1.08**	**35.7**	**D**	**-**	**1.07**	**42.0**	**D**	
Hylan Boulevard & Tysens Lane										
Tysens Lane	EB	L	0.70	65.0	E	L	0.71	64.2	E	- Modify signal timing: shift 1 sec. green time from NB/SB lead left-turn phase to EB/WB phase and 1
		T	0.73	51.6	D	T	0.71	49.6	D	sec. green time from the NB/SB lead left-turn phase to the NB/SB phase.
		R	0.41	40.5	D	R	0.39	39.4	D	
	WB	L	1.07	140.1	F	L	1.02	122.6	F	
		T	0.68	48.9	D	T	0.66	47.1	D	
		R	0.27	37.7	D	R	0.26	36.7	D	
	NB	L	0.46	47.4	D	L	0.51	51.2	D	
		TR	0.59	24.7	C	TR	0.60	24.3	C	
	SB	L	0.50	32.7	C	L	0.55	36.0	D	
		TR	1.01	47.0	D	TR	1.02	47.3	D	
Overall Intersection		**-**	**1.09**	**44.3**	**D**	**-**	**1.09**	**43.6**	**D**	
Mill Road & Ebbitts Street										
Ebbitts Street	EB	LTR	0.86	29.0	C	LTR	0.87	29.9	C	- No improvements needed.
	WB	LTR	0.44	18.5	B	LTR	0.45	18.6	B	
Mill Road	NB	LTR	0.51	13.2	B	LTR	0.52	13.5	B	
	SB	LTR	0.59	14.9	B	LTR	0.60	15.0	B	
Overall Intersection		**-**	**0.70**	**19.1**	**B**	**-**	**0.71**	**19.5**	**B**	
Ebbitts Street & Plaza Driveway (Unsignalized)										
Ebbitts Street	EB	LT	-	9.0	A	LT	-	9.1	A	- Restripe EB approach from one 25-foot wide lane to one 12-foot lane and one 13-foot lane for 250 feet.
	WB	TR	-	-	-	TR	-	-	-	- Restripe WB approach from one 25-foot wide lane to one 12-foot lane and one 13-foot lane for 250 feet.
Plaza Driveway	SB	LR	-	35.8	E	LR	-	30.2	D	- Prohibit parking on the north curb of the WB approach of Ebbitts Street for 120 feet.
Overall Intersection		**-**	**-**	**12.9**	**B**	**-**	**-**	**11.6**	**B**	
Hylan Boulevard & Lincoln Avenue										
Lincoln Avenue	WB	L	0.82	50.3	D	L	0.86	54.3	D	- Modify signal timing: shift 1 sec. green time from EB/WB phase to NB lead phase; shift 2 sec. green
		TR	0.65	46.6	D	TR	0.67	48.5	D	time from NB/SB phase to NB lead phase.
Hylan Boulevard	NB	L	0.99	95.9	F	L	0.95	88.5	F	
		T	0.42	11.1	B	T	0.43	10.7	B	
	SB	TR	0.96	33.6	C	TR	1.01	44.7	D	
		-	0.45	14.7	B	-	0.46	16.4	B	
Overall Intersection		**-**	**0.94**	**32.2**	**C**	**-**	**0.97**	**37.1**	**D**	
Hylan Boulevard & Guyon Avenue										
Guyon Avenue	EB	L	0.48	43.7	D	L	0.55	47.3	D	- Modify signal timing: shift 1 sec. green time from EB/WB phase to NB/SB phase.
		TR	0.53	43.3	D	TR	0.55	44.7	D	
	WB	L	0.62	52.8	D	L	0.65	55.9	E	
		TR	0.28	37.3	D	TR	0.31	38.5	D	
Hylan Boulevard	NB	L	0.81	64.0	E	L	0.81	64.4	E	
		TR	0.50	14.9	B	TR	0.50	14.4	B	
	SB	L	0.22	14.4	B	L	0.25	14.2	B	
		TR	1.06	54.0	D	TR	1.06	53.0	D	
Overall Intersection		**-**	**0.91**	**40.4**	**D**	**-**	**0.93**	**40.1**	**D**	

Notes
(1): Control delay is measured in seconds per vehicle.
(2): Level of service (LOS) for signalized intersections is based upon average control delay per vehicle (sec/veh) for each lane group as listed in the 2000 Highway Capacity Manual -- TRB.
(3): Overall intersection V/C ratio is the critical lane groups' V/C ratio, not the weighted average of all the movements.

TABLE D-21
NO-ACTION VS WITH-ACTION TRAFFIC LEVELS OF SERVICE COMPARISON - SATURDAY MIDDAY PEAK HOUR

INTERSECTION & APPROACH		2019 No-Action Mvt.	V/C	Control Delay	LOS	2019 With-Action Mvt.	V/C	Control Delay	LOS	Improvement Measures
Hylan Boulevard & New Dorp Lane										
New Dorp Lane	EB	L	0.53	44.1	D	L	0.56	46.7	D	- Shift SB centerline 2 foot to the east
		T	0.48	38.0	D	T	0.50	39.3	D	- Restripe NB receiving from two 10-foot and one 12-foot wide lanes to three 10-foot wide lanes.
		R	0.35	35.8	D	R	0.36	36.9	D	- Restripe SB approach from one 12-foot wide exclusive left-turn lane, two 10-foot wide through lanes,
	WB	L	0.66	50.8	D	L	0.65	50.4	D	and one 12-foot wide shared through-right lane to one 11-foot wide exlcusive left-turn lane, one 11-foot
		T	0.46	37.3	D	T	0.48	38.6	D	wide through lane, one 12-foot wide through lane, and one 12-foot wide shared through-right lane.
		R	0.60	28.9	C	R	0.61	28.6	C	- Shift WB center median on east leg of New Dorp Lane 2 feet to the south to provide one 12-foot
Hylan Bouelvard	NB	L	0.74	58.2	E	L	0.69	52.6	D	exclusive left-turn lane, one 10-foot wide through lane, and one 10-foot wide exclusive right-turn lane.
		TR	0.89	37.7	D	TR	0.93	42.4	D	- Modify signal timing: shift 1 sec. green time from EB/WB phase to NB/SB left-turn lag phase and 1 sec.
	SB	L	1.11	128.4	F	L	1.09	119.1	F	green time from the NB/SB phase to the NB/SB left-turn lag phase.
		TR	0.86	35.7	D	TR	0.87	36.9	D	
Overall Intersection		**-**	**1.01**	**44.8**	**D**	**-**	**1.01**	**46.0**	**D**	
Hylan Boulevard & Beach Avenue										
Beach Avenue	EB	LTR	0.64	44.5	D	L	0.20	35.7	D	- Shift EB centerline 3 feet to the north to provide one 10-foot wide exclusive left-turn lane and one 10-foot
		-	-	-	-	TR	0.60	44.2	D	wide shared through-right lane.
	WB	LT	0.42	37.3	D	LT	0.59	44.2	D	- Restripe WB approach to have one 13-foot wide shared left-through lane, and one 11-foot wide
		R	0.47	23.3	C	R	0.53	23.4	C	exclusive right-turn lane.
Hylan Boulevard	NB	L	0.20	25.1	C	L	0.21	26.7	C	- Prohibit parking on the south curb of the EB approach of Beach Avenue for 180 feet.
		TR	0.89	37.1	D	TR	0.94	43.7	D	- Modify signal timing: shift 2 sec. green time from EB/WB phase to SB lead phase; shift 2 sec. green
	SB	L	1.01	93.7	F	L	0.99	85.6	F	time from NB/SB phase to SB lead phase.
		TR	0.53	13.9	B	TR	0.52	12.7	B	
Overall Intersection		**-**	**0.97**	**32.7**	**C**	**-**	**0.91**	**35.1**	**D**	
Hylan Boulevard & Ebbitts Street										
Ebbitts Street	EB	LTR	0.18	31.4	C	LTR	0.18	31.4	C	- No improvements needed.
	WB	L	0.59	41.7	D	L	0.68	46.2	D	
		T	0.25	32.2	C	T	0.25	32.2	C	
		R	0.58	40.4	D	R	0.58	40.4	D	
Hylan Boulevard	NB	L	0.18	13.1	B	L	0.19	13.3	B	
		TR	0.85	30.8	C	TR	0.89	32.8	C	
	SB	L	1.10	121.8	F	L	1.10	122.7	F	
		TR	0.62	24.7	C	TR	0.63	25.0	C	
Overall Intersection		**-**	**1.12**	**35.9**	**D**	**-**	**1.18**	**37.0**	**D**	
Hylan Boulevard & Tysens Lane										
Tysens Lane	EB	L	0.75	70.7	E	L	0.75	68.8	E	- Modify signal timing: shift 1 sec. green time from NB/SB phase to EB/WB phase.
		T	0.68	49.1	D	T	0.67	47.3	D	
		R	0.21	36.3	D	R	0.20	35.4	D	
	WB	L	1.09	144.8	F	L	1.05	129.1	F	
		T	0.67	48.2	D	T	0.65	46.4	D	
		R	0.28	37.6	D	R	0.27	36.6	D	
	NB	L	0.22	28.1	C	L	0.23	31.0	C	
		TR	0.81	32.3	C	TR	0.86	35.1	D	
	SB	L	0.75	60.5	E	L	0.76	62.2	E	
		TR	0.73	29.8	C	TR	0.77	31.9	C	
Overall Intersection		**-**	**1.04**	**40.5**	**D**	**-**	**1.12**	**41.3**	**D**	
Mill Road & Ebbitts Street										
Ebbitts Street	EB	LTR	0.65	17.5	B	LTR	0.67	17.8	B	- No improvements needed.
	WB	LTR	0.48	16.7	B	LTR	0.49	16.9	B	
Mill Road	NB	LTR	0.38	13.4	B	LTR	0.40	13.6	B	
	SB	LTR	0.55	15.9	B	LTR	0.56	16.1	B	
Overall Intersection		**-**	**0.60**	**16.0**	**B**	**-**	**0.61**	**16.2**	**B**	
Ebbitts Street & Plaza Driveway (Unsignalized)										
Ebbitts Street	EB	LT	-	10.0	B	LT	-	10.4	B	- Restripe EB approach from one 25-foot wide lane to one 12-foot lane and one 13-foot lane for 250 feet.
	WB	TR	-	-	-	TR	-	-	-	- Restripe WB approach from one 25-foot wide lane to one 12-foot lane and one 13-foot lane for 250 feet.
Plaza Driveway	SB	LR	-	115.6	F	LR	-	109.9	F	- Prohibit parking on the north curb of the WB approach of Ebbitts Street for 120 feet.
Overall Intersection		**-**	**-**	**40.0**	**E**	**-**	**-**	**39.6**	**E**	
Hylan Boulevard & Lincoln Avenue										
Lincoln Avenue	WB	L	0.61	40.0	D	L	0.68	43.5	D	- Modify signal timing: shift 2 sec. green time from EB/WB phase to NB lead phase.
		TR	0.56	40.9	D	TR	0.59	43.6	D	
Hylan Boulevard	NB	L	1.14	146.8	F	L	1.09	129.2	F	
		T	0.56	14.4	B	T	0.56	13.3	B	
	SB	TR	0.87	31.1	C	TR	0.88	31.9	C	
		-	-	-	-	-	-	-	-	
Overall Intersection		**-**	**1.19**	**31.8**	**C**	**-**	**1.16**	**32.0**	**C**	
Hylan Boulevard & Guyon Avenue										
Guyon Avenue	EB	L	0.94	91.1	F	L	0.94	88.1	F	- Modify signal timing: shift 1 sec. green time from NB/SB phase to NB lead phase; shift 2 sec. green time
		TR	0.52	46.4	D	TR	0.49	43.6	D	from NB/SB phase to EB/WB phase.
	WB	L	0.75	67.6	E	L	0.68	58.3	E	
		TR	0.39	42.5	D	TR	0.38	40.7	D	
Hylan Boulevard	NB	L	0.77	40.9	D	L	0.77	44.6	D	
		TR	0.54	13.5	B	TR	0.57	15.0	B	
	SB	L	0.28	20.2	C	L	0.36	24.8	C	
		TR	0.70	23.2	C	TR	0.75	26.4	C	
Overall Intersection		**-**	**0.79**	**27.4**	**C**	**-**	**0.83**	**28.8**	**C**	

Notes

(1): Control delay is measured in seconds per vehicle.

