ENVIRONMENTAL ASSESSMENT STATEMENT
FOR

BEDFORD-STUYVESANT NORTH REZONING

MAY 4, 2012

CEQR No.: 12DCP156Y
ULURP Nos.: 120294ZMK, N120295ZRK & N120296ZRY

ACTION LOCATION: Brooklyn, New York

LEAD AGENCY:

City Planning Commission
City of New York
Amanda M. Burden, FAICP, Chair

LEAD AGENCY CONTACT:
Robert Dobruskin, AICP, Director
Environmental Assessment and Review Division
New York City Department of City Planning
22 Reade Street, Room 4E
New York, New York, 10007
(212) 720-3423

PREPARED FOR:

Glen A. Price III, Director
Studies Implementation
NYC Department of City Planning
22 Reade Street, Room 4E
New York, New York, 10007
(212) 720-3491

Purnima Kapur, Director
Brooklyn Office
NYC Department of City Planning
16 Court Street, 7th Floor
Brooklyn, NY 11241
(718) 780-8280

PREPARED BY:

NYC Department of City Planning
AECOM, Inc.
Parsons Brinckerhoff Inc.
SI Engineering

City Environmental Quality Review
ENVIRONMENTAL ASSESSMENT STATEMENT FULL FORM

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

PART I: GENERAL INFORMATION

PROJECT NAME Bedford Stuyvesant North Rezoning

1. *Reference Numbers*

CEQR REFERENCE NUMBER (To Be Assigned by Lead Agency)	BSA REFERENCE NUMBER (If Applicable)
12DCP156Y	
ULURP REFERENCE NUMBER (If Applicable))	**OTHER REFERENCE NUMBER(S) (If Applicable) (e.g. Legislative Intro, CAPA, etc)**
120294ZMK, N120295ZRK & N120296ZRY	

2a. *Lead Agency Information*

NAME OF LEAD AGENCY: NYC Department of City Planning

NAME OF LEAD AGENCY CONTACT PERSON: Robert Dobruskin, AICP

ADDRESS: 22 Reade Street, Room 4E

CITY: New York | STATE: NY | ZIP: 10007

TELEPHONE: 212-720-3423 | FAX: 212-720-3495

EMAIL ADDRESS: R_Dobrus@planning.nyc.gov

2b. *Applicant Information*

NAME OF APPLICANT: NYC Department of City Planning

NAME OF APPLICANT'S REPRESENTATIVE OR CONTACT PERSON: Purnima Kapur

ADDRESS: 16 Court Street, 7th Floor

CITY: Brooklyn | STATE: NY | ZIP: 11241

TELEPHONE: 718-780-8280 | FAX: 718-596-2609

EMAIL ADDRESS: pkapur@planning.nyc.gov

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):* Section 617.4(b)(2) and (b)(9)

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:*

See following Page 1a for Project Description.

4a. *Project Location: Single Site* *(for a project at a single site, complete all the information below)*

ADDRESS	NEIGHBORHOOD NAME	
TAX BLOCK AND LOT	BOROUGH	COMMUNITY DISTRICT
DESCRIPTION OF PROPERTY BY BOUNDING OR CROSS STREETS		
EXISTING ZONING DISTRICT, INCLUDING SPECIAL ZONING DISTRICT DESIGNATION IF ANY:		ZONING SECTIONAL MAP NO:

4b. *Project Location: Multiple Sites* *(Provide a description of the size of the project area in both City Blocks and Lots. If the project would apply to the entire city or to areas that are so extensive that a site-specific description is not appropriate or practicable, describe the area of the project, including bounding streets, etc.)*

See following Page 1a for description of project area and list of Block and Lots.

5. *REQUIRED ACTIONS OR APPROVALS* *(check all that apply)*

City Planning Commission: YES ☑ NO ☐

- ☐ CITY MAP AMENDMENT
- ☑ ZONING MAP AMENDMENT
- ☑ ZONING TEXT AMENDMENT
- ☑ UNIFORM LAND USE REVIEW PROCEDURE (ULURP)
- ☐ CONCESSION
- ☐ UDAAP
- ☐ REVOCABLE CONSENT
- ☐ ZONING CERTIFICATION
- ☐ ZONING AUTHORIZATION
- ☐ HOUSING PLAN & PROJECT
- ☐ SITE SELECTION — PUBLIC FACILITY
- ☐ FRANCHISE
- ☐ DISPOSITION — REAL PROPERTY

ZONING SPECIAL PERMIT, SPECIFY TYPE:

- ☐ MODIFICATION OF
- ☐ RENEWAL OF
- ☐ OTHER

Board of Standards and Appeals: YES ☐ NO ☑

- ☐ SPECIAL PERMIT

EXPIRATION DATE MONTH DAY YEAR

- ☐ VARIANCE (USE)
- ☐ VARIANCE (BULK)

SPECIFY AFFECTED SECTION(S) OF THE ZONING RESOLUTION

Part 1: General Information

4. *Project Description:*

The Department of City Planning (DCP) proposes a zoning map and text amendment for an approximately 140 block area in the northern half of the Bedford-Stuyvesant neighborhood of Community District 3, Brooklyn. The proposed actions would affect approximately 5,911 lots on 140 blocks. The rezoning area covers portions of Zoning Map sections 12d, 13b, 16c, and 17a. The proposed rezoning replaces all or portions of existing R5, R6, C4-3, and C8-2 districts with R6B, R6A, R7A, R7D, and C4-4L districts, and updates existing C1-2 and C1-3 overlays with C2-4 overlays, eliminates portions of existing C1-2 and C1-3 overlays, and establishes new C2-4 overlays. The proposal would also establish new Inclusionary Housing Areas and a new Enhanced Commercial District. See Attachment 1 for further description of the Proposed Actions.

4b. *Project Location: Multiple Sites*

The rezoning area is generally bounded by Lafayette Avenue and Quincy Street to the south, Classon and Franklin Avenues to the west, Broadway to the east, and Flushing Avenue to the north. The following are the Block and Lots affected by the Proposed Actions:

Block	Lots
1478	1,3,4,5,8,12,14
1479	1,3,5,6,7,8,11,17,18,19,20,21,39,40
1480	14,15,16,17,19,23,29,34,36,38,40,41,42,54,55,66,67,68,69
1578	all
1579	all
1580	all
1582	all
1584	all
1585	all
1586	all
1587	all
1588	all
1589	all
1590	all
1591	all
1592	all

Block	Lots
1593	all
1594	all
1595	all
1596	all
1597	all
1598	all
1599	all
1599	all
1600	all
1601	all
1602	all
1603	all
1604	all
1605	all
1606	all
1607	all
1608	all
1609	all
1610	all
1612	all

Block	Lots
1613	all
1614	all
1615	all
1616	all
1617	all
1618	all
1619	all
1620	all
1621	all
1622	all
1623	all
1624	all
1625	all
1626	all
1627	all
1628	all
1633	39,52
1719	all
1722	all
1723	all

Block	Lots
1726	all
1730	all
1731	all
1732	all
1738	all
1739	all
1740	all
1743	all
1747	all
1747	all
1749	all
1754	all
1755	all
1756	all
1757	all
1758	all
1759	all
1760	all
1761	all
1762	all
1763	1,3,5,6,7,8,9,12,13,21,22,24,25,26,27,28,29,30,31,32,33,34,35,36,37,40,41,42,44,47,48,49,50,51,52,53,54,55,56,57,58,59,60,68,70,7501,7502,7503,7504,7505
1765	15,22,26,30,32,33,34,35,36,7501
1766	all
1767	all
1768	all
1769	all
1770	all
1771	all
1772	all
1773	all

Block	Lots
1774	all
1775	all
1776	all
1777	all
1778	all
1779	all
1780	all
1781	all
1782	all
1783	all
1784	all
1785	all
1786	all
1787	all
1788	all
1789	all
1790	all
1791	all
1792	all
1793	all
1794	all
1795	all
1796	all
1797	all
1798	all
1799	all
1800	all
1801	all
1802	all
1803	all
1804	all
1805	all
1806	all
1896	30,65,67,69,70,73,74,75,76,7510
1897	61,62,63,64,65,7508
1898	1,64,65,66,67,70

Block	Lots
1899	66,67,68,69,70,72,73,7501
1900	63,64,67,68,69,70,71,7501,7502
1910	all
1911	all
1912	all
1913	all
1914	all
1924	all
1925	all
1926	all
1927	all
1928	all
1938	all
1941	all
1942	all
1950	13,14,15,16,17,18,19,20,21,22,23,24,25,26,28,30,31,33,35,36,37,38,39,40,41,45,46,48,49,51,52,53,54
1954	8,9,10,11,12,13,15,16,17,18,19,22,25,27,28,29,31,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49
1968	11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,29,32,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,51,52,53,54,55,56,141,142
1971	6,7,8,9,10,11,13,20,22,23,25,26,27,28,31,32,33,34,35,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,114,115,116117,118,152

Site A *Block 1912, Lot 3*
Site B *Block 1900, Lots 67, 68, 69, 70*
Site C *Block 1928, Lot 34*
Site D *(Block 1788, Lots 2, 4, 5)*
Site E *(Block 1954, Lot 22)*
Site F *(Block 1754, Lots 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35)*
Site G *(Block 1747, Lots 1, 7, 10, 19, 20, 21, 22, 23, 24, 51, 53, 62, 64, 67)*
Site H *(Block 1740, Lot 1)*
Site I *(Block 1756, Lots 33, 37, 42)*
Site J *(Block 1585, Lots 31, 32, 33)*
Site K *(Block 1759, Lots 2, 3, 4)*
Site L *(Block 1785, Lots 1, 3, 5)*
Site M *(Block 1609, Lot 5)*
Site N *(Block 1971, Lot 28)*
Site O *(Block 1578, Lot 5)*
Site P *(Block 1578, Lot 14*
Site Q *(Block 1579, Lots 50, 51, 53*
Site R *(Block 1582, Lot 15*
Site S *(Block 1584, Lots 1, 4)*
Site T *(Block 1584, Lot 11*
Site U *(Block 1586, Lots 12, 14, 24, 27, 51, 52, 53, 56*
Site V *(Block 1586, Lots 8, 10, 11*
Site W *(Block 1593, Lot 23*
Site X *(Block 1600, Lots 1, 28*
Site Y *(Block 1613, Lot 9*
Site Z *(Block 1618, Lot 35)*
Site AA *(Block 1623, Lots 70, 73*
Site BB *(Block 1628, Lot 21, 22, 23*
Site CC *(Block 1628, Lot 30*
Site DD *(Block 1605, Lots 23, 24, 25, 26*
Site EE *(Block 1791, Lot 17, 18, 19*

Department of Environmental Protection: YES ☐ NO ☑

Other City Approvals: YES ☐ NO ☑

- ☐ LEGISLATION
- ☐ FUNDING OF CONSTRUCTION; SPECIFY
- ☐ POLICY OR PLAN; SPECIFY
- ☐ LANDMARKS PRESERVATION COMMISSION APPROVAL *(not subject to CEQR)*
- ☐ 384(b)(4) APPROVAL
- ☐ PERMITS FROM DOT'S OFFICE OF CONSTRUCTION MITIGATION AND COORDINATION (OCMC) *(not subject to CEQR)*
- ☐ RULEMAKING
- ☐ CONSTRUCTION OF PUBLIC FACILITIES
- ☐ FUNDING OF PROGRAMS; SPECIFY
- ☐ PERMITS; SPECIFY:
- ☐ OTHER; EXPLAIN

6. *State or Federal Actions/Approvals/Funding:* YES ☐ NO ☑ IF "YES," IDENTIFY

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

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 11×17 inches in size and must be folded to 8.5 ×11 inches for submission.*

☑ Site location map ☑ Zoning map ☑ Photographs of the project site taken within 6 months of EAS submission and keyed to the site location map

☑ Sanborn or other land use map ☑ Tax map ☑ For large areas or multiple sites, a GIS shape file that defines the project sites

PHYSICAL SETTING *(both developed and undeveloped areas)*

Total directly affected area (sq. ft.):	Type of waterbody and surface area (sq. ft.):	Roads, building and other paved surfaces (sq. ft.)
30,567,736	N/A	25,055,391

Other, describe (sq. ft.): Vacant: 2,193,509 sf; Open Space: 3,318,836 sf

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

Size of project to be developed: Refer to EAS Attachment 2 for description of Reasonable Worst Case Development Scenario (RWCDS) (gross sq. ft.)

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

If 'Yes,' identify the total square feet owned or controlled by the applicant : Total square feet of non-applicant owned development: 30,567,736

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: **Not Known at this time** sq. ft. (width × length) Volume: **Not Known at this time** cubic feet (width × length × depth)

Does the proposed project increase the population of residents and/or on-site workers? YES ☑ NO ☐ Number of additional residents? 2,046 Number of additional workers? -53

Provide a brief explanation of how these numbers were determined:

Refer to EAS Attachment 3

Does the project create new open space? YES ☐ NO ☑ If Yes: (sq. ft)

Using Table 14-1, estimate the project's projected operational solid waste generation, if applicable: 162,322 (total) / 49,139 (net) (pounds per week)

Using energy modeling or Table 15-1, estimate the project's projected energy use: 349,348,679,800 (total)/63,026,599,900 (net) (annual BTUs)

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

ANTICIPATED BUILD YEAR (DATE THE PROJECT WOULD BE COMPLETED AND OPERATIONAL):	ANTICIPATED PERIOD OF CONSTRUCTION IN MONTHS:
2022	**N/A**

WOULD THE PROJECT BE IMPLEMENTED IN A SINGLE PHASE? YES ☐ NO ☑ IF MULTIPLE PHASES, HOW MANY PHASES: N/A

BRIEFLY DESCRIBE PHASES AND CONSTRUCTION SCHEDULE: **

10. *What is the Predominant Land Use in Vicinity of Project?* *(Check all that apply)*

☑ RESIDENTIAL ☐ MANUFACTURING ☑ COMMERCIAL ☑ PARK/FOREST/OPEN SPACE ☑ OTHER, Describe: Community Fac./Institutional

****Approximately 10 years (foreseeable future period in which developers are expected to act on the proposed zoning change)**

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				
No. of dwelling units	Refer to EAS Attach. 2	Refer to EAS Attach. 2	Refer to EAS Attach. 2	Refer to EAS Attach. 2
No. of low- to moderate income units				
No. of stories				
Gross Floor Area (sq.ft.)				
Describe Type of Residential Structures				
Commercial	YES ☑ NO ☐	YES ☑ NO ☐	YES ☑ NO ☐	
If yes, specify the following:				
Describe type (retail, office, other)	Refer to EAS Attach. 2	Refer to EAS Attach. 2	Refer to EAS Attach. 2	
No. of bldgs				
GFA of each bldg (sq.ft.)				
Manufacturing/Industrial	YES ☐ NO ☑	YES ☐ NO ☑	YES ☐ NO ☑	
If yes, specify the following:				
Type of use				
No. of bldgs				
GFA of each bldg (sq.ft.)				
No. of stories of each bldg				
Height of each bldg				
Open storage area (sq.ft.)				
If any unenclosed activities, specify				
Community Facility	YES ☐ NO ☑	YES ☑ NO ☐	YES ☑ NO ☐	
If yes, specify the following:				
Type		Refer to EAS Attach. 2	Refer to EAS Attach. 2	
No. of bldgs				
GFA of each bldg (sq.ft.)				
No. of stories of each bldg				
Height of each bldg				
Vacant Land	YES ☑ NO ☐	YES ☑ NO ☐	YES ☐ NO ☑	
If yes, describe:	Refer to EAS Attachment 2	Refer to EAS Attachment 2		
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 Use	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	Refer to EAS Attach. 2	Refer to EAS Attach. 2	Refer to EAS Attach. 2	
No. of accessory spaces				
Operating hours				
Attended or non-attended				

	EXISTING CONDITION	NO-ACTION CONDITION	WITH-ACTION CONDITION	INCREMENT
Parking *(continued)*				
Lots	YES ☐ NO ☑	YES ☑ NO ☐	YES ☑ NO ☐	
If yes, specify the following:	Refer to EAS Attach. 2	Refer to EAS Attach. 2	Refer to EAS Attach. 2	
No. of public spaces				
No. of accessory spaces				
Operating hours				
Other (includes street parking)	YES ☐ NO ☐	YES ☐ NO ☐	YES ☐ NO ☐	
If yes, describe				
Storage Tanks				
Storage Tanks	YES ☐ NO ☐	YES ☐ NO ☐	YES ☐ NO ☐	
If yes, specify the following:				
Gas/Service stations	YES ☐ NO ☐	YES ☐ NO ☐	YES ☐ NO ☐	
Oil storage facility	YES ☐ NO ☐	YES ☐ NO ☐	YES ☐ NO ☐	
Other, identify:	YES ☐ NO ☐	YES ☐ NO ☐	YES ☐ NO ☐	
If yes to any of the above, describe:				
Number of tanks				
Size of tanks				
Location of tanks				
Depth of tanks				
Most recent FDNY inspection date				
Population				
Residents	YES ☑ NO ☐	YES ☑ NO ☐	YES ☑ NO ☐	
If any, specify number	Refer to EAS Attach. 3	Refer to EAS Attach. 3	Refer to EAS Attach. 3	
Briefly explain how the number of residents was calculated:				
Businesses	YES ☑ NO ☐	YES ☑ NO ☐	YES ☑ NO ☐	
If any, specify the following:	Refer to EAS Attach. 3	Refer to EAS Attach. 3	Refer to EAS Attach. 3	
No. and type				
No. and type of workers by business				
No. and type of non-residents who are not workers				
Briefly explain how the number of businesses was calculated:				
Zoning*				
Zoning classification	**	(same as existing)	***	
Maximum amount of floor area that can be developed (in terms of bulk)	Refer to EAS Attach. 2	Refer to EAS Attach. 2	Refer to EAS Attach. 2	Refer to EAS Attach. 2
Predominant land use and zoning classifications within a 0.25 mile radius of proposed project	**	**	***	
Attach any additional information as may be needed to describe the project. If your project involves changes in regulatory controls that affect one or more sites not associated with a specific development, it is generally appropriate to include the total development projections in the above table and attach separate tables outlining the reasonable development scenarios for each site.				

**This section should be completed for all projects, except for such projects that would apply to the entire city or to areas that are so extensive that site-specific zoning information is not appropriate or practicable.*

** Existing zoning classifications: C1-3 & C2-3 (Commercial Overlays), R5, R6, C4-3, C8-2

***Proposed zoning classifications include C2-4 (Commercial Overlay), R6A, R6B, R7A, R7D, C4-4L

PART II: TECHNICAL ANALYSES

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, answer the subsequent questions for that technical area and consult the relevant chapter of the CEQR Technical Manual for guidance on providing additional analyses (and attach supporting information, if needed) 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 often only means that more information is required for the lead agency to make a determination of significance.
- The lead agency, upon reviewing Part II, may require an applicant to either 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 or zoning that is different from surrounding land uses and/or zoning? Is there the potential to affect an applicable public policy? If "Yes", complete a preliminary assessment and attach.	✔	
(b) Is the project a large, publicly sponsored project? If "Yes", complete a PlaNYC assessment and attach.	✔	
(c) Is any part of the directly affected area within the City's Waterfront Revitalization Program boundaries? If "Yes", complete the Consistency Assessment Form.		✔
2. *SOCIOECONOMIC CONDITIONS*: *CEQR Technical Manual Chapter 5*		
(a) Would the proposed project:		
• Generate a net increase of 200 or more residential units?	✔	
• Generate a net increase of 200,000 or more square feet of commercial space?		✔
• Directly displace more than 500 residents?		✔
• Directly displace more than 100 employees?		✔
• Affect conditions in a specific industry?		✔
(b) If 'Yes' to any of the above, attach supporting information to answer the following questions, as appropriate. If 'No' was checked for each category above, the remaining questions in this technical area do not need to be answered.		✔
(1) ***Direct Residential Displacement***		
• If more than 500 residents would be displaced, would these displaced residents represent more than 5% of the primary study area population?		✔
• 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?		✔
(2) ***Indirect Residential Displacement***		
• Would the expected average incomes of the new population exceed the average incomes of the study area populations?		✔
• If 'Yes,' would the population increase represent more than 5% of the primary study area population or otherwise potentially affect real estate market conditions?		✔
• If 'Yes,' would the study area have a significant number of unprotected rental units?		✔
Would more than 10 percent of all the housing units be renter-occupied and unprotected?		✔
Or, would more than 5 percent of all the housing units be renter-occupied and unprotected where no readily observable trend toward increasing rents and new market rate development exists within the study area?		✔

	YES	NO
(3) *Direct Business Displacement*		
• Do any of the displaced businesses provide goods or services that otherwise could not be found within the trade area, either under existing conditions or in the future with the proposed project?		✔
• Do any of the displaced businesses provide goods or services that otherwise could not be found within the trade area, either under existing conditions or in the future with the proposed project?		✔
• Or, is any category of business to be displaced the subject of other regulations or publicly adopted plans to preserve, enhance, or otherwise protect it?		✔
(4) *Indirect Business Displacement*		
• Would the project potentially introduce trends that make it difficult for businesses to remain in the area?		✔
• Would the project capture the retail sales in a particular category of goods to the extent that the market for such goods would become saturated as a result, potentially resulting in vacancies and disinvestment on neighborhood commercial streets?		✔
(5) *Affects on Industry*		
• Would the project significantly affect business conditions in any industry or any category of businesses within or outside the study area?		✔
• 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) Would the project directly eliminate, displace, or alter public or publicly funded community facilities such as educational facilities, libraries, hospitals and other health care facilities, day care centers, police stations, or fire stations?		✔
(b) Would the project exceed any of the thresholds outlined in Table 6-1 in Chapter 6?	✔	
(c) If 'No' was checked above, the remaining questions in this technical area do not need to be answered. If 'Yes' was checked, attach supporting information to answer the following, if applicable.		✔
(1) *Child Care Centers*		
• 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?		✔
• If Yes, would the project increase the collective utilization rate by 5 percent from the No-Action scenario?		✔
(2) *Libraries*		
• Would the project increase the study area population by 5 percent from the No-Action levels?		✔
• If Yes, would the additional population impair the delivery of library services in the study area?		✔
(3) *Public Schools*		
• 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 105 percent?		✔
• If Yes, would the project increase this collective utilization rate by 5 percent from the No-Action scenario?		✔
(4) *Health Care Facilities*		
• Would the project affect the operation of health care facilities in the area?		✔
(5) *Fire and Police Protection*		
• 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 underserved area in the Bronx, Brooklyn, Manhattan, Queens, or Staten Island?		✔
(c) If 'Yes,' would the proposed 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 not located within an underserved or well-served area, would it generate more than 200 additional residents or 500 additional employees?	✔	
(g) If 'Yes' to any of the above questions, attach supporting information to answer the following: • Does the project result in a decrease in the open space ratio of more then 5%?		✔
• If the project is within an underserved area, is the decrease in open space between 1% and 5%?		✔
• If 'Yes," are there qualitative considerations, such as the quality of open space, that need to be considered?		✔

	YES	NO
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 reach any sunlight-sensitive resource at any time of the year.		✔
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; is listed or eligible for listing on the New York State or National Register of Historic Places; or is within a designated or eligible New York City, New York State, or National Register Historic District? If "Yes," list the resources and attach supporting information on whether the proposed project would affect any of these resources.	✔	
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 that is not currently allowed by existing zoning?		✔
(c) If "Yes" to either of the above, please provide the information requested in Chapter 10.		✔
8. *NATURAL RESOURCES:* CEQR Technical Manual Chapter 11		
(a) Is any part of the directly affected area within the Jamaica Bay Watershed? If "Yes", complete the Jamaica Bay Watershed Form.		✔
(b) Does the proposed project site or a site adjacent to the project contain natural resources as defined in Section 100 of Chapter 11? If "Yes," list the resources: Attach supporting information on whether the proposed project would affect any of these resources.		✔
9. *HAZARDOUS MATERIALS:* CEQR Technical Manual Chapter 12		
(a) Would the proposed project allow commercial or residential use 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) designations or a Restrictive Declaration) relating to hazardous materials that preclude the potential for significant adverse impacts?		✔
(c) Does the project require soil disturbance in a manufacturing zone or any development on or near a manufacturing zone or existing/historic facilities listed in Appendix 1 (including nonconforming uses)?	✔	
(d) Does 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) Does the project result in development where underground and/or aboveground storage tanks (e.g. gas stations) are or were on or near the site?	✔	
(f) Does the project result in renovation of interior existing space on a site with potential compromised air quality, vapor intrusion from on-site or off-site sources, asbestos, PCBs or lead-based paint?		✔
(g) Does the project result in development on or near a government-listed voluntary cleanup/brownfield site, current or former power generation/transmission facilities, municipal incinerators, coal gasification or gas storage sites, or railroad tracks and rights-of-way?		✔
(h) Has a Phase I Environmental Site Assessment been performed for the site? If 'Yes," were RECs identified? Briefly identify:		✔
(i) Based on a Phase I Assessment, is a Phase II Assessment 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?		✔
(b) Is the proposed project located in a combined sewer area and result in at least 1,000 residential units or 250,000 SF or more of commercial space in Manhattan or at least 400 residential units or 150,000 SF or more of commercial space in the Bronx, Brooklyn, Staten Island or Queens?	✔	
(c) Is the proposed project located in a separately sewered area and result in the same or greater development than that listed in Table 13-1 in Chapter 13?		✔
(d) Does the proposed project involve development on a site five acres or larger where the amount of impervious surface would increase?	✔	
(e) Would the proposed project involve development on a site one acre or larger where the amount of impervious surface would increase and 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?	✔	
(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 WWTP and/or generate contaminated stormwater in 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 appopriate preliminary analyses and attach supporting documentation.		✔
11. *SOLID WASTE AND SANITATION SERVICES:* CEQR Technical Manual Chapter 14		
(a) Would the proposed project have the potential to generate 1000,000 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?		✔

	YES	NO
12. *ENERGY*: *CEQR Technical Manual Chapter 15*		
(a) Would the proposed project affect the transmission or generation of energy?		✔
13. *TRANSPORTATION*: *CEQR Technical Manual Chapter 16*		
(a) Would the proposed project exceed any threshold identified in Table 16-1 in Chapter 16?	✔	
(b) If "Yes," conduct the screening analyses, attach appropriate back up data as needed for each stage, and answer the following questions:		✔
(1) 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 peakhour. See Subsection 313 in Chapter 16 for more information.*		✔
(2) 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 trips per station or line?		✔
(3) 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? If 'Yes,' would the proposed project exceed the thresholds in the Figure 17-3, Stationary Source Screen Graph? (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) designations or a Restrictive Declaration) relating to air quality that preclude the potential for significant adverse impacts?		✔
(f) If "Yes," conduct the appropriate analyses and attach any supporting documentation.		✔
15. *GREENHOUSE GAS EMISSIONS*: *CEQR Technical Manual Chapter 18*		
(a) Is the proposed project a city capital project, a power plant, or would fundamentally change the City's solid waste management system?	✔	
(b) If "Yes," would the proposed project require a GHG emissions assessment based on the guidance in Chapter 18?	✔	
(c) If "Yes," attach supporting documentation to answer the following; Would the project be consistent with the City's GHG reduction goal?		✔
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-designations or a Restrictive Declaration) relating to noise that preclude the potential for significant adverse impacts?		✔
(e) If "Yes," conduct the appropriate analyses and attach any supporting documentation.		✔
17. *PUBLIC HEALTH*: *CEQR Technical Manual Chapter 20*		✔
(a) Would the proposed project warrant a public health assessment based upon the guidance in Chapter 20?		
18. *NEIGHBORHOOD CHARACTER*: *CEQR Technical Manual Chapter 21*		
(a) Based upon the analyses conducted for the following technical areas, check Yes if any of the following technical areas required 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 here why or why not an assessment of neighborhood character is warranted based on the guidance in Chapter 21, "Neighborhood Character." Attach a preliminary analysis, if necessary.		✔
Refer to EAS Attachment 3 for a Neighborhood Character assessment.		

		YES	NO
19.	***CONSTRUCTION IMPACTS:*** *CEQR Technical Manual Chapter 22* Would the project's construction activities involve (check all that apply):	✓	
	• Construction activities lasting longer than two years;		✓
	• Construction activities within a Central Business District or along an arterial or major thoroughfare;	✓	
	• Require closing, narrowing, or otherwise impeding traffic, transit or pedestrian elements (roadways, parking spaces, bicycle routes, sidewalks, crosswalks, corners, etc);		✓
	• Construction of multiple buildings where there is a potential for on-site receptors on buildings completed before the final build-out;		✓
	• The operation of several pieces of diesel equipment in a single location at peak construction;		✓
	• Closure of community facilities or disruption in its service;		✓
	• Activities within 400 feet of a historic or cultural resource; or	✓	
	• Disturbance of a site containing natural resources.		✓

If any boxes are checked, explain why or why not a preliminary construction assessment is warranted based on the guidance of 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 Construction Chapter in Attachment 3.

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 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

DIRECTOR, BROOKYLN OFFICE — APPLICANT/SPONSOR

of

NEW YORK CITY DEPARTMENT OF CITY PLANNING — NAME THE ENTITY OR OWNER

the entity which seeks the permits, approvals, funding or other governmental action described in this EAS.

Check if prepared by: ☐ APPLICANT/REPRESENTATIVE or ☑ LEAD AGENCY REPRESENTATIVE (FOR CITY-SPONSORED PROJECTS)

NEW YORK CITY DEPARTMENT OF CITY PLANNING
APPLICANT/SPONSOR NAME:

PURNIMA KAPUR
LEAD AGENCY REPRESENTATIVE NAME:

SIGNATURE:

5/2/12
DATE:

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 of 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 effect on the environment. 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.

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

2. Are there any aspects of the project relevant to the determination 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, explain them and state where, as a result of them, the project may have a significant impact on the environment. ✓

3. ***LEAD AGENCY'S CERTIFICATION***

DEPUTY DIRECTOR, ENVIRONMENTAL REVIEW
TITLE

NEW YORK CITY DEPARTMENT OF CITY PLANNING
LEAD AGENCY

CELESTE EVANS
NAME

Celeste Evans
SIGNATURE

ATTACHMENT 1 – PROJECT DESCRIPTION

Bedford – Stuyvesant North Rezoning
Environmental Assessment Statement
CEQR No. 12DCP156Y
ULURP Nos.: 120294ZMK, N120295ZRK & N120296ZRY

INTRODUCTION

The Department of City Planning (DCP) proposes a zoning map and text amendment for an approximately 140 block area in the northern half of the Bedford-Stuyvesant neighborhood of Community District 3, Brooklyn (**Figure 1**. Locator Map). The rezoning area is generally bounded by Lafayette Avenue and Quincy Street to the south, Classon and Franklin Avenues to the west, Broadway to the east, and Flushing Avenue to the north.

This comprehensive zoning study was undertaken at the request of Community Board 3 and local elected officials as a follow-up to the 2007 rezoning of Bedford-Stuyvesant South and in response to concerns that existing zoning in the area does not reflect established growth patterns. The proposed actions would preserve neighborhood scale and character by replacing non-contextual zoning with contextual zoning districts with height limits; allow for modest residential growth with incentives for affordable housing along major commercial corridors such as Myrtle Avenue, Bedford Avenue, and Broadway; reinforce commercial character and improve the pedestrian environment along the Broadway transit and retail corridor by establishing regulations that promote pedestrian friendly ground floor use and design; tailor commercial overlays in the area to better reflect commercial activity; and provide incentives and opportunities for affordable housing development in Bedford-Stuyvesant.

The Bedford-Stuyvesant North rezoning area is predominantly mapped with residential R6 districts, in conjunction with C1-3 and C2-3 commercial overlays along north-south corridors, Myrtle Avenue and Broadway. Limited areas are mapped with residential R5 and R7-1 districts, and C4-3 and C8-2 commercial districts. The majority of these districts have been in place since 1961 when the current Zoning Resolution was established, and do not closely reflect the prevailing context in terms of scale, height, and building type.

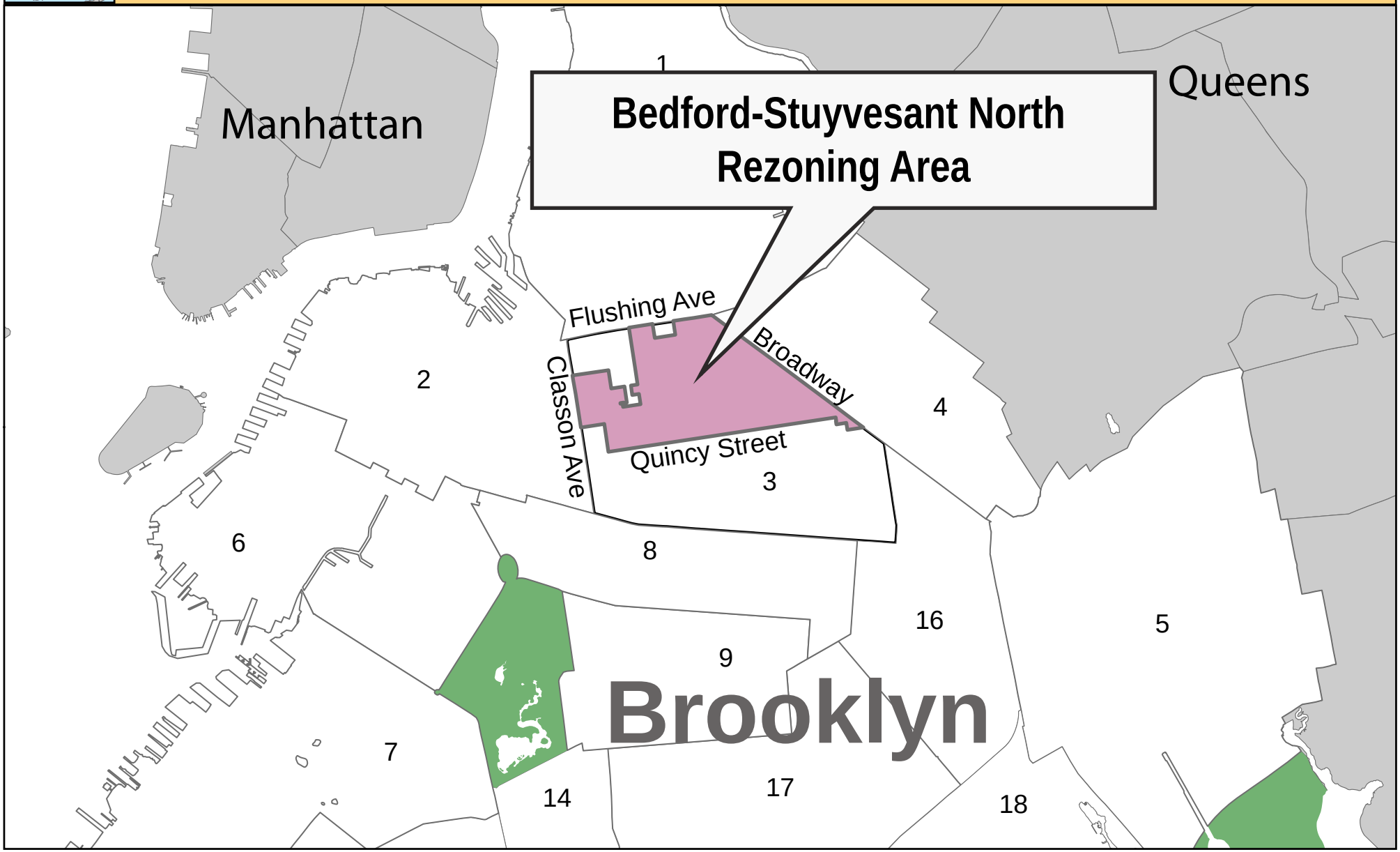
The Department of City Planning produced the currently proposed rezoning through close consultation with Community Board 3 and local elected officials. The proposed rezoning seeks to accomplish the following objectives:

- Preserve the character of the moderate density residential core of the neighborhood while allowing for modest enlargement of existing homes by establishing contextual zoning districts with height limits and regulations reflective of established building patterns;
- Direct new residential and mixed-use development to major commercial corridors well-served by mass transit;
- Reinforce the commercial character of existing retail corridors and prevent commercial intrusion into side streets by tailoring commercial overlays to reflect existing use and establishing regulations along major commercial corridors that seek to promote a lively pedestrian experience and continuous active use at street level;

Bedford-Stuyvesant North Rezoning

Rezoning Location

Figure 1



- Create incentives and opportunities for creation of affordable housing on major corridors.

In order to assess the environmental effects of the proposed action, a Reasonable Worst-Case Development Scenario was developed and detailed below. 31 projected development sites and 33 potential development sites were identified. The incremental difference between the future with-action and the future no-action development scenarios (build year 2022) for all projected development site is:

- An increase of 790 dwelling units; of which 285 would be affordable under the Inclusionary housing program;
- An increase of 135,964 square feet of retail space;
- An increase of 28,182 square feet of office space;
- A decrease of 291,775 square feet of community facility space.

An overview of Bedford-Stuyvesant North, the need and purpose for the actions and the specific components are discussed below.

BACKGROUND

Bedford-Stuyvesant is a vibrant, predominantly residential neighborhood in central Brooklyn well-known for its brownstones, wooden rowhouses, churches, and neighborhood institutions. The rezoning area is bounded on the south by Lafayette Avenue (west of Franklin Avenue), Quincy Street (between Franklin and Ralph Avenues), and Monroe Street (east of Ralph Avenue), along the northern border of the 2007 Bedford-Stuyvesant South Rezoning area. The rezoning area is bounded by Classon Avenue to the west (north of Lafayette Avenue), Flushing Avenue to the north, and Broadway to the east, which are the borders of Community District Three.