(2): Level of service (LOS) for signalized intersections is based upon average control delay per vehicle (sec/veh) for each lane group as listed in the 2000 Highway Capacity Manual -- TRB.

(3): Overall intersection V/C ratio is the critical lane groups' V/C ratio, not the weighted average of all the movements.

(similar to the No-Action conditions), while four movements would operate at unacceptable LOS D compared to six in the No-Action conditions.

- In the weekday PM peak hour, one intersection (Hylan Boulevard and New Dorp Lane) would operate at overall unacceptable LOS E similar to the No-Action conditions. Nine individual traffic movements would operate at LOS E or F similar to the No-Action conditions, while 12 movements would operate at unacceptable LOS D compared to nine in the No-Action conditions.
- In the Saturday midday peak hour, one intersection (Ebbitts Street and the Plaza Driveway) would operate at unacceptable LOS E similar to the No-Action conditions. Ten individual movements would operate at LOS E or F compared to 12 in the No-Action conditions, while six movements would operate at unacceptable LOS D compared to four in the No-Action conditions.

Based on the analysis results, the majority of traffic movements would continue to operate at acceptable levels of services. Of the five movements in the No-Action condition which would operate at unacceptable LOS E or F during each peak hour, the Southbound shared left and right turns at Ebbitts Street and the Plaza Driveway would improve to LOS D during the PM peak hour.

With the proposed improvements there would be no further deterioration of level of service and no significant impacts.

PARKING

A parking analysis was performed to determine whether the projected parking demand associated with the future shopping center expansion could be accommodated. With the future expansion, the number of available parking spaces is expected to increase from the existing 1,414 on-site spaces to 1,653 spaces. Parking counts were conducted during the weekday midday and PM, and Saturday midday peak periods for the existing shopping center. Hour by hour increments were determined for the peak periods based on the methodologies described earlier in this memorandum and then added to the existing parking counts to obtain the future parking demand. **Tables D-22** and **D-23** provide the hour by hour parking accumulation for the weekday and Saturday, respectively.

Table D-22
Weekday Peak Period Parking Accumulation

	Existing Parking (capacity = 1,414 spaces)				Future Expansion Parking (capacity = 1,653 spaces)			
Hour	In	Out	Demand	Occupancy	In	Out	Demand	Occupancy
11AM - 12PM	580	556	445	31.5%	668	643	516	31.2%
12PM - 1PM	643	598	490	34.7%	740	692	564	34.1%
1PM - 2PM	611	639	462	32.7%	703	740	527	31.9%
2PM - 3PM	604	642	424	30.0%	701	750	478	28.9%
3PM - 4PM	596	644	376	26.6%	698	758	418	25.3%
4PM - 5PM	564	579	361	25.5%	661	682	397	24.0%
5PM - 6PM	557	577	341	24.1%	653	679	371	22.4%

Table D-23
Saturday Peak Period Parking Accumulation

Hour	Existing Parking (capacity = 1,414 spaces)				Future Expansion Parking (capacity = 1,653 spaces)			
	In	Out	Demand	Occupancy	In	Out	Demand	Occupancy
12PM - 1PM	861	748	504	35.6%	1,006	874	585	35.4%
1PM - 2PM	787	754	537	38.0%	918	881	622	37.6%
2PM - 3PM	779	833	483	34.2%	909	972	559	33.8%
3PM - 4PM	765	732	516	36.5%	892	855	596	36.1%

Based on the findings of this parking analysis, the proposed expansion is expected to provide sufficient on-site parking capacity for the peak periods of both a typical weekday and Saturday.

SAFETY ASSESSMENT

According to the 2014 *CEQR Technical Manual* criteria, any intersection with 48 or more total (reportable and non-reportable) crashes, or five or more pedestrian/bicycle injury crashes, in any consecutive 12 months of the most recent three-year period for which data are available, is considered a high crash location. The safety assessment performed for this study was based on accident data provided by NYCDOT for years 2012 to 2014. As shown in **Table D-24**, the intersection of Hylan Boulevard and Ebbitts Street had six pedestrian/bicycle injury crashes during 2013 and would be considered a high accident intersection. Vehicular and pedestrian crash thresholds are not exceeded at any of the other analysis intersections.

Table D-24
Vehicle and Pedestrian Crash Details

Intersection		Study Period					Crashes by Year					
North-South Roadway	East-West Roadway	All Crashes by Year			Total Fatalities	Total Injuries	Pedestrian			Bicycle		
		2012	2013	2014			2012	2013	2014	2012	2013	2014
Hylan Boulevard	New Dorp Lane	19	11	17	0	36	3	1	2	1	0	1
Hylan Boulevard	Beach Avenue	8	15	4	0	24	1	1	1	0	0	0
Hylan Boulevard	Ebbitts Street	15	11	8	0	35	3	6	0	0	0	0
Hylan Boulevard	Tysens Lane	16	13	9	1	30	0	3	2	0	0	0
Hylan Boulevard	Lincoln Avenue	11	8	8	0	19	4	2	1	0	0	0
Hylan Boulevard	Guyon Avenue	10	7	8	0	16	1	2	0	0	0	0
Mill Road	Ebbitts Street	2	2	3	0	4	0	0	0	0	0	0
Plaza Driveway	Ebbitts Street	0	0	0	0	0	0	0	0	0	0	0

Source: New York State Department of Transportation/New York State Department of Motor Vehicles 2012-2014 accident data.

Traffic improvements are being proposed as part of the *450 New Dorp Lane Project EAS* that would include the conversion of the southbound lead/westbound right-turn phase into the northbound/southbound exclusive left-turn phase. After reviewing the pedestrian injury crashes during that three-year span it was found that three instances involved the pedestrian crossing without the given crossing signal and four instances involved left-turning vehicles. By providing an additional exclusive left-turn phase, vehicles having difficulty in finding a gap in the opposing traffic would be accommodated and would be less likely to make an aggressive maneuver. Also, the exclusive westbound right-turn phase which operates concurrently with the southbound approach could have caused confusion for pedestrians. The implementation of these proposed measures would improve the safety conditions at this intersection.

D. CONCLUSION

The proposed project would generate traffic volumes exceeding transportation screening thresholds and, as a result, a detailed traffic analysis was performed at the eight intersections. Traffic improvements to accommodate the project-generated vehicle trips were identified at seven intersections and would be incorporated as part of the project. The results of the analysis show that, with these improvements in place, the proposed project would not result in significant adverse transportation impacts. The screening thresholds would not be exceeded for transit or pedestrians; additional analyses were not required for these elements. ✷

A. INTRODUCTION

The potential for air quality impacts from the proposed actions is examined in this attachment.

As discussed in Attachment D, "Transportation," the proposed actions are not expected to significantly alter traffic conditions. The maximum hourly incremental traffic from the proposed actions would not exceed the 2014 *City Environmental Quality Review (CEQR) Technical Manual* carbon monoxide (CO) screening threshold of 170 auto trips for peak hour trips at nearby intersections in the study area, nor would it exceed the particulate matter (PM) emission screening threshold discussed in Chapter 17, Sections 210 and 311 of the *CEQR Technical Manual*. In terms of emissions of NO_2 from mobile sources, the increases in NO_2 concentrations are primarily due to relatively small increases in the number of vehicles (as compared to existing or No-Action traffic in the study area). This increase would not be expected to significantly affect levels of NO_2 experienced near roadways without the proposed project. Therefore, the changes in traffic introduced by the proposed actions would not have the potential to significantly change air quality conditions, and a quantified assessment of emissions from project generated traffic is not warranted.

The proposed actions would increase the overall number of parking spaces provided on the project site by 239 spaces (from an existing 1,414 spaces to the proposed 1,653 spaces); therefore, an analysis was conducted to evaluate potential future pollutant concentrations in the vicinity of the surface parking lot.

The proposed actions would include fuel fired heating systems. Therefore, a stationary source analysis was conducted to evaluate potential future pollutant concentrations with the proposed systems.

B. POLLUTANTS FOR ANALYSIS

Ambient air quality is affected by air pollutants produced by both motor vehicles and stationary sources. Emissions from motor vehicles are referred to as mobile source emissions, while emissions from fixed facilities are referred to as stationary source emissions. Ambient concentrations of CO are predominantly influenced by mobile source emissions. PM, volatile organic compounds (VOCs), and nitrogen oxides (nitric oxide (NO) and nitrogen dioxide (NO_2), collectively referred to as NO_x) are emitted from both mobile and stationary sources. Fine PM is also formed when emissions of NO_x, sulfur oxides (SO_x), ammonia, organic compounds, and other gases react or condense in the atmosphere. Emissions of sulfur dioxide (SO_2) are associated mainly with stationary sources, and some sources utilizing non-road diesel such as large international marine engines. On-road diesel vehicles currently contribute very little to SO_2 emissions since the sulfur content of on-road diesel fuel, which is federally regulated, is extremely low. Ozone is formed in the atmosphere by complex photochemical processes that include NO_x and VOCs. Ambient concentrations of CO, PM, NO_2, SO_2, ozone, and lead are

regulated by the U.S. Environmental Protection Agency (EPA) under the Clean Air Act (CAA), and are referred to as 'criteria pollutants'; emissions of VOCs, NO_x, and other precursors to criteria pollutants are also regulated by EPA.

CARBON MONOXIDE

CO, a colorless and odorless gas, is produced in the urban environment primarily by the incomplete combustion of gasoline and other fossil fuels. In urban areas, approximately 80 to 90 percent of CO emissions are from motor vehicles. CO concentrations can diminish rapidly over relatively short distances; elevated concentrations are usually limited to locations near crowded intersections, heavily traveled and congested roadways, parking lots, and garages. Consequently, CO concentrations must be analyzed on a local, or microscale basis.