With the completion of the elevated transit lines and the Brooklyn Bridge in the late 1880s, Bedford-Stuyvesant developed as a middle class community for those commuting to Downtown Brooklyn and Manhattan. Brownstones and larger brick and terracotta apartment buildings were constructed for the neighborhood's many affluent residents.

In the years leading up to World War II, particularly during the Great Depression, upper and middle class residents who could no longer afford to upkeep their homes began to leave the neighborhood. A working class comprised of Black immigrants from the southern United States and the West Indies, many seeking skilled jobs at the Brooklyn Navy Yard, moved to the area.
In 1975, when a massive layoff occurred at the Navy Yard, 80% of the affected workers were residents of Bedford-Stuyvesant and adjacent neighborhoods.

Between 1949 and 1964, the New York City Housing Authority built five major public housing projects in northern Bedford-Stuyvesant. The first and largest of these, the Marcy Houses, was built in 1946 on land that had been formerly occupied by homes, businesses, and a windmill. Today, the five major NYCHA housing complexes in Northern Bedford-Stuyvesant comprise a

total of 5,493 units with 14,750 residents, with smaller NYCHA development interspersed throughout the area.

Present-day Bedford-Stuyvesant is characterized by a variety of residential building types. East-west midblocks are generally developed with two – four story brownstones and rowhouses with front stoops, and no off-street parking. Medium-density apartment buildings are found on the north-south Avenues. DeKalb Avenue and Bedford Avenue are major transit corridors, well-served by bus lines and near the G subway line, and include some high-density apartments with ground floor retail uses. Myrtle Avenue is the area's most significant east-west commercial street, with medium and high-density apartment buildings, including NYCHA developments, and significant ground floor retail activity. Broadway is the primary commercial corridor in the area and also has an elevated subway line running along it. Five large NYCHA housing developments, characterized by their 'tower in the park' design, occupy 10 superblocks throughout the area.

In past decades, Bedford-Stuyvesant suffered from disinvestment resulting in many vacant lots and underbuilt sites. From the 1940s to the 1960s, real estate investment in the area was primarily in the form of public housing construction. In the past several years, however, the area has begun to experience increasing private reinvestment in the form of new stores and development of market-rate private housing. The proposed rezoning would protect the existing neighborhood character on the east-west midblocks, while allowing for modest growth along the north-south avenues and the Myrtle Avenue and Broadway transit and retail corridors.

The population of Bedford-Stuyvesant peaked in the late 1960's, but suffered a dramatic decline in the 1970's. Subsequent decades have seen slow and steady growth in the population, and the 2010 census measured the total population of the area at 152,985 people, an increase of over 9,000 residents from the 2000 census count of 143,867 people.

The rezoning area is well served by mass transit. The J, Z, and M subway lines run above Broadway, the eastern boundary of the rezoning area and the G line curves through the rezoning area below Lafayette and Marcy Avenues. The J and Z lines connect the area to downtown Manhattan, while the M line connects to midtown Manhattan and Queens. The G line connects the area to Park Slope, Williamsburg, Greenpoint, and Long Island City. Additionally, the A and C lines, running along Fulton Street, are within a ½ mile walk of the southern boundary of the study area.

The area is served by the B38, B54 and B57 bus lines which run east/west on Lafayette/DeKalb Avenue, Myrtle Avenue, and Flushing Avenue, respectively. These lines offer connections to Ridgewood, Downtown Brooklyn and the A, C, B, F, R, 2, and 3 subway lines. The B48, B44, B43, B15, B46, and B47 bus lines run north/south on Classon/Franklin Avenue, Bedford/Nostrand Avenue, Throop/Tompkins Avenue, Lewis Avenue/Marcus Garvey Boulevard, Broadway and Malcolm X Boulevard, and Broadway and Ralph Avenue, respectively. These lines offer connections to Williamsburg and Greenpoint to the north, Flatbush and Prospect Park to the south, as well as the B, Q, C, 2, 3, and 5 subway lines, the Long Island Railroad, and John F. Kennedy Airport.

EXISTING ZONING

The area is predominately zoned R5 and R6 with C1-3 and C2-3 commercial overlays on Broadway, Myrtle and Flushing Avenues, and interspersed along the north/south avenues. Additionally, there are C8-2 and C4-3 commercial districts on Broadway. The majority of existing zoning districts have remained unchanged since 1961 when the current Zoning Resolution was adopted. The rezoning area does not include the manufacturing districts in the northwest portion of Community District 3 (**Figure 2**. Existing Zoning).

R5

An R5 zoning district, which is currently mapped over approximately 13 full or partial blocks of the rezoning area, is located in the center of the study area. It is generally bounded by Tompkins Avenue to the west, Lafayette Avenue and Kosciusko Street to the north, Stuyvesant Avenue to the east, and Lexington Avenue and Greene Street to the south. R5 is a residential zoning district with a 40-foot height limit and a maximum standard FAR of 1.25. R5 regulations allow an FAR of 1.65 on blocks that are mostly built up to encourage infill construction, but any building utilizing this additional FAR cannot exceed a height of 33 feet and must have an 18 foot front yard. All housing types and multi-family housing are permitted. Community facilities have a maximum FAR of 2.00. Off street parking is required for a minimum of 85% of the dwelling units in standard R5 districts and a minimum of 66% of the dwelling units in R5 Infill.

R6

Approximately 120 full or partial blocks of the rezoning area is zoned R6R6 is a height factor district wherein residential and community facility uses are regulated by a sky exposure plane. R6 districts result in development usually between three and twelve stories. A maximum FAR of up to 2.43 is allowed for residential uses and up to 4.8 FAR is allowed for buildings containing community facility uses. The optional Quality Housing program permits an FAR of 2.2 on narrow streets and 3.0 on wide streets but limits building heights to 55 feet and 70 feet, respectively. Off-street parking is required for a minimum of 70% dwelling units and a minimum of 50% dwelling units when the Quality Housing program is utilized.

C4-3

Approximately 8 full or partial blocks of the rezoning area is zoned C4-3. There are two C4-3 commercial zoning districts mapped in the northern half of Bedford-Stuyvesant, both along Broadway. One is mapped in the vicinity of the Gates Avenue subway station along Ralph Avenue and Broadway, south of Greene Street. The other is along Broadway north of Ellery Street extending along Flushing Avenue east of Throop Avenue. C4-3 districts are regional commercial centers where uses, such as specialty and department stores, serve a larger area and generate more activity than a local retail area. The C4-3 district regulations permit commercial buildings up to a maximum 3.4 FAR, residential buildings up to a maximum 2.43 FAR under height factor regulations and 3.0 FAR using the Quality Housing regulations. Community facility and mixed residential/community facility buildings are permitted up to a maximum 4.8 FAR with no height limit. Off-street parking is required for 70% of the dwelling units on lots over 10,000 square feet and for 50% of the units on lots smaller than 10,000 square feet. Non-

Bedford-Stuyvesant North Rezoning: Existing Building Examples Figure 2



Medium-density rowhouses on Greene Avenue



Broadway commercial corridor with elevated rail



Out of character development on Tompkins Avenue



Retail businesses on Myrtle Avenue



Apartment Building at Marcy Avenue and Pulaski Street



Out of character development on Kosciuszko Street

residential parking is waived, except for commercial uses that would require 15 spaces or more or community facility uses that would require 25 spaces or more.

C8-2

Approximately 5 full or partial blocks of the rezoning area is zoned C8-2. There are two C8-2 zoning districts mapped in the rezoning area. One is along Myrtle Avenue between Lewis Avenue and Broadway. The other is comprised of partial blocks generally defined by Broadway to the east, Van Buren Street to the north, between Patchen Avenue and Ralph Avenue to the west, and between Lexington Avenue and Quincy Street to the south. C8-2 districts bridge commercial and manufacturing districts and are mapped mainly along major arterials. The C8-2 district regulations allow all commercial uses, including automotive and other heavy commercial services, up to FAR 2.0 and permit community facilities at a maximum 4.8 FAR. Residences are not permitted in C8-2 districts and performance standards apply to commercial uses. Off-street parking requirements vary with use, but are generally substantial for automotive uses.

Commercial Overlays

There are commercial overlays permitting local commercial retail uses mapped along the north/south avenues and Broadway, as well as DeKalb and Myrtle Avenues. The predominant C1-3 commercial overlay allows small-scale retail and service shops needed in residential neighborhoods and is mapped generally along Myrtle, DeKalb, Bedford, Nostrand, and Tompkins Avenues, as well as Marcus-Garvey Boulevard. In R6 districts, the commercial FAR can be up to 2.0, while in R5 districts the maximum FAR is 1.0.

The C2-3 overlays allow a slightly broader range of service uses, such as funeral homes and repair services and are mapped along Flushing, Bedford, Nostrand, and Throop Avenues, Malcolm X Boulevard, and Broadway. In R5 districts, the commercial FAR can be up to 2.0, while in R5 districts it can be 1.0.

PURPOSE AND NEED FOR THE PROPOSED ACTIONS

The proposed actions seek to provide a framework for predictable, orderly growth that also serves the community by protecting residential character while reinforcing the commercial corridors, allowing for residential growth, and creating opportunities and incentives for affordable housing development in select areas. The existing zoning regulations in Bedford-Stuyvesant have predominantly been in place since 1961, and permit buildings that are out-of-character, particularly in the many areas zoned R6, since there is no height limit on buildings in these districts.

Recent years have seen an increase in commercial and residential development in Bedford-Stuyvesant in general, with some recent development creating buildings that are out of character with the surrounding neighborhood context. In addition, some of the existing commercial overlays are not appropriate and do not match existing commercial trends. Some commercial overlays extend deep into the residential side streets, allowing commercial encroachment into these residential areas. In other areas, portions of existing commercial corridors lack commercial

overlays, or have commercial zoning that does not allow of the type or configuration of commercial use that currently exists.

The fine-grained rezoning strategy presented here addresses concerns about recent development through the use of medium-density contextual zoning districts with height limits and streetwall line-up provisions (R6B, R6A, R7A, R7D, and C4-4L) to more closely reflect the modest scale of residential development in the residential core of the neighborhood while allowing for growth on major corridors where such development is appropriate. The proposed actions are intended:

- To reinforce the character of Bedford Stuyvesant residential blocks and ensure future development is consistent with the surrounding neighborhood's building pattern
- Create growth opportunities and affordable housing development through the Inclusionary Housing Program, and
- Promote predictable and appropriate commercial development on major corridors by establishing commercial zoning regulations (C4-4L, C2-4, Enhanced Commercial District) that foster a lively streetscape that is pedestrian-friendly and meets the community's needs for access to retail and services.

PROPOSED ZONING

The proposed actions would affect approximately 5,911 lots on 140 blocks. The rezoning area covers portions of Zoning Map sections 12d, 13b, 16c, and 17a. The proposed rezoning replaces all or portions of existing R5, R6, C4-3, and C8-2 districts with R6B, R6A, R7A, R7D, and C4-4L districts, and updates existing C1-2 and C1-3 overlays with C2-4 overlays, eliminates portions of existing C1-2 and C1-3 overlays, and establishes new C2-4 overlays. The proposal would also establish new Inclusionary Housing Areas and a new Enhanced Commercial District. (see Proposed Zoning, **Figure 4**).

Proposed R6B

Existing R5 and R6

94 full and partial blocks of the rezoning area are proposed to be rezoned to R6B. This proposed designation would protect the low-rise, rowhouse and small home character of the east-west side streets. In the district currently zoned R5, the R6B designation would allow for modest enlargements and new development in context with existing four-story rowhouses. In portions of the area currently zoned R6, the R6B designation would allow for modest enlargements of many existing homes while establishing a height limit that reflects the scale of existing development. These proposed R6B areas are typically built with two to four story rowhouses with some larger housing types built throughout.

The R6B district is a rowhouse district that allows a maximum FAR of 2.0 for Use Groups 1, 2, 3, and 4 and limits building heights to 50 feet and street wall heights to 40 feet. New development in the proposed R6B district would be required to maintain the existing street wall characteristics. New multi-family residences must provide one off-street parking space each for 50% of the dwelling units. This parking requirement is waived if five or fewer spaces are

required. Non-residential parking requirements of one space per 1,000 square feet of commercial area are waived when fewer than 25 spaces are required. The proposed R6B regulations would allow for limited expansion of many existing uses and provide for opportunities for appropriately scaled new development on vacant sites.

Proposed R6A

Existing R5, R6, and C8-2 districts

83 full or partial blocks of the rezoning area are proposed to be rezoned to R6A. An R6A district is proposed for lot frontages along many north/south avenues, including portions of Kent Avenue, Nostrand Avenue, Marcy Avenue, Tomkins Avenue, Throop Avenue, Marcus Garvey Boulevard, Stuyvesant Avenue, Malcolm X Boulevard, Patchen Avenue, and Ralph Avenue. These avenues contain small apartment buildings, and some vacant land and vacant buildings. The majority of these blocks are currently zoned R6 and R5 with commercial overlays of either C1-3 or C2-3, with some areas currently zoned C8-2.

R6A is a medium-density apartment district, with a maximum FAR of 3.0 for Use Groups 1, 2, 3, and 4. Above a base height of 40 to 60 feet, the building must set back to a depth of 10 feet on a wide street and 15 feet on a narrow street before rising to a maximum height of 70 feet. New structures in R6A districts are required to line up with adjacent structures to maintain the streetwall. Off-street parking is required for 50% of housing units, but is not allowed in the front of the building. This parking requirement is waived if five or fewer spaces are required. Non-residential parking requirements of one space per 1,000 square feet of commercial area are waived when fewer than 25 spaces are required.

Proposed R7A

Existing R6 districts

An R7A designation is proposed for 38 full and partial blocks along major thoroughfares, including portions of Myrtle, Marcy and Bedford Avenues. These areas are typically mixed in character, with larger apartment buildings interspersed with and mixed-use and commercial buildings at a variety of scales. The proposed R7A districts would allow development that is in context with the existing built character and, concurrent with proposed C2-4 commercial overlays, will promote contextual mixed use buildings.

As part of the related zoning text amendment, the Inclusionary Housing Program would be made applicable within R7A districts in this area. R7A permits residential and community facility uses to a base FAR of 3.45. The FAR may be increased to 4.6 if affordable housing is provided. Base heights are required to be between 40 and 65 feet, and the maximum building height is 80 feet after a setback from the street. This typically produces 6- to 8-story buildings. New buildings in R7A districts must be located no closer to the street than a neighboring building. Parking is required for 50% of the residential units. New residences would be required to provide one off-street parking space for 30% of the dwelling units. This parking requirement is waived if 15 or fewer spaces are required. Non-residential parking requirements of one space per 1,000 square feet of commercial area are waived when fewer than 40 spaces are required.

Proposed R7D

Existing R6 districts

An R7D designation is proposed for 6 full and partial blocks along Myrtle Avenue, between Nostrand Avenue and Lewis Avenue. Myrtle Avenue is a major transit corridor with stations for the J, M, Z, and G subway lines, and is characterized by larger apartment buildings, including NYCHA developments with towers up to 24 stories tall, and more moderately-scaled buildings with retail uses on the ground floor and residential uses above. There is also a significant amount of vacant land. Mapping R7D in this area along with the proposed C2-4 commercial overlay (see C2-4 section below) will provide opportunities for housing development, including affordable housing, and strengthen Myrtle Avenue as a retail and service corridor. Four projected and four potential development sites are within the proposed R7D districts.

As part of the related zoning text amendment, the Inclusionary Housing Program would be made applicable within R7D districts in this area. R7D is a residential district that allows apartment building development, with a base FAR of up to 4.2 for Use Groups 1, 2, 3 and 4. The R7D district would be subject to the Inclusionary Housing program, where developers could receive a 33% floor area bonus, up to 5.6 FAR, if 20% of the floor area is made affordable to low-income households, either on-site or off-site. New structures in R7D districts are required to line up with adjacent structures to maintain the streetwall. Above a base height of 60 to 85 feet, the building must set back to a depth of 10 feet on a wide street and 15 feet on a narrow street before rising to its maximum height of 100 feet. In addition, where commercial overlays are mapped, active ground floor uses, such as retail uses, commercial services, and community facilities are required. Off-street parking is required for at least 30% of the dwelling units. This parking requirement is waived if 15 or fewer spaces are required. Non-residential parking requirements of one space per 1,000 square feet of commercial area are waived when fewer than 40 spaces are required. The related zoning text amendment would also apply minimum transparency requirements for the ground floor of buildings in R7D districts where commercial overlays are mapped in order to engage the pedestrian and create a consistent commercial character.

Proposed C4-4L

Existing R6, C8-2, and C4-3 districts

A C4-4L designation is proposed for 18 full and partial blocks along Broadway. This newly-created district would encompass the existing C4-3 and portions of the existing C8-2 districts, as well as R6 districts with C2-3 overlays on Broadway. The area proposed to be zoned C4-4L is generally bounded by Broadway in the northeast, between Marcus Garvey Boulevard in the north and Monroe Street to the south. The western boundary of the district encompasses all or part of the blocks fronting on Broadway. Broadway is a major commercial corridor coincident with the elevated J, M and Z subway line. The current land use includes retail, office, and community facility uses ranging in scale from major regional institutions to single-story retail buildings. Residential use is also located throughout the corridor, primarily on the upper floors of mixed-use buildings, but also in 3-7 story residential buildings.

The accompanying zoning text amendment proposes to create the new C4-4L district, which is tailored for significant commercial corridors with elevated trains, like Broadway.

As part of the related zoning text amendment, the Inclusionary Housing Program would be made applicable within C4-4L districts in this area. The proposed new C4-4L is a contextual, regional commercial district that also allows mixed use buildings. The residential equivalent to the proposed C4-4L zoning district is R7A. Permitted Use Groups are 1-6, 8-10 and 12. Commercial and community facility development is allowed to a maximum FAR of 4.0. Residential development is allowed to a maximum FAR of 4.6 under the Inclusionary Housing bonus and 3.45 when not using the Inclusionary Housing bonus. A thirty foot deep rear yard is required. Residential developments are required to provide one off-street parking space each for 50% of the dwelling units when the lot is larger than 15,000 square feet and for 30% of the dwelling units on lots smaller than 15,000 square feet. Parking requirements are waived for lots smaller than 10,000 square feet. Non-residential parking requirements of one space per 1,000 square feet of commercial area are waived when fewer than 40 spaces are required.

The proposed C4-4L district would allow for a wider range of uses than the existing C2-3 commercial overlays, and provide more flexibility in mixed-use building design.

The proposed C4-4L district would allow two distinct building types depending on the location in relation to elevated train tracks:

- For lots not fronting on the elevated train, the proposed C4-4L district requires a street wall between 40’ and 65’ high and allows a maximum building height of 80’.

- For lots fronting on the elevated train and within 125 feet of the streetline adjacent to the elevated train, buildings would be required to set back five feet from the streetline adjacent to the elevated train at the ground floor, and allowed to rise to a maximum height of 100’, with a minimum base height of 30’ and a maximum base height of 65’. Above the base height, buildings would be required to set back at least 15’. Certain corner lots and through lots, depending on size and configuration, would also be subject to more lot coverage maximums, and some through lots would be permitted to waive the required rear yard equivalent.

Proposed C2-4 Overlays

Existing C1-3 and C2-3 districts in R5, R6, and C8-2 districts

The proposed rezoning would update all C1-3 and C2-3 commercial overlay districts to C2-4 districts. In addition to Use Groups 1, 2, 3, 4, 5, and 6 allowed in C1-3 districts, C2-4 districts also allow Use Groups 7, 8, 9, and 14, which include uses such as plumbing and electrical shops, small bowling alleys and movie theaters, funeral homes, small repair shops, printers, and caterers.

Parking requirements are less in C2 districts, from one per 300 building square feet to one per 1,000 building square feet, and are waived when the total number of spaces required is less than 40.

In 1961, overlays were mapped to a depth of 150' in order to reflect the belief that parking would be accommodated in the first 50' of front yard space at retail stores. However, this proposal would map commercial overlays to a depth of 100', in order to better reflect the typical depth of existing lots along these corridors and to prevent commercial uses from encroaching on residential side streets.

Existing overlays would be replaced with C2-4 overlays where there are commercial uses and where the overlay districts do not encroach on residential areas. New overlays would be added where there are existing commercial uses but no overlay. On block frontages where there are no commercial uses or the block frontages are predominately residential, overlays would be removed. Exact locations of overlays to be removed and added are illustrated in **Figures 3** and **4**.

ZONING TEXT AMENDMENTS

New Contextual Zoning District- C4-4L

The Department of City Planning proposes a Zoning Text Amendment to establish a new citywide C4-4L regional commercial zoning district for medium-density residential and commercial development along major retail or transit corridors where elevated train tracks are present.

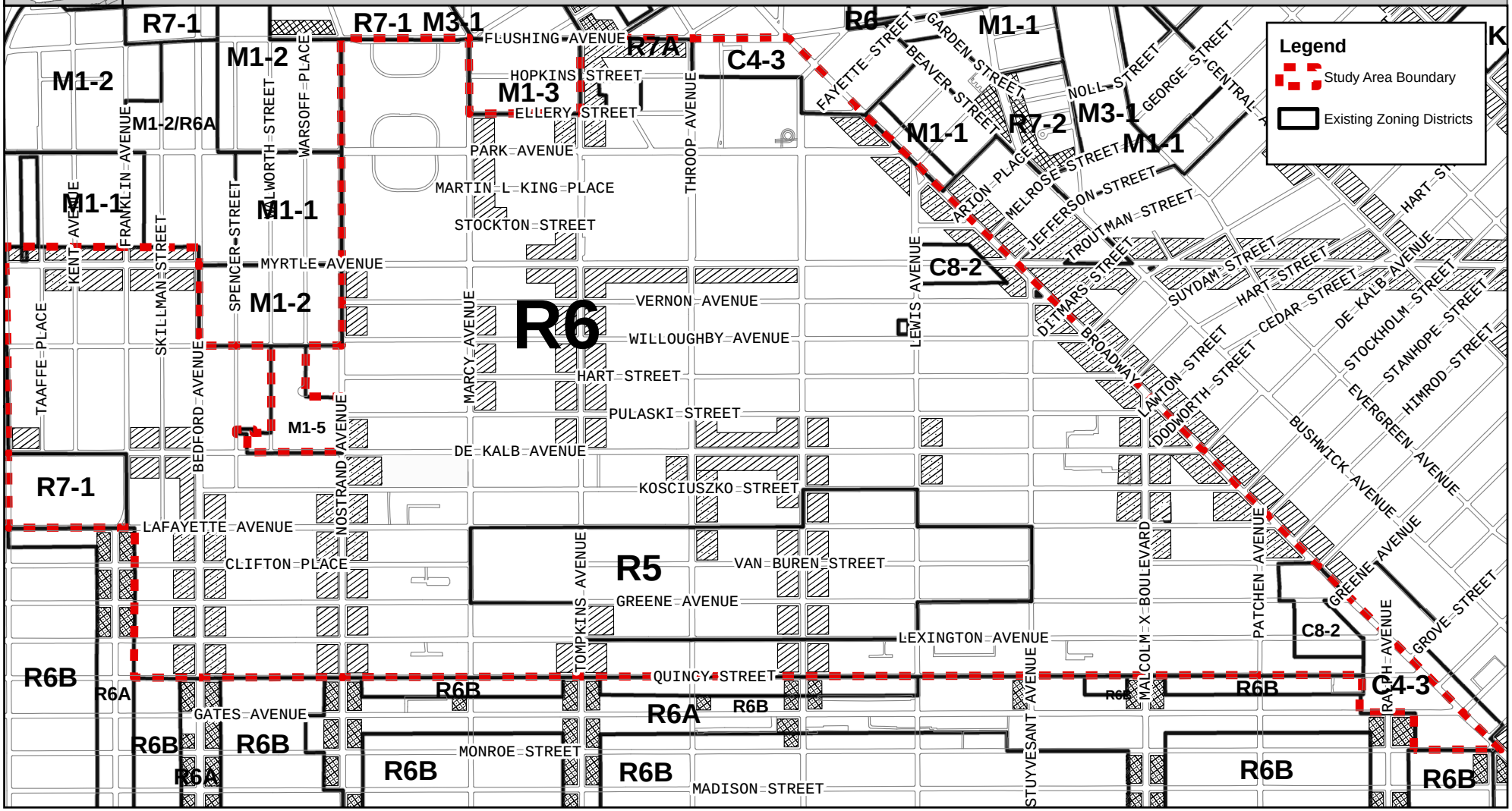
The new C4-4L zoning district would allow the same use groups as a C4-4A district, and would allow commercial use on multiple floors of mixed-use buildings. However, the C4-4L district would include special height and setback, and lot coverage regulations tailored to allow more light and air to the street and to facilitate the provision of affordable housing through the Inclusionary Housing Program for new buildings in close proximity to an elevated rail line (see "Inclusionary Housing Program" below). Along Broadway, the proposed new C4-4L district would also be paired with a new Enhanced Commercial District (below), pursuant to the other proposed Zoning Text amendment. The new Enhanced Commercial District would establish ground-floor use requirements and urban design regulations to assure that the continuation of the range and configuration of uses on Broadway today and support the strengthening of the commercial character by improving the pedestrian experience and fostering a lively streetscape.

The proposed C4-4L district would allow buildings with a maximum building height of 80 feet after a 40-65 foot base, except for lots fronting on the elevated rail line within 125 feet of the streetline adjacent to an elevated rail line. For lots within 125 feet of, and fronting on, an elevated rail line, special height and setback regulations are proposed that would allow buildings to rise to a maximum height of ten stories or 100 feet. New developments and enlargements at the streetline would be required to be set back five feet from the streetline at the ground floor, and another 15 feet above the building base between 30 and 65 feet. This would ensure adequate sidewalk width for pedestrians around subway pillars and stairs, provide increased light and air at the street level and allow buildings to locate upper floors at an adequate distance from the elevated train tracks. To allow for economically feasible development of irregular lots as a result of the acute angle of Broadway, certain corner lots and through-lots would also be subject to more flexible lot coverage maximums, and some through-lots would be permitted to waive the required rear yard equivalent.

Bedford-Stuyvesant North Rezoning

Existing Zoning

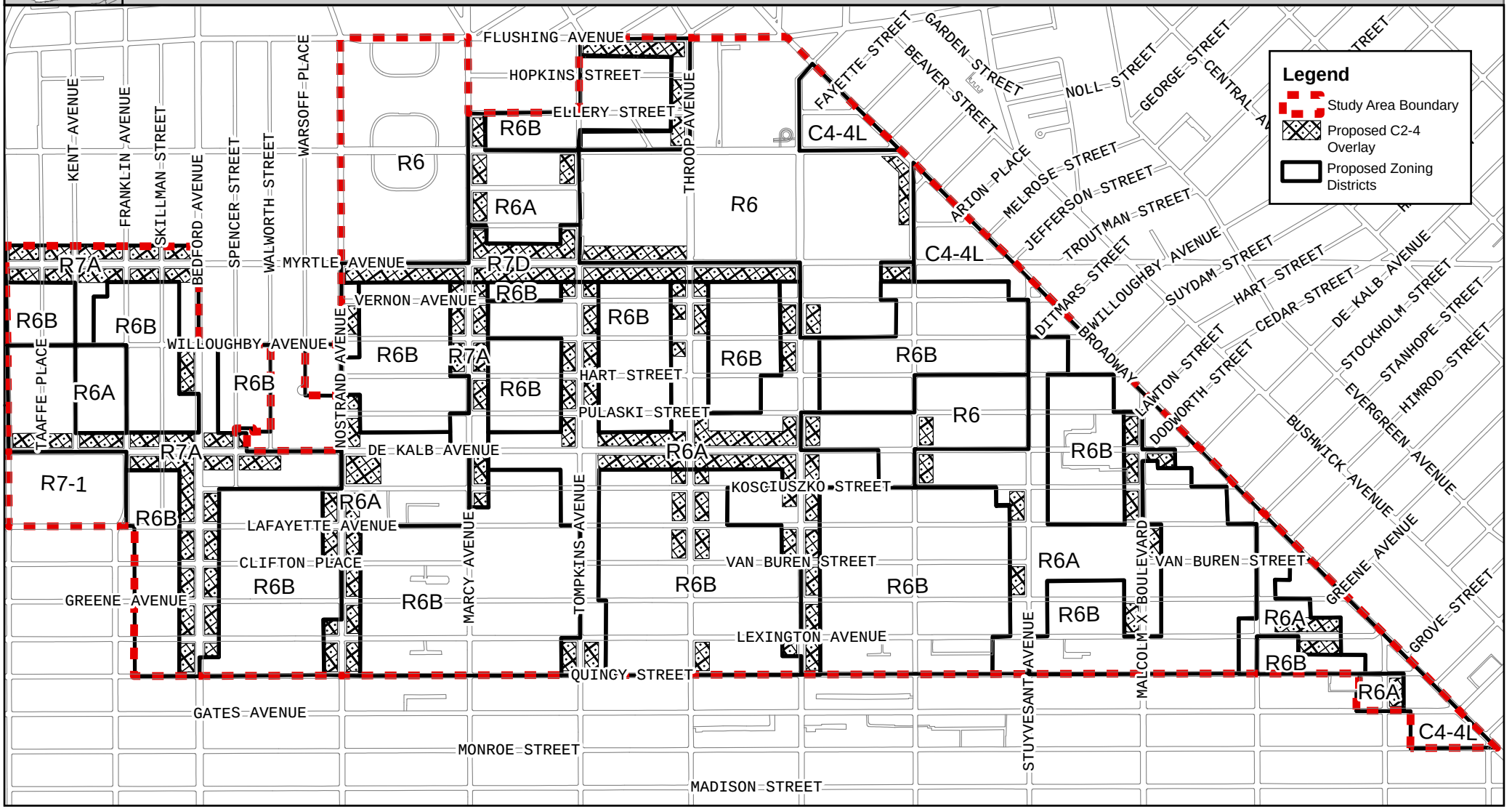
Figure 3



Bedford-Stuyvesant North Rezoning

Proposed Zoning

Figure 4



C4-4L Commercial District							
	Lot Location	Lot Coverage (max)		FAR (max)	Base Height (min/max)	Building Height	Required Parking
		Corner Lot	Interior/ Through Lot				
C4-4L	Fronting on Elevated Rail Line	80%[1]	65%[2,3]	4.0[4]	30-65 ft	100 ft	50% of dwelling units[5]
	Not Fronting on Elevated Rail Line	80%	65%	4.0	40-65 ft	80 ft	50% of dwelling units[5]

[1]Corner lots less than 5000 sf, or less than 7,500 sf if bounded by streets meeting at an angle of less than 65 degrees not subject to maximum lot coverage
[2]Through lots less than 180 ft deep and bounded by streets meeting at an angle of less than 65 degrees limited to 80 percent lot coverage
[3]Through lots less than 180 ft deep and bounded by streets meeting at an angle of less than 65 degrees not subject to rear yard equivalent requirement
[4]4.6 FAR with Inclusionary Housing Program
[5]30 percent if zoning lot is 10,000 sf or less; waived if 15 or fewer spaces

The proposed C4-4L district would be subject to the Inclusionary Housing program, where developers could receive a 33 percent floor area bonus of up to 4.6 FAR from 3.45 FAR, if 20 percent of the floor area is made affordable to low-income households either on-site or off-site.

Enhanced Commercial District

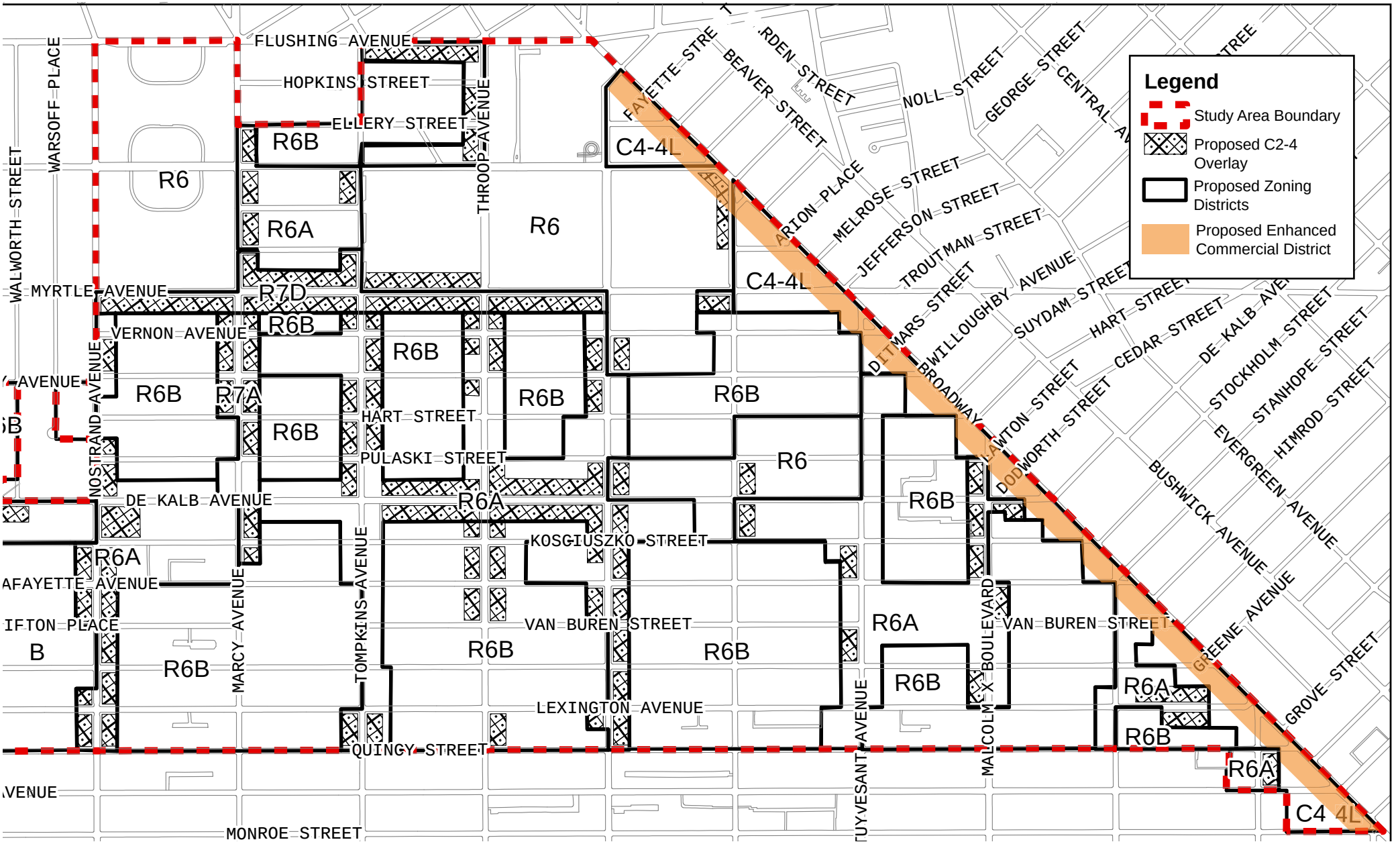
The Department of City Planning proposes a Zoning Text amendment to establish an Enhanced Commercial District in the rezoning area along Broadway between Flushing Avenue and Monroe Street (**Figure 5**). The Enhanced Commercial District would foster a safe and engaging pedestrian experience along the Broadway commercial corridor and reinforce the existing commercial character of the area by establishing regulations governing ground floor use, transparency on the ground floor on Broadway, and limiting curb cuts. The proposed regulations would apply to new development and enlargements at the streetline, but would not apply to schools, churches, or lots less than 20 feet wide.

The proposed ground floor use regulations would require that all ground floor uses fronting on Broadway, or within 30 feet of Broadway be non-residential, such as retail establishments, offices and community facilities. Off-street parking would also not be permitted within 30 feet of Broadway, and residential lobbies on Broadway would be limited to a maximum width of 25 feet.

Bedford-Stuyvesant North Rezoning

Proposed Enhanced Commercial District

Figure 5



NYC PLANNING
DEPARTMENT OF CITY PLANNING CITY OF NEW YORK

March 2012
Brooklyn Office

New developments and enlargements would also be required to provide glazing or other transparent treatment at the ground floor façade facing Broadway. A minimum of 50 percent of the area between 2 and 12 feet above curb level would be required to be transparent, with no blank walls to exceed more than ten feet.

New curb cuts would not be permitted along Broadway, except for lots that do not have access to another street and are at least 60 feet wide to prevent pedestrian-vehicle conflicts and strengthen the continuity of active uses along Broadway.

The proposed Enhanced Commercial District regulations would ensure that new development in C4-4L districts along Broadway would have active ground floor uses and ample windows to enhance the pedestrian experience and foster the creation of a lively streetscape with plenty of community facility, retail, and service establishments.

Inclusionary Housing Program

The Department of City Planning proposes a Zoning Text amendment to apply the Inclusionary Housing program to the proposed R7A, R7D and C4-4L districts within the rezoning area. This Text amendment would establish incentives for the creation and preservation of affordable housing in conjunction with new development (**Figure 6**). The Inclusionary Housing bonus proposed would be consistent with the bonus established for contextual developments under the recently-adopted Fort Greene/Clinton Hill, Bedford Stuyvesant South, Greenpoint-Williamsburg Contextual, and Sunset Park rezonings, and would promote the creation and preservation of affordable units in both rental and condominium developments. The incentives target affordable housing to a range of income levels.