The proposed actions are not expected to significantly alter traffic conditions. Since the proposed actions would result in fewer new peak hour vehicle trips than the *CEQR Technical Manual* screening threshold of 170 trips at nearby intersections in the study area, a quantified assessment of mobile source CO emissions is not warranted. However, an analysis was conducted to evaluate future CO concentrations from the proposed expansion of the surface parking lot.

NITROGEN OXIDES, VOCS, AND OZONE

NO_x are of principal concern because of their role, together with VOCs, as precursors in the formation of ozone. Ozone is formed through a series of reactions that take place in the atmosphere in the presence of sunlight. Because the reactions are slow, and occur as the pollutants are advected downwind, elevated ozone levels are often found many miles from sources of the precursor pollutants. The effects of NO_x and VOC emissions from all sources are therefore generally examined on a regional basis. The contribution of any action or project to regional emissions of these pollutants would include any added stationary or mobile source emissions.

In addition to being a precursor to the formation of ozone, NO_2 (one component of NO_x) is also a regulated pollutant. Since NO_2 is mostly formed from the transformation of NO in the atmosphere, it has mostly been of concern further downwind from large stationary point sources, and is not a local concern from mobile sources. (NO_x emissions from fuel combustion are typically greater than 90 percent NO with the remaining fraction primarily NO_2 at the source.[1]) However, with the promulgation of the 2010 1-hour average standard for NO_2, local sources such as mobile sources become of greater concern for this pollutant. Potential impacts on local NO_2 concentrations from the on-site fuel combustion for the proposed project's heating system were evaluated.

LEAD

Airborne lead emissions are currently associated principally with industrial sources. Lead in gasoline has been banned under the CAA and therefore, lead is not a pollutant of concern for the proposed actions. Therefore, an analysis of this pollutant was not warranted.

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[1] EPA. Compilation of Air Pollutant Emission Factors, AP-42. Fifth Edition, Volume I: *Stationary Point and Area Sources*, Section 1.3, Table 1.3-1.

RESPIRABLE PARTICULATE MATTER—PM_{10} AND $PM_{2.5}$

PM is a broad class of air pollutants that includes discrete particles of a wide range of sizes and chemical compositions, as either liquid droplets (aerosols) or solids suspended in the atmosphere. The constituents of PM are both numerous and varied, and they are emitted from a wide variety of sources (both natural and anthropogenic). Natural sources include the condensed and reacted forms of naturally occurring VOC; salt particles resulting from the evaporation of sea spray; wind-borne pollen, fungi, molds, algae, yeasts, rusts, bacteria, and material from live and decaying plant and animal life; particles eroded from beaches, soil, and rock; and particles emitted from volcanic and geothermal eruptions and from forest fires. Naturally occurring PM is generally greater than 2.5 micrometers in diameter. Major anthropogenic sources include the combustion of fossil fuels (e.g., vehicular exhaust, power generation, boilers, engines, and home heating), chemical and manufacturing processes, all types of construction, agricultural activities, as well as wood-burning stoves and fireplaces. PM also acts as a substrate for the adsorption (accumulation of gases, liquids, or solutes on the surface of a solid or liquid) of other pollutants, often toxic, and some likely carcinogenic compounds.

As described below, PM is regulated in two size categories: particles with an aerodynamic diameter of less than or equal to 2.5 micrometers ($PM_{2.5}$) and particles with an aerodynamic diameter of less than or equal to 10 micrometers (PM_{10}, which includes $PM_{2.5}$). $PM_{2.5}$ has the ability to reach the lower regions of the respiratory tract, delivering with it other compounds that adsorb to the surfaces of the particles, and is also extremely persistent in the atmosphere. $PM_{2.5}$ is mainly derived from combustion material that has volatilized and then condensed to form primary PM (often soon after the release from a source) or from precursor gases reacting in the atmosphere to form secondary PM.

All gasoline-powered and diesel-powered vehicles, especially heavy duty trucks and buses operating on diesel fuel, are a significant source of respirable PM, most of which is $PM_{2.5}$; PM concentrations may, consequently, be locally elevated near roadways with high volumes of gasoline and diesel powered vehicles. The proposed actions would not result in any significant increases in truck traffic near the development site or in the region, nor other potentially significant increase in $PM_{2.5}$ vehicle emissions as defined in Chapter 17, Sections 210 and 311 of the *CEQR Technical Manual*. Therefore, an analysis of potential impacts from PM was not warranted.

The proposed actions' heating systems would result in emissions of PM; therefore, potential 24-hour and annual incremental impacts of $PM_{2.5}$ from the fossil fuel-fired HVAC systems were evaluated using a microscale analysis. PM emissions from the proposed parking lot were also evaluated.

SULFUR DIOXIDE

SO_2 emissions are primarily associated with the combustion of sulfur-containing fuels (oil and coal). SO_2 is also of concern as a precursor to $PM_{2.5}$ and is regulated as a $PM_{2.5}$ precursor under the New Source Review permitting program for large sources. Due to the federal restrictions on the sulfur content in diesel fuel for on-road and non-road vehicles, no significant quantities are emitted from vehicular sources. Vehicular sources of SO_2 are not significant and therefore, analysis of SO_2 from mobile sources was not warranted.

As part of the proposed project, oil would be combusted in the proposed residential development's heating systems. A worst-case analysis of future levels of SO_2 with the proposed project was performed, assuming the use of No. 2 oil.

C. AIR QUALITY REGULATIONS, STANDARDS, AND BENCHMARKS

NATIONAL AND STATE AIR QUALITY STANDARDS

As required by the CAA, primary and secondary National Ambient Air Quality Standards (NAAQS) have been established for six major air pollutants: CO, NO_2, ozone, respirable PM (both $PM_{2.5}$ and PM_{10}), SO_2, and lead. The primary standards represent levels that are requisite to protect the public health, allowing an adequate margin of safety. The secondary standards are intended to protect the nation's welfare, and account for air pollutant effects on soil, water, visibility, materials, vegetation, and other aspects of the environment. The primary standards are generally either the same as the secondary standards or more restrictive. The NAAQS are presented in **Table E-1**. The NAAQS for CO, annual NO_2, and 3-hour SO_2 have also been adopted as the ambient air quality standards for New York State, but are defined on a running 12-month basis rather than for calendar years only. New York State also has standards for total suspended particles, settleable particles, non-methane hydrocarbons, 24-hour and annual SO_2, and ozone which correspond to federal standards that have since been revoked or replaced, and for the noncriteria pollutants beryllium, fluoride, and hydrogen sulfide.

EPA has revised the NAAQS for PM, effective December 18, 2006. The revision included lowering the level of the 24-hour $PM_{2.5}$ standard from 65 $\mu g/m^3$ to 35 $\mu g/m^3$ and retaining the level of the annual standard at 15 $\mu g/m^3$. The PM_{10} 24-hour average standard was retained and the annual average PM_{10} standard was revoked. EPA later lowered the primary annual $PM_{2.5}$ average standard from 15 $\mu g/m^3$ to 12 $\mu g/m^3$, effective March 2013.

EPA has also revised the 8-hour ozone standard, lowering it from 0.08 to 0.075 parts per million (ppm), effective as of May 2008, and the previous 1997 ozone standard was fully revoked effective April 1, 2015. Effective December 2015, EPA further reduced the 2008 ozone NAAQS, lowering the primary and secondary NAAQS from the current 0.075 ppm to 0.070. EPA expects to issue final area designations by October 1, 2017; those designations likely would be based on 2014-2016 air quality data.

EPA lowered the primary and secondary standards for lead to 0.15 $\mu g/m^3$, effective January 12, 2009. EPA revised the averaging time to a rolling 3-month average and the form of the standard to not-to-exceed across a 3-year span.

EPA established a 1-hour average NO_2 standard of 0.100 ppm, effective April 12, 2010, in addition to the annual standard. The statistical form is the 3-year average of the 98th percentile of daily maximum 1-hour average concentration in a year.

EPA also established a 1-hour average SO_2 standard of 0.075 ppm, replacing the 24-hour and annual primary standards, effective August 23, 2010. The statistical form is the 3-year average of the 99th percentile of the annual distribution of daily maximum 1-hour concentrations (the 4th highest daily maximum corresponds approximately to 99th percentile for a year.)

Table E-1
National Ambient Air Quality Standards (NAAQS)

Pollutant	Primary		Secondary	
	ppm	μg/m^3	ppm	μg/m^3
Carbon Monoxide (CO)				
8-Hour Average	9 (1)	10,000	None	
1-Hour Average	35 (1)	40,000		
Lead				
Rolling 3-Month Average (2)	NA	0.15	NA	0.15
Nitrogen Dioxide (NO_2)				
1-Hour Average (3)	0.100	188	None	
Annual Average	0.053	100	0.053	100
Ozone (O_3)				
8-Hour Average (4,5)	0.070	140	0.070	140
Respirable Particulate Matter (PM_{10})				
24-Hour Average (1)	NA	150	NA	150
Fine Respirable Particulate Matter ($PM_{2.5}$)				
Annual Mean (6)	NA	12	NA	15
24-Hour Average (7)	NA	35	NA	35
Sulfur Dioxide (SO_2) (8)				
1-Hour Average(9)	0.075	196	NA	NA
Maximum 3-Hour Average (1)	NA	NA	0.50	1,300

Notes:

ppm – parts per million (unit of measure for gases only)

μg/m^3 – micrograms per cubic meter (unit of measure for gases and particles, including lead)

NA – not applicable

All annual periods refer to calendar year.

Standards are defined in ppm. Approximately equivalent concentrations in μg/m^3 are presented.

1. Not to be exceeded more than once a year.
2. EPA has lowered the NAAQS down from 1.5 μg/m^3, effective January 12, 2009.
3. 3-year average of the annual 98th percentile daily maximum 1-hr average concentration. Effective April 12, 2010.
4. 3-year average of the annual fourth highest daily maximum 8-hr average concentration.
5. EPA has lowered the NAAQS down from 0.075 ppm, effective December 2015.
6. 3-year average of annual mean. EPA has lowered the primary standard from 15 μg/m^3, effective March 2013.
7. Not to be exceeded by the annual 98th percentile when averaged over 3 years.
8. EPA revoked the 24-hour and annual primary standards, replacing them with a 1-hour average standard. Effective August 23, 2010.
9. 3-year average of the annual 99th percentile daily maximum 1-hr average concentration.

Source: 40 CFR Part 50: National Primary and Secondary Ambient Air Quality Standards.

NAAQS ATTAINMENT STATUS AND STATE IMPLEMENTATION PLANS

The CAA, as amended in 1990, defines non-attainment areas (NAA) as geographic regions that have been designated as not meeting one or more of the NAAQS. When an area is designated as non-attainment by EPA, the state is required to develop and implement a State Implementation Plan (SIP), which delineates how a state plans to achieve air quality that meets the NAAQS under the deadlines established by the CAA, followed by a plan for maintaining attainment status once the area is in attainment.