Under the Inclusionary Housing program, a development providing affordable housing is eligible for a floor area bonus, within contextual height limit and bulk regulations tailored to this area. Affordable units can be provided either on-site or off-site, or by acquiring and preserving existing housing at affordable rents. Off-site affordable units must be located within the same community district or within a half-mile of the bonused development. Available city, state, and federal housing finance programs may be used to finance affordable units. The combination of a zoning bonus with housing programs would establish a powerful incentive for the development and preservation of affordable housing in Bedford-Stuyvesant North.

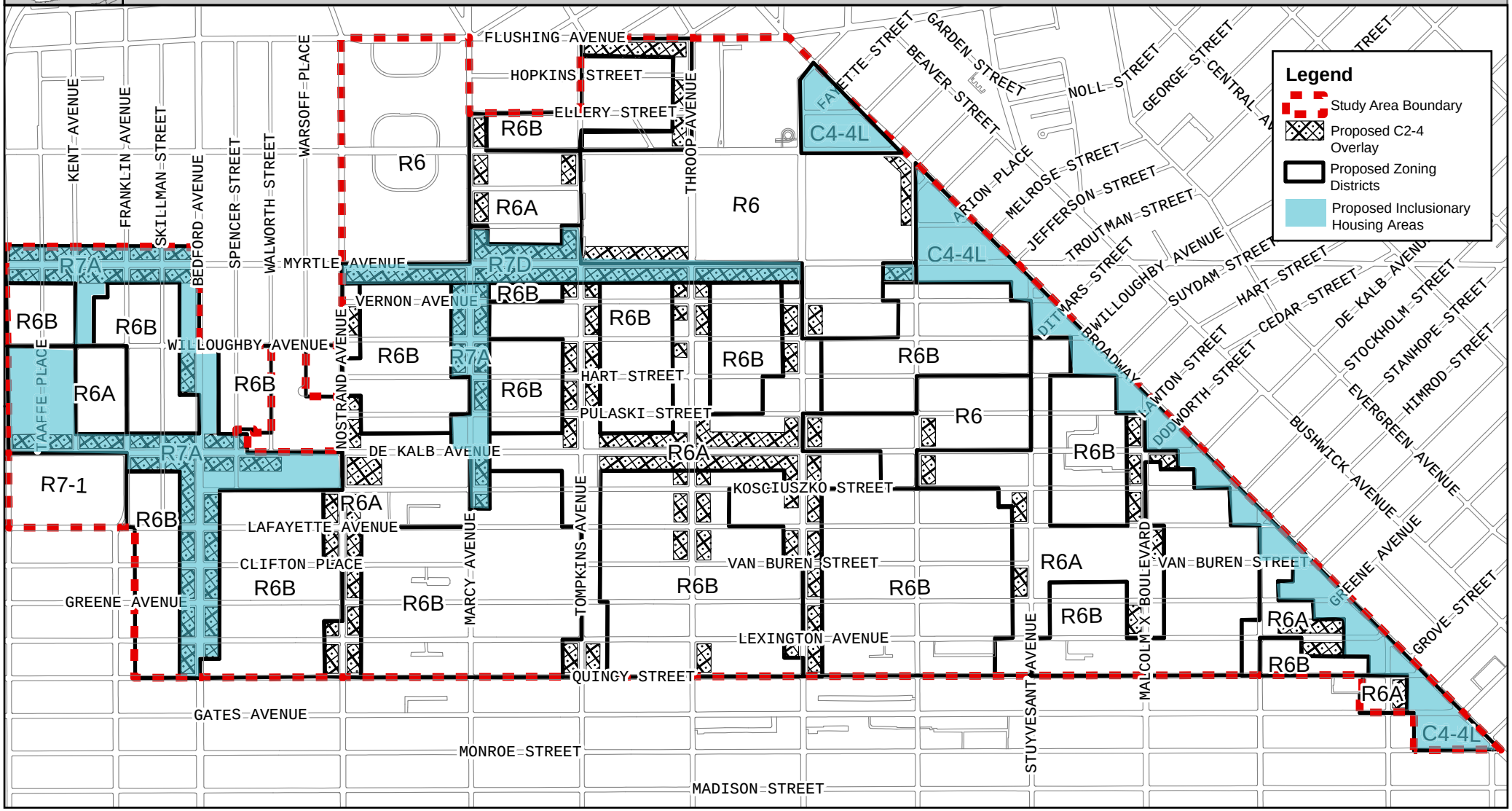
Using the Inclusionary Housing designated areas Program, the floor area may be increased by 1.25 square feet for each square foot of affordable housing provided, up to the maximum FAR—a bonus of 33 percent for providing 20 percent of affordable housing.

Inclusionary Housing Program		
Zoning District	Base FAR	Bonus FAR
R7A	3.45	4.6
R7D	4.2	5.6
C4-4L	3.45	4.6

Bedford-Stuyvesant North Rezoning

Proposed Inclusionary Housing Areas

Figure 6



Transparency Requirements

The Department of City Planning proposes a Zoning Text amendment to require transparency on the ground floor in R7D districts mapped with a C2 commercial overlay. The proposed transparency regulations would also apply to R9D districts mapped in conjunction with a C2 district, and in C4-5D districts. This proposal would affect currently mapped R7D zoning districts in Brooklyn Community Districts 3 and 13, and C4-5D zoning districts currently mapped in Bronx Community District 7. This new requirement would complement the existing ground-floor use provisions for these zoning districts designed to strengthen the commercial character by prohibiting residential and parking use. Providing ample transparency at the ground floor would enliven the streetscape by engaging pedestrians and creating visual continuity along a street. Large expanses of blank wall that interrupt retail continuity would be prohibited.

The proposed regulations would require that 50 percent of the building frontage on the ground floor between a height of 2 and 12 feet above curb level be glazed with transparent materials.

In addition, the Zoning Text amendment would modify regulations for R7D, R9D, C4-5D to allow elevators and stairs that provide access to residential portions of buildings in areas otherwise not allowed to contain residential uses.

ATTACHMENT 2 – REASONABLE WORST CASE DEVELOPMENT SCENARIO
Bedford – Stuyvesant North Rezoning
Environmental Assessment Statement
CEQR No. 12DCP156Y
ULURP Nos.: 120294ZMK, N120295ZRK & N120296ZRY

DEVELOPMENT SITE CRITERIA

In order to assess the potential effects of the proposed actions, the following reasonable worst case development scenario was developed for both the current ("No-Action") and proposed ("With-Action") conditions for a ten-year period (build year 2022). The No-Action condition identifies the amount, type, and location of development that is expected to occur by 2022 absent the proposed actions, while the With-Action condition identifies similar development projections expected to occur as a result of the proposed actions. The incremental difference between the With-Action and No-Action conditions will serve as the basis for the impact analysis of the Environmental Assessment Statement. A ten year period represents the amount of time developers would act on the proposed action for an area-wide rezoning not associated with a specific development.

The No-Action and With-Action conditions were determined using standard methodologies derived from the *CEQR Technical Manual* guidelines and by employing reasonable assumptions and standard best practices. These methodologies and assumptions establish the most likely amount and location of future development. For an area-wide rezoning that creates a broad range of opportunities, new development can be expected to occur on selected sites, rather than all sites within the rezoning area. In identifying likely development sites, several factors have been considered including known development proposals, recent development trends, and the following site criteria.

The first step in establishing the development scenario was to define and identify "soft" sites, which are sites where new development could reasonably be expected to occur. The soft sites identified were separated into two groups based on their future likeliness to be developed. The most likely sites are *projected* sites while the somewhat likely sites are grouped as *potential* sites. These distinctions are expounded on below.

In projecting the amount and location of new residential development, several factors have been considered in identifying likely development sites. These factors include both current and past development trends, and the development site criteria described as follows:

- Lots constructed to half or less of the proposed FAR;
- Individual lots or assembled sites of 5,000 square feet or larger;
- Change in use;
- Lots on which owners have expressed development interest.

In addition, certain uses and building types that meet these criteria were excluded from the development scenario, because they are unlikely to be redeveloped as a result of the proposed rezoning. They include:

- Buildings with six or more residential units which are likely to be rent-stabilized and difficult to legally demolish due to tenant relocation requirements;
- Buildings that are currently developed with schools, religious institutions, or public facilities;
- Lots for which there are known developments planned.

PROJECTED AND POTENTIAL DEVELOPMENT SITES

To produce a reasonable, conservative estimate of future growth, a Reasonable Worst Case Development Scenario (RWCDS) has been defined for the proposed actions. The development sites were divided into two categories - projected development sites and potential development sites. The projected development sites are considered more likely to be developed within the ten-year analysis period (build year 2022) because of their proximity to areas that have experienced the most development in recent years and because of their size (they are either large lots or contiguous small lots in common ownership that together comprise a large site). The potential development sites are less likely to be developed within a ten year period because they are not entirely under common ownership, have an irregular shape, are located in a zoning district with a relatively low permitted density, are active commercial or residential uses, are relatively distant from the reinvestment areas, or have some combination of these features.

Based on the criteria above, sixty-four development sites (31 projected and 33 potential) have been identified in the areas being rezoned (see **Figures 7, 7a** and **7b**, Projected/Potential Development Sites). The incremental difference between the Future No-Action and Future With-Action for all projected sites is:

- An increase of 790 dwelling units; of which 285 are affordable under the Inclusionary Housing Program;
- An increase of 135,964 square feet of retail space;
- An increase of 28,182 square feet of office space;
- A decrease of 291,775 square feet of community facility space.

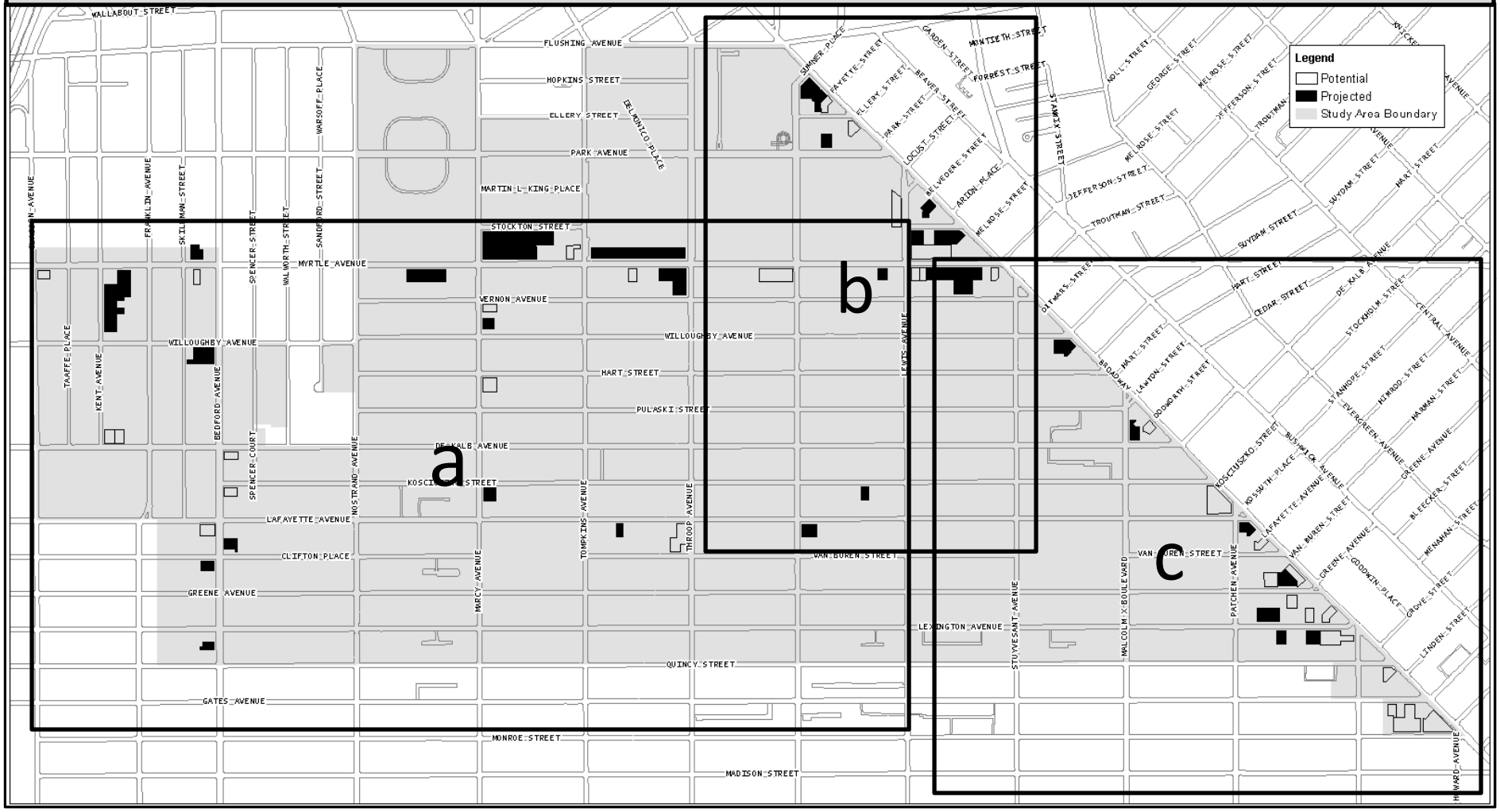
The incremental difference between the Future No-Action and the Future With-Action for all potential development sites is:

- An increase of 409 dwelling units;
- An increase of 77,278 square feet of retail space;
- An decrease of 5,292 square feet of office space;
- A decrease of 187,377 square feet of community facility space.

BEDFORD-STUYVESANT NORTH REZONING

DEVELOPMENT SITE LOCATION MAP, *section key*

Figure 7
May 2012



BEDFORD-STUYVESANT NORTH REZONING

Figure 7a

DEVELOPMENT SITE LOCATION MAP, *section a*

May 2012

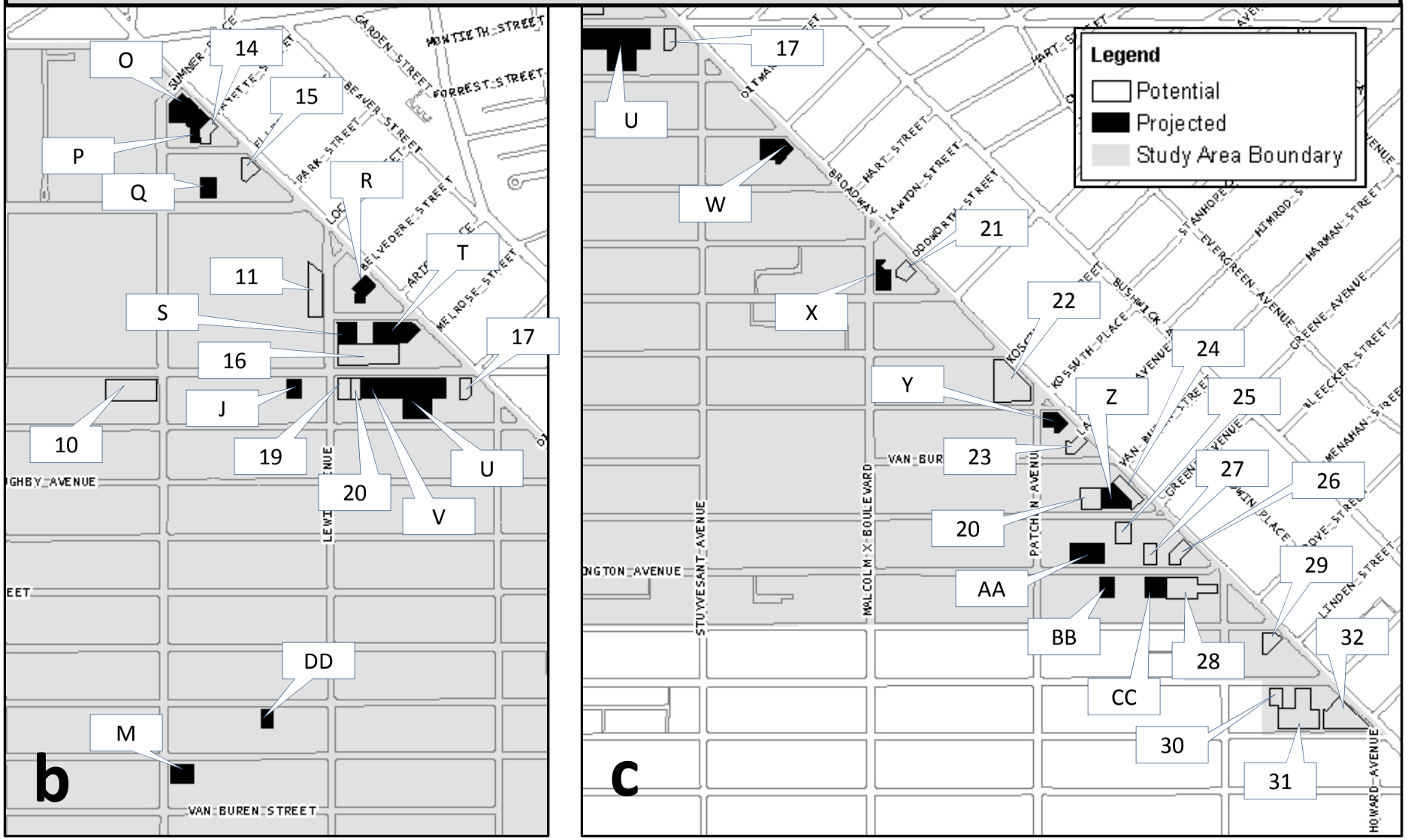


BEDFORD-STUYVESANT NORTH REZONING

DEVELOPMENT SITE LOCATION MAP, *sections b and c*

Figure 7b

May 2012



DEVELOPMENT SCENARIO PARAMETERS

The Bedford-Stuyvesant North Rezoning would preserve the context and neighborhood character of the northern portion of Bedford-Stuyvesant, while allowing for new opportunities for market-rate and affordable housing construction, as well as for commercial development.

The Department of City Planning has identified 31 projected development sites likely to be developed by 2022 (see **Table 1**). In addition, there are 33 potential development sites which are considered less likely to be developed than the projected sites over the 10-year analysis period (see **Table 2**).

A. NO-ACTION CONDITIONS

The proposed rezoning area is expected to experience moderate growth under current zoning and development trends. As-of-right growth is expected to occur on 30 of the 31 projected sites indentified in the RWCDS. Most of the projected growth is expected to be residential and developed predominantly along the Myrtle Avenue, Bedford Avenue, and Broadway corridors. Growth in community facility and commercial uses is also expected, the latter primarily in the form of office space and retail stores, and the former a mix of medical services, childcare, and houses of worship.

These 31 projected sites currently have 2 dwelling units, 347,554 square feet of commercial uses and no community facility space. In the Future No-Action, as-of-right development is expected to occur on all but one of these sites. The Future No-Action is expected to consist of 1,198 dwelling units, 170,399 square feet of commercial uses (primarily retail) and 28,666 square feet of office uses, and 380,826 square feet of community facility space.

B. WITH-ACTION CONDITIONS

In the Future With-Action, modestly higher mixed-use development is expected to occur. The total development expected to occur on the projected development sites under the With-Action conditions consist of 1,988 dwelling units, 306,363 square feet of commercial space, 56,847 square feet of office space and 89,051 square feet of community facility space.
This growth is expected to occur mainly along the Myrtle Avenue, Bedford Avenue, and Broadway corridors. These three corridors account for the bulk of the projected growth in dwelling units and commercial square footage.

Compared to the No-Action, the With-Action scenario could result in the incremental development of approximately 790 dwelling units. The With-Action scenario could result in the incremental development of approximately 135,964 square feet of commercial uses, and 28,182 square feet of office space. A decrease of 291,775 square feet of community facility space is expected.

Nearly all of the new residential and commercial construction is projected in the R7D, R7A and C4-4L districts along the major corridors of Broadway, Myrtle Avenue, and Bedford Avenue.

A key factor in anticipating a moderate increase in new residential development is the nature of the rezoning. Rezoning a residential district to a comparable contextual residential district limits the amount of development compared to a different type of rezoning. The incremental increase in development would be greater for an area being mostly being rezoned from a non-residential district to a residential district. A rezoning from one residential district to a similar district will not cause significant changes or impacts.

Table 1 - BED-STUY NORTH REZONING Projected Development Sites Summary

Site Data						Existing Condition		Future Without-Action Condition				Future With-Action Condition				Increment			
Site	Block	Lot	Lot Area	Existing Zoning	Proposed Zoning	Com Area	DU	Com/Retail Floor Area	Office FA	CF SF	DU	Com/Retail Floor Area	Office Floor Area	CF FA	DU	Com/Retai l FA	Office FA	CF Floor Area	DU
A	1912	3	63,619	C1-3/R6	C2-4/R7A IZ	-	-	5,090	-	57,257	150	8,500	-	-	284	3,410	-	(57,257)	135
B	1900	67,68,69,70	10,082	C1-3/R6	C2-4/R7A IZ	-	-	8,571	-	8,067	30	8,570	-	-	38	(1)	-	(8,067)	8
C	1928	34	18,650	R6	C2-4/R7A IZ/R6B	18,650	-	-	-	13,055	56	10,285	-	-	59	10,285	-	(13,055)	3
D	1788	2,4,5	8,400	C2-3/R6	C2-4/R7A IZ	1,600	1	7,140	-	5,040	26	7,140	-	-	32	-	-	(5,040)	6
E	1954	22	7,500	C2-3/R6	C2-4/R7A IZ	3,000	-	6,375	-	6,000	23	6,375	-	-	28	-	-	(6,000)	6
F	1754	24,25,26,27,28,2 9,30,31,32,33,34, 35	30,000	R6	C2-4/R7D IZ	-	-	-	-	-	-	10,000	-	14,000	144	10,000	-	14,000	144
G	1747	7,10,19,20,21,22, 23,24,51,53A,53 B,62,64,67,1	92,000	R6	R6A/C2-4/R7D/IZ	137,386	-	-	-	73,600	234	23,635	-	10,350	358	23,635	-	(63,250)	124
H*	1740	1	521,950	R6	C2-4/R6	-	-		-	-	143	13,700	-	-	126	13,700	-	-	-17
I	1756	33,37,42	30,000	C1-3/R6	C2-4/R7D IZ	18,000	1	17,000	-	14,000	99	21,000	-	4,000	134	4,000	-	(10,000)	35
J	1585	31,32,33	7,500	R6	C2-4/R7D IZ	-	-	-	-	6,000	24	6,375	-	-	36	6,375	-	(6,000)	12
K	1759	2,3,4	6,716	C1-3/R6	C2-4/R7A IZ	1,600	-	5,708	-	5,372	14	5,709	-	-	25	1	-	(5,372)	11
L	1785	1,3,5	10,000	R6	C2-4/R7A IZ	10,000	-	-	-	8,000	22	8,500	-	-	38	8,500	-	(8,000)	16
M	1609	5	11,533	C1-3/R5	C2-4/R6A	10,402	-	6,343	-	1,730	14	9,803	-	-	25	3,460	-	(1,730)	10
N	1971	28	5,577	C2-3/R6	C2-4/R7A IZ	1,692	-	4,740	-	4,462	17	4,740	-	-	21	-	-	(4,462)	4
O	1578	5	15,150	C4-3	C4-4L IZ	25,625	-	9,090	4,545	12,120	46	12,878	5,681	5,681	45	3,788	1,136	(6,439)	-1
P	1578	14	10,280	C4-3	C4-4L IZ	17,144	-	8,738	-	12,850	**20**	8,738	7,710	-	31	-	7,710	(12,850)	**11**
Q	1579	50,51,53	7,800	R6	C4-4L IZ	-	-	-	-	5,460	24	6,630	-	5,850	23	6,630	-	390	-1
R	1582	15	12,598	C2-3/R6	C4-4L IZ	4,500	-	10,708	-	10,078	38	10,708	-	9,449	38	-	-	(630)	0
S	1584	1,4	9,900	R6	C4-4L IZ	-	-	-	-	6,930	22	8,415	7,425	-	30	8,415	7,425	(6,930)	8
T	1584	11	21,123	C2-3/R6	C4-4L IZ	-	-	17,955	-	16,899	45	17,955	7,921	7,921	64	-	7,921	(8,978)	19
U	1586	12,14,24,27,51,5 2,53,56	47,079	C8-2/R6	R6B/C4-4L IZ	22,045	-	9,744	6,496	42,699	32	27,607	16,240	8,120	127	17,863	9,744	(34,579)	95
V	1586	8,10,11	10,000	C8-2	C4-4L IZ	5,000	-	10,000	8,500	-	-	8,500	-	-	30	(1,500)	(8,500)	-	30
W	1593	23	14,868	C2-3/R6	C4-4L IZ	5,622		12,638	-	11,894	32	12,638	5,576	5,576	46	-	5,576	(6,319)	14
X	1600	1,28	9,498	C2-3/R6	C4-4L IZ	7,500	-	8,074	-	7,598	20	8,073	-	7,124	28	(1)	-	(475)	8
Y	1613	9	8,393	C2-3/R6	C4-4L IZ	6,188	-	7,134	-	6,714	26	7,134	6,295	-	25	-	6,295	(6,714)	-1
Z	1618	35	14,642	C8-2	C4-4L IZ	14,642	-	-	5,125	14,642	-	12,446	-	10,982	44	12,446	(5,125)	(3,661)	44
AA	1623	70,73	17,358	R6/C8-2	C2-4/R6A	26,958	-	-	-	14,358	22	8,679	-	-	43	8,679	-	(14,358)	21
BB	1628	21,22,23	7,800	C8-2	C2-4/R6A	-	-	15,351	-	-	-	6,630	-	-	17	(8,721)	-	-	17
CC	1628	30	10,000	C8-2	C2-4/R6A	10,000	-	-	4,000	16,000	-	5,000	-	-	25	5,000	(4,000)	(16,000)	25
DD	1605	23,24,25,26	6,668	R5	R6B	-		-	-	-	11	-	-	-	14	-	-	-	3
EE	1791	17,18,19	5,758	R5	R6B	-		-	-	-	10	-	-	-	12	-	-	-	2
TOTALS			1,052,442			347,554	2	170,399	28,666	380,826	1,198	306,363	56,847	89,051	1,988	135,964	28,182	(291,775)	790

* NYCHA site. Projected development only quantifies new construction, not existing buildings

Table 2 - BED STUY NORTH REZONING potential site summary

Site Data						Existing Conditions		No-Action Scenario				With-Action Scenario				Increment			
Current Site #	Block	Lot	LotArea	Zoning	Prop. Zoning	ComArea	Dus	Commercial SF	Office SF	CF SF	DU	Commercial SF	Office SF	CF SF	DU	Com/Retail FA	Office FA	CF Floor Area	DU
1	1910	23,24,25	6,630	R6	C2-4/R7A IZ	3,304	-	-	-	5,304	20	5,636		-	25	5,636	-	(5,304)	5
2	1914	22	5,592	C1-3/R6	C2-4/R7A IZ	-	-	4,753	-	3,970	17	4,753		-	21	-	-	(3,970)	4
3	1926	1,77,78,79,80	7,266	R6	C2-4/R7A IZ	4,207	6	-	-	5,813	16	6,176		-	27	6,176	-	(5,813)	11
4	1926	74,75,76	6,750	R6	C2-4/R7A IZ	-	6	-	-	5,400	15	5,738		-	25	5,738	-	(5,400)	10
5	1778	9	5,425	R6	C2-4/R7A IZ	5,425	-	-	-	4,340	16	4,611		-	20	4,611	-	(4,340)	4
6	1783	8,9	5,520	C1-3/R6	C2-4/R7A IZ	3,680	3	4,692	-	4,416	17	4,692		-	21	-	-	(4,416)	4
7	1950	30,31,33	8,280	C2-3/R6	C2-4/R7A IZ	7,600	-	7,038	-	6,624	24	7,038		-	31	-	-	(6,624)	7
8	1747	34	6,363	C1-3/R6	C2-4/R7D IZ	1,000	2	5,409	-	5,090	19	5,409		-	30	-	-	(5,090)	11
9	1756	23,24,25	6,000	C1-3/R3	C2-4/R7D IZ	2,140	4	5,100	-	4,800	18	5,100		-	29	-	-	(4,800)	11
10	1757	27,33,34,134,35	25,000	C1-3/R6	C2-4/R7D IZ	11,800	-	20,000	-	20,000	76	20,000		-	120	-	-	(20,000)	44
11*	1580	1	533,900	C2-3/R6	C2-4/R7D IZ	-	1,099	-	-	-	184	21,520		-	160	21,520	-	-	(24)
12	1759	7	5,000	C1-3/R6	C2-4/R7A IZ	5,000	-	4,250	-	4,000	11	4,250		-	19	-	-	(4,000)	8
13	1771	5,7,8	10,000	C1-3/R6	C2-4/R7A IZ	6,250	2	8,500	-	8,000	22	8,500		-	38	-	-	(8,000)	16
14	1578	17	6,110	C4-3	C4-4L IZ	10,140	-	5,194	-	5,805	16	5,194	3,666	-	19	-	3,666	(5,805)	3
15	1579	22,25	7,084	C2-3/R6	C4-4L IZ	10,791	4	6,021	-	4,250	21	6,021		-	27	-	-	(4,250)	5
16	1584	39,50,51	30,000	C8-2	C4-4L IZ	24,000	-	20,000	19,000	13,300	-	15,000	15,000	10,500	98	(5,000)	(4,000)	(2,800)	98
17	1586	31	5,205	C2-3/R6	C4-4L IZ	4,330	-	4,424	-	4,164	16	7,808		-	16	3,383	-	(4,164)	1
18	1586	6	5,000	C8-2	C4-4L IZ	7,400	-	5,000	4,750	-	-	4,000	3,000	-	16	(1,000)	(1,750)	-	16
19	1586	3	6,500	C8-2	C4-4L IZ	5,200	-	6,500	3,575	-	-	5,200	3,900	-	21	(1,300)	325	-	21
20	1618	40	10,000	C8-2	C4-4L IZ	20,000	-	-	-	20,000	-	8,000		6,000	32	8,000	-	(14,000)	32
21	1600	13,14,15	5,057	C2-3/R6	C4-4L IZ	4,364	4	4,298	-	4,046	15	4,298		2,529	16	-	-	(1,517)	1
22	1608	27,34	27,042	C2-3/R6	C4-4L IZ	14,675	-	22,986	-	20,282	81	21,634		16,225	87	(1,352)	-	(4,056)	5
23	1613	16,17,23	5,432	C2-3/R6	C4-4L IZ	-	-	4,617	-	4,346	16	8,148		-	17	3,531	-	(4,346)	1
24	1618	22	8,114	C8-2	C4-4L IZ	8,114	-	8,114	8,114	-	-	6,491		4,868	26	(1,623)	(8,114)	4,868	26
25	1623	25	8,000	C8-2	C4-4L IZ	8,000	-	-	-	20,000	-	6,400	4,800	-	26	6,400	4,800	(20,000)	26
26	1623	41,42,53	7,404	C4-3	C4-4L IZ	13,319	-	2,962	2,221	7,404	18	5,923	4,442	-	24	2,962	2,221	(7,404)	6
27	1623	57	6,000	C8-2	C2-4/R6A	-	-	3,000	6,900	-	-	5,100		-	13	2,100	(6,900)	-	13
28	1628	34,38,42	19,500	C8-2/C4-3	C4-4L IZ	24,750	-	7,600	3,800	25,700	29	15,600	11,700	-	62	8,000	7,900	(25,700)	34
29	1479	8,11	9,200	C4-3	C4-4L IZ	6,500	1	7,360	4,600	4,600	28	7,360	5,520	-	29	-	920	(4,600)	2
30	1480	16,17	5,386	C4-3	C4-4L IZ	6,822	2	4,309	2,693	2,693	16	4,309		3,232	17	-	(2,693)	539	1
31	1480	23,55,56	28,559	C4-3	C4-4L IZ	15,286	-	24,108	1,667	23,108	86	22,847		17,135	91	(1,261)	(1,667)	(5,973)	6
32	1480	34,36,38,40,41,42	20,679	C4-3	C4-4L IZ	4,500	-	16,543	-	16,543	63	16,543		12,407	66	-	-	(4,136)	3
33	1791	42,43,44,45,47,48,51,52,	17,930	R5	C2-4/R6B	-	-	-	-	6,276	30	10,758		-	25	10,758	-	(6,276)	
Totals						238,597	1,133	212,778	57,320	260,273	888	290,056	52,028	72,897	1,293	77,278	(5,292)	(187,377)	409

* NYCHA site. Projected development only quantifies new construction, not existing buildings

The reasonable worst case development scenario for the projected and potential development sites are summarized in **Tables 1** and **2**. Complete descriptions are provided below. **Figures 7**, **7a**, and **7b** show the locations of each of the development sites within the project area.

Projected Site Descriptions

Site A *(Block 1912, Lot 3)* is located at 913 Kent Avenue, on the east side of the street between Willoughby and Myrtle Avenues. The site is an irregular shape and includes 102' of Myrtle Avenue frontage. The site comprises one 63,619 square foot lot, which is currently vacant, with an FAR of 0.0. Currently, the site is zoned R6, and R6/C1-3 on the Myrtle Avenue portion of the site, and is under the jurisdiction of the Department of Environmental Protection (DEP), which maintains a water tunnel access facility beneath the site. DEP has stated that a 21,340 square-foot portion of the site closest to Willoughby Avenue would need to remain open and accessible until the water tunnel construction is completed, but that the remainder of the site may be developed before that time. Development of the site would require future disposition approval pursuant to the City's Uniform Land Use Review Procedure. Although the entire site may not be developed within the build-year timeframe, to take a conservative approach this site has been analyzed as fully realizing the development rights under the zoning.

In the Future No-Action condition, the site could be developed with a thirteen-story, 211,851 square foot building with 5,090 square feet of local retail use on the ground floor, 57,257 square feet of medical office use on the lower floors, and 150 dwelling units on upper floors. The building would require a total of 53 parking spaces, which could be accommodated on an underground level.

Under the proposal, the zoning would be changed to R7A/C-24, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one eight-story 292,647 square foot building, comprising 8,500 square feet of local retail space on the ground floor and 284 dwelling units on the upper floors, 57 of which would be affordable. There would be 128 required parking spaces, which would be accommodated on an underground level.



913 KENT AVENUE

Site B *(Block 1900, Lots 67, 68, 69, 70)* is located at 667 - 673 Myrtle Avenue, on the north side of the street between Skillman Street and Bedford Avenue. The site comprises one 2,000 square foot lot and three 2,694 square foot lots, which are currently vacant, with an FAR of 0.0. Currently, the site is zoned R6/C1-3. Three lots are partially in an MX-4 district within an R6A/M1-2 district.

In the Future No-Action condition, the site could be developed with three seven-story 15,627 square foot buildings, each with 2,857 square feet of local retail uses on the ground floor, 2,689 square feet of medical office use on the second floor, and 10 dwelling units on the upper floors. No parking spaces would be required.

Under the proposal, the zoning would be changed to R7A/C2-4 with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of two eight-story 23,189 square foot buildings, each with 4,285 square feet of local retail space on the ground floor and 19 dwelling units on the upper floors, four of which would be affordable. There would be no required parking spaces.



667 - 673 MYRTLE AVENUE

Site C *(Block 1928, Lot 34)* is located at 930 Bedford Avenue, on the southwest corner of Bedford and Willoughby Avenues. The site comprises one 18,650 square foot lot, which is currently built with a one-story building and used for commercial automotive use, with one tenant and an FAR of 1.0. Currently, the site is zoned R6.

In the Future No-Action condition, the site could be developed with one six-story 69,005 square foot building, with 13,055 square feet of child care facilty use on the ground floor and 56 dwelling units on the upper floors. The building would require 28 residential parking spaces, which could be provided on an underground level.

Under the proposal, the zoning would be changed to R7A/C2-4, with the option of using the Inclusionary Housing program, on part of the site, and to R6B for part of the site. In the Future With-Action condition, the site would allow the development of three buildings: two eight-story 27,830 square foot buildings, which would each comprise 5,143 square feet of local retail space on the ground floor, and 23 dwelling units on the upper floors, five of which would be affordable, with no parking spaces required; and one five-story 13,100 square foot building, comprising 13 dwelling units, with seven required parking spaces that would be accommodated in the rear yard.



930 BEDFORD AVENUE

Site D *(Block 1788, Lots 2, 4, 5)* is located at 1021 - 1027 Bedford Avenue, on the northeast corner of Bedford Avenue and Clifton Street. The site comprises one 5,200 square foot lot, which is currently built with a two-story building used for commercial and residential uses, with an FAR of 0.91, as well as two 1,600 square foot lots that are vacant. Currently, the site is zoned R6/C2-3.

In the Future No-Action condition, the site could be developed with two seven-story 19,530 square foot buildings, each with 3,570 square feet of local retail uses on the ground floor, 2,520 square feet of medical office uses on the second floor, and 13 dwelling units on the upper floors. Each building would require six residential parking spaces, which could be provided on the underground levels.

Under the proposal, the zoning would be changed to R7A/C2-4 with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one eight-story 38,640 square foot building, comprising 7,140 square feet of local retail space on the ground floor, and 32 dwelling units on the upper floors, six of which would be affordable. No parking spaces would be required.