In 2002, EPA re-designated New York City as in attainment for CO. Under the resulting maintenance plans, New York City is committed to implementing site-specific control measures throughout the city to reduce CO levels, should unanticipated localized growth result in elevated CO levels during the maintenance period. The second CO maintenance plan for the region was approved by EPA on May 30th, 2014.

Manhattan, which had been designated as a moderate NAA for PM_{10}, was reclassified by EPA as in attainment on July 29, 2015.

The five New York City counties and Nassau, Suffolk, Rockland, Westchester, and Orange Counties had been designated as a $PM_{2.5}$ NAA (New York Portion of the New York–Northern New Jersey–Long Island, NY–NJ–CT NAA) since 2004 under the CAA due to exceedance of the 1997 annual average standard, and was also nonattainment with the 2006 24-hour $PM_{2.5}$ NAAQS since November 2009. The area was redesignated as in attainment for that standard on April 18, 2014, and is now under a maintenance plan. As stated above, EPA lowered the annual average primary standard to 12 $\mu g/m^3$ effective March 2013. EPA designated the area as in attainment for the new 12 $\mu g/m^3$ NAAQS effective April 15, 2015.

Effective June 15, 2004, EPA designated Nassau, Rockland, Suffolk, Westchester, and the five New York City counties (NY portion of the New York–Northern New Jersey–Long Island, NY-NJ-CT, NAA) as moderate non-attainment for the 1997 8-hour average ozone standard. In March 2008 EPA strengthened the 8–hour ozone standards. EPA designated the New York–Northern New Jersey–Long Island, NY-NJ-CT NAA as a marginal NAA for the 2008 ozone NAAQS, effective July 20, 2012. On April 11, 2016, as requested by New York State EPA reclassified the area as a moderate NAA. New York State has begun submitting SIP documents in December 2014. The state is expected to be able to meet its SIP obligations for both the 1997 and 2008 standards by satisfying the requirements for a moderate area attainment plan for the 2008 ozone NAAQS.

New York City is currently in attainment of the annual-average NO_2 standard. EPA has designated the entire state of New York as "unclassifiable/attainment" of the 1-hour NO_2 standard effective February 29, 2012. Since additional monitoring is required for the 1-hour standard, areas will be reclassified once three years of monitoring data are available (likely 2017).

EPA has established a 1-hour SO_2 standard, replacing the former 24-hour and annual standards, effective August 23, 2010. Based on the available monitoring data, all New York State counties currently meet the 1-hour standard. Additional monitoring will be required. Draft attainment designations were published by EPA in February 2013, indicating that EPA is deferring action to designate areas in New York State and expects to proceed with designations once additional data are gathered.

DETERMINING THE SIGNIFICANCE OF AIR QUALITY IMPACTS

The State Environmental Quality Review Act (SEQRA) regulations and the 2014 *CEQR Technical Manual* state that the significance of a predicted consequence of a project (i.e., whether it is material, substantial, large or important) should be assessed in connection with its setting (e.g., urban or rural), its probability of occurrence, its duration, its irreversibility, its geographic scope, its magnitude, and the number of people affected.[2] In terms of the magnitude of air quality impacts, any action predicted to increase the concentration of a criteria air pollutant to a level that would exceed the concentrations defined by the NAAQS (see **Table E-1**) would be deemed to have a potential significant adverse impact. In addition, in order to maintain concentrations lower than the NAAQS in attainment areas, or to ensure that concentrations will not be significantly increased in non-attainment areas, threshold levels have been defined for certain pollutants; any action predicted to increase the concentrations of these pollutants above the thresholds would be deemed to have a potential significant adverse impact, even in cases where violations of the NAAQS are not predicted.

CO DE MINIMIS CRITERIA

New York City has developed *de minimis* criteria to assess the significance of the increase in CO concentrations that would result from the impact of proposed projects or actions on mobile sources, as set forth in the *CEQR Technical Manual*. These criteria set the minimum change in CO concentration that defines a significant environmental impact. Significant increases of CO concentrations in New York City are defined as: (1) an increase of 0.5 ppm or more in the maximum 8-hour average CO concentration at a location where the predicted No Action 8-hour concentration is equal to or between 8 and 9 ppm; or (2) an increase of more than half the difference between baseline (i.e., No Action) concentrations and the 8-hour standard, when No Action concentrations are below 8.0 ppm.

$PM_{2.5}$ DE MINIMIS CRITERIA

For projects subject to CEQR, the *de minimis* criteria currently employed for determination of potential significant adverse $PM_{2.5}$ impacts are as follows:

- Predicted increase of more than half the difference between the background concentration and the 24-hour standard;
- Annual average $PM_{2.5}$ concentration increments which are predicted to be greater than 0.1 $\mu g/m^3$ at ground level on a neighborhood scale (i.e., the annual increase in concentration representing the average over an area of approximately 1 square kilometer, centered on the location where the maximum ground-level impact is predicted for stationary sources; or at a distance from a roadway corridor similar to the minimum distance defined for locating neighborhood scale monitoring stations); or
- Annual average $PM_{2.5}$ concentration increments which are predicted to be greater than 0.3 $\mu g/m^3$ at a discrete or ground level receptor location.

Actions under CEQR predicted to increase $PM_{2.5}$ concentrations by more than the above *de minimis* criteria will be considered to have a potential significant adverse impact.

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[2] New York City. *CEQR Technical Manual*. Chapter 1, section 222. March 2014; and New York State Environmental Quality Review Regulations, 6 NYCRR § 617.7

The above *de minimis* criteria have been used to evaluate the significance of predicted impacts of the proposed project on $PM_{2.5}$ concentrations.

D. METHODOLOGY

PARKING FACILITIES

The proposed actions would increase the overall number of surface parking spaces provided on the project site by 239 spaces to the proposed 1,653 spaces. Emissions from vehicles using the surface parking lot could potentially affect ambient levels of pollutants in the immediate vicinity. Therefore, an analysis was performed using the methodology delineated in the *CEQR Technical Manual* to calculate levels for the pollutants of concern (CO and PM).

Potential impacts from the parking lot on CO and PM concentrations were assessed at multiple receptor locations. The concentrations were determined for the time periods defined by the CO and PM NAAQS—annual and 24-hours for PM and peak 1 and 8 hours for CO when overall lot usage would be the greatest, considering the hours when the greatest number of vehicles would enter and exit the project site. Emissions from vehicles entering, parking, and exiting the parking lot were estimated using the EPA MOVES mobile source emission model. All arriving and departing vehicles were conservatively assumed to travel at an average speed of 5 miles per hour within the parking lot. In addition, all departing vehicles were assumed to idle for 1 minute before exiting.

A "near" and "far" receptor (i.e. precise location at which concentrations are evaluated) was placed on the sidewalk adjacent to the parking lot and on the sidewalk directly opposite the parking lot along Ebbitts Street. To determine compliance with the NAAQS, CO concentrations were determined for the maximum 1- and 8-hour average periods, and PM concentrations were determined for the maximum 24-hour and annual average period. A persistence factor of 0.70 was used to convert the calculated 1-hour average maximum concentrations to 8-hour averages, accounting for meteorological variability over the average 8-hour period. A factor of 0.6 was used to obtain 24-hour average concentrations and a factor of 0.1 was used to obtain annual average concentrations from the peak one hour concentrations, following USEPA guidance.[3]

Background CO and PM_{10} concentrations from the nearest NYSDEC monitoring station with available data were added to the modeling results to obtain the total ambient levels. The on-street pollutant concentrations were determined using the methodology in the Air Quality Appendix of the *CEQR Technical Manual*, utilizing traffic volumes derived from the traffic study conducted in the area.

HEATING SYSTEMS

A stationary source analysis was conducted to evaluate potential impacts from the proposed project's HVAC systems. Due to the size and proximity of the project's buildings, a refined dispersion modeling analysis was prepared, as described in this section.

Since specific design information is not yet available, it was conservatively assumed that conventional boilers would be used to provide building space heating and domestic hot water. It was assumed that

[3] EPA. AERSCREEN User's Guide. July 2015.

the proposed Buildings F and G would have individual boiler installations. The analysis was performed conservatively assuming that the combustion equipment would utilize No. 2 fuel oil.

MODEL PARAMETERS

The boiler stacks for Building F and Building G were assumed to exhaust at heights of 39 feet and 74 feet (3 feet above the roof), respectively. Boiler fuel usage was estimated based on the building's size (in square feet) and type of development, using the methodology referenced in the *CEQR Technical Manual*. Emission rates were calculated based on emission factors obtained from the EPA *Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, Volume I: Stationary Point and Area Sources*. PM_{10} and $PM_{2.5}$ emissions include both the filterable and condensable fractions. The short-term emission rates were calculated by scaling the annual emissions to account for a 100-day heating season.

The exhaust velocity was calculated based on the exhaust flowrate for the boiler capacity, estimated using the energy use of the proposed project and EPA's fuel factors.[4] Assumptions for stack diameter and exhaust temperature for the proposed systems were obtained from a survey of boiler exhaust data performed and provided by New York City Department of Environmental Protection (NYCDEP) and were used to calculate the exhaust velocity.

Table E-2 presents the stack parameters and emission rates used in the analysis.

DISPERSION MODELING

Potential impacts from the proposed project's heating system emissions were evaluated using the EPA/AMS AERMOD dispersion model.[5] AERMOD is EPA's preferred regulatory model for stationary source analyses.

AERMOD calculates pollutant concentrations from one or more sources (e.g., exhaust stacks) based on hourly meteorological data, 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 analyses of potential impacts from exhaust stack were made assuming stack tip downwash, urban dispersion and surface roughness length, with and without building downwash, and elimination of calms.

The AERMOD model incorporates the Plume Rise Model Enhancements (PRIME) algorithm, which is designed to predict impacts in the "cavity region" (i.e., the area around a structure that under certain conditions may affect an exhaust plume, causing a portion of the plume to become entrained in a recirculation region). The Building Profile Input Program (BPIP) for the PRIME model (BPIPRM) was used to determine the projected building dimensions modeling with the building downwash algorithm enabled. The modeling of downwash from sources accounts for all obstructions within a radius equal to five obstruction heights of the stack.

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[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] EPA. *AERMOD: Description Of Model Formulation*. 454/R-03-004. September 2004; and

EPA. *User's Guide For The AMS/EPA Regulatory Model – AERMOD.* 454/B-03-001, September 2004 and Addendum June 2015.