1021 - 1027 BEDFORD AVENUE

Site E *(Block 1954, Lot 22)* is located at 1062 Bedford Avenue, on the southwest corner of Bedford Avenue and Clifton Place. The site comprises one 7,500 square foot lot, which is currently built with a one-story building used for commercial automotive use, with an FAR of 0.40. Currently, the site is zoned R6/C2-3.

In the Future No-Action condition, the site could be developed with one seven-story 34,875 square foot building, comprising 6,375 square feet of local retail uses on the ground floor, 6,000 square feet of house of worship use on the second floor, and 23 dwelling units on the upper floors. There would be 11 required residential parking spaces that could be accommodated on an underground level.

Under the proposal, the zoning would be changed to R7A/C2-4 with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one eight-story 34,500 square foot building, comprising 6,375 square feet of commercial space on the ground floor and 28 dwelling units on the upper floors, six of which would be affordable. No parking spaces would be required.



1062 BEDFORD AVENUE

Site F *(Block 1754, Lots 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35)* is located at 784 - 806 Myrtle Avenue, on the south side of the street between Nostrand and Marcy Avenues. The site comprises 12 2,500 square foot lots, which are currently vacant, with an FAR of 0.0. Currently, the site is zoned R6.

In the Future No-Action condition, the site would remain vacant, with an FAR of 0.0. Because the site is currently owned by the New York City Department of Housing Preservation and Development, any new development on the site would require a discretionary action by the Department of City Planning. Therefore, under the current zoning, there is no as-of-right development allowed on the site.

Under the proposal, the zoning would be changed to R7D/C2-4 with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one 10-story 168,000 square foot building, with 10,000 square feet of local retail space on the ground floor, 14,000 square feet of community house of worship space on the second floor, and 90 dwelling units on the upper floors, 18 of which would be affordable. There would be 36 required parking spaces, which would be accommodated on an underground level.



784 – 806 MYRTLE AVENUE

Site G *(Block 1747, Lots 1, 7, 10, 19, 20, 21, 22, 23, 24, 51, 53, 62, 64, 67)* is located at 98 – 138 Stockton Avenue and 847 – 869 Myrtle Avenue, at Marcy Avenue. The site comprises fourteen lots: three 2,000 square foot lots, which are currently vacant, with an FAR of 0.0; three 2,500 square foot lots, which are currently vacant, with an FAR of 0.0; one 7,500 square foot lot, which is currently built with three-story building and used for commercial use, with one tenant and an FAR of 3.0; one 5,000 square foot lot, which is currently built with a one-story building and used for commercial use, with on tenant and an FAR of 1.0; one 4,000 square foot lot, which is currently built with a one-story building and used for commercial use, with one tenant and an FAR of 1.0; one 4,000 square foot lot, which is currently built with a four-story building and used for commercial use, with one tenant and an FAR of 2.40; one 6,183 square foot building, which is currently built with a three-story building and used for commercial use, with one tenant and an FAR of 2.89; one 6,317 square foot lot, currently built with a four-story building and used for commercial use, with one tenant and an FAR of 2.60; and one 11,000 square foot lot, which is currently built with a four-story building and used for commercial use, with one tenant and an FAR of 4.00. Currently, the site is zoned R6.

In the Future No-Action condition, the site could be developed with five buildings: two five-story 69,750 square foot buildings, each with 18,600 square feet of house of worship or child care facility use on the ground floor, 51 dwelling units on the upper floors, and 26 required residential parking spaces that could be accommodated in the rear yard; two seven-story 65,550 square foot buildings, each with 13,800 square feet of child care facility or medical office use on the ground floor, 52 dwelling units on the upper floors, and 26 required residential parking spaces that could be accommodated in the rear yard; and one five-story 33,000 square foot building with 8,800 square feet of medical office use on the ground floor, 24 dwelling units on the upper floors, and 12 required residential parking spaces that could be accommodated in the rear yard.

Under the proposal, the zoning would be changed on a portion of the site to R7D/C2-4, with the option of using the Inclusionary Housing program, while the remainder of the site would be changed to R6A. In the Future With-Action condition, the site would allow the development of three buildings: one seven-story 139,500 square foot building with 140 dwelling units and 70 required residential parking spaces that would be accommodated in the rear yard; one 10-story 190,785 square foot building with 14,835 square feet of local retail space and 10,350 square feet of child care facility use on the first and second floors, 166 dwelling units on the upper floors, 33 of which would be affordable, and 73 required residential parking spaces that would be accommodated on an underground level; and one ten-story, 61,600 square foot building, with 8,800 square feet of local retail space on the ground floor, 53 dwelling units on the upper floors, 11 of which would be affordable, and 23 required residential parking spaces that would be accommodated on an underground level.





Site H *(Block 1740, Lot 1)* is located at 65 Tompkins Avenue, on the north side of Myrtle Avenue between Throop and Tompkins Avenues. The site comprises one 521,950 square foot lot, which is currently built with eight 16-story buildings used for residential use, with an FAR of 1.53. Currently, the site is zoned R6 and is owned by the New York City Housing Authority.

In the Future No-Action condition, all existing buildings on the site would remain. However, an existing parking lot on the site, along Myrtle Avenue, could be developed with an additional 12-story 114,780 square foot building, with residential use on all floors, comprising 143 dwelling units, all of which would be affordable. The building would require 32 parking spaces, which could be accommodated as surface parking at grade or on an underground level.

In the interest of better serving its residents, NYCHA has expressed a desire to include ground-floor retail space in a new senior housing building proposed for development on an existing parking lot, along Myrtle Avenue, on the site. Therefore, under the proposal, the zoning would remain R6, however it would receive the addition of a C2-4 commercial overlay. In the Future With-Action condition, all existing buildings on the site would remain. However, an existing parking lot on the site, along Myrtle Avenue, would be allowed to be developed with an additional 12-story 114,780 square foot building, comprising 13,700 square feet of local retail space on the first two floors and 126 dwelling units on the upper floors, all of which would be affordable. There would be 28 required parking spaces that would be accommodated as surface parking at grade or on an underground level.

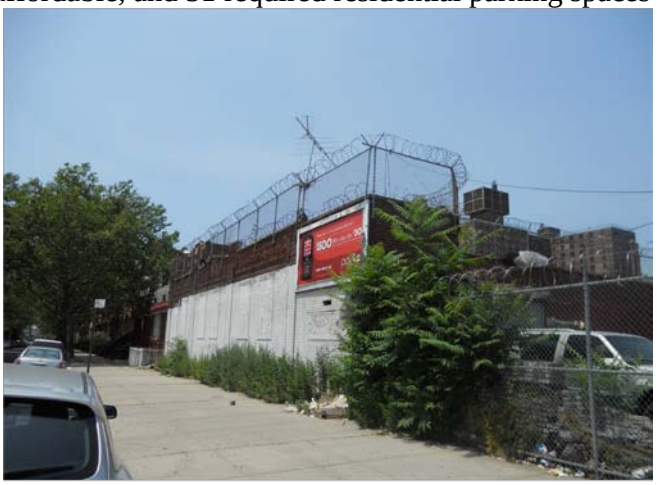


65 TOMPKINS AVENUE

Site I *(Block 1756, Lots 33, 37, 42)* is located at 936 - 946 Myrtle Avenue and 258 Throop Avenue, on the west side of the street between Myrtle and Vernon Avenues. The site comprises three 10,000 square foot lots: one is currently vacant, with an FAR of 0.0; one is currently built with two two-story buildings and used for commercial and residential use; and one is currently built with a one-story building and used for commercial use. Currently, the site is partially zoned R6 and partially zoned R6/C1-3.

In the Future No-Action condition, the site could be developed with two buildings: one five-story 30,000 square foot building, with 8,000 square feet of medical office use on the ground floor, 22 dwelling units on the upper floors, and 11 required residential parking spaces that could be accommodated on an underground level; and one existing supermarket that would be redeveloped utilizing the FRESH Program in order to capture incentives to decrease its commercial parking requirement and increase its residential area, resulting in an eight-story 100,000 square foot building, with 17,000 square feet of commercial uses on the ground floor, 6,000 square feet of medical office use on the second floor, 77 dwelling units on the second and upper floors, and 54 required parking spaces (25 commercial and 29 residential) that could be accommodated on an underground level. The Food Retail Expansion to Support Health, or FRESH, program facilitates the development of stores selling a full range of food products with an emphasis on fresh fruits and vegetables, meats and other perishable goods, by providing zoning incentives for neighborhood grocery stores to locate in some of the most underserved neighborhoods in the City with primarily pedestrian-oriented, local shopping districts. Bedford-Stuyvesant North has been identified as such an area.

Under the proposal, the zoning would be changed partially to R7D/C2-4, with the option of using the Inclusionary Housing program, and partially to R6A/C2-4. In the Future With-Action condition, the site would allow the development of two buildings: one seven-story 29,500 square foot building, comprising 4,000 square feet of local retail use and 4,000 square feet of medical office use, 22 dwelling units, and six required parking spaces that would be accommodated in the rear yard; and one existing supermarket that would be redeveloped utilizing the FRESH Program in order to capture incentives to decrease its commercial parking requirement and increase its residential area, resulting in an 11-story building 129,000 square foot building comprising 17,000 square feet of grocery store use on the ground floor, 112 dwelling units on the upper floors, 22 of which would be affordable, and 51 required residential parking spaces accommodated on an underground level.



936 – 946 MYRTLE AVENUE, 258 THROOP AVENUE

Site J *(Block 1585, Lots 31, 32, 33)* is located at 1066 - 1077 Myrtle Avenue, on the south side of the street between Marcus Garvey and Lewis Avenues. The site comprises three 2,500 square foot lots that are currently vacant, with an FAR of 0.0. Currently, the site is zoned R6.

In the Future No-Action condition, the site could be developed with three six-story 9,500 square foot buildings, each with 2,000 square feet of medical office use on the ground floor and eight dwelling units on the upper floors. There would be no required parking spaces.

Under the proposal, the zoning would be changed to R7D/C2-4 with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one 10-story building of 42,000 square feet comprising 6,375 square feet of local retail space on the ground floor, and 36 dwelling units on the upper floors, seven of which would be affordable. There would be no required parking spaces.



1066 - 1070 MYRTLE AVENUE

Site K *(Block 1759, Lots 2, 3, 4)* is located at 605 - 609 Marcy Avenue, on the east side of the street between Vernon and Willoughby Avenues. The site comprises three lots: one 2,720 square foot lot on which a one-story commercial building, with an FAR of 0.59 is built; and two lots of 1,913 square feet and 2,083 square feet that are currently vacant, with an FAR of 0.0. Currently, the site is zoned R6/C1-3.

In the Future No-Action condition, the site could be developed with two five-story 12,928 square foot buildings, each with 2,854 square feet of local retail space on the ground floor, 2,686 square feet of medical office use on the second floor, and seven dwelling units on the upper floors. There would be no required parking spaces.

Under the proposal, the zoning would be changed to R7A/C2-4 with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one eight-story 30,894 square foot building, which would comprise 5,709 square feet of local retail space on the ground floor, and 25 dwelling units on the upper floors, five of which would be affordable. There would be no required parking spaces.



605 - 609 MARCY AVENUE

Site L *(Block 1785, Lots 1, 3, 5)* is located at 683 - 689 Marcy Avenue, on the northwest corner of Kosciusko Street and Marcy Avenue. The site comprises three lots: one 5,000 square foot lot on which a two-story commercial building, with an FAR of 2.00 is built; and two lots of 2,000 square feet and 3,000 square feet that are currently vacant, with an FAR of 0.0. Currently, the site is zoned R6.

In the Future No-Action condition, the site could be developed with two five-story 15,000 square foot buildings, each with 4,000 square feet of medical office or child care facility use on the ground floor and 10 dwelling units on the upper floors. There would be no required parking spaces.

Under the proposal, the zoning would be changed to R7A/C2-4 with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one eight-story 46,000 square foot building, which would comprise 8,500 square feet of local retail use on the ground floor, and 38 dwelling units on the upper floors, eight of which would be affordable. There would be no required parking spaces.



683 – 689 MARCY AVENUE

Site M *(Block 1609, Lot 5)* is located at 830 Lafayette Avenue, on the southeast corner of Marcus Garvey Boulevard and Lafayette Avenue. The site comprises one 11,533 square foot lot, which is currently built with a one-story building used for commercial food retail use, with one tenant and an FAR of 0.90. Currently, the site is zoned R5/C1-3.

In the Future No-Action condition, the site could be developed with one five-story 22,489 square foot building, comprising 6,343 square feet of local retail use on the ground floor, 1,730 square feet of medical office use on the second floor, and 14 dwelling units on the upper floors. No parking spaces would be required.

Under the proposal, the zoning would be changed to R6A/C2-4, with the option if using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one seven-story 34,599 square foot building, which would comprise 9,803 square feet of local retail space on the ground floor and 25 dwelling units on the upper floors, five of which would be affordable. There would be 12 required residential parking spaces that would be accommodated on an underground level.



830 LAFAYETTE AVENUE

Site N *(Block 1971, Lot 28)* is located at 1104 Bedford Avenue, on the east side of the street between Quincy Street and Lexington Avenue. The site comprises one 5,577 square foot lot, which is currently built with three one-story buildings and used for commercial and storage use, with one tenant and an FAR of 0.30. Currently, the site is zoned R6/C2-3.

In the Future No-Action condition, the site could be developed with one seven-story 25,933 square foot building, with 4,740 square feet of local retail use on the ground floor, 4,462 square feet of child care facility use on the second floor and 17 dwelling units on the upper floors. The building would require eight residential parking spaces, which could be provided on an underground level.

Under the proposal, the zoning would be changed to R7A/C2-4, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one eight-story 25,654 square foot building, comprising 4,740 square feet of local retail space on the ground floor and 21 dwelling units on the upper floors, four of which would be affordable, with no parking spaces required.



1104 BEDFORD AVENUE

Site O *(Block 1578, Lot 5)* is located at 7 Marcus Garvey Boulevard, on the southwest corner of Marcus Garvey Boulevard and Broadway. The site comprises one 15,150 square foot lot, which is currently built with a three-story building and used for commercial use, with one tenant and an FAR of 1.69. Currently, the site is zoned C4-3.

In the Future No-Action condition, the site could be developed with two seven-story 33,330 square foot buildings, each with 4,545 square feet of local retail use and 2,273 square feet of office use on the first floor, and 6,060 square feet of medical office use on the second floor, and 23 dwelling units on the upper floors. The buildings would each require 11 residential parking spaces, which could be provided on an underground level.

Under the proposal, the zoning would be changed to C4-4L, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of two 10-story 34,845 square foot buildings, each comprising 6,439 square feet of local retail space on the ground floor, and either 5,681 square feet of office use, or 5,681 square feet of medical office use on the second floor, and 23 dwelling units on the upper floors, five of which would be affordable. No parking spaces would be required.

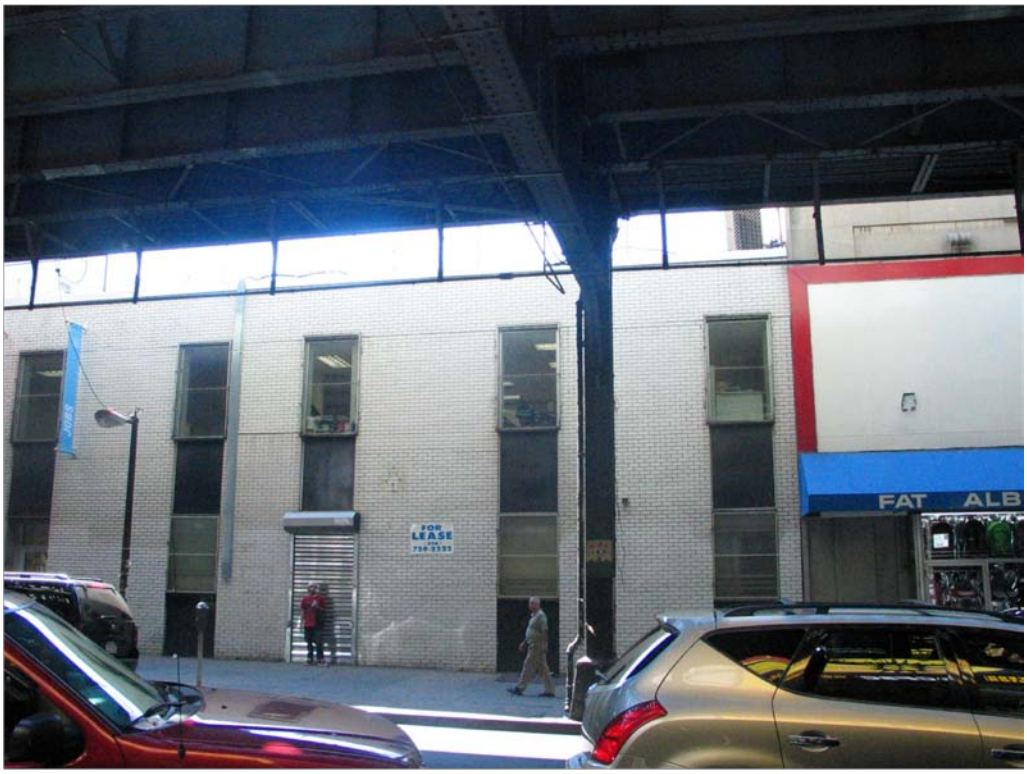


7 MARCUS GARVEY BLVD

Site P *(Block 1578, Lot 14)* is located at 790 Broadway, on the southwest side of the street between Marcus Garvey Boulevard and Ellery Street. The site comprises one 10,280 square foot lot, which is currently built with a two-story building and used for commercial use, with one tenant and an FAR of 1.67. Currently, the site is zoned C4-3.

In the Future No-Action condition, the site could be developed with two seven-story 21,074 square foot buildings, each with 4,369 square feet of local retail use on the ground floor, 6,425 square feet of medical office use on the second and third floors and 10 dwelling units on the upper floors. The buildings would each require five residential parking spaces, which could be provided on an underground level.

Under the proposal, the zoning would be changed to C4-4L, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one 10-story 47,288 square foot building, comprising 8,738 square feet of local retail space on the ground floor, 7,710 square feet of office use on the second floor, and 31 dwelling units on the upper floors, six of which would be affordable. 10 parking spaces would be required, which could be provided on an underground level.



790 BROADWAY

Site Q *(Block 1579, Lots 50, 51, 53)* is located at 869 Park Avenue, on the north side of the street between Marcus Garvey Boulevard and Broadway. The site comprises one 1,800 square foot lot and two 3,000 square foot lots, which are all currently vacant, with an FAR of 0.0. Currently, the site is zoned R-6.

In the Future No-Action condition, the site could be developed with three six-story 9,620 square foot buildings, each with 1,820 square feet of medical office use on the ground floor and eight dwelling units on the upper floors. No parking spaces would be required.

Under the proposal, the zoning would be changed to C4-4L, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one eight-story 35,880 square foot building, which would comprise 6,630 square feet of local retail space on the ground floor, 5,850 square feet of medical office use on the second floor, and 23 dwelling units on the upper floors, five of which would be affordable. No parking spaces would be required.



869 PARK AVENUE

Site R *(Block 1582, Lot 15)* is located at 886 Broadway, on the southwest side of the street between Lewis Avenue and Stockton Street. The site comprises one 12,598 square foot lot, which is currently built with a one-story building and used for commercial use, with three tenants and an FAR of 0.36. Currently, the site is zoned R-6/C2-3.

In the Future No-Action condition, the site could be developed with two seven-story 29,290 square foot buildings, each with 5,354 square feet of local retail use on the first floor, 5,039 square feet of house of worship use on the second floor and 19 dwelling units on the upper floors. The buildings would each require nine residential parking spaces, which could be provided on an underground level.

Under the proposal, the zoning would be changed to C4-4L, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would be developed with one 10-story 57,591 square foot building, which would comprise 10,708 square feet of local retail space on the ground floor, 9,449 square feet of house of worship use on the second floor, and 38 dwelling units on the upper floors, eight of which would be affordable. No parking spaces would be required.



886 BROADWAY

Site S *(Block 1584, Lots 1, 4)* is located at 23 Lewis Avenue and 354 Stockton Street, on the northeast corner of Lewis Avenue and Stockton Street. The site comprises one 5,366 square foot lot and one 4,554 square foot lot, which are both currently vacant, with an FAR of 0.0. Currently, the site is zoned R-6.

In the Future No-Action condition, the site could be developed with one five-story 28,710 square foot building, with 6,930 square feet of medical office use on the ground floor and 22 dwelling units on the upper floors. The buildings would each require 11 residential parking spaces, which could be provided in the rear yard.

Under the proposal, the zoning would be changed to C4-4L, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one eight-story 45,540 square foot building, which would comprise 8,415 square feet of local retail space on the ground floor, 7,425 square feet of office space on the second floor, and 30 dwelling units on the upper floors, six of which would be affordable. No parking spaces would be required.



23 LEWIS AVENUE, 354 STOCKTON STREET

Site T *(Block 1584, Lot 11)* is located at 912 Broadway, on the southwest side of the street on the corner of Broadway and Stockton Street. The site comprises one 21,123 square foot lot, which is currently vacant, with an FAR of 0.0. Currently, the site is zoned R-6/C2-3.

In the Future No-Action condition, the site could be developed with three five-story 27,108 square foot buildings, each with 5,985 square feet of local retail use on the first floor, 5,633 square feet of medical office use on the second floor and 15 dwelling units on the upper floors. The buildings would each require eight residential parking spaces, which could be provided on an underground level.

Under the proposal, the zoning would be changed to C4-4L, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of two 10-story 48,583 square foot buildings, each comprising 8,977 square feet of local retail space on the ground floor, 7,921 square feet of office space on the second floor, and 32 dwelling units on the upper floors, six of which would be affordable. Each building would require 10 residential parking spaces, which would be accommodated in the rear yards.



912 BROADWAY

***Site U** (Block 1586, Lots 12, 14, 24, 27, 51, 52, 53, 56)* is located at 1100 – 1122 Myrtle Avenue and 367 – 373 Vernon Avenue, on the south side of the street between Lewis Avenue and Broadway. The site comprises eight lots: one 5,000 square foot lot, which is currently built with one-story building used for commercial use, with one tenant and an FAR of 0.50; one 19,545 square foot lot, which is currently built with a one-story building used for commercial use, with one tenant and an FAR of 1.00; one 5,942 square foot lot, which is currently vacant, with an FAR of 0.00; one 1,992 square foot lot, which is currently vacant, with an FAR of 0.00; two 2,000 square foot lots which are currently vacant, with an FAR of 0.00; and two 5,300 square foot lots, which are currently vacant, with an FAR of 0.00. Currently, the site is partially zoned R-6 and partially zoned C8-2.

In the Future No-Action condition, the site could be developed with two buildings: one three-story 44,821 square foot building comprising 9,744 local retail use on the ground floor, 6,496 square feet of office and 32,479 square feet of house of worship use on all floors, with 122 required parking spaces that would be accommodated on an underground level; and one five-story 42,340 square foot building comprising 10,220 square feet of community facility use on the ground floor and 32 dwelling units on the upper floors, with 16 required residential parking spaces that could be accommodated in the rear yard.

Under the proposal, the zoning would be changed to C4-4L, with the option of using the Inclusionary Housing program, for part of the site and R6B for the other part of the site. In the Future With-Action condition, the site would allow the development of four buildings: three eight-story 49,801 square foot buildings with 9,250 square feet of local retail space on the ground floor, 8,120 square feet of community or office use on the second floor, and 33 dwelling units on the upper floors, seven of which would be affordable, with 10 required parking spaces per building that would be accommodated in the rear yard; and one five-story 29,200 square foot building with 29 dwelling units and 15 required residential parking spaces, which would be accommodated in the rear yard.



1100 – 1122 MYRTLE AVENUE, 367 - 373 VERNON AVENUE

Site V *(Block 1586, Lots 8, 10, 11)* is located at 1090 – 1096 Myrtle Avenue, on the south side of the street between Lewis Avenue and Broadway. The site comprises one 5,000 square foot lot, which is currently built with a one-story building and used for automotive commercial use, with one tenant and an FAR of 1.0, and two 2,500 square foot lots, which are currently vacant, with an FAR of 0.0. Currently, the site is zoned C8-2.

In the Future No-Action condition, the site could be developed with two three-story 9,250 square foot buildings, each with 5,000 square feet of commercial use and 4,250 square feet of office use. There would be no required parking spaces.

Under the proposal, the zoning would be changed to C4-4L, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one eight-story 38,500 square foot building, which would comprise 8,500 square feet of local retail space on the ground floor, and 30 dwelling units on the upper floors, six of which would be affordable, with no parking spaces required.



1090 – 1096 MYRTLE AVENUE

Site W *(Block 1593, Lot 23)* is located at 874 Willoughby Avenue, on the southwest corner of Willoughby Avenue and Broadway. The site comprises one 14,868 square foot lot, which is currently built with a one-story building and used for commercial use, with three tenants and an FAR of 0.38. Currently, the site is zoned R6/C2-3.

In the Future No-Action condition, the site could be developed with two seven-story 28,621 square foot buildings, each with 6,319 square feet of local retail use on the ground floor, 5,947 square feet of medical office use on the second floor and 16 dwelling units on the upper floors. The buildings would each require eight residential parking spaces, which could be provided on an underground level.

Under the proposal, the zoning would be changed to C4-4L, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of two 10-story 34,196 square foot buildings, each comprising 6,319 square feet of local retail space on the ground floor, 5,576 square feet of medical office or commercial office space on the second floor, and 23 dwelling units on the upper floors, five of which would be affordable. No parking spaces would be required.



874 WILLOUGHBY AVENUE

Site X *(Block 1600, Lots 1, 28)* is located at 1107 De Kalb Avenue, on the northeast corner of De Kalb Avenue and Malcolm X Boulevard. The site comprises two lots: one 1,998 square foot lot, which is currently vacant, with an FAR of 0.00; and one 7,500 square foot lot, which is currently built with a one-story building and used for commercial use, with one tenant and an FAR of 1.0. Currently, the site is zoned R6/C2-3.

In the Future No-Action condition, the site could be developed with two seven-story 18,284 square foot buildings, each with 4,037 square feet of local retail use on the ground floor, 3,799 square feet of medical office use on the second floor, and 10 dwelling units on the upper floors. The buildings would require no parking spaces.

Under the proposal, the zoning would be changed to C4-4L, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one eight-story 43,691 square foot building, comprising 8,073 square feet of local retail space on the ground floor, 7,124 square feet of medical office use on the second floor, and 29 dwelling units on the upper floors, six of which would be affordable. No parking spaces would be required.



1107 DE KALB AVENUE, MALCOLM X BOULEVARD

Site Y *(Block 1613, Lot 9)* is located at 1182 Broadway, on the southwest corner of Lafayette Avenue and Broadway. The site comprises one 8,393 square foot lot, which is currently built with a one-story building and used for commercial use, with five tenants and an FAR of 0.74. Currently, the site is zoned R6/C2-3.

In the Future No-Action condition, the site could be developed with two seven-story 19,514 square foot buildings, each with 3,567 square feet of local retail use on the ground floor, 3,357square feet of medical office use on the second floor and 13 dwelling units on the upper floors. The buildings would each require six residential parking spaces, which could be provided on an underground level.

Under the proposal, the zoning would be changed to C4-4L, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site allow the development of one ten-story 38,608 square foot building, comprising 7,134 square feet of local retail space on the ground floor, 6,295 square feet of office use on the second floor, and 26 dwelling units on the upper floors, five of which would be affordable. No parking spaces would be required.



1182 BROADWAY

Site Z *(Block 1618, Lot 35)* is located at 1003 Greene Avenue, on the north side of the street between Patchen Avenue and Broadway. The site comprises one 14,642 square foot lot, which is currently built with a one-story building and used for commercial garage use, with one tenant and an FAR of 1.00. Currently, the site is zoned C8-2.

In the Future No-Action condition, the site could be developed with two three-story 7,467 square foot buildings, each with 7,321 square feet of community use and 2,562 square feet of office use. The buildings would require no parking spaces.

Under the proposal, the zoning would be changed to C4-4L, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of two eight-story 33,677 square foot buildings, each comprising 6,223 square feet of local retail space on the ground floor, 5,491 square feet of medical office or child care use on the second floor and 22 dwelling units on the upper floors, four of which would be affordable. No parking spaces would be required.



1003 GREENE AVENUE

Site AA *(Block 1623, Lots 70, 73)* is located at 843 – 853 Lexington Avenue, on the north side of the street between Patchen Avenue and Broadway. The site comprises one 10,000 square foot lot, which is currently built with a one-story building and used for commercial use, with one tenant and an FAR of 1.22, as well as one 7,358 square foot lot, which is currently built with a two-story building and used for commercial use, with one tenant and an FAR of 2.00. Currently, the site is partially zoned R6 and partially zoned C-8-2.

In the Future No-Action condition, the site could be developed with two buildings: one five-story 29,000 square foot building, with 7,000 square feet of house of worship use on the ground floor and 22 dwelling units on the upper floors, with 11 required residential parking spaces that could be provided on an underground level; and one one-story 7,358 square foot building, with 7,358 square feet of medical office use and no parking spaces required.

Under the proposal, the zoning would be changed to R6A/C2-4. In the Future With-Action condition, the site would allow the development of one seven-story 52,074 square foot building, comprising 8,679 square feet of local retail space on the ground floor and 44 dwelling units on the upper floors. There would be 13 required residential parking spaces, which would be accommodated on an underground level.



843 – 853 LEXINGTON AVENUE

Site BB *(Block 1628, Lot 21, 22, 23)* is located at 814 – 820 Lexington Avenue, on the south side of the street between Patchen Avenue and Broadway. The site comprises three lots: one 2,750 square foot lot, which is currently vacant, with an FAR of 0.00; one 2,000 square foot lot, which is currently vacant, with an FAR of 0.00; and one 3,050 square foot lot, which is currently vacant, with an FAR of 0.0. Currently, the site is zoned C8-2.

In the Future No-Action condition, the site could be developed with one five-story 15,350 square foot hotel building with 56 guest rooms. No parking spaces would be required.

Under the proposal, the zoning would be changed to R6A/C2-4. In the Future With-Action condition, the site would allow the development of one seven-story 23,400 square foot building, comprising 6,630 square feet of commercial space on the ground floor and 17 dwelling units on the upper floors. No parking spaces would be required.



814 – 820 LEXINGTON AVENUE

Site CC *(Block 1628, Lot 30)* is located at 834 Lexington Avenue, on the south side of the street between Patchen Avenue and Broadway. The site comprises one 10,000 square foot lot, which is currently built with a one-story building and used for commercial use, with one tenant and an FAR of 1.00. Currently, the site is zoned C8-2.

In the Future No-Action condition, the site could be developed with two two-story 10,000 square foot buildings, each with 2,000 square feet of office use and 8,000 square feet of medical office use. The buildings would require no parking spaces.

Under the proposal, the zoning would be changed to R6A/C24 over most of the site, with part of the site zoned C4-4L, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one seven-story 30,000 square foot building, comprising 5,000 square feet of local retail space on the ground floor and 25 dwelling units on the upper floors. There would be 13 required residential parking spaces, which would be accommodated on an underground level.



834 LEXINGTON AVENUE

Site DD *(Block 1605, Lots 23, 24, 25, 26)* is located at 404 – 410 Kosciuszko Street, on the south side of the street between Lewis Avenue and Marcus Garvey Boulevard. The site comprises four 1,667 square foot lots, which are currently vacant, with an FAR of 0.0. Currently, the site is zoned R5.

In the Future No-Action condition, the site could be developed with one four-story 11,002 square foot building, with 11 dwelling units. The building would require nine residential parking spaces, which could be accommodated in the rear yard.

Under the proposal, the zoning would be changed to R6B. In the Future With-Action condition, the site would allow the development of two five-story 6,688 square foot buildings, comprising seven dwelling units each. No parking spaces would be required.



404 - 410 KOSCIUSZKO STREET

Site EE *(Block 1791, Lot 17, 18, 19)* is located at 716 – 720 Lafayette Avenue, on the south side of the street between Tompkins and Throop Avenues. The site comprises three lots: one 1,900 square foot lot, which is currently vacant, with an FAR of 0.00; one 1,875 square foot lot, which is currently vacant, with an FAR of 0.00; and one 1,983 square foot lot, which is currently vacant, with an FAR of 0.0. Currently, the site is zoned R5.

In the Future No-Action condition, the site could be developed with one four-story 9,501 square foot building, with 10 dwelling units. The building would require eight residential parking spaces, which could be provided in the rear yard.

Under the proposal, the zoning would be changed to R6B. In the Future With-Action condition, the site would allow the development of two five-story 5,758 square foot buildings, each comprising six dwelling units. There would be no parking spaces required.



716 – 720 LAFAYETTE AVENUE

Potential Site Descriptions

Site 1 (Block 1910, Lots 23, 24, 25) is located at 588 - 590 Myrtle Avenue, on the southeast corner of Classon and Myrtle Avenues. The site comprises one 1,661 square foot lot and one 1,665 square foot lot, which are both currently vacant, as well as one 3,304 square foot lot, which is currently built with a one-story building and used for commercial use, with one tenant and an FAR of 1.00. Currently, the site is zoned R6.

In the Future No-Action condition, the site could be developed with one six-story 25,194 square foot building, with 5,204 square feet of community facility use on the ground floor and 20 dwelling units on the upper floors. The buildings would require 10 parking spaces, which could be accommodated on an underground level.

Under the proposal, the zoning would be changed to R7A/C-24, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one eight-story 30,498 square foot building, comprising 5,636 square feet of commercial space on the ground floor and 25 dwelling units on the upper floors, five of which would be affordable. There would be no required residential parking spaces.

Site 2 (Block 1914, Lot 22) is located at 676 Myrtle Avenue, on the north side of the street between Skillman Street and Bedford Avenue. The site comprises one 5,592 square foot lot, which is currently vacant, with an FAR of 0.00. Currently, the site is zoned R6/C1-3.

In the Future No-Action condition, the site could be developed with one seven-story 25,500 square foot building, with 4,753 square feet of commercial space on the ground floor, 3,970 square feet of community facility use on the second floor, and 17 dwelling units on the upper floors. The buildings would require 8 parking spaces that could be accommodated on an underground level.

Under the proposal, the zoning would be changed to R7A/C-24, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one eight-story 25,723 square foot building, comprising 4,752 square feet of commercial space on the ground floor and 21 dwelling units on the upper floors, four of which would be affordable. There would be no required residential parking spaces.

Site 3 (Block 1926, Lots 1, 77, 78, 79, 80) is located at 973 Kent Avenue and 465 - 471 DeKalb Avenue, on the northeast corner of Kent and DeKalb Avenues. The site comprises five lots: one 983 square foot lot, which is currently built with a one-story building and used for commercial garage use, with one tenant and an FAR of 1.00; one 2,350 square foot lot, which is currently built with a three-story building and used for commercial and residential use, with an FAR of 1.32; one 1,533 square foot lot, which is currently built with a three-story building and is used

for commercial and residential use, with an FAR of 1.39; one 960 square foot lot, which is currently built with a three-story building and is used for commercial use, with an FAR of 1.56; and one 1,440 square foot lot, which is currently built with a three-story building and is used for residential use, with an FAR of 2.10. Currently, the site is zoned R6.

In the Future No-Action condition, the site could be developed with one five-story 21,798 square foot building, comprising 5,813 square feet of community facility use on the ground floor and 16 dwelling units on the upper floors. The building would require eight parking spaces that could be accommodated in the rear yards.

Under the proposal, the zoning would be changed to R7A/C-24, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one eight-story 33,424 square foot building, comprising 6,176 square feet of commercial space on the ground floor and 27 dwelling units on the upper floors, five of which would be affordable. There would be no required residential parking spaces.

Site 4 (Block 1926, Lots 74, 75, 76) is located at 473 - 477 DeKalb Avenue, on the north side of the street between Kent and Franklin Avenues. The site comprises two 2,200 square foot lots, which are currently built with one two-story building and one three-story building that are used for residential use, with an FAR of 0.79 and 0.91, as well as one 2,350 square foot lot, which is currently built with a three-story building and used for residential use, with an FAR of 0.61. Currently, the site is zoned R6.

In the Future No-Action condition, the site could be developed with one five-story 25,250 square foot building, comprising 5,400 square feet of community facility use on the ground floor and 15 dwelling units on the upper floors. The building would require a total of seven parking spaces, which could be accommodated on an underground level.

Under the proposal, the zoning would be changed to R7A/C-24, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one eight-story 31,050 square foot building, comprising 5,738 square feet of commercial space on the ground floor and 25 dwelling units on the upper floors, five of which would be affordable. There would be no required residential parking spaces.

Site 5 (Block 1778, Lot 9) is located at 971 Bedford Avenue, on the southeast corner of DeKalb and Bedford Avenues. The site comprises one 5,425 square foot lot, which is currently built with a one-story building and used for commercial use, with one tenant and an FAR of 1.00. Currently, the site is zoned R6.

In the Future No-Action condition, the site could be developed with one six-story 20,615 square foot building, with 4,340 square feet of community facility use on the ground floor and 16 dwelling units on the upper floors. The building would require eight parking spaces, which could be accommodated on an underground level.

Under the proposal, the zoning would be changed to R7A/C-24, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site allow the development of one eight-story 24,955 square foot building, comprising 4,611 square feet of commercial space on the ground floor and 20 dwelling units on the upper floors, four of which would be affordable. There would be no required residential parking spaces.

Site 6 (Block 1783, Lots 8, 9) is located at 993 - 995 Bedford Avenue, on the southeast corner of Kosciuszko Street and Bedford Avenue. The site comprises two lots: one 1,840 square foot lot, which is currently built with a three-story building used for residential use, with an FAR of 1.36; and one 3,680 square foot lot, which is currently built with a one-story building and used for commercial use, with one tenant and an FAR of 1.00. Currently, the site is zoned R6/C1-3.

In the Future No-Action condition, the site could be developed with one seven-story 25,668 square foot building, comprising 4,692 square feet of commercial use on the ground floor, 4,416 square feet of community facility use on the second floor, and 17 dwelling units on the upper floors. The building would require eight parking spaces, which could be accommodated on an underground level.

Under the proposal, the zoning would be changed to R7A/C-24, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one eight-story 25,392 square foot building, comprising 4,692 square feet of commercial space on the ground floor and 21 dwelling units on the upper floors, four of which would be affordable. There would be no required residential parking spaces.

Site 7 (Block 1950, Lots 30, 31, 33) is located at 488 Lafayette Avenue and1040 - 1044 Bedford Avenue, on the southwest corner of Lafayette Avenue and Bedford Avenue. The site comprises three lots: one 2,160 square foot lot, which is currently built with a one-story building used for commercial use, with an FAR of 1.0; one 1,380 square foot lot, which is currently built with a one-story building used for commercial use, with an FAR of 0.94; and one 4,740 square foot lot, which is currently built with a one-story building used for commercial use, with an FAR of 0.87. Currently, the site is zoned R6/C2-3.

In the Future No-Action condition, the site could be developed with two seven-story 19,251 square foot buildings, each comprising 3,519 square feet of commercial use on the ground floor, 3,312 square feet of community facility use on the second floor, and 12 dwelling units on the upper floors. The buildings would each require six parking spaces, which could be accommodated on an underground level.

Under the proposal, the zoning would be changed to R7A/C-24, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one eight-story 38,088 square foot building, comprising 7,038 square feet of commercial space on the ground floor and 31 dwelling units on the upper floors, six of which would be affordable. There would be no required residential parking spaces.

Site 8 (Block 1747, Lot 34) is located at 901 Myrtle Avenue, on the north side of the street between Marcy and Tompkins Avenues. The site comprises one 6,363 square foot lot, which is currently built with a three-story building used for commercial and residential use, with an FAR of 0.47. Currently, the site is zoned R6/C1-3.

In the Future No-Action condition, the site could be developed with one seven-story 29,588 square foot building, with 5,409 square feet of commercial use on the ground floor, 5,090 square feet of community facility use on the second floor, and 19 dwelling units on the upper floors. The building would require ten parking spaces, which could be accommodated on an underground level.

Under the proposal, the zoning would be changed to R7D/C-24, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one ten-story 35,633 square foot building, comprising 5,409 square feet of commercial space on the ground floor and 30 dwelling units on the upper floors, six of which would be affordable. There would be no required residential parking spaces.

Site 9 (Block 1756, Lots 23, 24, 25) is located at 920 - 924 Myrtle Avenue, on the south side of the street between Throop and Tompkins Avenues. The site comprises three 2,000 square foot lots: one lot, which is currently vacant, with an FAR of 0.00; one lot, which is currently built with a three-story building used for commercial and residential use, with an FAR of 1.58; and one lot, which is currently built with a three-story building used for commercial and residential use, with an FAR of 1.50. Currently, the site is zoned R6/C1-3.

In the Future No-Action condition, the site could be developed with one seven-story 27,900 square foot building, comprising 5,100 square feet of commercial use on the ground floor, 4,800 square feet of community facility use on the second floor, and 18 dwelling units on the upper floors. The building would require nine parking spaces, which could be accommodated on an underground level.

Under the proposal, the zoning would be changed to R7D/C-24, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one ten-story 33,600 square foot building, comprising 5,100 square feet of commercial space on the ground floor and 29 dwelling units on the upper floors, six of which would be affordable. There would be no required residential parking spaces.

Site 10 (Block 1757, Lots 27, 33, 34, 35, 134) is located at 994 - 1010 Myrtle Avenue, on the southwest corner of Myrtle and Throop Avenues. The site comprises five lots: one 14,000 square foot lot, currently built with a one-story building and used for commercial uses, with an FAR of 0.84; three 2,000 square foot lots that are currently vacant, with an FAR of 0,0; and one 5,000 square foot lot, which is currently vacant, with an FAR of 0.0. Currently, the site is zoned R6/C1-3.

In the Future No-Action condition, the site could be developed with four 7-story 28,750 square foot buildings, each with 5,000 square feet of commercial uses on the ground floor, 5,000 square feet of community facility use on the second floor, and 19 dwelling units on the upper floors. Each building would require nine parking spaces, which could be accommodated on an underground level.

Under the proposal, the zoning would be changed to R7D/C2-4, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one, 10-story 140,000 square foot building, with 20,000 square feet of commercial space on the ground floor and 120 dwelling units on the upper floors, 24 of which would be affordable. There would be 54 required parking spaces, which would be accommodated on an underground level.

Site 11 (Block 1580, Lot 1) is located at 33 Marcus Garvey Boulevard, on the east side of Lewis Avenue between Park and Myrtle Avenues. The site comprises one 533,900 square foot lot, which is currently built with seven seven-story buildings used for residential use, with an FAR of 1.73. Currently, the site is zoned R6 and is owned by the New York City Housing Authority.

In the Future No-Action condition, all existing buildings on the site would remain. However, an existing parking lot on the site, along Myrtle Avenue, could be developed with an additional eleven-story 165,670 square foot building, with residential use on all floors, comprising 184 dwelling units, all of which would be affordable. The building would require 64 parking spaces, which could be accommodated as surface parking at grade or on an underground level.

In the interest of better serving its residents, NYCHA has expressed a desire to include ground-floor retail space in a new senior housing building proposed for development on an existing parking lot, along Myrtle Avenue, on the site. Therefore, under the proposal, the zoning would be changed to R7D/C-24, with the option of using the Inclusionary Housing program. In the Future With-Action condition, all existing buildings on the site would remain. However, the site would accommodate the development of an additional 11-story 165,670 square foot building, comprising 21,520 square feet of commercial use on the ground floor and 160 dwelling units on the upper floors, all of which would be affordable. The building would require 56 parking spaces, which would be accommodated as surface parking at grade or on an underground level.

Site 12 (Block 1759, Lot 7) is located at 599 Marcy Avenue, on the east side of the street between Willoughby and Vernon Avenues. The site comprises one 5,000 square foot lot, which is currently built with a one-story building used for commercial use, with an FAR of 1.0. Currently, the site is zoned R6/C1-3.

In the Future No-Action condition, the site could be developed with one five-story 19,250 square foot building, with 4,250 square feet of commercial use on the ground floor, 4,000 square feet of community facility use on the second floor, and 11 dwelling units on the upper floors. The building would require 25 parking spaces, which could be accommodated on an underground level.

Under the proposal, the zoning would be changed to R7A/C-24, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site allow the development of one eight-story 23,000 square foot building, comprising 4,250 square feet of commercial space on the ground floor and 19 dwelling units on the upper floors, four of which would be affordable. There would be no required residential parking spaces.

Site 13 (Block 1771, Lots 5, 7, 8) is located at 629 - 633 Marcy Avenue, on the east side of the street between Hart and Pulaski Streets. The site comprises three lots: one 5,000 square foot lot, which is currently built with one one-story building used for commercial use, with an FAR of 1.0; one 2,500 square foot lots, which is currently vacant, with an FAR of 0.0; and one 2,500 square foot lot, which is currently built with a 3.5-story building used for commercial use, with an FAR of 2.25. Currently, the site is zoned R6/C1-3.

In the Future No-Action condition, the site could be developed with two five-story 19,250 square foot buildings, each with 4,250 square feet of commercial use on the ground floor, 4,000 square feet of community facility use on the second floor, and 11 dwelling units on the upper floors. The buildings would each require a total of six parking spaces, which could be accommodated on an underground level.

Under the proposal, the zoning would be changed to R7A/C-24, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one eight-story 46,000 square foot building, comprising 9,165 square feet of commercial space on the ground floor and 19 dwelling units on the upper floors, four of which would be affordable. There would be no required residential parking spaces.

Site 14 (Block 1578, Lot 17) is located at 794 Broadway, on the southwest side of the street between Marcus Garvey Boulevard and Ellery Street. The site comprises one 6,110 square foot lot, which is currently built with a three-story building used for commercial use, with an FAR of 1.66. Currently, the site is zoned C4-3.

In the Future No-Action condition, the site could be developed with one seven-story 26,884 square foot building, with 7,027 square feet of commercial use on the ground floor, 1,528 square feet of community facility use on the second floor, and 16 dwelling units on the upper floors. The building would require eight parking spaces, which could be accommodated on an underground level.

Under the proposal, the zoning would be changed to C4-4L, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one ten-story 28,106 square foot building, comprising 9,165 square feet of commercial space on the first two floors and 19 dwelling units on the upper floors, four of which would be affordable. There would be no required residential parking spaces.

Site 15 (Block 1579, Lots 22, 25) is located at 310 Ellery Street and 822 Broadway, on the southwest side of the street between Park Avenue and Ellery Street. The site comprises two lots: one 4,370 square foot lot, which is currently built with a three-story building used for commercial use, with an FAR of 2.15; and a 2,714 square foot lot, which is currently built with a three-story building used for commercial and residential use, with an FAR of 1.54. Currently, the site is zoned R6/C2-3.

In the Future No-Action condition, the site could be developed with one seven-story one 31,524 square foot building, comprising 6,021 square feet of commercial use on the ground floor, 4,250 square feet of community facility use on the second floor, and 21 dwelling units on the upper floors. The building would require 11 parking spaces, which could be accommodated on an underground level.

Under the proposal, the zoning would be changed to C4-4L, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one ten-story 32,586 square foot building, comprising 10,626 square feet of commercial space on the first two floors and 22 dwelling units on the upper floors, four of which would be affordable. There would be no required residential parking spaces.

Site 16 (Block 1584, Lots 39, 50, 51) is located at 1101 – 1123 Myrtle Avenue, on the north side of the street between Lewis Avenue and Broadway. The site comprises three lots: one 25,000 square foot lot, which is currently built with a one-story building used for commercial use, with an FAR of 0.96; and two 2,500 square foot lots, which are currently vacant, with an FAR of 0.0. Currently, the site is zoned C8-2.

In the Future No-Action condition, the site could be developed with four buildings: three three-story 7,500 square foot buildings, with commercial use on all floors; and one four-story 7,500 square foot building, with commercial use on all floors. The buildings would require no parking spaces.

Under the proposal, the zoning would be changed to C4-4L, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one eight-story 123,000 square foot building, comprising 45,000 square feet of commercial space on the first two floors and 93 dwelling units on the upper floors, 19 of which would be affordable. There would be 87 required parking spaces, which would be accommodated on an underground level.

Site 17 (Block 1586, Lot 31) is located at 1128 Myrtle Avenue, on the south side of the street between Lewis Avenue and Broadway. The site comprises one 5,205 square foot lot, which is currently built with a one-story building used for commercial use, with an FAR of 0.83. Currently, the site is zoned R6/C2-3.

In the Future No-Action condition, the site could be developed with one seven-story 24,203 square foot building, with 4,424 square feet of commercial use on the ground floor, 4,164 square

feet of community facility use on the second floor, and 16 dwelling units on the upper floors. The building would require eight parking spaces, which could be accommodated on an underground level.

Under the proposal, the zoning would be changed to C4-4L, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one ten-story 23,943 square foot building, comprising 7,808 square feet of commercial space on the first two floors and 16 dwelling units on the upper floors, three of which would be affordable. There would be no required residential parking spaces.

Site 18 (Block 1586, Lot 6) is located at 1086 Myrtle Avenue, on the south side of the street between Lewis Avenue and Broadway. The site comprises one 5,000 square foot lot, which is currently built with a three-story building used for commercial use, with an FAR of 1.48. Currently, the site is zoned C8-2.

In the Future No-Action condition, the site could be developed with one three-story 10,000 square foot building, with commercial use on all floors. The building would require no parking spaces.

Under the proposal, the zoning would be changed to C4-4L, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one eight-story 23,000 square foot building, comprising 7,500 square feet of commercial space on the first two floors and 16 dwelling units on the upper floors, three of which would be affordable. There would be no required residential parking spaces.

Site 19 (Block 1586, Lot 3) is located at 1080 Myrtle Avenue, on the south side of the street between Lewis Avenue and Broadway. The site comprises one 6,500 square foot lot, which is currently built with a one-story building used for commercial use, with an FAR of 0.80. Currently, the site is zoned C8-2.

In the Future No-Action condition, the site could be developed with one three-story 10,075 square foot building, with commercial use on all floors. The building would require no parking spaces.

Under the proposal, the zoning would be changed to C4-4L, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site allow the development of one eight-story 29,900 square foot building, comprising 9,750 square feet of commercial space on the first two floors and 20 dwelling units on the upper floors, four of which would be affordable. There would be no required residential parking spaces.

Site 20 (Block 1618, Lot 40) is located at 1005 Greene Avenue, on the north side of the street between Patchen Avenue and Broadway. The site comprises one 10,000 square foot lot, which is

currently built with a two-story building used for commercial use, with an FAR of 2.00. Currently, the site is zoned C8-2.

In the Future No-Action condition, the site could be developed with two three-story 10,000 square foot buildings, with community facility use on all floors. The building would require no parking spaces.

Under the proposal, the zoning would be changed to C4-4L, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one eight-story 40,000 square foot building, comprising 15,000 square feet of commercial space on the first two floors and 31 dwelling units on the upper floors, six of which would be affordable. There would be no required residential parking spaces.

Site 21 (Block 1600, Lots, 13, 14, 15) is located at 1092 – 1096 Broadway, on the southeast side of the street between DeKalb Avenue and Malcolm X Boulevard. The site comprises three lots: one 1,125 square foot lot, which is currently built with a one-story building used for commercial use, with an FAR of 0.70; one 1,112 square foot lot, which is currently built with a one-story building used for commercial use, with an FAR of .84; and one 2,820 square foot lot, which is currently built with a two-story building used for commercial and residential use, with an FAR of 1.87. Currently, the site is zoned R6/C2-3.

In the Future No-Action condition, the site could be developed with one seven-story 23,515 square foot building comprising 4,298 square feet of commercial use on the ground floor, 4,046 square feet of community facility use on the second floor, and 15 dwelling units on the upper floors. The buildings would require a total of eight parking spaces, which could be accommodated on an underground level.

Under the proposal, the zoning would be changed to C4-4L, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one ten-story 23,262 square foot building, comprising 7,586 square feet of commercial space on the first two floors and16 dwelling units on the upper floors, three of which would be affordable. There would be no required residential parking spaces.

Site 22 (Block 1608, Lots 27, 34) is located at 618 Kosciuszko Street and on Broadway, on the southeast side of the street between Kosciuszko Street and Lafayette Avenue. The site comprises two lots: one 20,200 square foot lot, which is currently built with a one-story building used for commercial use, with one tenant and an FAR of 0.52; and one 6,842 square foot lot, which is currently built with a one-story building used for commercial use, with three tenants and an FAR of 0.62. Currently, the site is zoned R6/C2-3.

In the Future No-Action condition, the site could be developed with four seven-story buildings: three 30,637 square foot buildings, each with 5,723 square feet of commercial use on the ground floor, 4,713 square feet of community facility use on the second floor, and 20 dwelling units on the upper floors; and one 31,815 square foot building, with 5,816 square feet of commercial use

on the ground floor, 5,474 square feet of community facility use on the second floor, and 21 dwelling units on the upper floors. The buildings would require a total of 66 parking spaces, which could be accommodated on an underground level.

Under the proposal, the zoning would be changed to C4-4L, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one ten-story 124,393 square foot building, comprising 40,563 square feet of commercial space on the first two floors and 84 dwelling units on the upper floors, 17 of which would be affordable. There would be 79 required parking spaces, which would be provided on an underground level.

Site 23 (Block 1613, Lots 16, 17, 23) is located at 1198 - 1200 Broadway and 541 Van Buren Street, on the southeast side of Broadway between Van Buren Street and Lafayette Avenue and on the north side of Van Buren Street between Patchen Avenue and Broadway. The site comprises three lots: one 1,661 square foot lot, which is currently vacant, with an FAR of 0.00; one from 1,625 square foot lot, which is currently vacant, with an FAR of 0.00; and one 2,146 square foot lot, which is currently vacant, with an FAR of 0.00. Currently, the site is zoned R6/C2-3.

In the Future No-Action condition, the site could be developed with one seven-story 25,259 square foot building, comprising 4,617 square feet of commercial use on the ground floor, 4,346 square feet of community facility use on the second floor, and 15 dwelling units on the upper floors. The building would require eight parking spaces, which could be accommodated on an underground level.

Under the proposal, the zoning would be changed to C4-4L, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one ten-story 24,987 square foot building, comprising 8,148 square feet of commercial space on the first two floors and 17 dwelling units on the upper floors, three of which would be affordable. There would be no required parking spaces.

Site 24 (Block 1618, Lot 22) is located at 1224 Broadway, on the southeast side of the street between Van Buren street and Greene Avenue. The site comprises one 8,114 square foot lot, which is currently built with a one-story building used for commercial use, with eight tenants and an FAR of 1.00. Currently, the site is zoned C8-2.

In the Future No-Action condition, the site could be developed with two three-story 7,303 square foot buildings, each with commercial use on all floors. The buildings would require no parking spaces.

Under the proposal, the zoning would be changed to C4-4L, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would be developed with one ten-story 32,456 square foot building, comprising 12,171 square feet of commercial

space on the first two floors and 25 dwelling units on the upper floors, five of which would be affordable. There would be no required parking spaces.

Site 25 (Block 1623, Lot 25) is located at 1038 Greene Avenue, on the south side of the street between Patchen Avenue and Broadway. The site comprises one 8,000 square foot lot, which is currently built with a one-story building used for commercial use, with an FAR of 1.00. Currently, the site is zoned C8-2.

In the Future No-Action condition, the site could be developed with two three-story 2,700 square foot buildings, each with commercial use on all floors. The building would require a total of 54 parking spaces, which could be accommodated on an underground level.

Under the proposal, the zoning would be changed to C4-4L, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one eight-story 32,000 square foot building, comprising 12,000 square feet of commercial space on the first two floors and 25 dwelling units on the upper floors, five of which would be affordable. There would be no required parking spaces.

Site 26 (Block 1623, Lots 41, 42, 53) is located at 1266 - 1268 Broadway and 891 Lexington Avenue, on the southeast side of Broadway between Greene Avenue and Lexington Avenue and on the north side of Lexington Avenue between Patchen Avenue and Broadway. The site comprises three lots: one 1,700 square foot lot, which is currently built with a two-story building used for commercial use, with an FAR of 1.69; one 4,620 square foot lot, which is currently built with a one-story building used for commercial use, with an FAR of 2.00; and one 1,084 square foot lot, which is currently built with a two-story building and used for commercial use, with an FAR of 1.12. Currently, the site is zoned C4-3.

In the Future No-Action condition, the site could be developed with one seven-story 30,579 square foot building, comprising 7,034 square feet of commercial use on the ground floor, 1,481 square feet of community facility use on the second floor, and 18 dwelling units on the upper floors. The building would require 9 parking spaces, which could be accommodated on an underground level.

Under the proposal, the zoning would be changed to C4-4L, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one ten-story 26,616 square foot building, comprising 11,106 square feet of commercial space on the first two floors and 23 dwelling units on the upper floors, five of which would be affordable. There would be no required parking spaces.

Site 27 (Block 1623, Lot 57) is located at 881 Lexington Avenue, on the north side of the street between Patchen Avenue and Broadway. The site comprises one 6,000 square foot lot, which is currently vacant, with FAR of 0.0. Currently, the site is zoned C8-2.

In the Future No-Action condition, the site could be developed with one three-story 7,200 square foot building, with commercial use on all floors. The building would require no parking spaces.

Under the proposal, the zoning would be changed to R6A/C2-4. In the Future With-Action condition, the site would allow the development of one seven-story 18,000 square foot building, comprising 5,100 square feet of commercial space on the ground floor and 13 dwelling units on the upper floors. There would be six required residential parking spaces, which would be accommodated on an underground level.

Site 28 (Block 1628, Lots 34, 38, 42) is located at 4 Ralph Avenue and 842 - 850 Lexington Avenue, on the south side of Lexington Avenue between Greene Avenue and Lexington Avenue and on the north side of Lexington Avenue between Patchen and Ralph Avenues. The site comprises three lots: one 10,000 square foot lot, which is currently built with a one -story building used for commercial use, with an FAR of 1.00; one 5,000 square foot lot, which is currently built with a two-story building used for commercial use, with an FAR of 1.03; and one 4,500 square foot lot, which is currently built with a three-story building and used for commercial use, with an FAR of 2.13. Currently, the site is partially zoned C4-3 and partially zoned C8-2.

In the Future No-Action condition, the site could be developed with four buildings: two three-story 7,500 square foot buildings, each with commercial use on all floors and no required parking spaces; one seven-story 22,000 square foot building, with 5,750 square feet of commercial use on the first two floors, 1,250 square feet of community facility use on the second floor, 15 dwelling units on the upper floors, and eight required parking spaces that could be accommodated on an underground level; and one seven-story 19,800 square foot building, with 5,175 square feet of commercial use on the ground floor, 1,125 square feet of community facility use on the second floor, 14 dwelling units on the upper floors, and seven required parking spaces that could be accommodated on an underground level.

Under the proposal, the zoning would be changed to C4-4L, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one eight-story 78,000 square foot building, comprising 29,250 square feet of commercial space on the first two floors and 60 dwelling units on the upper floors, 12 of which would be affordable. There would be 27 required parking spaces, which would be accommodated on an underground level.

Site 29 (Block 1479, Lots 8, 11) is located at 894 Quincy Street and 1336 Broadway, on the southeast corner of Broadway and Quincy Street. The site comprises two lots: one 6,600 square foot lot, which is currently built with two two-story buildings used for commercial and residential use, with an FAR of 0.68; and one 2,600 square foot lot, which is currently built with a two-story building and used for commercial and residential use, with an FAR of 1.73. Currently, the site is zoned C4-3.

In the Future No-Action condition, the site could be developed with two seven-story 20,240 square foot buildings, each with 5,290 square feet of commercial use on the first two floors, 1,150 square feet of community facility use on the second floor, and 14 dwelling units on the upper floors. The buildings would each require a total of 7 parking spaces, which could be accommodated on an underground level.

Under the proposal, the zoning would be changed to C4-4L, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one ten-story 36,800 square foot building, comprising 13,800 square feet of commercial space on the first two floors and 29 dwelling units on the upper floors, six of which would be affordable. There would be no required parking spaces.

Site 30 (Block 1480, Lots 16, 17) is located at 1008 – 1010 Gates Avenue, on the south side of the street between Ralph Avenue and Broadway. The site comprises two lots: one 1,700 square foot lot, which is currently built with a three-story building used for commercial and residential use, with an FAR of 1.94; and one 3,686 square foot lot, which is currently built with a two-story building and used for commercial use, with an FAR of 1.55. Currently, the site is zoned C4-3.

In the Future No-Action condition, the site could be developed one seven-story 23,698 square foot building, comprising 6,194 square feet of commercial use on the first two floors, 1,347 square feet of community facility use on the second floor, and 16 dwelling units on the upper floors. The building would require eight parking spaces, which could be accommodated on an underground level.

Under the proposal, the zoning would be changed to C4-4L, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one eight-story 21,544 square foot building, comprising 8,079 square feet of commercial space on the first two floors and 17 dwelling units on the upper floors, three of which would be affordable. There would be no required parking spaces.

Site 31 (Block 1480, Lots 23, 55, 56) is located at 1024 Gates Avenue, on the south side of the street between Ralph Avenue and Broadway, and on Monroe Street, on the north side of the street between Ralph Avenue and Broadway. The site comprises three lots: one 15,286 square foot lot, which is currently built with a four -story building used for commercial use, with an FAR of 0.61; and two 1,667 square foot lots, which are currently vacant, with an FAR of 0.00. Currently, the site is zoned C4-3.

In the Future No-Action condition, the site could be developed with five buildings: four seven-story 27,117 square foot buildings, each with 6,937 square feet of commercial use on the first two floors, 1,261 square feet of community facility use on the second floor, 19 dwelling units on the upper floors, and nine required parking spaces that could be accommodated on an underground level; and one 14,670 square foot building, with 3,834 square feet of commercial use on the first two floors, 834 square feet of community facility use on the second floor, 10 dwelling units on the upper floors, and five required parking spaces that could be accommodated on an underground level.

Under the proposal, the zoning would be changed to C4-4L, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one eight-story 114,236 square foot building, comprising 42,839 square feet of commercial space on the first two floors and 89 dwelling units on the upper floors, 18 of which would be affordable. There would be 82 required parking spaces, which would be accommodated on an underground level.

Site 32 (Block 1480, Lots 34, 36, 38, 40, 41, 42) is located 1372 - 1392 Broadway, on the southeast side of Broadway between Gates Avenue and Monroe Street. The site comprises six lots: one 11,344 square foot lot, which is currently built with a one-story building used for commercial use, with an FAR of 0.40; one 3,070 square foot lot, which is currently vacant, with an FAR of 0.00; one 2,630 square foot lot, which is currently vacant, with an FAR of 0.00; one 1,350 square foot lot, which is currently vacant, with an FAR of 0.00; one 1,332 square foot lot, which is currently vacant, with an FAR of 0.00; and one 953 square foot lot, which is currently vacant, with an FAR of 0.00. Currently, the site is zoned C4-3.

In the Future No-Action condition, the site could be developed with three seven-story 28,951 square foot buildings, each comprising 7,238 square feet of commercial use on the first two floors, 1,034 square feet of community facility use on the second floor, and 21 dwelling units on the upper floors. The buildings would each require 10 parking spaces, which could be accommodated on an underground level.

Under the proposal, the zoning would be changed to C4-4L, with the option of using the Inclusionary Housing program. In the Future With-Action condition, the site would allow the development of one ten-story 82,716 square foot building, comprising 31,019 square feet of commercial space on the first two floors and 64 dwelling units on the upper floors, 13 of which would be affordable. There would be 29 required parking spaces, which would be accommodated on an underground level.

Site 33 (Block 1791, Lots 42, 43, 44, 45, 47, 48, 51, 52, 53, 54) is located at 760 – 762 Lafayette Avenue, on the southwest corner of Lafayette and Throop Avenues, and on the west side of Throop Avenue between Lafayette Avenue and Van Buren Street, and at 67 - 69 Van Buren Street, on the north side of the street between Tompkins and Throop Avenues. The site comprises ten lots: four 2,000 square foot lots, which are currently vacant, with an FAR of 0.0; two 2,500 square foot lots, which are currently vacant, with an FAR of 0.0; two 942 square foot lots, which are currently vacant, with an FAR of 0.0; one 979 square foot lot, which is currently vacant, with an FAR of 0.0; and one 2,067 square foot lot, which is currently vacant, with an FAR of 0.0. Currently, the site is zoned R5.

In the Future No-Action condition, the site could be developed with one four-story 35,860 square foot building, comprising 6,276 square feet of community facility use on the ground floor and 30 dwelling units on the upper floors. The building would require 28 parking spaces, which could be accommodated in the rear yard.

Under the proposal, the zoning would be changed to R6B/C2-4. In the Future With-Action condition, the site would allow the development of one five-story 35,860 square foot building, comprising 10,758 square feet of commercial space on the ground floor and 25 dwelling units on the upper floors. There would be 13 required parking spaces, which would be accommodated in the rear yards.

ATTACHMENT 3—IMPACT ANALYSES
Bedford-Stuyvesant North Rezoning
Environmental Assessment Statement
CEQR No. 12DCP156Y
ULURP Nos.: 120294ZMK, N120295ZRK & N120296ZRY

A. LAND USE, ZONING, AND PUBLIC POLICY

Introduction

Under *CEQR Technical Manual* guidelines, an assessment of zoning is performed in conjunction with a land use analysis when an action would change the zoning on the site or result in the loss of a particular use. Similar to zoning, assessment of public policy typically accompanies an assessment of land use. Under CEQR, a land use analysis characterizes the uses and development trends in the study area that may be affected by a proposed action, and determines whether the action is compatible with or may affect those conditions. The analysis considers the proposed action's compliance with, and effect on, the area's zoning and any applicable public policies.

This section will describe the diversity and concentration of activities and services in the area, the zoning regulations that govern them and other relevant data regarding the future of the affected area. Specifically, the section will describe the existing built conditions, land use trends and the anticipated changes likely to occur by the year 2022 due to the proposed action.

As discussed in Attachment 1, Project Description, the Bedford-Stuyvesant North Rezoning includes a zoning map amendment and zoning text amendments that would protect the rowhouse character of the residential midblocks while directing growth opportunities to commercial corridors that are well-served by transit. The proposed rezoning establishes incentives for creation of affordable housing, and reinforces the commercial corridors in the area with commercial overlay modifications and additions, in addition to the establishment of special regulations for the major commercial corridors of Myrtle Avenue and Broadway that foster active use on the ground floor and a safe, lively pedestrian experience.

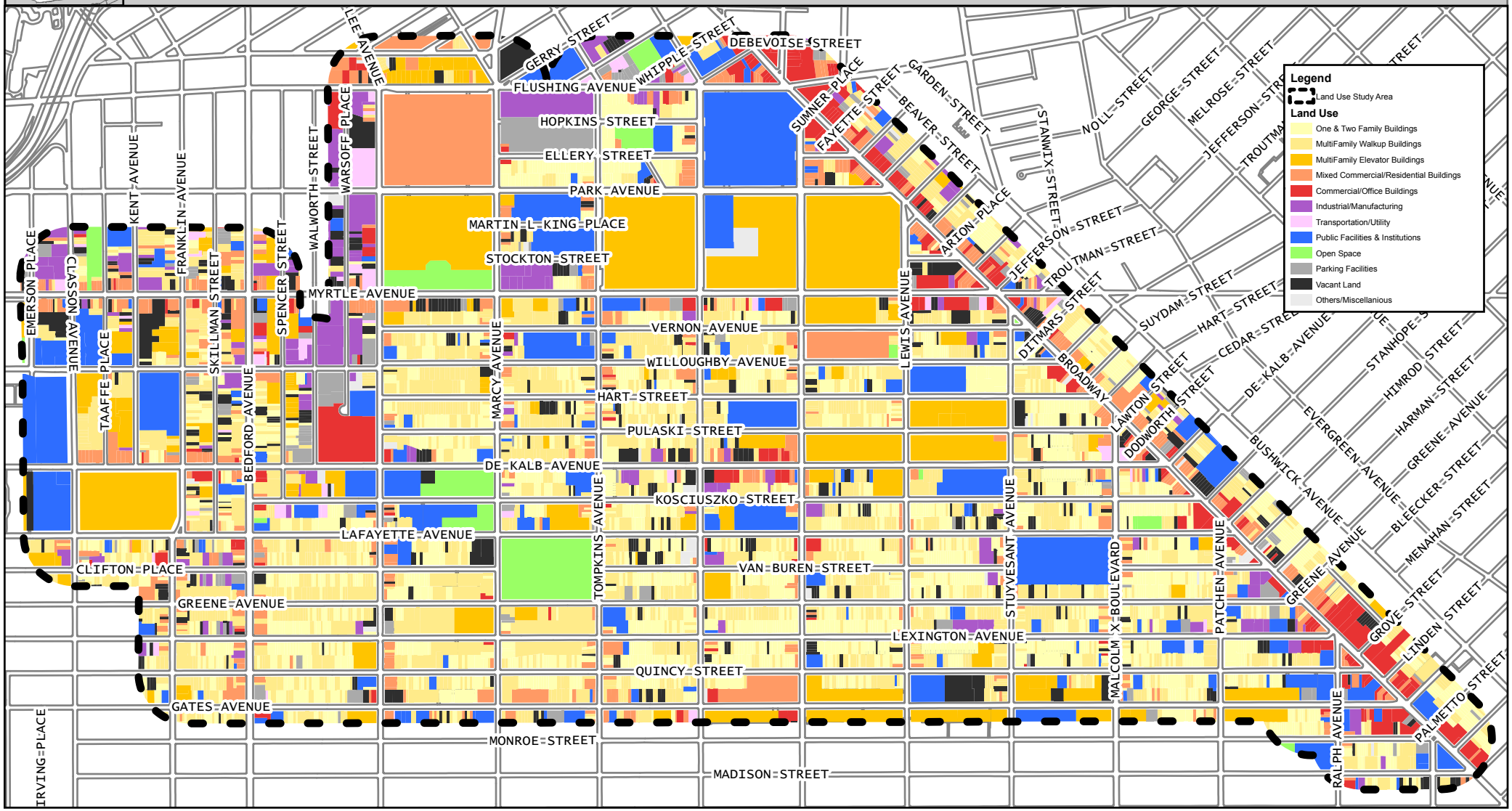
In order to study the effects of the proposed action on land use, zoning and public policy, a primary study area that includes the affected area within 400 feet was established. The study area is depicted in **Figure A-1**, Land Use Study Area.

No significant adverse impacts related to land use, zoning, or public policy are anticipated. The proposed actions are expected to result in changes that are compatible with and supportive of the current land use trends, zoning, and public policies.

Bedford-Stuyvesant North Rezoning

Land Use Study Area

Figure A-1



NYC PLANNING
DEPARTMENT OF CITY PLANNING CITY OF NEW YORK

March 2012
Brooklyn Office

Land Use

Existing Conditions

The assessment of existing conditions focuses on the land uses occupying the rezoning area. **Table A-1** shows the proportion of land and the proportion of tax lots devoted to various uses within the study area. A broad mix of uses is represented including residential, institutional, commercial, manufacturing, recreation, and transportation. However, the study area is predominantly characterized by medium-density residential development interspersed with corridors of commercial use, pockets of institutional use, and scattered industrial use.

TABLE A-1. Land Use in 400-foot Study Area

Use	**Lots**		**Acres**	
One and Two Family Buildings	2902	35.42%	128.96	17.57%
Multifamily Walkup Buildings	2773	33.85%	157.59	21.47%
Multifamily Elevator Buildings	161	1.97%	116.86	15.92%
Mixed Commercial and Residential	765	9.34%	70.25	9.57%
Commercial and Office	225	2.75%	32.42	4.42%
Industrial and Manufacturing	172	2.10%	34.70	4.73%
Transportation and Utilities	50	0.61%	6.17	0.84%
Public Facilities and Institutions	203	2.48%	98.94	13.48%
Open Space	17	0.21%	22.63	3.08%
Parking Facilities	216	2.64%	19.81	2.70%
Vacant Land	647	7.90%	42.70	5.82%
Other	62	0.76%	3.13	0.43%
Total	**8193**	**100.00%**	**734.17**	**100.00%**

The primary study area consists of 8193 tax lots covering approximately 734 acres. Roughly 35% percent of these tax lots contain one- and two-family buildings, which account for nearly 18% of the land area. Multifamily walkup and elevator buildings account for 36% (33.9% and 1.97% respectively) of tax lots and cover approximately 37% percent of the land area. Surface parking lots represent less than 3% of the lots and land area, and are generally either accessory to businesses near Broadway, or to NYCHA residential developments. 7.9% of the lots in the area are Vacant, representing 5.8% of the total land area.

In the study area, commercial uses are generally located along north-south corridors like Nostrand Avenue, Bedford Avenue, and Malcolm X Boulevard, as well as Myrtle Avenue and Broadway. Commercial uses in stand-alone and mixed-use buildings occupy 4.85% of the lots or 9.15% of the land area. Institutional and community facility uses such as schools, medical services, and houses of worship are spread throughout the study area and comprise 2.5% of lots and 13.5% of the land area. Industrial and manufacturing uses are mainly found in the north-west portion of the study area, and represent 2.1% of lots and 4.7% of land area. Just over 3% of the land area is devoted to open space, representing less than 1% of the lots.

Future No-Action

In order to assess the incremental difference in land use that would result from the proposed actions, a Reasonable Worst Case Development Scenario (RWCDS) was prepared. The RWCDS is contained in Attachment 1 of this Environmental Assessment Statement. A summary of land use scenarios for the projected and potential development sites can be found in **Tables 1** and **2** of **Attachment 2, "Reasonable Worst Case Development Scenario."**

The proposed rezoning area is expected to experience moderate growth under current zoning and development trends. As-of-right growth is expected to occur on 30 of the 31 projected sites indentified in the RWCDS. Most of the projected growth is expected to be residential and developed predominantly along the Myrtle Avenue, Bedford Avenue, and Broadway corridors. Growth in community facility and commercial uses is also expected, the latter primarily in the form of office space and retail stores, and the former a mix of medical services, childcare, and houses of worship.

These 31 projected sites currently have 2 dwelling units, 347,554 square feet of commercial uses and no community facility space. In the future no-action, as-of-right development is expected to occur on all but one of these sites. The no-action scenario is expected to consist of 1,198 dwelling units, 170,399 square feet of commercial uses (primarily retail) and 28,666 square feet of office uses, and 380,826 square feet of community facility space.

In addition to the changes expected on the projected development sites, it is reasonable to assume that the redevelopment of moderate-density residential areas will continue, particularly as the large number of vacant lots dispersed throughout the area continue to be developed with new housing, commercial, and community facility uses.