Table E-2
Exhaust Stack Parameters and Emission Rates

Stack Parameters	Building F	Building G
Building Size (gsf)	238,695	136,627
Stack Height (feet)	39	74
Stack Diameter (feet)(2)	1.0	1.0
Stack Exhaust Flow (ACFM)(1)(3)	800.4	458.1
Exhaust Velocity (feet/second)(3)	17.0	9.7
Exhaust Temperature (degrees Fahrenheit)(2)	300	300
Emission Rate (grams/second)		
NO_x (1-hour average)	0.053	0.030
NO_x (Annual average)	0.014	0.008
PM_{10} (24-hour average)	0.006	0.004
$PM_{2.5}$ (24-hour average)	0.006	0.003
$PM_{2.5}$ (Annual average)	0.002	0.001
SO_2 (1-hour average)	0.0006	0.0003
SO_2 (3-hour average)	0.0006	0.0003

Note:
(1) ACFM = actual cubic feet per minute.
(2) Stack parameters assumed based on survey of boiler exhaust data performed and provided by NYCDEP.
(3) The stack exhaust flow rate and velocity are estimated based on the type of fuel and the estimated boiler capacity.

The analysis was performed both with and without downwash in order to assess the worst-case impacts at elevated receptors (specific locations at which concentrations are projected) 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 recommendations in the *CEQR Technical Manual*.

AERMOD is capable of producing detailed output data that can be analyzed at the hourly level required for the form of the 1-hour standards. EPA has also developed guidance to estimate the transformation ratio of NO_2 to NO_x, applicable to combustion sources, as discussed further below.

1-hour average NO_2 concentration from the proposed project building's heating systems were estimated following guidance for assessing compliance with NAAQS.[6] 1-Hour average NO_2 concentration increments from the HVAC systems were estimated using AERMOD's Plume Volume Molar Ratio Method (PVMRM) module to analyze chemical transformation within the model. The PVMRM module incorporates hourly background ozone concentrations to estimate NO_x transformation within the source plume. The model applied ozone concentrations measured in 2010–2014 at the nearest available NYSDEC ozone monitoring station—the Queens College

[6] EPA. Memorandum: Additional Clarification Regarding Application of Appendix W, Modeling Guidance for the 1-Hour NO_2 National Ambient Air Quality Standard. March 1, 2011.

monitoring station in Queens. An initial NO_2 to NO_x ratio of 10 percent at the source exhaust stack was assumed, which is considered representative for boilers.[7]

To determine compliance with the 1-hour NO_2 NAAQS,[8] the monitored background was added to modeled concentrations, following EPA modeling guidance: hourly modeled concentrations from proposed sources were first added to the seasonal hourly background monitored concentrations within the AERMOD model; then the highest combined daily 1-hour NO_2 concentration was determined at each receptor 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.

Annual NO_2 concentrations from emission sources were estimated using a NO_2 to NO_x ratio of 0.75, as described in EPA's *Guideline on Air Quality Models* at 40 CFR part 51 Appendix W, Section 5.2.4.[9]

Five years of surface meteorological data collected at JFK Airport (2010–2014) and concurrent upper air data collected at Brookhaven, New York was used in the analysis.

RECEPTOR PLACEMENT

Receptors were placed at windows in residential or other sensitive buildings, air intakes, and publically accessible locations, as applicable.

BACKGROUND CONCENTRATIONS

To estimate the maximum expected pollutant concentration at a given receptor, the predicted impact must be added to a background value that accounts for existing pollutant concentrations from other sources that are not directly accounted for in the mode (see **Table E-3**).

The background levels are based on concentrations monitored at the nearest NYSDEC ambient air monitoring stations over a recent five-year period for which data are available (2010-2014), with the exception of PM_{10}, which is based on three years of data (2012-2014), consistent with *CEQR Technical Manual*. For the 24-hour PM_{10} concentration, the highest of the annual second-highest measured values over the 3-year period were used. The annual average background values are the highest measured average concentrations for these pollutants. The measured background concentration was added to the predicted contribution from the modeled source to determine the maximum predicted total pollutant concentration. It was conservatively assumed that the maximum background concentrations occur on all days.

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[7] This is a conservatively high assumption. AP-42 Section 1.3 for NO_x emission factors for fuel oil fired boilers states that 95 percent of NO_x by weight is NO. See— *AP-42 Volume 1, Section 1.3.3.3 Nitrogen Oxide Emissions.*

[8] EPA. Memorandum: Clarification on the use of AERMOD Dispersion Modeling for Demonstrating Compliance with the NO_2 National Ambient Air Quality Standard. September 30, 2014.

[9] EPA. 40 CFR Part 51. Revision to the Guideline on Air Quality Models: Adoption of a Preferred General Purpose (Flat and Complex Terrain) Dispersion Model and Other Revisions. November 9, 2005.

Table E-3
Maximum Background Pollutant Concentrations (μg/m^3)

Pollutant	Average Period	Location	Concentration	NAAQS
CO	8-Hour	Queens College, Queens	1.7 ppm	9 ppm
	1-Hour	Queens College, Queens	3.4 ppm	35 ppm
NO_2	Annual	Queens College, Queens	40.7	100
	1-Hour(1)	Queens College, Queens	109	188
SO_2	3-Hour	Queens College, Queens	77.7	1,300
	1-Hour(2)	Queens College, Queens	37.4	196
PM_{10}	24-hour	Queens College, Queens	32.0	150
$PM_{2.5}$	24-hour	Port Richmond, Richmond	19.4	35

Notes:
1. The 1-Hour NO_2 background concentration is the annual 98th percentile of daily maximum 1-hour average concentration, averaged over the recent 3-years (2012-2014).
2. The 1-Hour SO_2 background concentration is the annual 99th percentile of daily maximum 1-hour average concentration, averaged over the recent 3-years (2012-2014).
Sources: New York State Air Quality Report Ambient Air Monitoring System, NY State Department of Environmental Conservation (NYSDEC), 2010–2014.

$PM_{2.5}$ annual average impacts are assessed on an incremental basis and compared with 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.

A 24-hour average background $PM_{2.5}$ concentration of 19.4 μg/m^3 (based on the 2012 to 2014 average of 98th percentile concentrations measured at the Port Richmond monitoring station) was used to establish the *de minimis* value for the 24-hour increment, consistent with the guidance provided in the *CEQR Technical Manual.*

E. PROBABLE IMPACTS OF THE PROPOSED PROJECT

PARKING FACILITIES

Based on the methodology previously described, the maximum predicted CO and PM concentrations from the proposed parking facility were analyzed at the following locations: a near side sidewalk receptor on the same side of the street as the parking facility and a far side sidewalk receptor on the opposite side of the street from the parking facility. The total CO and PM_{10} concentrations include both background levels and contributions from traffic on adjacent roadways for the far side receptor only. $PM_{2.5}$ concentrations include contributions from project-generated trips on adjacent roadways for the far side receptor.

The maximum predicted 8-hour average CO concentration of all the receptors modeled was 1.97 ppm on the far side sidewalk receptor. This value includes a predicted concentration of 0.13 ppm from the parking lot, 0.14 ppm from on-street traffic, and a background level of 1.7 ppm. The maximum predicted total concentration is substantially below the applicable standard of 9 ppm.

The maximum predicted 24-hour average PM_{10} concentration is 62.6 μg/m^3, on the far side sidewalk receptor. This value consists of a predicted concentration of 11.2 μg/m^3 from the parking lot, 19.4 μg/m^3 from on-street traffic, and a background concentration of 32 μg/m^3. The maximum predicted concentration is substantially below the applicable standard of 150 μg/m^3.

The maximum predicted 24-hour $PM_{2.5}$ increment is 3.6 µg/m^3, and the maximum annual average $PM_{2.5}$ increment is 0.06 µg/m^3, on the near side sidewalk receptor. The maximum predicted $PM_{2.5}$ increments are well below the respective $PM_{2.5}$ *de minimis* criteria of 7.8 µg/m^3 on a 24-hour average, 0.3 µg/m^3 on an annual average at the local scale, and 0.1 µg/m^3 on an annual average at the neighborhood scale.

Based on the results of the analysis, the proposed parking expansion would not result in any significant adverse air quality impacts.

HEATING SYSTEMS

Table E-4 shows maximum overall predicted concentrations for NO_2, SO_2, and PM_{10} from the proposed project's heating systems. As shown in the table, the predicted pollutant concentrations, when added to ambient background levels for each of the pollutant time averaging periods are below their respective standards.

Table E-4
Future Maximum Modeled Pollutant Concentrations from the Proposed Project (µg/m^3)

Pollutant	Averaging Period	Concentration Due to Stack Emission	Maximum Background Concentration	Total Concentration	Standard
NO_2	Annual(1)	0.4	40.7	41.1	100
	1-hour(2)	-	-	142.4	188
SO_2	3-hour	0.7	77.7	78.4	1300
	1-hour	0.7	37.4	38.1	196
PM_{10}	24-hour	2.8	32	34.8	150

Notes:
(1) Annual NO_2 impacts were estimated using a NO_2 /NO_x ratio of 0.75.
(2) Reported concentration is the maximum total 98th percentile concentration at any receptor using seasonal-hourly background concentrations.

The air quality modeling analysis also determined the highest predicted increase in $PM_{2.5}$ concentrations. The maximum predicted 24-hour and annual average $PM_{2.5}$ increments are presented in **Table E-5**. The maximum 24-hour incremental impacts at any discrete receptor location would be less than the applicable *de minimis* criteria. On an annual basis, the maximum projected $PM_{2.5}$ increments would be less than the applicable *de minimis* criterion of 0.3 µg/m^3 for local impacts and 0.1 µg/m^3 at the neighborhood scale.

Table E-5
Future Maximum Predicted $PM_{2.5}$ Concentrations from the Proposed Project (in µg/m^3)

Pollutant	Averaging Period	Maximum Concentration	*De Minimis*
$PM_{2.5}$	24-hour	2.6	7.8(1)
	Annual (discrete)	0.08	0.3

Note:
(1) $PM_{2.5}$ *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/m^3.

Overall, there would not be any significant adverse air quality impacts due to the proposed project's heating systems. ✷

A. INTRODUCTION

The proposed enlargement of Hylan Plaza Shopping Center at 2600 Hylan Blvd in Staten Island, NY (the proposed project) would not generate sufficient traffic to have the potential to cause a significant noise impact (i.e., it would not result in a doubling of noise passenger car equivalents [Noise PCEs], which would be necessary to cause a 3 dBA increase in noise levels). However, the effect of ambient noise (e.g., noise from vehicular traffic) is addressed in this attachment, and an analysis is presented that determines the level of building attenuation necessary to ensure that the proposed building's interior noise levels satisfy applicable City Environmental Quality Review (CEQR) interior noise criteria.

PRINCIPAL CONCLUSIONS

The proposed project would not generate sufficient traffic to have the potential to cause a significant adverse noise impact. It is assumed that the building's mechanical systems would be designed to meet all applicable noise regulations and to avoid producing levels that would result in any significant increase in ambient noise levels. Therefore, the proposed project would not result in any significant adverse noise impacts related to building mechanical equipment.

Due to existing high levels of ambient noise in the area, building attenuation would be required to ensure that interior noise levels meet CEQR criteria. The proposed design for the building includes acoustically-rated windows and central air conditioning as an alternate means of ventilation. The proposed buildings would provide sufficient attenuation to achieve the CEQR interior $L_{10(1)}$ noise level guideline of 50 dBA or lower for retail uses.