Future With-Action

The proposed actions' intent is to support land use and building patterns while promoting growth opportunities for new residential use, including affordable housing, and commercial development on major commercial corridors with access to transit. Modest increases in residential and some commercial land uses are expected on projected development sites in the Future With-Action condition.

In the Future With-Action, modestly higher mixed-use development is expected to occur. The total development expected to occur on the projected development sites under the With-Action conditions consist of 1,988 dwelling units, 306,363 square feet of commercial space, 56,847 square feet of office space and 89,051 square feet of community facility space.

This growth is expected to occur mainly along the Myrtle Avenue, Bedford Avenue, and Broadway corridors. These three corridors account for the bulk of the projected growth in dwelling units and commercial square footage.

Compared to the No-Action, the With-Action scenario could result in the incremental development of approximately 790 dwelling units. The With-Action scenario could also result in the incremental development of approximately 135,964 square feet of commercial uses, and 28,182 square feet of office space. A decrease of 291,775 square feet of community facility space is expected. These estimates are based on the RWCDS found in Attachment 1. Nearly all of the new residential and commercial construction is projected in the R7D, R7A and C4-4L districts along the major corridors of Broadway, Myrtle Avenue, and Bedford Avenue.

A key factor in anticipating a moderate increase in new residential development is the nature of the rezoning. Rezoning a residential district to a comparable contextual residential district limits the amount of development compared to a different type of rezoning. The incremental increase in development would be greater for an area being mostly rezoned from a non-residential district to a residential district. A rezoning from one residential district to a similar district will not cause significant changes or impacts.

Based on the moderate increase in residential dwelling units, the current land use patterns and composition of the study area, the proposed action is not expected to have an adverse impact on the study area. The rezoning and incremental increase in dwelling units would not introduce new uses to the Bedford-Stuyvesant neighborhood, which are dominated by residential uses complemented by the commercial corridors of Bedford Avenue, Myrtle Avenue, and Broadway. Additionally, the projected increase is only a small fraction compared to the number of dwelling units in the study area.

The Future With-Action condition also contains a greater amount of retail space relative to the Future No-Action condition. This modest increase is consistent with the intention of the rezoning, which encourages mixed-use development along existing commercial corridors. The decrease in community facility is also consistent with the goal of preventing out of scale development, including community facility development. The incremental difference in office space is negligible between the two conditions.

In total, these incremental differences would not result in adverse changes in land use in the study area. Only two small areas containing six projected sites is proposed to be rezoned from commercial C8-2 to commercial/residential C4-4L or R6A, and, as expected, would see a notable increase of dwelling units.

The existing C8-2 districts cover portions of two blocks off Broadway in the northern part of the study area on Myrtle Avenue, and portions of three blocks between Broadway and Patchen Avenue along Lexington Avenue and Greene Avenue to the south. The northern area is adjacent to the intersection of Myrtle Avenue with Broadway, bringing together two of the most important commercial corridors in the neighborhood. Replacing the existing C8-2 district with the proposed C4-4L district will allow this important area to realize its potential as a vibrant mixed-use hub and gateway to the neighborhood by permitting a wide range of commercial and community facility uses in conjunction with residential development, shaping this important nexus as a 24/7 neighborhood center. The proposed C4-4L district's special height and setback regulations are tailored to allow new development to respond to the presence of the elevated train platform and maximize light and air at street level. The southern area is located mid-block between the Broadway commercial corridor and the lower-scale residential area to the west. The proposal would map the parts of these blocks closer to Broadway with C4-4L, to maintain the continuity of the Broadway commercial corridor, while including the western portions of these blocks in the proposed R6A and R6A/C2-4 zoning districts, where modestly-scaled residential and commercial use predominates. R6A is a contextual zoning district that allows residential development at a modest density that fits with the character of the surrounding residential uses.

The incremental retail and residential uses would support and blend with existing uses and would not introduce incompatible activities to the area. Rather, the proposed action would allow these areas to become integrated into the vital commercial character of Broadway, and the more modestly scaled residential areas toward Patchen Avenue.

Lastly, in the Future With-Action condition, existing land use patterns in residential areas would be reinforced by the proposed zoning. The rowhouse character of the residential midblocks would not be susceptible to out-of-character development.

Zoning

The proposed action would not result in significant adverse impacts on zoning.

Existing Conditions/Future No-Action

There are no concurrent plans by any city agency for area wide zoning changes in the study area. Therefore, in the No-Action scenario, it is assumed that the zoning would not change from the existing conditions, discussed below.

The area is predominately zoned R5 and R6 with C1-3 and C2-3 commercial overlays on Broadway, Myrtle and Flushing Avenues, and interspersed along the north/south avenues. Additionally, there are C8-2 and C4-3 commercial districts on Broadway. The majority of existing zoning districts have remained unchanged since 1961 when the current Zoning Resolution was adopted. The rezoning area does not include the manufacturing districts in the northwest portion of Community District 3 (**See Attachment 2, Figure 2**).

R5

An R5 zoning district, which is currently mapped over approximately 13 full or partial blocks of the rezoning area, is located in the center of the study area. It is generally bounded by Tompkins Avenue to the west, Lafayette Avenue and Kosciusko Street to the north, Stuyvesant Avenue to the east, and Lexington Avenue and Greene Street to the south. R5 is a residential zoning district with a 40-foot height limit and a maximum standard FAR of 1.25. R5 regulations allow an FAR of 1.65 on blocks that are mostly built up to encourage infill construction, but any building utilizing this additional FAR cannot exceed a height of 33 feet and must have an 18 foot front yard. All housing types and multi-family housing are permitted. Community facilities have a maximum FAR of 2.00. Off street parking is required for a minimum of 85% of the dwelling units in standard R5 districts and a minimum of 66% of the dwelling units in R5 Infill.

R6

Approximately 120 full or partial blocks of the rezoning area is zoned R6R6 is a height factor district wherein residential and community facility uses are regulated by a sky exposure plane. R6 districts result in development usually between three and twelve stories. A maximum FAR of up to 2.43 is allowed for residential uses and up to 4.8 FAR is allowed for buildings containing community facility uses. The optional Quality Housing program permits an FAR of 2.2 on narrow streets and 3.0 on wide streets but limits building heights to 55 feet and 70 feet, respectively. Off-street parking is required for a minimum of 70% dwelling units and a minimum of 50% dwelling units when the Quality Housing program is utilized.

C4-3

Approximately 8 full or partial blocks of the rezoning area is zoned C4-3. There are two C4-3 commercial zoning districts mapped in the northern half of Bedford-Stuyvesant, both along Broadway. One is mapped in the vicinity of the Gates Avenue subway station along Ralph Avenue and Broadway, south of Greene Street. The other is along Broadway north of Ellery Street extending along Flushing Avenue east of Throop Avenue. C4-3 districts are regional commercial centers where uses, such as specialty and department stores, serve a larger area and generate more activity than a local retail area. The C4-3 district regulations permit commercial buildings up to a maximum 3.4 FAR, residential buildings up to a maximum 2.43 FAR under height factor regulations and 3.0 FAR using the Quality Housing regulations. Community facility and mixed residential/community facility buildings are permitted up to a maximum 4.8 FAR with no height limit. Off-street parking is required for 70% of the dwelling units on lots over 10,000 square feet and for 50% of the units on lots smaller than 10,000 square feet. Non-residential parking is waived, except for commercial uses that would require 15 spaces or more or community facility uses that would require 25 spaces or more.

C8-2

Approximately 5 full or partial blocks of the rezoning area is zoned C8-2. There are two C8-2 zoning districts mapped in the rezoning area. One is along Myrtle Avenue between Lewis Avenue and Broadway. The other is comprised of partial blocks generally defined by Broadway to the east, Van Buren Street to the north, between Patchen Avenue and Ralph Avenue to the west, and between Lexington Avenue and Quincy Street to the south. C8-2 districts bridge commercial and manufacturing districts and are mapped mainly along major arterials. The C8-2 district regulations allow all commercial uses, including automotive and other heavy commercial services, up to FAR 2.0 and permit community facilities at a maximum 4.8 FAR. Residences are not permitted in C8-2 districts and performance standards apply to commercial uses. Off-street parking requirements vary with use, but are generally substantial for automotive uses.

Commercial Overlays

There are commercial overlays permitting local commercial retail uses mapped along the north/south avenues and Broadway, as well as DeKalb and Myrtle Avenues. The predominant C1-3 commercial overlay allows small-scale retail and service shops needed in residential neighborhoods and is mapped generally along Myrtle, DeKalb, Bedford, Nostrand, and Tompkins Avenues, as well as Marcus-Garvey Boulevard. In R6 districts, the commercial FAR can be up to 2.0, while in R5 districts the maximum FAR is 1.0.

The C2-3 overlays allow a slightly broader range of service uses, such as funeral homes and repair services and are mapped along Flushing, Bedford, Nostrand, and Throop Avenues, Malcolm X Boulevard, and Broadway. In R5 districts, the commercial FAR can be up to 2.0, while in R5 districts it can be 1.0.

Future With-Action

The proposed actions would introduce new zoning districts on approximately 140 full or partial blocks. The zoning map and text changes proposed would:

- Reinforce the character of Bedford Stuyvesant residential blocks and ensure future development is consistent with the surrounding neighborhood's building pattern,
- Create growth opportunities and affordable housing development through the Inclusionary Housing Program, and
- Promote predictable and appropriate commercial development on major corridors by establishing commercial zoning regulations that foster a lively streetscape that is pedestrian-friendly and meets the community's needs for access to retail and services.

Proposed zoning districts are described in detail below.

Proposed R6B
Existing R5 and R6

94 full and partial blocks of the rezoning area are proposed to be rezoned to R6B. This proposed designation would protect the low-rise, rowhouse and small home character of the east-west side streets. In the district currently zoned R5, the R6B designation would allow for modest enlargements and new development in context with existing four-story rowhouses. In portions of the area currently zoned R6, the R6B designation would allow for modest enlargements of many existing homes while establishing a height limit that reflects the scale of existing development. These proposed R6B areas are typically built with two to four story rowhouses with some larger housing types built throughout. Two projected and one potential development sites are within the proposed R6B districts.

The R6B district is a rowhouse district that allows a maximum FAR of 2.0 for Use Groups 1, 2, 3, and 4 and limits building heights to 50 feet and street wall heights to 40 feet. New development in the proposed R6B district would be required to maintain the existing street wall characteristics. New multi-family residences must provide one off-street parking space each for 50% of the dwelling units. This parking requirement is waived if five or fewer spaces are required. Non-residential parking requirements of one space per 1,000 square feet of commercial area are waived when fewer than 25 spaces are required. The proposed R6B regulations would allow for limited expansion of many existing uses and provide for opportunities for appropriately scaled new development on vacant sites.

Proposed R6A
Existing R5, R6, and C8-2 districts

83 full or partial blocks of the rezoning area are proposed to be rezoned to R6A. An R6A district is proposed for lot frontages along many north/south avenues, including portions of Kent Avenue, Nostrand Avenue, Marcy Avenue, Tomkins Avenue, Throop Avenue, Marcus Garvey Boulevard, Stuyvesant Avenue, Malcolm X Boulevard, Patchen Avenue, and Ralph Avenue. These avenues generally contain small apartment buildings, and some vacant land and vacant buildings. The majority of these blocks are currently zoned R6 and R5 with commercial overlays of either C1-3 or C2-3, with some areas currently zoned C8-2. Three projected and one potential development sites are within the proposed R6A districts.

R6A is a medium-density apartment district, with a maximum FAR of 3.0 for Use Groups 1, 2, 3, and 4. Above a base height of 40 to 60 feet, the building must set back to a depth of 10 feet on a wide street and 15 feet on a narrow street before rising to a maximum height of 70 feet. New structures in R6A districts are required to line up with adjacent structures to maintain the

streetwall. Off-street parking is required for 50% of housing units, but is not allowed in the front of the building. This parking requirement is waived if five or fewer spaces are required. Non-residential parking requirements of one space per 1,000 square feet of commercial area are waived when fewer than 25 spaces are required.

Proposed R7A
Existing R6 districts

An R7A designation is proposed for 38 full and partial blocks along major thoroughfares, including portions of Myrtle, Marcy and Bedford Avenues. These areas are typically mixed in character, with larger apartment buildings interspersed with and mixed-use and commercial buildings at a variety of scales. The proposed R7A districts would allow development that is in context with the existing built character and, concurrent with proposed C2-4 commercial overlays, will promote contextual mixed use buildings. Nine projected and nine potential development sites are within the proposed R7A districts.

As part of the related zoning text amendment, the Inclusionary Housing Program would be made applicable within R7A districts in this area. R7A permits residential and community facility uses to a base FAR of 3.45. The FAR may be increased to 4.6 if affordable housing is provided. Base heights are required to be between 40 and 65 feet, and the maximum building height is 80 feet after a setback from the street. This typically produces 6- to 8-story buildings. New buildings in R7A districts must be located no closer to the street than a neighboring building. Parking is required for 50% of the residential units. New residences would be required to provide one off-street parking space for 30% of the dwelling units. This parking requirement is waived if 15 or fewer spaces are required. Non-residential parking requirements of one space per 1,000 square feet of commercial area are waived when fewer than 40 spaces are required.

Proposed R7D
Existing R6 districts

An R7D designation is proposed for 6 full and partial blocks along Myrtle Avenue, between Nostrand Avenue and Lewis Avenue. Myrtle Avenue is a major transit corridor with stations for the J, M, Z, and G subway lines, and is characterized by larger apartment buildings, including NYCHA developments with towers up to 24 stories tall, and more moderately-scaled buildings with retail uses on the ground floor and residential uses above. There is also a significant amount of vacant land. Mapping R7D in this area along with the proposed C2-4 commercial overlay (see C2-4 section below) will provide opportunities for housing development, including affordable housing, and strengthen Myrtle Avenue as a retail and service corridor. Four projected and four potential development sites are within the proposed R7D districts.

As part of the related zoning text amendment, the Inclusionary Housing Program would be made applicable within R7D districts in this area. R7D is a residential district that allows apartment building development, with a base FAR of up to 4.2 for Use Groups 1, 2, 3 and 4. The R7D district would be subject to the Inclusionary Housing program, where developers could receive a 33% floor area bonus, up to 5.6 FAR, if 20% of the floor area is made affordable to low-income households, either on-site or off-site. New structures in R7D districts are required to line up with adjacent structures to maintain the streetwall. Above a base height of 60 to 85 feet, the building must set back to a depth of 10 feet on a wide street and 15 feet on a narrow street before rising to its maximum height of 100 feet. In addition, where commercial overlays are mapped, active ground floor uses, such as retail uses, commercial services, and community facilities are required. Off-street parking is required for at least 30% of the dwelling units. This parking requirement is waived if 15 or fewer spaces are required. Non-residential parking requirements of one space per 1,000 square feet of commercial area are waived when fewer than 40 spaces are required. The related zoning text amendment would also apply minimum transparency requirements for the ground floor of buildings in R7D districts where commercial overlays are mapped in order to engage the pedestrian and create a consistent commercial character.

Proposed C4-4L
Existing R6, C8-2, and C4-3 districts

A C4-4L designation is proposed for 18 full and partial blocks along Broadway. This newly-created zoning district would encompass the existing C4-3 and portions of the existing C8-2 districts, as well as R6 districts with C2-3 overlays on Broadway. The area proposed to be zoned C4-4L is generally bounded by Broadway in the northeast, between Marcus Garvey Boulevard in the north and Monrie Street to the south. The western boundary of the district encompasses all or part of the blocks fronting on Broadway. Broadway is a major commercial corridor coincident with the elevated J,M and Z subway line. Current land use includes retail, office, and community facility uses ranging in scale from the major regional institution of Woodhull Hospital to single-story retail buildings. Residential use is also located throughout the corridor, primarily on the upper floors of mixed-use buildings, but also in 3-7 story residential buildings. Twelve projected and eighteen potential development sites are within the proposed C4-4L districts.
The accompanying zoning text amendment proposes to create the new C4-4L district, which is tailored for significant commercial corridors with elevated trains, like Broadway.

As part of the related zoning text amendment, the Inclusionary Housing Program would be made applicable within C4-4L districts in this area. The proposed new C4-4L is a contextual, regional commercial district that also allows mixed use buildings. The residential equivalent to the proposed C4-4L zoning district is R7A. Permitted Use Groups are 1-6, 8-10 and 12 Commercial and community facility development is allowed to a maximum FAR of 4.0. Residential

development is allowed to a maximum FAR of 4.6 under the Inclusionary Housing bonus and 3.45 when not using the Inclusionary Housing bonus. A thirty foot deep rear yard is required. Residential developments are required to provide one off-street parking space each for 50% of the dwelling units when the lot is larger than 15,000 square feet and for 30% of the dwelling units on lots smaller than 15,000 square feet. Parking requirements are waived for lots smaller than 10,000 square feet. Non-residential parking requirements of one space per 1,000 square feet of commercial area are waived when fewer than 40 spaces are required.

The proposed C4-4L district would allow for a wider range of uses than the existing C2-3 commercial overlays, and provide more flexibility in mixed-use building design.

The proposed C4-4L district would allow two distinct building types depending on the location in relation to elevated train tracks:

- For lots not fronting on the elevated train, the proposed C4-4L district requires a street wall between 40’ and 65’ high and allows a maximum building height of 80’.

- For lots fronting on the elevated train and within 125 feet of the streetline adjacent to the elevated train, buildings would be required to set back five feet from the streetline adjacent to the elevated train at the ground floor, and allowed to rise to a maximum height of 100’, with a minimum base height of 30’ and a maximum base height of 65’. Above the base height, buildings would be required to set back at least 15’. Certain corner lots and through lots, depending on size and configuration, would also be subject to more lot coverage maximums, and some through lots would be permitted to waive the required rear yard equivalent.

Proposed C2-4 Overlays

Existing C1-3 and C2-3 districts in R5, R6, and C8-2 districts

The proposed rezoning would update all C1-3 and C2-3 commercial overlay districts to C2-4 districts. In addition to Use Groups 1, 2, 3, 4, 5, and 6 allowed in C1-3 districts, C2-4 districts also allow Use Groups 7, 8, 9, and 14, which include uses such as plumbing and electrical shops, small bowling alleys and movie theaters, funeral homes, small repair shops, printers, and caterers. Parking requirements vary depending on the type of commercial use and the districts suffix. Food and Retail establishments are required to provide one accessory space per 200 and 300 square feet, respectively in C1-2 and C2-2 districts. However, the proposed C2-4 overlays will require one accessory space per 1,000 square feet for all types of commercial uses. One projected and one potential development sites are located on sites proposed to remain in the current R6 zoning, but with C2-4 overlays added. The total amount of permitted floor area on

these sites would remain the same with or without the proposed action, but under the proposal, development would be allowed to include commercial use as well as residential use.

In 1961, overlays were mapped to a depth of 150' in order to reflect the belief that parking would be accommodated in the first 50' of front yard space at retail stores. However, this proposal would map commercial overlays to a depth of 100', in order to better reflect the typical depth of existing lots along these corridors and to prevent commercial uses from encroaching on residential side streets.

In addition to updating the commercial overlays in the rezoning area, new commercial overlays are proposed to reflect the existing patterns and trends of commercial use on portions of the north-south avenues. These new commercial overlays will bring existing commercial uses into conformance and increase the predictability of new development along these corridors.

Enhanced Commercial District

The Department of City Planning proposes a Zoning Text amendment to establish an Enhanced Commercial District in the rezoning area along Broadway between Flushing Avenue and Monroe Street (**See Attachment 2, Figure 5**). The Enhanced Commercial District would foster a safe and engaging pedestrian experience along the Broadway commercial corridor and reinforce the existing commercial character of the area by establishing regulations governing ground floor use, transparency on the ground floor on Broadway, and limiting curb cuts. The proposed regulations would apply to new development and enlargements at the streetline, but would not apply to schools, churches, or lots less than 20 feet wide.

The proposed ground floor use regulations would require that all ground floor uses fronting on Broadway, or within 30 feet of Broadway be non-residential, such as retail establishments, offices and community facilities. Off-street parking would also not be permitted within 30 feet of Broadway, and residential lobbies on Broadway would be limited to a maximum width of 25 feet.

New developments and enlargements would also be required to provide glazing or other transparent treatment at the ground floor façade facing Broadway. A minimum of 50 percent of the area between 2 and 12 feet above curb level would be required to be transparent, with no blank walls to exceed more than ten feet.

New curb cuts would not be permitted along Broadway, except for lots that do not have access to another street and are at least 60 feet wide to prevent pedestrian-vehicle conflicts and strengthen the continuity of active uses along Broadway.

The proposed Enhanced Commercial District regulations would ensure that new development in C4-4L districts along Broadway would have active ground floor uses and ample windows to

enhance the pedestrian experience and foster the creation of a lively streetscape with plenty of community facility, retail, and service establishments.

Inclusionary Housing Program

The Department of City Planning proposes a Zoning Text amendment to apply the Inclusionary Housing program to the proposed R7A, R7D and C4-4L districts within the rezoning area. This Text amendment would establish incentives for the creation and preservation of affordable housing in conjunction with new development (**See Attachment 2, Figure 6**). The Inclusionary Housing bonus proposed would be consistent with the bonus established for contextual developments under the recently-adopted Fort Greene/Clinton Hill, Bedford Stuyvesant South, Greenpoint-Williamsburg Contextual, and Sunset Park rezonings, and would promote the creation and preservation of affordable units in both rental and condominium developments. The incentives target affordable housing to a range of income levels.

Under the Inclusionary Housing program, a development providing affordable housing is eligible for a floor area bonus, within contextual height limit and bulk regulations tailored to this area. Affordable units can be provided either on-site or off-site, or by acquiring and preserving existing housing at affordable rents. Off-site affordable units must be located within the same community district or within a half-mile of the bonused development. Available city, state, and federal housing finance programs may be used to finance affordable units. The combination of a zoning bonus with housing programs would establish a powerful incentive for the development and preservation of affordable housing in Bedford-Stuyvesant North.

Using the Inclusionary Housing designated areas Program, the floor area may be increased by 1.25 square feet for each square foot of affordable housing provided, up to the maximum FAR—a bonus of 33 percent for providing 20 percent of affordable housing.

The proposed zoning is based on a careful study of the local context on a block-by-block basis. The proposal would preserve neighborhood scale and character by replacing non-contextual zoning with contextual zoning districts with height limits; allow for modest residential growth with incentives for affordable housing along major commercial corridors such as Myrtle Avenue, Bedford Avenue, and Broadway; reinforce commercial character and improve the pedestrian environment along the Broadway transit and retail corridor by establishing regulations that promote pedestrian friendly ground floor use and design; tailor commercial overlays in the area to better reflect commercial activity; and provide incentives and opportunities for affordable housing development in Bedford-Stuyvesant.

A comparison of the existing and proposed zoning districts are provided in **Table A-2**.

Bedford-Stuyvesant North Rezoning Zoning Comparison Table										TABLE A-2
		Maximum Residential FAR Height Factor	Maximum Residential FAR Quality Housing wide/narrow street	Maximum Community Facilty FAR	Maximum Commercial FAR	Maximum Height for Height Factor Development (ft)	Minimum Base Height wide/narrow street (ft)	Maximum Base Height wide/narrow street (ft)	Maximum Building Height wide/narrow street (ft)	Required Parking
Existing Zoning										
R6		2.43	3.0/2.2	4.8	n/a	sky exposure plane	40/30	60/40	70/55	70%, 50% QH
R5		n/a	1.25/1.65*	2.0	n/a	n/a	30	n/a	40	85%, 66%*
R7-1		3.44	4.0/3.44	4.8	n/a	sky exposure plane	40	60/65	80/75	60%, 50% QH
C4-3		2.43	3.0/2.2	4.8	3.4	sky exposure plane	40/30	60/40	70/55	70%
C8-2		n/a	n/a	4.8	2.0	n/a	n/a	n/a	sky exposure plane	varies with use
Proposed Zoning										
R6B		n/a	2.2	2.2	n/a	n/a	30	40	50	50%
R6A		n/a	3	3.0	n/a	n/a	40	60	70	50%
R7A		n/a	3.45/4.6**	4.0	n/a	n/a	40	65	80	30%
R7D		n/a	4.2/5.6**	4.2	n/a	n/a	60	85	100	30%
C4-4L	adjacent to elevated train	n/a	3.45/4.6**	4.0	4.0	n/a	30	65	100	50%
	not adjacent to elevated train						40	65	80	50%

* for R5 Infill regulations

** with Inclusionary Housing Program

Commercial Overlay Comparison Chart

	Maximum Commercial FAR R1-R5/R6-R10
Existing	
C1-3	1.0/2.0
C2-3	1.0/2.0
Proposed	
C2-4	1.0/2.0

Public Policy

There are no other known public policies that govern the rezoning area under the existing conditions. Without the proposed action, it is not expected that any new public policies would be put in place in the rezoning area.

The proposed actions are based on a fine-grained rezoning approach that has been employed in neighborhood rezonings that the Department of City Planning (DCP) has pursued since 2001. The proposed rezoning identifies and supports the existing built character, while two areas have been identified as appropriate locations for moderate increases in density. These changes are consistent with the city-wide policy of promoting growth and density on wide streets and around mass transit. Reductions in the depth of the commercial overlays are proposed in locations where existing districts encroach on residential buildings.

The proposal is also consistent with city-wide commercial development policies. The action would provide new business location opportunities in new commercial districts that compliment proposed residential zoning.

Given the consistency of the proposed actions with established policies of DCP and the City of New York, it is anticipated that the proposed actions would not result in a significant adverse impact on public policy.

Sustainability and PlaNYC

PlaNYC, the City's long-term sustainability plan, was adopted in 2007 and updated in April 2011. It contains policy initiatives that relate to the city's land use, open space, brownfields, energy use and infrastructure, transportation systems, water quality and infrastructure, and air quality, and aim to prepare the city for projected climate change impacts. Its structure sets broad-based targets to be reached by 2030. To execute the strategic vision, PlaNYC adopts 10 goals to be achieved through 132 separate initiatives and a number of subsidiary plans. Many of these goals are to be realized through public sector projects, local laws or the City's regulatory frameworks governing both private and public actions. The *2012 CEQR Technical Manual* requires the evaluation of large publicly sponsored to ensure the proposed action aligns with the broad priorities espoused by the PlaNYC initiatives.

While the proposed action is not directly implementing a PlaNYC initiative, such as replacing aging infrastructure, the rezoning, as aforementioned, is intended to promote mixed-use development along the major transportation corridors and around mass-transit while protecting the existing neighborhood character of the residential areas of Bedford-Stuyvesant. Shifting population growth to mass-transit nodes and providing new growth opportunities are in line with the purpose of PlaNYC's many initiatives' goal to provide adequate housing for new New Yorkers around sustainable forms of transportation. Moreover, as discussed below, the proposed action will not adversely affect Open Space, Natural Resources, Infrastructure, Energy,

Construction, Transportation, Greenhouse Gas Emissions, and Air Quality, which are areas that relate to PlaNYC initiatives. Therefore, the proposed action is consistent with the overall strategy of PlaNYC's initiatives.

Conclusion

The proposed rezoning would establish contextual zoning districts in appropriate areas of Bedford-Stuyvesant to reinforce the prevailing built fabric and character of the residential blocks. The proposal would also establish moderate increases in density on commercial corridors with access to mass transit. Accordingly, the proposed actions would result in changes that would be compatible with and supportive of land use trends, zoning, and public policy. In effect, the proposed actions would bear a positive effect on preserving neighborhood character while encouraging redevelopment of vacant and underutilized properties on wide streets. Consequently, no significant adverse impacts related to land use, zoning or public policy are anticipated.

B. SOCIOECONOMICS

INTRODUCTION

This chapter describes changes in socioeconomic conditions resulting from the Proposed Action and evaluates whether such changes would result in significant adverse impacts.

The analysis uses *City Environmental Quality Review (CEQR) Technical Manual* guidelines to evaluate whether the Proposed Actions would result in significant adverse socioeconomic impacts due to: (1) direct displacement of residential population on the Project Site; (2) direct displacement of existing businesses on the Project Site; (3) indirect displacement of residential population in the study area; (4) indirect displacement of businesses in the study area; or (5) adverse effects on specific industries not necessarily tied to the project or to the study area.

Based on the CEQR Environmental Assessment Statement form, four of the five sections for socioeconomic analysis do not trigger an environmental review. However, an analysis on the effects the proposal will have on indirect residential displacement follows below because the proposed project would generate a net increase of 200 or more residential units – a threshold at which a preliminary analysis of this type of displacement is required.

A primary study area was defined by the Census Tracts with a majority of land area falling within one half-mile of the proposed project area, illustrated in **Figure B-1**. The tracts are listed and shown below in **Table B-1**.

Table B-1 2010 Census Tracts in Half-Mile Primary Study Area

191	241	263	285.02	385	419	533
193	243	265	287	387	421	537
195	245	267	289	389	423	
197	249	269	291	391	425	
199	251	273	293	393	489	
201	253	275	295	395	491	
227	255	277	297	397	507	
229	257	279	373	399	509	
231	259.01	281	375	401	511	
233	259.02	283	377	415	529	
235	261	285.01	383	417	531	

FIGURE B-1

Bedford-Stuyvesant North Rezoning

SOCIOECONOMIC STUDY AREA

Half Mile Buffer

Primary Study Area Census Tracts

Proposed Project Area

0.5 0.25 0 0.5 Miles

N

February 2012

Brooklyn Office

NYCPLANNING
DEPARTMENT OF CITY PLANNING CITY OF NEW YORK

Indirect Residential Displacement

The CEQR Technical Manual requires the assessment of indirect residential displacement, which considers the following questions:

- Would the expected average incomes of the new population exceed the average incomes of the study area populations?
- If yes, would the population increase represent more than 5% of the primary study area population or otherwise potentially affect real estate market conditions?
- If yes, would the study area have a significant number of unprotected rental units?

Trends since 2000 reveal rising incomes in the proposal area, and median household incomes are expected to increase in the foreseeable future under the no-build and build scenarios. Brooklyn Community District 3 had a median household income of $34,519 in 2010 according to the 2008-2009-2010 American Community Survey (ACS), as compared to $28,982 (adjusted to 2009) for the same area in 2000 according to the 2000 Census.

It is impossible to determine the degree to which the Proposed Actions would result in median household incomes higher than what would result under the no-build scenario. A second analysis was completed as part of this impact analysis to determine whether the population increase would represent more than 5% of the primary study area population.

According to the 2010 Census, the census tracts encompassed by the project and the half-mile primary study area surrounding it contain 250,419 people in 91,188 households – an average of 2.75 people per household. The population for this same study area in 2000 was 228,827 residents, illustrating a growth rate of 9.4%. Assuming the same rate of growth, the primary study area population would be expected to reach 274,048 by 2020 under the no-build scenario.

The proposed action is expected to result in the development of 790 housing units, of which 285 would be affordable housing units. Assuming the 2.75 people per household, the proposed action is expected to result in a population increase of 2,173 residents, alongside the natural 9.4% rate of growth, resulting in a total population of 276,221. The new 2,173 residents resulting from the proposed action represent 0.8% of the 2020 population, well below the 5% threshold for the likelihood of indirect residential displacement. Therefore, no further analysis is required.

A comparison of the Existing, Future No-Action, and Future With-Action conditions in the Primary Study Area are shown below and **Table B-2**.

Table B-2 – Comparison of Population and Dwelling Units in the Study Area

Primary Study Area	Existing Conditions (2010)	Future No-Action (2020)	Future With-Action (2020)	Increment between No- and With-Action
Population	250,419	274,048	276,221	2,173
Dwelling Units	91,188	99,654	100,444	790

CONCLUSION

The Proposed Actions would provide opportunities for new residential development, but is not expected to result in the indirect displacement of existing residents.

Detailed socioeconomic analysis is not warranted based on the above preliminary analyses. The Proposed Actions would not displace existing residents or businesses. The Proposed Actions would also not affect real estate market conditions in a way that would result in indirect displacement of residents or businesses. As the Proposed Actions does not have the potential to result in direct or indirect residential or business impacts or impacts on specific industries, no significant impacts are anticipated and further analysis is not warranted.

C. COMMUNITY FACILITIES AND SERVICES

INTRODUCTION

The proposed Bedford-Stuyvesant North Rezoning would preserve neighborhood scale and character by replacing non-contextual zoning with contextual zoning districts with height limits; allow for modest residential growth with incentives for affordable housing along major commercial corridors such as Myrtle Avenue, Bedford Avenue, and Broadway; reinforce commercial character and improve the pedestrian environment along the Broadway transit and retail corridor by establishing regulations that promote pedestrian friendly ground floor use and design; tailor commercial overlays in the area to better reflect commercial activity; and provide incentives and opportunities for affordable housing development in Bedford-Stuyvesant.

DCP has identified 31 development sites suitable for residential and commercial development in the Future-With Action condition. Under the existing zoning (Future-Without Action), DCP projects that these development sites will yield 1,198 dwelling units by 2022 (Build Year). Under the proposal (Future-With Action), an additional 790 dwelling units are projected to be developed, of which 285 dwelling units could be created or preserved as affordable housing through the Inclusionary Housing Program.

Need for Further Analysis

The *CEQR Technical Manual* defines community facilities and services as public or publicly funded schools, hospitals, libraries, day care centers and police and fire services. A community facilities analysis examines a proposed action's potential effect on the provision of services by those community facilities. Direct effects occur when a particular action physically alters or displaces a community facility; indirect effects result from increases in population which creates additional demand on service delivery. The proposed action would not result in physical alteration or displacement of any community facilities, therefore no directs effect to existing community facilities are expected as a result of the proposed action.

However, the *CEQR Technical Manual* (Table 6-1) directs that if a proposed action could generate more than 50 public elementary and intermediate school students, a more detailed analysis is required. The Bedford-Stuyvesant Rezoning action is expected to generate 331 public elementary and intermediate school students. If a proposed action could introduce 20 or more children under age 6 eligible for publicly funded childcare, a more detailed analysis is required. The proposed rezoning is projected to create or preserve 285 dwelling units as affordable housing through the Inclusionary Housing Program and could approximately 51 children under the age 6 eligible for publicly funded day care by 2022. Finally, if a proposed action is projected to introduce more than 734 dwelling units in Brooklyn, a detailed analysis of nearby branch libraries is required. The proposed rezoning is expected to generate 790 residential units.

PUBLIC SCHOOLS

Existing Conditions

Elementary and intermediate schools are located in geographically defined school districts, each divided into Sub-districts for capital planning purposes. The Bedford-Stuyvesant North Rezoning Area falls within Community School District (CSD) 13 Sub-district 3, CSD 14 Sub-district 1, and CSD 16 Sub-district 2 (**Figure C-1**). **Tables C-1** and **C-2** show the utilization rates for public elementary and intermediate schools within the Sub-districts.

Table C-1
Public Elementary Schools within CSD Sub-districts; Enrollment, Capacity, and Utilization

Key	Facility Name	Facility Address	CSD / Sub-district	Enrollment	Target Capacity	Available Seat	Utilization (Percent)
1	P.S. 3	50 Jefferson Ave	13/3	634	846	212	75%
2	P.S. 5	820 Hancock St	16/2	439	605	166	73%
3	P.S. 16	157 Wilson St	14/1	335	606	271	55%
4	P.S. 23	545 Willoughby Ave	14/1	308	457	149	67%
5	P.S. 25	787 Lafayette Ave	16/2	334	529	195	63%
6	P.S. 26	1010 Lafayette Ave	16/2	348	561	213	62%
7	P.S. 44	432 Monroe St	13/3	379	945	566	40%
8	P.S. 54	195 Sanford St	13/3	286	520	234	55%
9	P.S. 56	170 Gates Ave	13/3	290	545	255	53%
10	P.S. 59	211 Throop Ave	14/1	435	825	390	53%
11	P.S. 81	990 DeKalb Ave	16/2	448	699	251	64%
12	P.S. 93	31 New York Ave	13/3	413	640	227	65%
13	P.S. 157	850 Kent Ave	14/1	381	992	611	38%
14	P.S. 256	114 Kosciusko St	13/3	398	720	322	55%
15	P.S. 270	241 Emerson Pl	13/3	224	283	59	79%
16	P.S. 297	700 Park Ave	14/1	350	586	236	60%
17	P.S. 305	344 Monroe St	13/3	347	509	162	68%
18	P.S. 308*	616 Quincy St	16/2	394	768	374	51%
	*P.S. 308**		*16/2*	*394*	*734*	*340*	*54%*
	*P.S. 308 Transportable**		*16/2*	*0*	*34*	*34*	*0%*
19	P.S. 309	794 Monroe St	16/2	330	548	218	60%
20	P.S. 380	370 Marcy Ave	14/1	573	665	92	86%
21	Brighter Choice Community School	280 Hart Street	16/2	138	289	151	48%
22	Young's Academy Scholar	280 Hart Street	16/2	214	344	130	62%
			Total for CSD 13 Sub-district 3	2,971	5,008	2037	59%
			Total for CSD 14 Sub-district 1	2,382	4,131	1,749	58%
			Total for CSD 16 Sub-district 2	2,645	4,343	1,698	61%

Source:
NYC Department of Education, *Enrollment/Capacity/Utilization Report 2010-11 School Year*
* P.S. component of P.S./I.S. schools

Table C-2
Public Intermediate Schools within CSD Sub-districts
Enrollment, Capacity, and Utilization

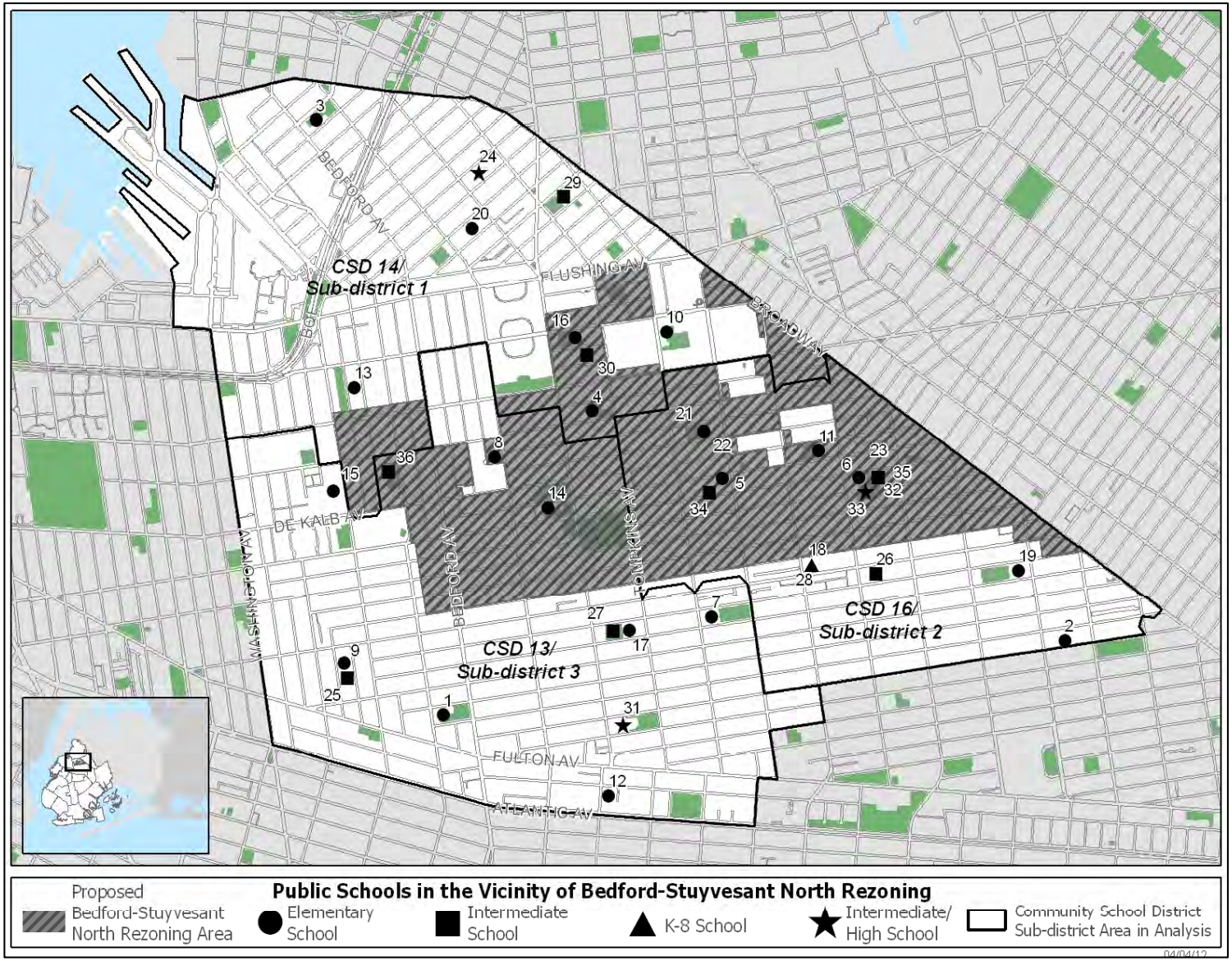
Key	Facility Name	Facility Address	CSD / Sub-district	Enrollment	Target Capacity	Available Seat	Utilization (Percent)
23	J.H.S. 57	125 Stuyvesant Ave	16/2	240	461	221	52%
24	I.S. 71**	215 Heyward St	14/1	452	709	257	64%
25	I.S. 103	170 Gates Ave	13/3	272	338	66	80%
26	I.S. 267	800 Gates Ave	16/2	277	816	539	34%
27	I.S. 301	344 Monroe St	13/3	242	283	41	86%
28	P.S. 308*	616 Quincy St	16/2	255	497	242	51%
	*P.S. 308**		*16/2*	*255*	*475*	*220*	*54%*
	*P.S. 308 Transportable**		*16/2*	*0*	*22*	*22*	*0%*
29	I.S. 318	101 Walton St	14/1	1,678	1,658	-20	101%
29	I.S. 330	70 Tompkins Ave	14/1	145	441	296	33%
30	I.S. 336**	141 Macon St	13/3	138	352	214	39%
31	I.S. 385	125 Stuyvesant Ave	16/2	225	513	288	44%
32	I.S. 393**	1010 Lafayette Ave	16/2	198	266	68	74%
33	I.S. 534	787 Lafayette Ave	16/2	231	376	145	61%
34	Brooklyn Academy of Global Finance	125 Stuyvesant Ave	16/2	144	138	-6	104%
36	Knowledge & Power Prep VII	300 Willoughby Ave	13/3	178	358	180	50%
			Total for CSD 13 Sub-district 3	830	1,331	501	62%
			Total for CSD 14 Sub-district 1	2,275	2,808	533	81%
			Total for CSD 16 Sub-district 2	1,570	3,067	1,497	51%

Source:
NYC Department of Education, *Enrollment/Capacity/Utilization Report 2010-11 School Year*
* I.S. component of P.S./I.S. schools
** I.S. component of I.S./H.S. schools

As shown in **Tables C-1** and **C-2**, the utilization rates for both public elementary and intermediate schools within the Sub-districts are collectively operating well below capacity.

Bedford-Stuyvesant North Rezoning

Figure C-1 – Public Schools



Future-No Action Condition

Under the future without the Proposed Actions, the projected development sites could yield 1,198 dwelling units by 2022, and are expected to generate 1042 elementary students and 1,110 intermediate students (**Table C-3**). In addition, the School Construction Authority (SCA) has planned for additional students based on their Housing Pipeline analysis for each sub-district.

Table C-3
Future-With No Action: Number of Public School Students
Generated without the Proposed Rezoning
(Based on SCA's Housing Pipeline and Projected Development Sites)

	SCA Housing Pipeline		Future-With No Action			Grand Total	
	PS Students	IS Students	# of Dus	PS Students	IS Students	PS Students	IS Students
CSD 13 Sub-district 3	138	151	144	42	17	**180**	**168**
CSD 14 Sub-district 1	490	738	896	260	108	**750**	**846**
CSD 16 Sub-district 2	66	77	159	46	19	**112**	**96**

Source: CEQR Technical Manual 2012, Table 6-1a
School Construction Authority Planning Division, 2011

According to DOE's latest available enrollment projections, elementary and intermediate enrollment in CSDs 13, 14, and 16 are expected to decrease (**Tables C-4** and **C-5**).

Table C-4
Projected Public Elementary School Enrollment, Capacity and Utilization in 2022
without the Proposed Actions

	DOE Projected Enrollment 2020[1]	Students Generated by New Development[2]	Total Projected Enrollment 2020	Capacity[3]	Seats Available	Utilization
CSD 13 Sub-district 3	2,484	180	2,664	5,008	2,344	53%
CSD 14 Sub-district 1	2,336	750	3,086	4,131	1,045	75%
CSD 16 Sub-district 2	2,950	112	3,062	4,309	1,247	71%

[1] DOE Enrollment Projections 2007-2018. The last year for which projections were calculated (2018) has been used to project elementary school enrollments to the 2020 analysis year. Enrollment projections sub-district study areas were calculated based on *CEQR TM methodology*.
[2] Calculations based on DUs identified in the RWCDS that could be constructed in each Sub-district absent the Proposed Action, and SCA's Housing Pipeline.
[3] Capacity numbers: NYC Department of Education, *Enrollment/Capacity/Utilization Report 2010-11 School Year*. Excludes PS 308 Transportable. Capacity per *CEQR TM methodology*.

Table C-5
Projected Public Intermediate School Enrollment, Capacity and Utilization in 2022 without the Proposed Actions

	DOE Projected Enrollment 2020[1]	Students Generated by New Development[2]	Total Projected Enrollment 2020	Capacity[3]	Seats Available	Utilization
CSD 13 Sub-district 3	520	168	688	1,331	643	52%
CSD 14 Sub-district 1	1,699	846	2,545	2,808	264	91%
CSD 16 Sub-district 2	1,150	96	1,246	3,045	1,799	41%

[1] DOE Enrollment Projections 2007-2018. The last year for which projections were calculated (2018) has been used to project elementary school enrollments to the 2020 analysis year. Enrollment projections sub-district study areas were calculated based on *CEQR TM methodology*
[2] Calculations based on DUs identified in the RWCDS that could be constructed in each Sub-district absent the Proposed Action, and SCA's Housing Pipeline.
[3] Capacity numbers: NYC Department of Education, *Enrollment/Capacity/Utilization Report 2010-11 School Year*. Excludes PS 308 Transportable. Capacity per *CEQR TM methodology*.

Future-With Action Condition

Under the Proposed Actions, an additional 790 dwelling units could be developed on the projected development sites by 2022. This would generate 229 elementary and 102 intermediate school students by 2022 (**Table C-6** and **C-7**).

Table C-6
Future-With Action: Number of Public School Students Generated with the Proposed Rezoning

	# of DUs Increment	PS Students	IS Students	Total PS/IS Students
CSD 13 Sub-district 3	34	10	5	15
CSD 14 Sub-district 1	601	174	72	246
CSD 16 Sub-district 2	155	45	25	70

CEQR Technical Manual 2012, Table 6-1a

As shown in **Table C-7** and **Table C-8**, the addition of 229 elementary and 102 intermediate school students generated under the Future-With Action scenario by 2022 will only slightly increase school enrollment over the DOE's projected enrollment within the Sub-district study areas over the Future-No Action by 2022.

Table C-7
Projected Public Elementary School Enrollment, Capacity and Utilization in 2022 with the Proposed Actions

	Future No-Action Projected Enrollment 2020[1]	Students Generated by Proposed Actions	Total Projected Enrollment 2020	Capacity[2]	Seats Available	Utilization
CSD 13 Sub-district 3	2,664	10	2,674	5,008	2,335	53%
CSD 14 Sub-district 1	3,086	174	3,260	4,131	871	79%
CSD 16 Sub-district 2	3,062	45	3,107	4,309	1,202	72%

[1] See Table 5
[2] Capacity numbers: NYC Department of Education, *Enrollment/Capacity/Utilization Report 2010-11 School Year*.

Table C-8
Projected Public Intermediate School Enrollment, Capacity and Utilization in 2022 with the Proposed Actions

	Future No-Action Projected Enrollment 2020[1]	Students Generated by Proposed Actions	Total Projected Enrollment 2020	Capacity[2]	Seats Available	Utilization
CSD 13 Sub-district 3	688	5	693	1,331	638	52%
CSD 14 Sub-district 1	2,544	72	2,616	2,808	192	93%
CSD 16 Sub-district 2	1,246	25	1,271	3,045	1,774	42%

[1] See Table 5
[3] Capacity numbers: NYC Department of Education, *Enrollment/Capacity/Utilization Report 2010-11 School Year*.

Conclusion

There will be ample elementary and intermediate school capacity in the Build Year, and the proposed Bedford-Stuyvesant North Rezoning is not expected to cause a significant adverse impact to the affected school sub-districts.

DAY CARE

Publicly funded day care for the children of income-eligible households in New York City is sponsored and financially supported by the Division of Child Care and Head Start, within the New York City Administration for Children's Services (ACS), and Head Start, federally funded early childhood education and family support programs. ACS contracts with hundreds of private, non-profit organizations to provide Child Care and Head Start programs in communities across the City that are licensed by the New York City Department of Health (DOH). ACS also issues vouchers to eligible families to provide financial assistance in accessing care from formal and informal providers in the City.

To receive subsidized child care services, a family must meet specific financial and social eligibility criteria that are determined by federal, state, and local regulations. Eligibility is determined by a child's age, (0-6) and a family's gross income, with consideration of family size. To meet the social eligibility for publicly funded day care, a family must also have an approved "reason for care," such as involvement in a child welfare case or participation in a "welfare-to-work" program.

According to the *CEQR Technical Manual*, a publicly funded day care facility analysis is warranted if a project would result in more than 20 children eligible for publicly-funded child care services. The Proposed Actions would facilitate approximately 285 new affordable housing units by 2022. Based on the number of new affordable housing units, approximately 51 children under the age 6 would be eligible for publicly funded day care in 2022. Therefore further analysis is warranted.

Publicly funded day care facilities within 1.5 mile of the rezoning area were identified for the analysis per *CEQR Technical Manual* Methodology. Private day care facilities are not considered in the analysis. Current enrollment and capacity information for each day care facility within the study area was provided by ACS. The day care enrollment in the future was calculated by multiplying the number of new low-income and low- to moderate-income housing units expected in the 1.5 mile study area using the 2012 *CEQR Technical Manual* multipliers to project day care enrollment in the future-no action and with action conditions. This estimate of new day care enrollment was then added to the existing day care enrollment.

According to the *CEQR Technical Manual*, if a proposed project would result in a demand for slots greater than the remaining capacity of day care centers, and if that demand constitutes an increase of five percent over the Future-No Action, a significant adverse impact could result, warranting consideration for mitigation.

Existing Conditions

There are 106 publicly funded child care facilities (63 contracted child care programs and 43 Head Start programs) located within the 1.5 mile study area (see **Figure C-2**). In total, the child care programs have capacity for 7,308 children and are currently operating at 91% percent of capacity with an enrollment of 6,665 children (see **Table C-10**).

Future-No Action Condition

Based on Future-No Action conditions, DCP does not anticipate the development of affordable dwelling units on the RWCDS development sites within the Bedford-Stuyvesant Rezoning Area by 2022.

Bedford-Stuyvesant North Rezoning

Figure C-2 – Group Day Care and Head Start Facilities

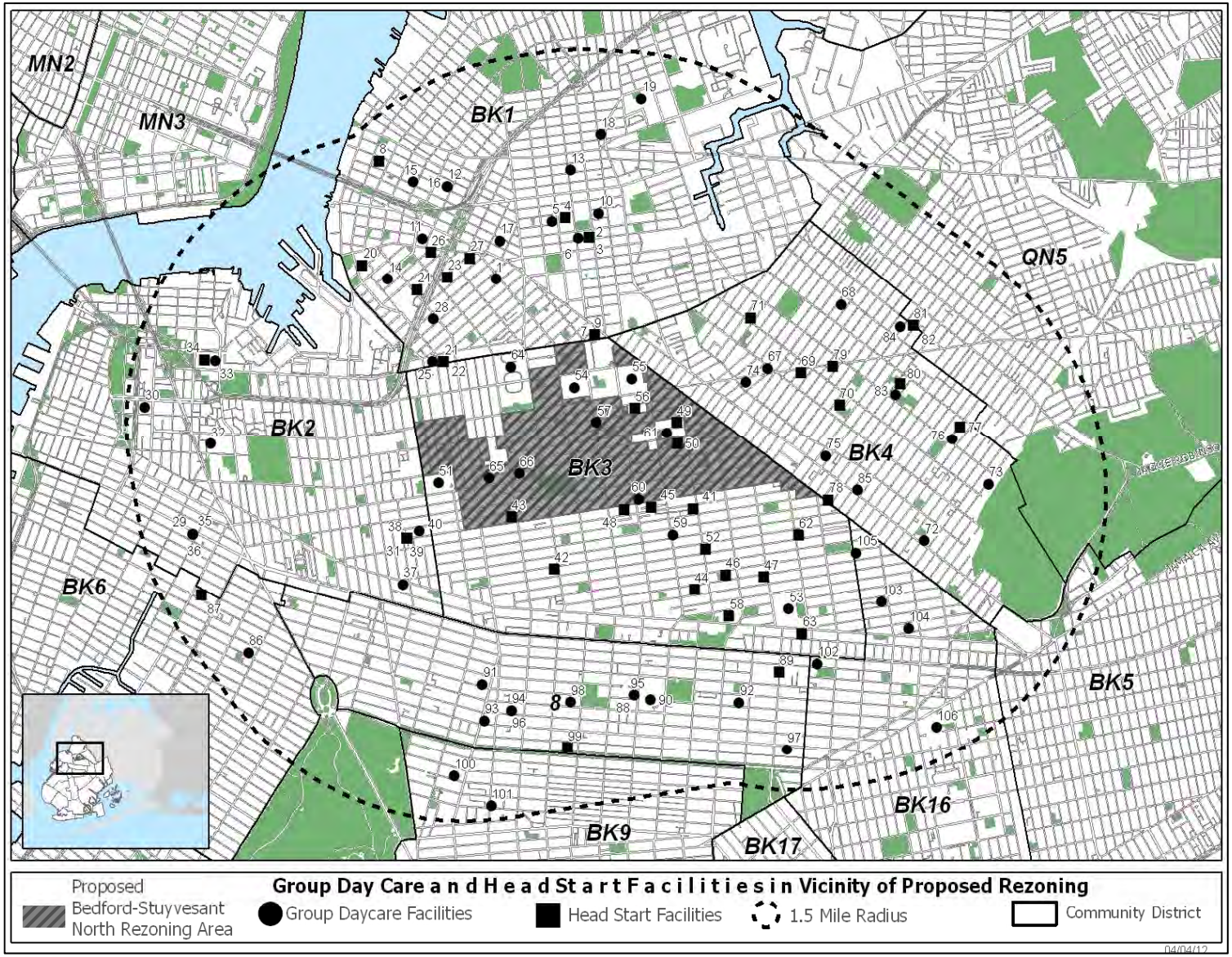


Table C-10
Publicly Funded Day Care and Head Start Facilities within 1.5 Mile of the Rezoning Area
Enrollment, Capacity and Utilization, 2012

Key	Facility Name	Facility Address	CD	Type	Enrollment	Target Capacity	Available Seat	Utilization (Percent)
1	Bedford-Harrison DCC Inc	60 Harrison Ave	1	Daycare	28	95	67	29%
2	Bushwick	152 Manhattan Ave	1	Head Start	24	39	15	62%
3	Bushwick	152 Manhattan Ave	1	Head Start	35	35	0	100%
4	Bushwick	178 Leonard St	1	Head Start	49	47	-2	104%
5	Bushwick Improvement Soc Inc	77 Stagg St	1	Daycare	32	55	23	58%
6	Bushwick Utd Hse Dev Fnd Co	152 Manhattan Ave	1	Daycare	27	16	-11	169%
7	Catholic Char N'Hood Svc Inc	741 Flushing Ave	1	Daycare	13	11	-2	118%
8	Catholic Charities	288 Berry St	1	Head Start	42	45	3	93%
9	Catholic Charities	741 Flushing Ave	1	Head Start	40	53	13	75%
10	Colony South Bklyn Houses	222 Graham Ave	1	Daycare	50	55	5	91%
11	Colony South Bklyn Houses	321 Roebling St	1	Daycare	73	88	15	83%
12	Community & Parents Ch Welf	243 South 2 St	1	Daycare	45	55	10	82%
13	Conselyea St Block Assoc Inc	211 Ainslie St	1	Daycare	57	90	33	63%
14	Graham Windham	110 Taylor St	1	Daycare	29	42	13	69%
15	Nuestros Ninos 3	161 South 3Street	1	Daycare	34	35	1	97%
16	Nuestros Ninos DCC	243 South 2 St	1	Daycare	65	65	0	100%
17	Nuestros Ninos DCC	384 South 4 St	1	Daycare	142	140	-2	101%
18	Nysarc, Inc.	201 Conselyea St	1	Daycare	5	6	1	83%
19	Sheltering Arms Day Care	292 Frost St	1	Daycare	29	28	-1	104%
20	Williamsburg Y	64 Division Ave	1	Head Start	195	195	0	100%
21	Yeled V'Yalda	12 Franklin Ave	1	Head Start	18	35	17	51%
22	Yeled V'Yalda	12 Franklin Ave	1	Head Start	80	80	0	100%
23	Yeled V'Yalda	204 Keap St	1	Head Start	47	47	0	100%
24	Yeled V'Yalda	563 Bedford Ave	1	Head Start	50	50	0	100%
25	Yeled V'Yalda Ecc Inc	12 Franklin Ave	1	Daycare	5	0	-5	N/A
26	Yeshiva	212 - 220 Wilson St	1	Head Start	103	103	0	100%
27	Yeshiva	274 Keap St	1	Head Start	172	172	0	100%
28	Yeshiva Kehilath Yakov Inc	638 Bedford Ave	1	Daycare	20	20	0	100%
29	Alonzo A. Daughtry Memorial Dc	460 Atlantic Ave	2	Daycare	32	30	-2	107%
30	Auxiliary Enterprise Board	300 Jay St	2	Daycare	18	24	6	75%

Key	Facility Name	Facility Address	CD	Type	Enrollment	Target Capacity	Available Seat	Utilization (Percent)
31	Bedford Stuyvesant	5 Quincy St	2	Head Start	57	57	0	100%
32	Brooklyn Bureau Of Comm Svc	101 Fleet Pl	2	Daycare	79	90	11	88%
33	Catholic Char Neighborhood Svc Inc	32 Navy St	2	Daycare	11	22	11	50%
34	Catholic Charities	32 Navy St	2	Head Start	19	22	3	86%
35	Colony South Bklyn Houses	460 Atlantic Ave	2	Daycare	52	60	8	87%
36	Colony South Bklyn Houses	460 Atlantic Ave	2	Daycare	27	30	3	90%
37	Fort Greene Council Inc	972 Fulton St	2	Daycare	60	62	2	97%
38	Police Athletic League	5 Quincy St	2	Head Start	37	29	-8	128%
39	Police Athletic League	5 Quincy St	2	Head Start	17	17	0	100%
40	Police Athletic League	5 Quincy St	2	Daycare	34	65	31	52%
41	Bedford Stuyvesant	214 Stuyvesant Ave	3	Head Start	37	37	0	100%
42	Bedford Stuyvesant	260 Jefferson Ave	3	Head Start	37	37	0	100%
43	Bedford Stuyvesant	262 Lexington Ave	3	Head Start	57	57	0	100%
44	Bedford Stuyvesant	265 Decatur St	3	Head Start	40	40	0	100%
45	Bedford Stuyvesant	275 Marcus Garvey Blvd	3	Head Start	60	60	0	100%
46	Bedford Stuyvesant	500 Macon St	3	Head Start	20	20	0	100%
47	Bedford Stuyvesant	506 Macdonough St	3	Head Start	47	47	0	100%
48	Bedford Stuyvesant	510-522 Quincy St	3	Head Start	106	106	0	100%
49	Bedford Stuyvesant	971 DeKalb Ave	3	Head Start	32	32	0	100%
50	Bedford Stuyvesant	990 DeKalb Ave	3	Head Start	36	36	0	100%
51	Billy Martin Child Dev DCC	333 Classon Ave	3	Daycare	42	47	5	89%
52	Bridge St	281 Stuyvesant Ave	3	Head Start	54	57	3	95%
53	Brooklyn Kindergarten Soc	250 Ralph Ave	3	Daycare	23	48	25	48%
54	Brooklyn Kindergarten Soc	730 Park Ave	3	Daycare	40	48	8	83%
55	Brooklyn Kindergarten Soc	860 Park Ave	3	Daycare	50	50	0	100%
56	Catholic Charities	300 Vernon Ave	3	Head Start	56	58	2	97%
57	Centro Civico Y Cultural	656 Willoughby Ave	3	Daycare	84	95	11	88%
58	Community Parents	90 Chauncey St	3	Head Start	69	70	1	99%
59	Cornerstone DCC Inc	289 Lewis Ave	3	Daycare	44	60	16	73%
60	Little Sun People, Inc	265 Marcus Garvey Blvd	3	Daycare	54	50	-4	108%
61	Mary Mcleod Bethune DCC Inc	360 Pulaski St	3	Daycare	31	35	4	89%
62	McDonough St	813 Hancock St	3	Head Start	138	140	2	99%

Key	Facility Name	Facility Address	CD	Type	Enrollment	Target Capacity	Available Seat	Utilization (Percent)
63	Saint Mark's	933 Herkimer St	3	Head Start	64	65	1	98%
64	Sheltering Arms Day Care Srvs	494 Marcy Ave	3	Daycare	23	28	5	82%
65	Tabernacle Church Of God Inc	34 Kosciusko St	3	Daycare	151	174	23	87%
66	The Salvation Army	110 Kosciusko St	3	Daycare	37	39	2	95%
67	200 Central Avenue DCC Inc	200 Central Ave	4	Daycare	62	95	33	65%
68	Bethesda Day Care Center	319 Stanhope St	4	Daycare	67	69	2	97%
69	Bushwick	136 Stanhope St	4	Head Start	148	150	2	99%
70	Bushwick	331 Central Ave	4	Head Start	76	76	0	100%
71	Bushwick	77 Wilson Ave	4	Head Start	87	87	0	100%
72	Bushwick Community Action	1375 Bushwick Ave	4	Daycare	77	75	-2	103%
73	Bushwick Community Action	272 Moffat St	4	Daycare	62	75	13	83%
74	Bushwick Improvement Soc Inc	600 Hart St	4	Daycare	105	110	5	95%
75	Community Roundtable	1175 Gates Ave	4	Daycare	84	105	21	80%
76	Grand St Settlement Inc.	783 Knickerbocker Ave	4	Daycare	33	36	3	92%
77	Grand St	783 Knickerbocker Ave	4	Head Start	88	106	18	83%
78	Hospital Clinic	1419-1423 Broadway	4	Head Start	124	124	0	100%
79	New Life	1307 Greene Ave	4	Head Start	148	154	6	96%
80	New Life	295 Woodbine St	4	Head Start	68	45	-23	151%
81	New Life	406 Grove St	4	Head Start	304	306	2	99%
82	New Life	408 Grove St	4	Head Start	46	34	-12	135%
83	New Life Child Dev Center I	295 Woodbine St	4	Daycare	28	50	22	56%
84	New Life Child Dev Center I	408 Grove St	4	Daycare	43	48	5	90%
85	The Salvation Army	1151 Bushwick Ave	4	Daycare	43	55	12	78%
86	Park Slope North Cdc Inc	71 Lincoln Pl	6	Daycare	97	105	8	92%
87	Police Athletic League	565 Baltic St	6	Head Start	48	48	0	100%
88	196 Albany Ave Daycare Ctr Inc	196 Albany Ave	8	Daycare	68	80	12	85%
89	Bedford Stuyvesant	133 Kings First Walk	8	Head Start	30	30	0	100%
90	Brooklyn Kindergarten Soc	1185 Park Pl	8	Daycare	51	63	12	81%
91	Friends Of Crown Hgts Educ	671 Prospect Pl	8	Daycare	153	156	3	98%
92	George C Conliffe Child	1435 Prospect Pl	8	Daycare	84	95	11	88%
93	Haitian American DCC Inc	1491 Bedford Ave	8	Daycare	48	65	17	74%
94	Haitian American	813 Sterling Pl	8	Daycare	118	125	7	94%

Key	Facility Name	Facility Address	CD	Type	Enrollment	Target Capacity	Available Seat	Utilization (Percent)
	DCC Inc							
95	John Edward Bruce DCC Inc	196 Albany Ave	8	Daycare	38	45	7	84%
96	St Johns Day Care Center Inc.	813 Sterling Pl	8	Daycare	38	40	2	95%
97	St Johns Pl Family Ctr	1620 St John's Pl	8	Daycare	34	40	6	85%
98	United Interfaith Action	963 Park Pl	8	Daycare	38	40	2	95%
99	Yeled V'Yalda	667 Eastern Pkwy	8	Head Start	82	82	0	100%
100	Big Five Block Association	995 Carroll St	9	Daycare	109	105	-4	104%
101	Friends Of Crown Hgts Educ	317 Rogers Ave	9	Daycare	82	100	18	82%
102	Shirley Chisholm DCC Inc	2023 Pacific St	16	Daycare	139	145	6	96%
103	Shirley Chisholm DCC Inc	265 Sumpter St	16	Daycare	48	60	12	80%
104	Shirley Chisholm DCC Inc	33 Somers St	16	Daycare	131	148	17	89%
105	Shirley Chisholm DCC Inc	69 Saratoga Ave	16	Daycare	97	130	33	75%
106	YWCA Of The City Of NY	1592 East New York Ave	16	Daycare	55	60	5	92%
				Study Area Totals	6,665	7,308	643	91%

Source: Source: Agency for Children's Services, December 2011

Future-With Action Condition

Under the Proposed Actions, 285 affordable dwelling units could be developed on the RWCDS development sites within the Bedford-Stuyvesant Rezoning Area by 2022 through the Inclusionary Housing Program. This would generate 51 children under the age of 6 who would be eligible for publicly funded day care (per *CEQR Technical Manual*, Table 6-1b).

The addition of 51 children under the age of 6 would minimally increase the collective utilization rate of the existing child care facilities in the study area from 91 percent to 92 percent.

Conclusion

Based on this analysis, the proposed Bedford-Stuyvesant North Rezoning is not expected to have an adverse impact on the nearby child care facilities. It is expected that there will be ample capacity for the addition of 51 children under the age of 6 generated through the proposed rezoning.

PUBLIC LIBRARIES

According to the *CEQR Technical Manual*, service areas for neighborhood branch libraries are based on the distance that residents would travel to use library services, typically not more than

¾ mile (this is referred to as the library's "catchment area"). This libraries analysis compares the population generated by the Proposed Actions with the catchment area population of libraries available within an approximately ¾ mile area around the proposed Bedford-Stuyvesant North Rezoning Area.

To determine the existing population of each library's catchment area, 2010 U.S. Census data were assembled for all census tracts that fall primarily within ¾ miles of each library. The catchment area population in the future without the Proposed Actions and the future with the Proposed Actions was estimated by multiplying the number of new housing units by an average household size of 2.75 persons as analyzed in the Socioeconomics Chapter in the future without and the future with the Proposed Actions was added to the existing catchment area population. According to the *CEQR Technical Manual,* if a proposed project would increase the libraries' catchment area population by 5 percent or more, and this increase would impair the delivery of library services in the study area, a significant impact could occur.

Existing Conditions

The Bedford-Stuyvesant Rezoning Area is served by the Brooklyn Public Library (BPL). The BPL system includes 58 neighborhood branches, a Central Library, and a business library.

Eight BPL neighborhood libraries are located within ¾ mile of the proposed rezoning area (**Figure C-3**). The branch libraries in the study area have a combined total of 355,820 holdings (books, CD-ROMs, DVDs, videotapes, etc.)

When compared to the combined catchment area population of 500,484, this is a holdings-to-residents ratio of .47 (**Table C-11**).

Table C-11
Public Neighborhood Branch Libraries within 3/4 Mile of the Rezoning Area

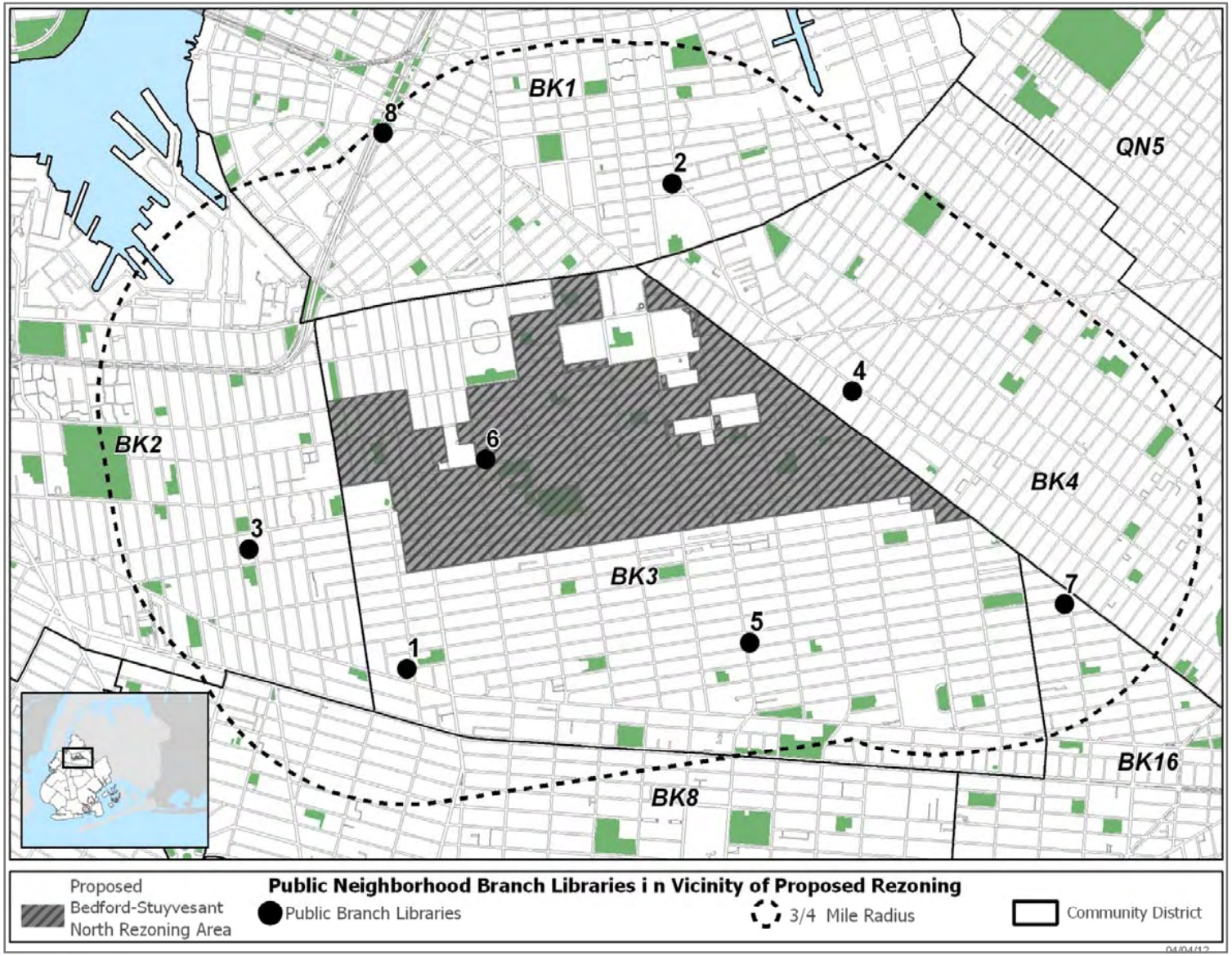
Map Key	Library Name	Address	Holdings[1]	Circulation[2]	Catchment Area Population[3]	Holdings Per Resident
1	Bedford	496 Franklin Ave	44,396	47,157	107,987	0.41
2	Bushwick	340 Bushwick Ave	41,348	82,440	75,720	0.55
3	Clinton Hill	380 Washington Ave	36,847	109,873	79,714	0.46
4	DeKalb	790 Bushwick Ave	47,818	103,981	102,856	0.46
5	Macon	361 Lewis Ave	51,560	63,349	94,421	0.55
6	Marcy	617 DeKalb Ave	41,517	100,121	105,390	0.39
7	Saratoga	8 Thomas S Boyland St	44,321	92,201	88,472	0.50
8	Williamsburg	240 Division Ave	48,013	127,171	103,082	0.47
		Total	**355,820**	**726,293**	**500,484**	**0.71**

Notes: [1] Holdings as of January 2012
[2] Circulation for the Fiscal Year 2011
[3] Due to overlapping catchment areas for each library, the total population is less than the sum of the catchment area population for each library. The catchment area population for each library includes the area within ¾-mile of the library.
Sources: Brooklyn Public Library (BPL), 2012; U.S Census Bureau, *2010 Census*; NYC Department of City Planning, *Selected Facilities and Program Sites, 2011.2 Release*



Bedford-Stuyvesant North Rezoning

Figure C-3 – Branch Libraries



Future-No Action Condition

Under the future without Proposed Actions, the projected development sites could yield 1,198 dwelling units by 2022. Assuming 2.75 people per household as analyzed in the Socioeconomics Chapter, 3,295 more people are projected to live in the development sites within the Rezoning Area (**Table C-12**). The ratio for holdings per residents is anticipated to approximately remain the same in the future without the Proposed Actions.

Table C-12
Future-With No Action: Number of People Generated without the Proposed Rezoning in the Development Sites by 2022

Library Name	Existing Catchment Area Population[1]	New Residents Generated by Projected Development Sites[1]	Projected Catchment Area Population	Holdings Per Resident
Bushwick	107,987	2,087	110,074	0.40
Williamsburg	75,720	0	75,720	0.55
Bedford	79,714	396	80,110	0.46
Macon*	102,856	228	103,084	0.46
DeKalb	94,421	1,034	95,455	0.54
Saratoga	105,390	61	105,451	0.39
Clinton Hill	88,472	828	89,300	0.50
Marcy	103,082	2,464	105,546	0.45
Total	**757,642**	**3295**	**503,779**	**0.71**

Notes: [1] Due to overlapping catchment areas for each library, the total population and new residents generated by the projected development sites are less than the sum of the catchment area population for each library. The catchment area population for each library includes the area within ¾-mile of the library.