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 (a whistle compared with a French horn, for example) 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., the lower notes on the French horn).

"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 F-1**, the threshold of human hearing is defined as 0 dBA; quiet conditions (as in a library, for example) 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.

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.

Table F-1
Common Noise Levels

Sound Source	(dBA)
Military jet, air raid siren	130
Amplified rock music	110
Jet takeoff at 500 meters	100
Freight train at 30 meters	95
Train horn at 30 meters	90
Heavy truck at 15 meters	80–90
Busy city street, loud shout	80
Busy traffic intersection	70–80
Highway traffic at 15 meters, train	70
Predominantly industrial area	60
Light car traffic at 15 meters, city or commercial areas, or residential areas close to industry	50–60
Background noise in an office	50
Suburban areas with medium-density transportation	40–50
Public library	40
Soft whisper at 5 meters	30
Threshold of hearing	0

Note: A 10 dBA increase in level appears to double the loudness, and a 10 dBA decrease halves the apparent loudness.
Sources: Cowan, James P. *Handbook of Environmental Acoustics,* Van Nostrand Reinhold, New York, 1994. Egan, M. David, Architectural Acoustics. McGraw-Hill Book Company, 1988.

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., one 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. 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 approximately 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}.

For purposes of the proposed project, the L_{10} descriptor has been selected as the noise descriptor to be used in this noise impact evaluation. The one-hour L_{10} is the noise descriptor used in the *CEQR Technical Manual* noise exposure guidelines for City environmental impact review classification.

C. NOISE STANDARDS AND CRITERIA

NEW YORK CEQR NOISE CRITERIA

The *CEQR Technical Manual* defines attenuation requirements for buildings based on exterior noise level (see **Table F-2**). Recommended noise attenuation values for buildings are designed to maintain interior noise levels of 50 dBA or lower for retail uses and are determined based on exterior $L_{10(1)}$ noise levels.

Table F-2
Required Attenuation Values to Achieve Acceptable Interior Noise Levels

	Marginally Unacceptable				Clearly Unacceptable
Noise Level With Proposed Action	$70 < L_{10} \leq 73$	$73 < L_{10} \leq 76$	$76 < L_{10} \leq 78$	$78 < L_{10} \leq 80$	$80 < L_{10}$
Attenuation[A]	(I) 28 dB(A)	(II) 31 dB(A)	(III) 33 dB(A)	(IV) 35 dB(A)	$36 + (L_{10} – 80)$[B] dB(A)

Notes:
[A] The above composite window-wall attenuation requirements are for residential dwellings and community facility development. Commercial uses would require 5 dB(A) less in each category. All the above categories require a closed window situation and hence an alternate means of ventilation.
[B] Required attenuation values increase by 1 dB(A) increments for L_{10} values greater than 80 dBA.
Source: New York City Department of Environmental Protection.

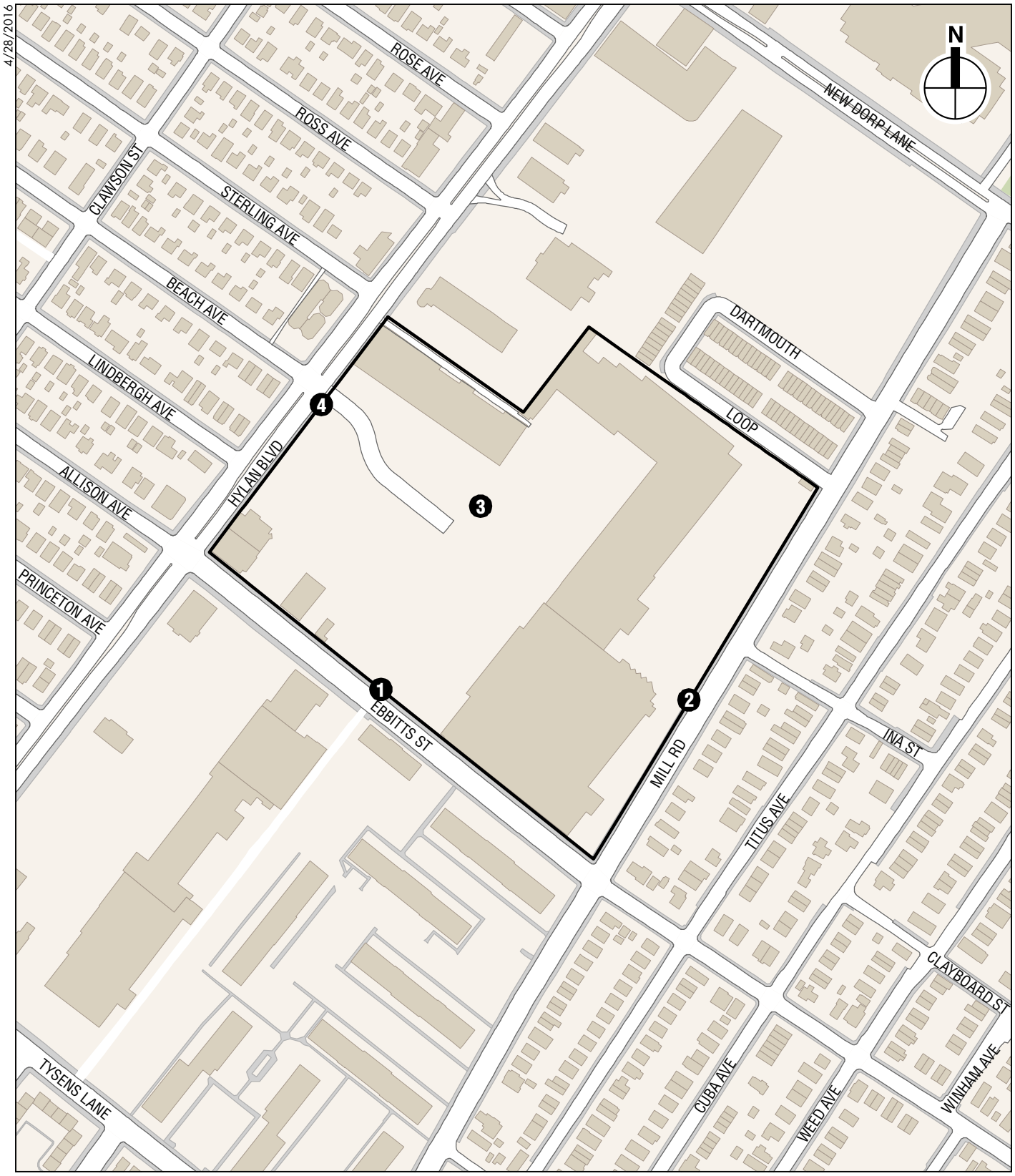
D. EXISTING NOISE LEVELS

Existing noise levels at the project site were measured at four locations. As illustrated in **Figure F-1**, receptor site 1 was located on Ebbitts Street between Hylan Boulevard and Mill Road; receptor site 2 was located on Mill Road between Ebbitts Street and Ina Street; receptor site 3 was located inside the Hylan Plaza parking lot; and receptor site 4 was located on Hylan Boulevard adjacent to Hylan Plaza Entrance.

At all receptor sites, the existing noise levels were measured for a 20-minute period during the two weekday peak periods—midday (MD) (12:00 PM to 2:00 PM) and PM (4:30 PM to 6:30 PM) and during the weekend peak period—Saturday midday (SAT MD) (12:00 PM to 2:00 PM). Measurements were taken June 13, 17 and 20, 2015.

EQUIPMENT USED DURING NOISE MONITORING

Measurements were performed using a Brüel & Kjær Sound Level Meter (SLM) Type 2260, a Brüel & Kjær ½-inch microphone Type 4189, and a Brüel & Kjær Sound Level Calibrator Type



Project Site

1 Noise Receptor

0 400 FEET

The Boulevard at Hylan Plaza

Noise Receptor Locations
Figure F-1

4231. The SLM has a valid laboratory calibration within 1 year, as is standard practice. The Brüel & Kjær SLM is a Type 1 instrument according to ANSI Standard S1.4-1983 (R2006). The microphone was mounted at a height of approximately five feet above the ground surface on a tripod and at least approximately 5 feet away from any large reflecting surfaces. The SLM was calibrated before and after readings with a Brüel & Kjær Type 4231 Sound Level Calibrator using the appropriate adaptor. Measurements were made on the dBA. The data were digitally recorded by the sound level meter and displayed at the end of the measurement period in units of dBA. Measured quantities included L_{eq}, L_1, L_{10}, L_{50}, L_{90}, and 1/3 octave band levels. A windscreen was used during all sound measurements except for calibration. All measurement procedures were based on the guidelines outlined in ANSI Standard S1.13-2005.

The results of the existing noise level measurements are summarized in **Table F-3**.

Table F-3
Existing Noise Levels in dBA

Site	Location	Time Period	L_{eq}	L_1	L_{10}	L_{50}	L_{90}
1	Ebbitts Street between Hylan Boulevard and Mill Road	WD MD	63.5	71.5	66.4	61.9	67.5
		WD PM	62.3	69.4	65.9	60.4	55.7
		SAT MD	64.0	70.4	67.8	61.8	55.0
2	Mill Road between Ebbitts Street and Ina Street	WD MD	65.4	74.4	70.3	58.6	50.1
		WD PM	66.8	74.5	71.0	62.8	52.2
		SAT MD	64.4	72.4	68.3	60.6	52.0
3	Hylan Plaza Parking Lot	WD MD	63.1	73.3	65.0	60.4	56.3
		WD PM	62.4	69.4	64.9	60.0	55.7
		SAT MD	62.9	71.1	65.2	60.6	57.2
4	Hylan Boulevard adjacent to Hylan Plaza Entrance	WD MD	71.8	82.5	74.6	68.5	61.4
		WD PM	71.8	81.8	74.7	67.2	60.7
		SAT MD	70.1	78.4	73.4	67.2	62.3
Noise measurements were performed by AKRF, Inc. on June 13, 17 and 20, 2015.							

At each of the receptor sites, general vehicular traffic on adjacent roadways was the dominant noise source. Measured levels at the sites 1 and 3 are relatively low to moderate and measured levels at sites 2 and 4 are moderate to relatively high, reflecting the level of vehicular activity on the adjacent roadways. In terms of the CEQR criteria, the existing noise levels at sites 1 and 3 are in the "marginally acceptable" category and the existing noise levels at sites 2 and 4 are in the "marginally unacceptable" category.

E. NOISE PREDICTION METHODOLOGY

Future noise levels were calculated using a proportional modeling technique, which was used as a screening tool to estimate changes in noise levels. The proportional modeling technique is an analysis methodology recommended for analysis purposes in the *CEQR Technical Manual*. The noise analysis examined the weekday MD, PM and the Saturday MD peak hours at all receptor sites. The selected time periods are when development facilitated by the Proposed Project would be expected to produce maximum traffic generation (based on the traffic studies presented in Attachment D, "Transportation") and therefore result in the maximum noise level increases. The methodology used for the noise analysis is described below.

PROPORTIONAL MODELING

Proportional modeling was used to determine future noise levels at the project site. Proportional modeling is one of the techniques recommended in the *CEQR Technical Manual* for mobile source analysis.

Using this technique, the prediction of future noise levels, where traffic is the dominant noise source, is based on a calculation using measured existing noise levels and predicted changes in traffic volumes to determine No Action and With Action levels. Vehicular traffic volumes are converted into Noise Passenger Car Equivalent (Noise PCE) values, for which one medium-duty truck (having a gross weight between 9,900 and 26,400 pounds) is assumed to generate the noise equivalent of 13 cars, and one heavy-duty truck (having a gross weight of more than 26,400 pounds) is assumed to generate the noise equivalent of 47 cars, and one bus (vehicles designed to carry more than nine passengers) is assumed to generate the noise equivalent of 18 cars. Future noise levels are calculated using the following equation:

$$F\ NL - E\ NL = 10 * \log_{10} (F\ PCE / E\ PCE)$$

where:

F NL = Future Noise Level

E NL = Existing Noise Level

F PCE = Future Noise PCEs

E PCE = Existing Noise PCEs

Sound levels are measured in decibels and therefore increase logarithmically with sound source strength. In this case, the sound source is traffic volumes measured in Noise PCEs. For example, assume that traffic is the dominant noise source at a particular location. If the existing traffic volume on a street is 100 PCE and if the future traffic volume were increased by 50 PCE to a total of 150 PCE, the noise level would increase by 1.8 dBA. Similarly, if the future traffic were increased by 100 PCE, or doubled to a total of 200 PCE, the noise level would increase by 3.0 dBA.

F. FUTURE WITHOUT THE PROPOSED ACTIONS

Using the methodology described above, future No Action noise levels for the 2019 analysis year were determined at the four mobile source noise analysis receptor sites. These No Action noise levels are shown in **Table F-4**.

Table F-4
2019 No Action Noise Levels (in dBA)

Receptor	Location	Time Period	Existing $L_{eq(1)}$	No Action $L_{eq(1)}$	$L_{eq(1)}$ Change	No Action $L_{10(1)}$
1	Ebbitts Street between Hylan Boulevard and Mill Road	WD MD	63.5	64.3	0.8	67.2
		WD PM	62.3	63.0	0.7	66.6
		SAT MD	64.0	64.9	0.9	68.7
2	Mill Road between Ebbitts Street and Ina Street	WD MD	65.4	66.7	1.3	71.6
		WD PM	66.8	67.7	0.9	71.9
		SAT MD	64.4	66.0	1.6	69.9
3	Hylan Plaza Parking Lot	WD MD	63.1	63.4	0.3	65.3
		WD PM	62.4	62.7	0.3	65.2
		SAT MD	62.9	63.2	0.3	65.5
4	Hylan Boulevard adjacent to Hylan Plaza Entrance	WD MD	71.8	72.1	0.3	74.9
		WD PM	71.8	72.0	0.2	74.9
		SAT MD	70.1	70.3	0.2	73.6

In 2019, the maximum increase in $L_{eq(1)}$ noise levels for the No Action condition would be 1.6 dBA. Noise levels of this magnitude would be imperceptible. In terms of CEQR criteria, noise levels at receptor sites 1 and 3 would remain in the "marginally acceptable" category and noise levels at receptors sites 2 and 4 would remain in the "marginally unacceptable" category.

G. FUTURE WITH THE PROPOSED ACTIONS

Using the methodology described above, future With Action noise levels for the 2019 analysis year were determined at the four mobile source noise analysis receptor sites. These With Action noise levels are shown in **Table F-5**.

Table F-5
2019 With Action Noise Levels (in dBA)

Receptor	Location	Time Period	No Action $L_{eq(1)}$	With Action $L_{eq(1)}$	$L_{eq(1)}$ Change	With Action $L_{10(1)}$
1	Ebbitts Street between Hylan Boulevard and Mill Road	WD MD	64.3	64.4	0.1	67.3
		WD PM	63.0	63.1	0.1	66.7
		SAT MD	64.9	65.1	0.2	68.9
2	Mill Road between Ebbitts Street and Ina Street	WD MD	66.7	66.7	0.0	71.6
		WD PM	67.7	67.8	0.1	72.0
		SAT MD	66.0	66.1	0.1	70.0
3	Hylan Plaza Parking Lot	WD MD	63.4	63.9	0.5	65.8
		WD PM	62.7	63.3	0.6	65.8
		SAT MD	63.2	63.8	0.6	66.1
4	Hylan Boulevard adjacent to Hylan Plaza Entrance	WD MD	72.1	72.2	0.1	75.0
		WD PM	72.0	72.1	0.1	75.0
		SAT MD	70.3	70.4	0.1	73.7

In 2019, the maximum increase in $L_{eq(1)}$ noise levels for the With Action condition would be 0.6 dBA. Noise levels of this magnitude would be imperceptible and would not constitute a

significant noise impact. In terms of CEQR criteria, noise levels at receptor sites 1 and 3 would remain in the "marginally acceptable" category and noise levels at receptors sites 2 and 4 would remain in the "marginally unacceptable" category.

H. NOISE ATTENUATION MEASURES

As shown in **Table F-2**, the *CEQR Technical Manual* has set noise attenuation quantities for buildings based on exterior $L_{10(1)}$ noise levels in order to maintain interior noise levels of 50 dBA or lower for commercial/office uses. The results of the building attenuation analysis are summarized in **Table F-6**.

Table F-6
Minimum Building Attenuation

Building	Associated Noise Receptor Site	Maximum $L_{10(1)}$ (in dBA)	Attenuation Required[1] (in dBA)
Grocery	1	68.9	N/A[2]
E	4	75.0	26
F1	3	66.1	N/A[2]
F2, F3	2	72.0	23
G1, G2	3	66.1	N/A[2]
G3, G4	2	72.0	23

Notes: [1] The CEQR attenuation requirements shown are for commercial and retail use; residential uses would require 5 dBA more attenuation.
[2] "N/A" indicates that the L_{10} value is less than 70 dB(A). The *CEQR Technical Manual* does not address noise levels this low, therefore there is no minimum attenuation guidance.

To implement the attenuation requirements shown in **Table F-6**, an (E) designation for noise would be applied to the Hylan Plaza site (Block 3969 Lots 1, 6, 31, 35) specifying a requirement for the appropriate amount of window/wall attenuation and an alternate means of ventilation. The text for the (E) designation would be as follows:

To ensure an acceptable interior noise environment, the building façade(s) of future development at Block 3969 Lots 1, 6, 31, 35 must provide minimum composite building façade attenuation as shown in ***Table F-6*** *of the Hylan Plaza Retail Development EAS to ensure an interior L_{10} noise level not greater than 50 dBA for commercial uses. To maintain a closed-window condition in these areas, an alternate means of ventilation that brings outside air into the building without degrading the acoustical performance of the building façade(s) must also be provided.*

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 consists of wall, glazing, and any vents or louvers associated with the building mechanical systems in various ratios of area. The proposed design for the building includes acoustically-rated windows and central air conditioning as an alternate means of ventilation. The proposed building's façades, including these elements, would be designed to provide a composite

Outdoor-Indoor Transmission Class (OITC) rating[1] greater than or equal to those listed in above in **Table F-6**, along with an alternative means of ventilation. By adhering to these design specifications, the proposed buildings would provide sufficient attenuation to achieve the CEQR interior $L_{10(1)}$ noise level guideline of 50 dBA or lower for commercial or retail uses, which would be considered acceptable according to CEQR interior noise level guidelines.

The existing buildings in the shopping center do not constitute sensitive receptors per section 124 of Chapter 19, "Noise" in the *CEQR Technical Manual*. Since they are already occupied and the proposed project would not introduce new uses to these buildings, they are not subject to noise attenuation requirements as a result of the proposed actions. Consequently, no changes to the facades of these buildings would be required.

I. MECHANICAL EQUIPMENT

It is assumed that the building's mechanical systems (i.e., HVAC 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 to avoid producing levels that would result in any significant increase in ambient noise levels. Therefore, the proposed project would not result in any significant adverse noise impacts related to building mechanical equipment. ✷

[1] The OITC classification is defined by ASTM International (ASTM E1332) and provides a single-number rating that is used for designing a building façade including walls, doors, glazing, and combinations thereof. The OITC rating is designed to evaluate building elements by their ability to reduce the overall loudness of ground and air transportation noise.

Appendix 1

Agency Correspondence

AKRF

Environmental and Planning Consultants

440 Park Avenue South
7th Floor
New York, NY 10016
tel: 212 696-0670
fax: 212 213-3191
www.akrf.com

November 23, 2015

Ms. Gina Santucci
New York City Landmarks Preservation Commission
1 Centre Street, 9th Floor
New York, NY 10007

Re: Hylan Plaza Redevelopment; Staten Island, NY

Dear Ms. Santucci:

Hylan Plaza 1339, LLC, is requesting authorization pursuant to ZR Section 36-023 to facilitate the redevelopment and enlargement of the existing Hylan Plaza Shopping Center in the New Dorp section of Staten Island. The proposed project site is located at 2600 Hyland Boulevard and comprises Block 3969, Lots 1, 6, 31, and 53 (see **Figure 1**). The project site is bounded by Hylan Boulevard, Ebbitts Street, Mill Road, and Dartmouth Loop. The Hylan Plaza Shopping Center is a regional shopping center consisting of local- and regional-serving retail stores arranged within one-story retail structures fronted by surface parking. Existing 1-story retail buildings on Lots 1, 6, and 35 would remain as part of the proposed project while a 1-story retail building that occupied portions of Lots 1 and 31 would be demolished.

As part of the proposed project, a 290,000-square-foot portion of the existing 362,500-square-foot shopping center would be demolished. New retail structures with approximately 388,000 square feet of new retail space would be constructed on the site, resulting in a total of approximately 460,500 square feet (approximately 98,000 square feet larger than currently exists on the site). The proposed project would include approximately 1,670 parking spaces (see attached project plans). The proposed project would require zoning authorizations that are subject to New York City Environmental Quality Review (CEQR). The New York City Department of Planning is serving as lead agency for the environmental review.

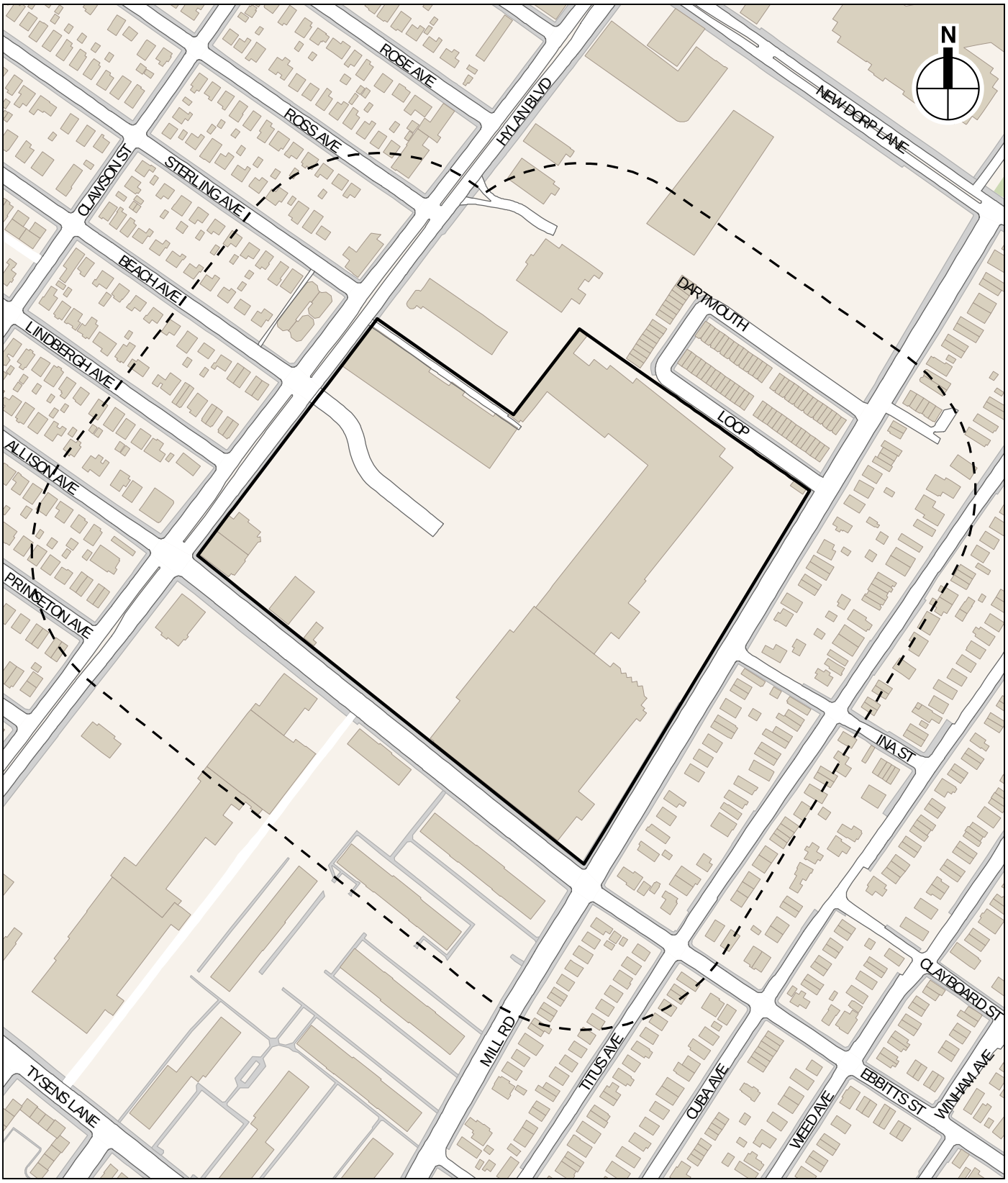
At this time, we are requesting an initial assessment from your office regarding the potential archaeological sensitivity of the proposed project site as described above. Thank you for your assistance with this matter. If you have any questions, please do not hesitate to contact me at emeade@akrf.com or by telephone at (646) 388-9811.

Sincerely,

Elizabeth D. Meade, RPA
Technical Director/Archaeologist

cc: Amanda Sutphin, Director of Archaeology, New York City Landmarks Preservation Commission; Nicholas Brown, Kimco Realty; Ethan Goodman, Fox Rothschild; John Neill, AKRF

10/21/2015



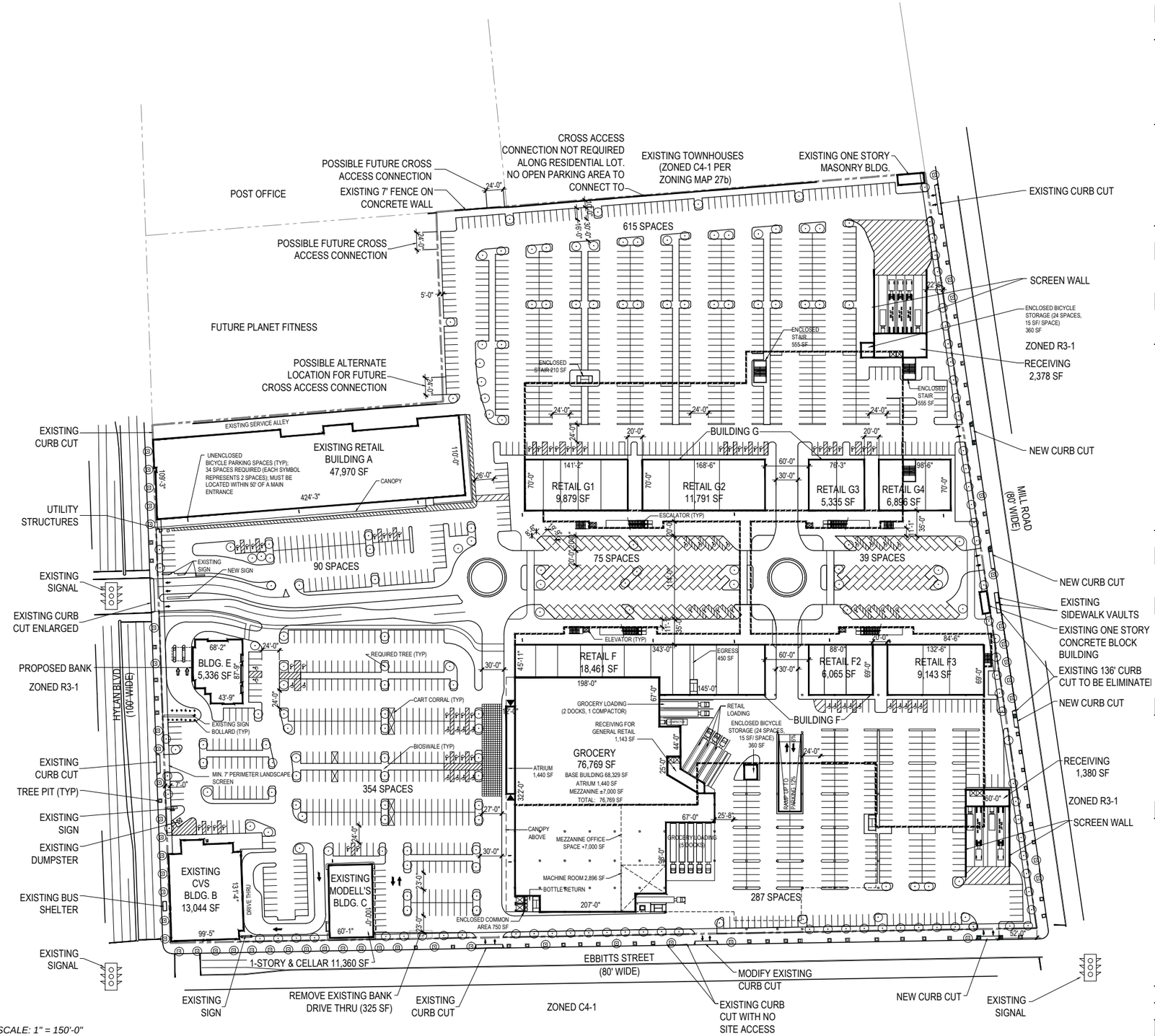
Project Site

Study Area (400-foot boundary)

0 400 FEET

HYLAN PLAZA

Project Location
Figure 1



SCALE: 1" = 150'-0"

BUILDING & PARKING SUMMARY - NOV. 03, 2015	
BUILDING G	SQ. FT
1ST FLOOR	
RETAIL G1	9,879
RETAIL G2	11,791
RETAIL G3	5,335
RETAIL G4	6,896
TOTAL RETAIL	**33,901**
2ND FLOOR	
RETAIL G5	21,786
RETAIL G6	18,977
RETAIL G7	13,087
CINEMA	41,030
TOTAL RETAIL	**94,880**
BUILDING G TOTAL RETAIL	**128,781**
1ST FLOOR RECEIVING/COMMON	3,698
2ND FLOOR RECEIVING/COMMON	6,367
BUILDING G TOTAL	**138,846**
BUILDING F	
1ST FLOOR	
RETAIL F1	18,461
GROCERY / FOOD STORE	76,769
RETAIL F2	6,065
RETAIL F3	9,143
TOTAL	**110,438**
2ND FLOOR	
RETAIL F4	49,937
RETAIL F5	14,277
RETAIL F6	19,663
RETAIL F7	38,000
TOTAL	**121,877**
BUILDING F TOTAL RETAIL	**232,315**
1ST FLOOR RECEIVING/COMMON	4,143
2ND FLOOR RECEIVING/COMMON	7,642
BUILDING F TOTAL	**244,100**
BUILDING A - EXISTING RETAIL	47,970
BUILDING B - EXISTING CVS	13,044
BUILDING C - EXISTING MODELL'S	11,360
BUILDING E - PROPOSED BANK	5,336
TOTAL EXISTING & PROPOSED BANK	**77,710**
TOTAL LEASABLE W/O RECEIVING	438,806
RECEIVING/COMMON AREA	21,850
TOTAL SITE BUILDING AREA	460,656

PARKING CALCULATIONS	
TOTAL SITE BUILDING AREA	**460,656**
TOTAL RETAIL	342,857
RETAIL PARKING REQUIRED (1SP / 150 SF)	2,286
TOTAL CINEMA	41,030
PARKING REQUIRED (CINEMA 1,000 SEATS) (1SP / 4 SEATS)	250
TOTAL GROCERY / FOOD STORE	76,769
PARKING REQUIRED (GROCERY / FOOD) 1SP/ 100SF	768
TOTAL PARKING REQUIRED	**3,303**
TOTAL PARKING PROVIDED	**1,670**
PARKING REDUCTION	**49.45%**

N

GRAPHIC SCALE

0' 37.5' 75' 150' 300'

S9 an affiliate of Perkins Eastman Architects, PC

KIMCO REALTY

CONCEPTUAL SITE PLAN
GROUND FLOOR

THE BOULEVARD
STATEN ISLAND, NY
NOVEMBER 03, 2015

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: DEPARTMENT OF CITY PLANNING / LA-CEQR-R
Project: HYLAN PLAZA REDEVELOPMENT
Date received: 11/23/2015

Properties with no Archaeological significance:

1) ADDRESS: 2660 HYLAN BOULEVARD, BBL: 5039690001
2) ADDRESS: 2690 HYLAN BOULEVARD, BBL: 5039690006
3) ADDRESS: 107 MILL ROAD, BBL: 5039690031
4) ADDRESS: 2626 HYLAN BOULEVARD, BBL: 5039690035

ARCHAEOLOGY REVIEW ONLY.

Gina Santucci 11/30/2015

SIGNATURE DATE
Gina Santucci, Environmental Review Coordinator

File Name: 31029_FSO_GS_11302015.doc