Sources: Brooklyn Public Library (BPL), 2012; U.S Census Bureau, *2010 Census*; NYC Department of City Planning, *Selected Facilities and Program Sites, 2011.2 Release*

Future-With Action Condition

Under the Proposed Actions, an additional 790 dwelling units could be developed on the projected development sites by 2022. Assuming 2.75 people per household, this would generate an additional 2,173 new residents in the development sites within the Rezoning Area (**Table C-13**). However, the additional population will slightly increase the ratio of holdings per residents from 0.71 to 0.70.

Table C-13
Future-With Action: Number of People Generated with the Proposed Rezoning in the Development Sites by 2022

Library Name	Projected Future-With No Action Catchment Area Population[1]	New Residents Generated by Development Sites[1]	Projected Catchment Area Population	Holdings Per Resident
Bushwick	110,074	1,088	111,162	0.40
Williamsburg	75,720	0	75,720	0.55
Bedford	80,110	178	80,288	0.46
Macon*	103,084	204	103,288	0.46
DeKalb	95,455	690	96,145	0.54
Saratoga	105,451	129	105,580	0.39
Clinton Hill	89,300	462	89,762	0.49
Marcy	105,546	1,396	106,942	0.45
Total:	**760,937**	**2,173**	**505,951**	**0.70**

Notes: [1] Due to overlapping catchment areas for each library, the total population and new residents generated by the projected development sites are less than the sum of the catchment area population for each library. The catchment area population for each library includes the area within ¾-mile of the library.

Sources: Brooklyn Public Library (BPL), 2012; U.S Census Bureau, *2010 Census*; NYC Department of City Planning, *Selected Facilities and Program Sites, 2011.2 Release*

Conclusion

Overall, the new population in the future-with action scenario would constitute a less than one percent increase in the total catchment area population, and the total holdings per resident would remain the same, compared to the future-without action scenario. Therefore the proposed Bedford-Stuyvesant Rezoning will not impact the eight branch libraries that are within ¾ mile of the proposed Rezoning Area and therefore no further analysis is necessary.

D. OPEN SPACE

INTRODUCTION

Open space is defined as publicly or privately owned land that is publicly accessible and operates, functions, or is available for leisure, play, or sport, or set aside for the protection and/or enhancement of the natural environment. According to the *CEQR Technical Manual*, an analysis of open space is conducted to determine whether or not a proposed action would have a direct impact resulting from the elimination or alteration of open space and/or an indirect impact resulting from overtaxing available open space.

According to the *CEQR Technical Manual*, a public open space is accessible to the public on a constant and regular basis, including for designated daily periods. Public open spaces may be under public (government) or private ownership. Examples include resources such as parks managed by the City, State, or Federal governments; public plazas; outdoor schoolyards that are accessible to the public outside of school hours; landscaped medians with seating; public housing grounds; gardens; and nature preserves, if publicly accessible. Private open spaces are not considered in the quantitative analysis of open space, but may be considered in the qualitative assessment. Private open spaces include private-access fee-charging spaces; recreational facilities used by community facilities, where the open space is accessible only to the institution-related population; natural areas or wetlands without public access; stoops; vacant lots; and front and rear yards.

METHODOLOGY

Open space resources are divided into two categories for analysis: active use resources and passive use resources. Active open space is used for sports, exercise, or active play, and can consist of facilities such as playgrounds with play equipment, playing fields, beach areas (swimming, running), greenways and esplanades, and multi-purpose play areas. Passive open space is used for relaxation, such as sitting or strolling, and can consist of facilities such as plazas or medians with seating, a percentage of beach areas (sunbathing), picnicking areas, greenways and esplanades (sitting, strolling), restricted-use lawns, and gardens. Often, an open space can be used for both active and passive uses. The residential population of an area uses active and passive open spaces, while the worker population tends to place demands on passive open space.

The *CEQR Technical Manual* presents standards by which the adequacy of open space in a community may be measured. According to the *CEQR Technical Manual*, an area with a ratio of 2.5 acres of open space per 1,000 residents is well-served by open spaces, and is consequently used as a benchmark for large-scale plans and proposals. Open space analyses involve estimating an area's open space ratio and projecting the effect of a proposed action on that ratio. In addition to the benchmark noted above, an open space analysis also considers the City's median community district open space ratio of 1.5 acres per 1,000 residents when determining impact significance. The City also seeks to attain a planning goal of a balance of 20 percent passive open space and 80 percent active open space.

According to the *CEQR Technical Manual*, a significant adverse open space impact may occur if a proposed action would result in the direct displacement or alteration of existing open space, unless the proposed action would provide a comp arable replacement within the study area and there is no net loss of publicly accessible open space. A significant adverse impact may also occur if a proposed action would reduce the open space ratio by more than 5 percent in areas that are currently below the City's median community district open space ratio of 1.5 acres per 1,000 residents. These reductions may result in overburdening existing facilities or further exacerbating a deficiency in open space.

A screening process was conducted for the Proposed Actions to determine whether or not there would be a direct impact resulting from the elimination or alteration of open space and/or an indirect impact resulting from overtaxing available open space.

Direct Effects

Direct effects may occur when the proposed project would encroach on, or cause a loss of, open space. Direct effects may also occur if the facilities within an open space would be so changed that the open space no longer serves the same user population. Limitation of public access and changes in the type and amount of public open space may also be considered direct effects. Other direct effects include the imposition of noise, air pollutant emissions, odors, or shadows on public open space that may alter its usability. It should be noted that direct effects may not always result in adverse effects to open space; rather, alterations and reprogramming of parks may be beneficial or may result in beneficial changes to some resources and may or may not have an adverse effect on others.

According to the *CEQR Technical Manual*, if a proposed project would have a direct effect on an open space, an assessment of the effects on open space and its users may be appropriate. Direct effects occur if the proposed project would:

- Result in a physical loss of public open space (by encroaching on an open space or displacing an open space);
- Change the use of an open space so that it no longer serves the same user population (e.g., elimination of playground equipment);
- Limit public access to an open space; or
- Cause increased noise or air pollutant emissions, odors, or shadows on public open space that would affect its usefulness, whether on a permanent or temporary basis.

The *CEQR Technical Manual* notes, however, when the direct effect would be so small that it would be unlikely to change use of the open space, an assessment may not be needed. For example, the loss of a small amount of open space to support infrastructure related to park purposes may not warrant a full open space analysis. When few users or a limited age group of users would be affected, new and comparable open space would be provided at the same location, or the proposed alterations to an existing open space would be improvements that create comparable or better facilities, significant adverse impacts are unlikely and a full assessment

may not be needed. A simple comparison of conditions with and without the project and a discussion of the users affected may be adequate.

The Proposed Actions would not result in any direct effects on any open space resources, as the project would not result in a physical loss of any public open spaces, either by encroaching on open spaces, or displacing open spaces. The Proposed Actions would not change the use of any open space so that it would no longer serve the same user population, nor would the Proposed Actions limit public access to an open space or result in significant amounts of increased noise, air pollutant emissions, odors, or shadows on any public open spaces that would affect their usefulness. Therefore, an assessment of direct effects is not warranted.

Indirect Effects

Indirect effects may occur when the population generated by proposed actions overtaxes the capacity of existing open spaces so that their service to the future population of the affected area would be substantially or noticeably diminished.

As stated in the *CEQR Technical Manual*, for the majority of projects, an assessment is conducted if the proposed project would generate more than 200 residents or 500 employees, or a similar number of other users (such as the visitor population that might be introduced by a large shopping area). However, the need for an open space assessment may vary in certain areas of the City that are considered either underserved or well-served by open space.

Underserved areas are areas of high population density in the City that are generally the greatest distance from parkland, where the amount of open space per 1,000 residents is currently less than 2.5 acres. If a project is located in an underserved area, an open space assessment should be conducted if the project would generate more than 50 residents or 125 workers.

Well-served areas are areas that have an open space ratio above 2.5 and accounts for existing parks that contain developed recreational resources, or are located within 0.25 mile (approximately a 10-minute walk) from developed and publicly accessible portions of regional parks. If a project is located in a well-served area, an open space assessment should be conducted if the project would generate more than 350 residents or 750 workers in a well-served area. Higher thresholds in areas well-served by open space are appropriate because the area contains existing park re-sources that provide for the existing population and likely for a nominal amount of added population, while regional parks contain a wide variety of recreational facilities intended to serve many users at a given point in time.

The rezoning area is located within Brooklyn Community District 3 (CD 3) and is not within an area of the City considered underserved or well-served area by open space. Thus, the analysis screening threshold used in the assessment of indirect open space impacts is if the Proposed Actions would generate more than 200 residents or 500 employees. The preliminary screening for the potential for new non-residential and residential open space users generated by the Proposed Action to have a significant adverse effect on open space resources is presented below.

Preliminary Screening of Potential Non-Residential Open Space Users

As discussed in Attachment 1, "Project Description," the Proposed Actions is expected to result in a net increase of 790 dwelling units, 135,964 square feet of retail, and 28,182 square feet of office space. The Proposed Actions are also expected to result in a decrease of 291,775 square feet of community facility floor area, comprised of decreases of approximately 255,188 square feet of medical office, approximately 15,082 square feet of house of worship, and approximately 21,576 square feet of child/day care floor area.

To estimate the projected number of future employees the Proposed Action would create, employment generation numbers were based on the following rates:

- General Retail - an average of three employees per 1,000 square feet of floor area.
- Commercial Office - an average of one employee per 250 square feet of floor area.
- Medical Office - an average of one employee per 450 square feet of floor area.
- House of Worship (Community Facility) - an average of 0.5 employees per 1,000 square feet of floor area.
- Child/Day Care - an average of one employee per seven child/day care spaces, with one child/day care space per 100 square feet of area.
- Auto-Related Uses - 183 pounds per week, per employee (with an average of one employee per 800 square feet of area).
- Residential - an average of 0.04 employees per dwelling unit of residential use.

Using these ratios, the Proposed Actions are estimated to generate a net decrease of approximately 53 workers over the Future No-Action Scenario. As this number is below the *CEQR Technical Manual* screening threshold of 500 new workers, significant indirect adverse impacts to open space resulting from non-residential users would not be expected and further analysis is not warranted for this action.

Preliminary Screening of Potential Residential Open Space Users

As discussed in Attachment 1, "Project Description," the Proposed Actions would result in the net incremental addition of approximately 790 DUs by the 2022 analysis year, when compared to the Future No-Action Condition. This would add an estimated 2,046 new residents to the open space study area over the next ten years. The number of new residents was estimated by multiplying the average persons per household[1] in Brooklyn CD 3 by the 790 incremental increase in DUs generated by the Proposed Action. As the Proposed Actions would potentially generate 2,046 more residents than under the Future No-Action Condition, a detailed assessment is warranted to determine if the change in total population relative to total open space in the area would result in a significant adverse opens space impact.

[1] 2.59 average persons per household, 2010 Census for Brooklyn Community District 3.

EXISTING CONDITION

As stated in the *CEQR Technical Manual*, the first step in an open space analysis is to define and map a study area. In accordance with the guidelines established in the *CEQR Technical Manual*, an open space study area is generally defined by a reasonable walking distance that users would travel to reach local open space and recreational resources. That distance is typically a half-mile radius for residential users. For rezoning actions, a half-mile radius is drawn around the proposed rezoning area boundary to determine the reasonable distance users are expected to walk to open space resources.

Following *CEQR Technical Manual* guidelines, census tracts with approximately 50 percent or more of their area located within the half-mile radius of the projected and potential development sites were included in the calculation of population and open space, while those census tracts with less than approximately 50 percent of their area in the half-mile radius were excluded. The open space study area includes 62 census tracts that have an area of approximately 50 percent or more in the half-mile residential open space study area. The census tracts included in the analysis are: 191, 193, 195, 197, 201, 227, 229, 231, 233, 235, 241, 243, 245, 249, 251, 253, 255, 257, 259.01, 259.02, 261, 263, 265, 267, 275, 277, 279, 281, 283, 285.01, 285.02, 287, 289, 291, 293, 295, 373, 375, 377, 383, 385, 387, 389, 391, 393, 395, 397, 399, 401, 415, 417, 419, 421, 423, 425, 489, 491, 507, 509, 531, 537, and 1237. The open space study area is shown in **Figure D-1**.

Residential Demographics under the Existing Condition

To determine the existing residential population served in the open space study area, census data were compiled for the census tracts included in the area. According to the 2010 census data, the open space study area had an overall population of 224,085 persons, as shown in **Table D-1**. The census tracts that comprise the open space study area overlap with portions of Brooklyn Community Districts 1, 2, 3, 4, 8, and 16. However, the proposed rezoning area is located within Brooklyn CD 3, which contained a population of 152,985 according to 2010 census data.

Table D-2 summarizes the population of the open space study area by age group. In the study area approximately 22.4 percent of residents were under the age of 15 (including approximately 8.1 percent under the age of five years old, approximately 7.3 percent between the ages of five and nine years old, and approximately 7.0 percent between the ages of ten to 14 years old), approximately 7.7 percent were adolescents aged 15 to 19, approximately 61.1 percent were adults from 20 to 64 years old, and approximately 8.7 percent were 65 years of age or older.

Bedford-Stuyvesant North Rezoning

Figure D-1 – Open Space Study Area



Table D-1
Open Space Study Area Existing Population, by Census Tract

Census Tract	Under 5 Years Old	5 to 9 Years Old	10 to 14 Years Old	15 to 19 Years Old	20 to 64 Years	65 + Years Old	TOTAL
191	136	119	132	97	1,715	133	2,332
193	209	162	185	1,014	3,199	859	5,628
195	165	115	89	107	2,551	339	3,366
197	205	115	97	70	2,503	323	3,313
201	210	110	84	102	2,665	250	3,421
227	168	189	195	193	2,417	292	3,454
229	189	168	121	168	2,498	251	3,395
231	179	108	97	100	2,224	317	3,025
233	355	334	359	434	3,199	380	5,061
235	602	405	214	180	2,433	94	3,928
241	103	56	66	111	1,598	295	2,229
243	201	178	150	219	2,627	411	3,786
245	208	217	232	227	2,743	319	3,946
249	208	192	191	247	2,634	351	3,823
251	258	277	269	325	2,319	368	3,816
253	164	149	124	160	1,873	284	2,754
255	347	382	454	614	2,795	510	5,102
257	162	150	147	164	1,387	121	2,131
259.01	135	165	145	164	1,321	80	2,010
259.02	230	260	359	431	1,815	324	3,419
261	358	336	302	379	3,207	335	4,917
263	139	108	113	133	1,202	173	1,868
265	263	242	292	328	2,394	319	3,838
267	200	195	235	198	2,509	583	3,920
275	220	200	244	265	2,878	373	4,180
277	289	295	305	394	2,369	293	3,945
279	216	232	247	279	2,360	340	3,674
281	356	348	362	365	2,462	300	4,193
283	288	275	336	378	2,487	333	4,097
285.01	36	34	30	28	291	9	428
285.02	149	192	247	297	1,520	397	2,802
287	216	207	187	187	1,873	321	2,991
289	242	244	255	299	2,116	382	3,538
291	194	172	221	245	1,948	321	3,101
293	190	179	187	262	1,828	460	3,106
295	203	205	202	204	2,266	345	3,425
373	311	270	270	288	2,197	448	3,784

Census Tract	Under 5 Years Old	5 to 9 Years Old	10 to 14 Years Old	15 to 19 Years Old	20 to 64 Years	65 + Years Old	TOTAL
375	192	205	223	219	1,880	191	2,910
377	252	226	211	262	2,326	383	3,660
383	288	303	222	277	2,406	435	3,931
385	234	231	258	286	2,028	385	3,422
387	297	260	256	299	2,598	300	4,010
389	163	158	168	172	1,881	231	2,773
391	141	183	160	154	1,453	212	2,303
393	213	210	170	232	2,502	222	3,549
395	217	214	194	198	2,203	354	3,380
397	237	240	218	255	2,185	254	3,389
399	287	267	323	355	2,206	385	3,823
401	240	189	251	308	2,274	256	3,518
415	280	313	361	385	2,442	283	4,064
417	233	257	289	293	2,017	520	3,609
419	289	245	300	380	2,264	292	3,770
421	282	282	268	306	2,513	269	3,920
423	332	292	268	307	2,649	369	4,217
425	230	201	237	226	2,025	123	3,042
489	304	288	339	411	2,182	515	4,039
491	334	336	357	471	3,864	1,056	6,418
507	417	389	296	162	983	41	2,288
509	693	662	595	416	1,291	37	3,694
531	1,583	1,305	854	564	2,620	101	7,027
537	686	541	447	371	1,336	194	3,575
1237	1,366	1,064	686	337	2,447	108	6,008
TOTAL	**18,094**	**16,446**	**15,696**	**17,302**	**136,998**	**19,549**	**224,085**

Source: U.S. Bureau of the Census, 2010 Census of Population and Housing. New York City Department of City Planning.

Table D-2
Open Space Study Area Existing Population, by Age Group

Age Category	Study Area		Brooklyn	New York City
	Population	Percent	Percent	Percent
<5 years	18,094	8.1%	7.1%	6.3%
5-9 years	16,446	7.3%	6.4%	5.8%
10-14 years	15,696	7.0%	6.3%	5.7%
15-19 years	17,302	7.7%	6.8%	6.6%
20-64 years	136,998	61.1%	62.0%	63.4%
65+ years	19,549	8.7%	11.5%	12.1%
Total	**224,085**	**100%**	**100%**	**100%**

Source: U.S. Bureau of the Census, 2010 Census of Population and Housing.
New York City Department of City Planning.

The age distribution of a study area's population affects the way open spaces are used and the need for a variety of recreational facilities. Typically, children four years old or younger use traditional playgrounds that have play equipment for toddlers and preschool children. Children ages five through nine typically use traditional playgrounds, as well as grassy and hard-surfaced open spaces, which are important for such activities as ball playing, running, and skipping rope. Children ages 10 through 14 use playground equipment, court spaces, and ball fields. Teenagers' and young adults' needs tend toward court game facilities (e.g. basketball) and toward field sports (e.g. baseball). Adults between the ages of 20 and 64 continue to use court game facilities and fields for sports, as well as more individualized recreational activities such as rollerblading, biking, and jogging, which require bike paths, promenades, and vehicle-free roadways. Adults also gather with families for picnicking, pick-up active sports such as Frisbee, and recreational activities in which all ages can participate. Senior citizens engage in active recreation such as handball, tennis, gardening, and swimming, as well as recreational activities that require passive facilities.

Open Space Resources/Inventory under the Existing Condition

There are 73 publicly-accessible open space resources within the study area, as shown in **Figure D-2** and **Table D-3**. Of the total 67.46 acres of open space in the study area, approximately 52.09 acres (77.2 percent) is considered active open space and the remaining 15.37 acres (22.8 percent) is considered passive open space. The most recent inspection report for the open space resources in the study area is also provided below in **Table D-3**, as compiled by the New York City Department of Parks and Recreation (DPR)[2]. Also included in **Table D-3** is the observed level of use for each reported open space. The utilization levels, as defined by the *CEQR Technical Manual*, are as follows:

- Light utilization - generally 25 percent capacity or less utilization at the peak hour with much of the space, facility, or equipment available for use.
- Moderate utilization - generally 25 to 75 percent capacity utilization at peak hour with some spaces and/or facilities available for use.
- Heavy utilization - generally 75 percent or greater capacity utilization at peak hours with few or none of the open space facilities available for use.

[2] http://www.nycgovparks.org/sub_your_park/your_park.html

Bedford-Stuyvesant North Rezoning

Figure D-2 – Open Space Resources

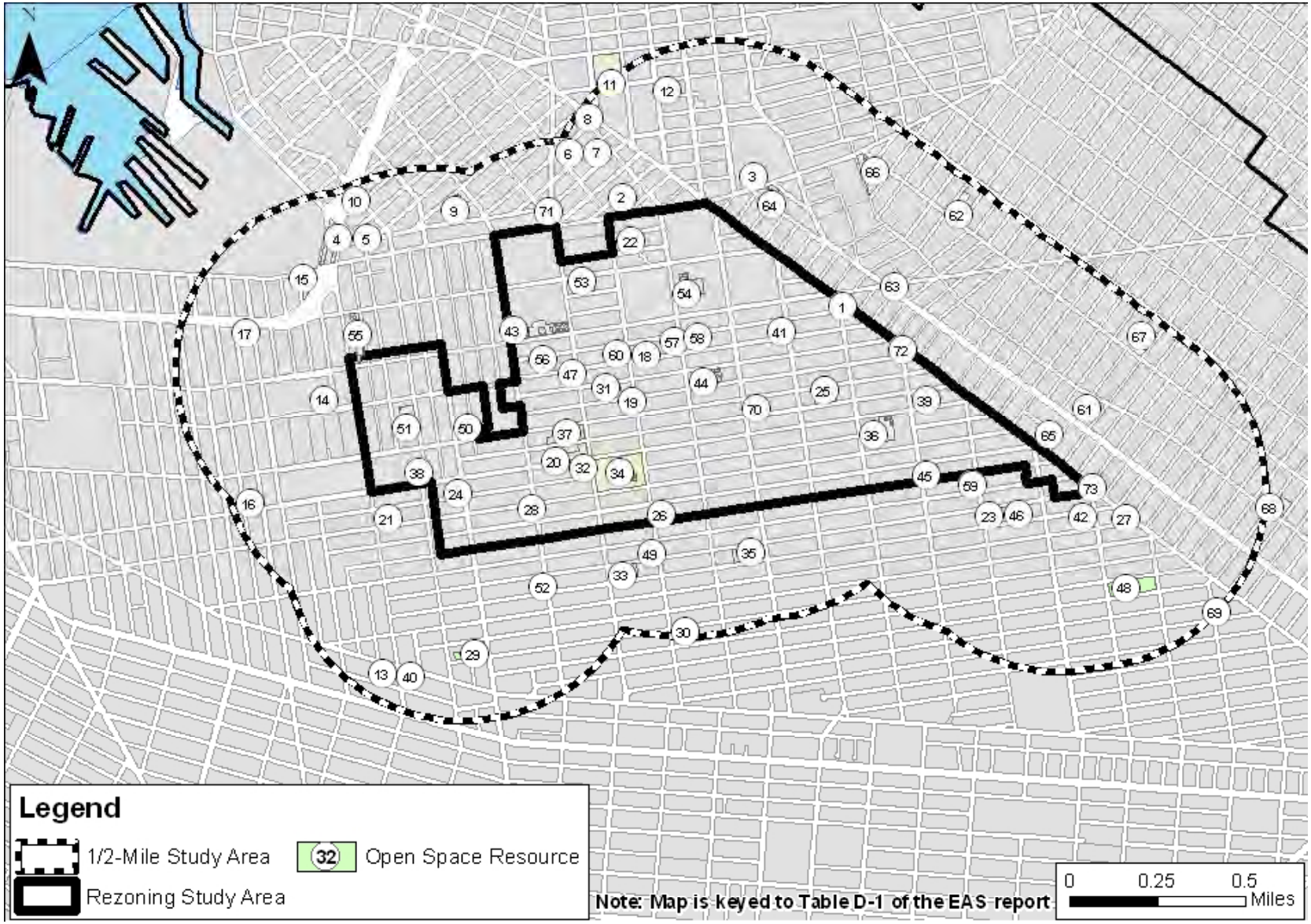


Table D-3
Existing Open Space Resources in the Study Area

Map Key # (See Figure D-2)	Name / Location	Amenities	Condition	Use Level	Acreage		
					Active	Passive	TOTAL
1	Beattie Square - Broadway, Stuyvesant Ave, Vernon Ave	Landscaping, Pathways, Flagpole	Acceptable	Light	0.00	0.01	0.01
2	Bartlett Playground - Whipple St, Bartlett St, Throop Ave, Flushing Ave	Basketball and Handball Courts, Playground Equipment, Bathrooms	Acceptable	Light	0.69	0.23	0.92
3	Bushwick House's Playground and Pool - Flushing Ave, Beaver & Garden Sts	Pool, Playground Equipment, Handball Courts, Showers	Acceptable	Light	0.97	0.32	1.29
4	Classon Playground - Classon & Lafayette Aves, St. James Pl	Basketball and Handball Courts, Playground Equipment, Spray Showers	Unacceptable	Light	0.90	0.44	1.34
5	Classon Triangle - Classon & Kent Aves, Wallabout St	Landscaping, Pathways, Benches	Acceptable	Light	0.00	0.21	0.21
6	Eugenio Maria De Hostos Playground - Harrison Ave, Walton & Lorimer Sts	Basketball and Handball Courts, Playground Equipment, Spray Showers	Unacceptable	Light	0.99	0.11	1.10
7	Project Roots Garden	Community Garden	*Acceptable	Light	0.00	0.17	0.17
8	Lindsay Triangle - Throop Ave, Lormer St, Broadway	Landscaping, Benches	Acceptable	Light	0.00	0.04	0.04
9	Middleton Playground - Lynch & Middleton Sts, Lee & Bedford Aves	Basketball and Handball Courts, Playground Equipment, Spray Showers	Acceptable	Light	0.99	0.11	1.10
10	Penn Triangle Playground - Penn St, Wythe Ave	Playground Equipment, Universal Swings	Acceptable	Moderate	0.09	0.09	0.18
11	Sternberg Park - Lorimer & Boerum Sts, Montrose Ave	Baseball Fields, Basketball and Handball Courts, Playground Equipment, Picnic Tables, Benches, Comfort Station	Unacceptable	Light	3.64	0.40	4.04
12	Sunshine Community Garden - McKibbin St, Manhattan & Graham Aves	Community Garden	*Acceptable	Light	0.00	0.12	0.12
13	Crispus Attucks Playground - Classon Ave, Fulton St, Irving Pl	Basketball and Handball Courts, Playground Equipment, Plantings, Comfort Station	Unacceptable	Moderate	0.88	0.05	0.93
14	Pratt Playground - Willoughby Ave, Steuben St, Emerson Pl	Playground Equipment, Game Tables, Landscaping, Comfort Station	Acceptable	Moderate	0.83	0.09	0.92
15	Steuben Playground - Flushing & Steuben Sts, BQE	Open Grass Area, Basketball Courts, Playground Equipment	Acceptable	Light	1.05	0.12	1.17
16	Underwood Park - Lafayette, Waverly & Washington Aves	Playground Equipment, Benches, Open Areas	Acceptable	Heavy	0.89	0.30	1.19
17	Washington Hall Park - Washington and Hall Sts, Park Ave	Basketball and Handball Courts, Dry River Bed, Playground Equipment, Benches	Acceptable	Heavy	0.72	0.18	0.90
18	All People's Church of the Apostolic Faith - Tompkins & Willoughby Aves	Community Garden	*Acceptable	Light	0.00	0.06	0.06

Map Key # (See Figure D-2)	Name / Location	Amenities	Condition	Use Level	Acreage		
					Active	Passive	TOTAL
19	American Heart - Hart St, Marcy & Tompkins Aves	Community Garden	*Acceptable	Light	0.00	0.05	0.05
20	Banneker Playground - Marcy & Lafayette Aves, Kosciuszko St	Handball Courts, Playground Equipment, Pathways, Comfort Station	Acceptable	Light	1.25	0.42	1.67
21	Cedar Tree Garden - Greene & Classon Aves	Community Garden	N/A	Light	0.00	0.18	0.18
22	Charlie's Place/ Broadway Triangle Park - Hopkins & Tompkins Aves	Open Grass Area, Playground Equipment, Benches, Plantings	Unacceptable	Light	0.95	0.32	1.26
23	Citizens For a Better Community - Patchen Ave, Monroe & Madison Sts	Community Garden	*Acceptable	Light	0.00	0.30	0.30
24	Clifton Place Memorial Park and Garden - Bedford Ave, Clifton Pl	Community Garden	*Acceptable	Light	0.00	0.17	0.17
25	Eleanor Roosevelt Playground - Lewis, DeKalb & Stuyvesant Aves	Basketball and Handball Courts, Playground Equipment	Acceptable	Moderate	1.09	0.12	1.21
26	First Quincy Street Block Association - Quincy St, Tompkins Ave	Community Garden	*Acceptable	Light	0.00	0.13	0.13
27	Garden Beautiful - Broadway, Putnam Ave	Community Garden	*Acceptable	Light	0.00	0.19	0.19
28	Greene Avenue United Neighbors Association - Greene & Nostrand Aves	Community Garden	*Acceptable	Light	0.00	0.05	0.05
29	Hancock Playground - Bedford Ave, Hancock St, Jefferson Ave	Playground Equipment, Spray Showers, Basketball and Handball Courts	Acceptable	Closed	1.47	0.08	1.55
30	Hancock T&T Block Association - Hancock St, Tompkins Ave	Community Garden	*Acceptable	Light	0.00	0.08	0.08
31	Hart to Hart - Hart St, Marcy & Tompkins Aves	Community Garden	*Acceptable	Light	0.00	0.33	0.33
32	Hattie Carthan Community Garden / Magnolia Tree Earth Center - Clifton Pl, Lafayette Ave	Community Garden	*Acceptable	Light	0.00	0.81	0.81
33	Hattie Carthan Playground - Monroe St, Marcy & Tompkins Aves	Playground Equipment, Comfort Station, Benches, Game Tables, Basketball and Handball Courts	Unacceptable	Light	0.96	0.24	1.20
34	Herbert Von King Park - Marcy, Tompkins, and Greene Aves	Handball Courts, Playground & Fitness Equipment, Comfort Station, Dog Runs	Unacceptable	Moderate	6.26	1.56	7.82
35	Raymond Bush / Israel Putnam Playground	Basketball and Handball Courts, Playground Equip.	Acceptable	Moderate	1.62	0.18	1.80
36	Jessie Owens Playground - Lafayette & Stuyvesant Aves	Playground Equipment, Garden, Spray Showers	Acceptable	Moderate	2.08	1.02	3.10
37	Kosciusko Pool - Marcy Ave, Kosciusko St	Pool, Bathhouse, Bleachers	*Acceptable	Closed	1.79	0.60	2.39
38	Lafayette Gardens Playground - Lafayette & Franklin Aves	Basketball and Handball Courts, Playground Equipment, Game Tables	Acceptable	Light	0.43	0.28	0.71

Map Key # (See Figure D-2)	Name / Location	Amenities	Condition	Use Level	Acreage		
					Active	Passive	TOTAL
39	Lafayette Playground - Lafayette & Reid Aves	Handball Courts, Playground Equipment, Spray Showers	Acceptable	Light	0.42	0.10	0.52
40	Lefferts Place Block Association - Lefferts Pl, Classon Ave	Community Garden	*Acceptable	Light	0.00	0.07	0.07
41	Lewis Playground - Willoughby & Lewis Aves	Playground Equipment, Seating	*Acceptable	Light	0.11	0.05	0.16
42	Madison Community Greenthumb - Madison St, Ralph & Howard Aves	Community Garden	*Acceptable	Light	0.00	0.06	0.06
43	Marcy Playground - Myrtle, Marcy & Nostrand Aves	Basketball Courts, Playground Equipment, Game Tables, Benches	Acceptable	Light	2.88	0.32	3.20
44	Pulaski Playground - Sumner Ave, Marcus Garvey Blvd	Basketball and Handball Courts, Volleyball, Playground Equipment	Unacceptable	Moderate	1.28	0.14	1.42
45	Patrick Van Doren Pocket Park - Malcolm X Blvd, Quincy St	Gazebo, Pathways, Plantings	*Acceptable	Light	0.00	0.04	0.04
46	Police Officer Salgado Playground - Monroe & Madison Sts, Patch & Ralph Aves	Basketball and Handball Courts, Playground Equipment, Spray Showers, Bathrooms	Acceptable	Heavy	2.06	0.23	2.29
47	Red Gate Garden - Marcy & Willoughby Aves	Community Garden	*Acceptable	Light	0.00	0.09	0.09
48	Saratoga Square Park - Halsey St, Saratoga Ave	Playground Equipment, Spray Showers, Open Areas, Plantings	Unacceptable	Light	2.41	0.80	3.21
49	Shiloh Garden - Monroe St, Tompkins Ave	Community Garden	*Acceptable	Light	0.00	0.07	0.07
50	Spencer Street Block Association - Spencer St, DeKalb Ave	Community Garden	*Acceptable	Light	0.00	0.04	0.04
51	Star Spangled Playground - Franklin, Willoughby, DeKalb Aves	Handball Courts, Playground Equipment, Spray Showers, Bathrooms	Acceptable	Moderate	1.52	0.17	1.69
52	Stars of Hope - Madison St, Nostrand Ave	Community Garden	*Acceptable	Light	0.00	0.03	0.03
53	Stockton Playground - Park Ave, Martin L. King Pl	Basketball and Handball Courts, Playground Equipment, Spray Showers, Bathrooms	Unacceptable	Light	0.98	0.11	1.09
54	Sumner Playground – Park, Throop & Myrtle Aves	Playground Equipment, Grass Ballfield, Basketball and Handball Courts, Comfort Station	Unacceptable	Light	1.32	0.65	1.97
55	Taaffe Playground - Taaffe Pl, Park & Myrtle Aves	Basketball & Handball Courts, Soccer Field, Playground Equipment	Acceptable	Heavy	1.64	0.18	1.82
56	Vernon New Harvest - Vernon, Marcy & Nostrand Aves	Community Garden	*Acceptable	Light	0.00	0.17	0.17
57	Vernon T&T Block Association - Vernon & Throop Aves	Community Garden	*Acceptable	Light	0.00	0.05	0.05

Map Key # (See Figure D-2)	Name / Location	Amenities	Condition	Use Level	Acreage		
					Active	Passive	TOTAL
58	Vernon/Throop Avenue Block Association - Vernon & Throop Aves	Community Garden	*Acceptable	Light	0.00	0.04	0.04
59	Victory Garden's Group - Gates & Patchen Aves	Community Garden	*Acceptable	Light	0.00	0.15	0.15
60	Willoughby Playground - Tompkins, Willoughby & Vernon Aves	Handball Court, Playground Equipment, Pathways, Comfort Station, Spray Showers	Acceptable	Light	0.73	0.18	0.91
61	Concerned Citizens of Grove Street - Grove St, Evergreen Ave	Community Garden	*Acceptable	Light	0.00	0.11	0.11
62	Fermi Playground - Troutman & Starr Sts, Central Ave	Playground Equipment, Basketball and Handball Courts, Comfort Station, Benches	Acceptable	Heavy	0.95	0.11	1.06
63	Freedom Triangle/Square - Bushwick, Myrtle & Willoughby Aves	Benches, Statue, Plantings	Acceptable	Light	0.00	0.01	0.01
64	Garden Playground - Flushing Ave, Beaver & Garden Sts	Playground Equipment, Basketball Courts, Benches	Acceptable	Light	0.98	0.11	1.09
65	Goodwin Gardens - Grove St, Godwin Pl	Community Garden	*Acceptable	Light	0.00	0.35	0.35
66	Bushwick Green Central Knoll - Flushing & Central Aves, Noll St	Playground Equipment, Benches, Open Areas, Plantings	Unacceptable	Light	2.34	0.26	2.60
67	Heckscher Playground - Linden St, Central & Wilson Aves	Basketball and Handball Courts, Playground Equipment, Benches, Comfort Station	Unacceptable	Moderate	1.12	0.12	1.24
68	Tiger Playground - Evergreen Ave, Eldert & Covert Sts	Playground Equipment, Benches, Game Tables, Basketball and Handball Courts	Acceptable	Light	0.84	0.09	0.93
69	700 Decatur Street Block Association - Hopkinson Ave, Decatur St	Community Garden	*Acceptable	Light	0.00	0.04	0.04
70	Kosciusko Street Park - Kosciusko St, Marcus Garvey Blvd, DeKalb Ave	Plantings, Seating Areas, Bird House, Gazebo, Pathways	*Acceptable	Light	0.00	0.19	0.19
71	Greenstreet - Wallabout & Gerry Sts, Union & Marcy Aves	Plantings along street	*Acceptable	Light	0.00	0.04	0.04
72	Greenstreet - Lawton & Pulaski Sts, Malcolm X Blvd, Broadway	Plantings along street	*Acceptable	Light	0.00	0.01	0.01
73	Greenstreet - Monroe St, Broadway, Howard Ave	Plantings along street	*Acceptable	Light	0.00	0.01	0.01
				TOTAL	**52.09**	**15.37**	**67.46**

Sources: New York City Department of Parks and Recreation (DPR), New York City Department of City Planning (DCP) District Profiles, and AECOM field surveys.

Notes: Acceptable and Unacceptable Conditions are based on most recent DPR inspections, supplemented by AECOM field surveys when DPR conditions were not available (A "*" denotes parks that were not inspected by DPR, and evaluated during AECOM field surveys). Use Levels evaluated during AECOM field surveys.

Open space resources within the identified study area are discussed in further detail below.

1. Beattie Square

Located between Broadway, Stuyvesant Avenue and Vernon Avenue, this 0.01 open space is named in memory of Joseph S. Beattie, an Infantry Private who served in the United States Army in World War I and died on a battlefield in France in 1918. Also known as Beattie Triangle, the open space is one of the oldest public parks in Brooklyn, deeded it to the City of Brooklyn in 1884 for park use. This woodchip-lined park contains coniferous evergreens, pink and white primroses, hedges and thorny bushes, and a black and gold four-foot-high fence encloses the park, with the sole gate on the Broadway side that opens to a path which leads to the center of the triangle. An American flag flies in the middle of this triangle as a patriotic tribute. At the time of its last inspection by DPR in September of 2011, the facility's condition was classified as acceptable. The observed use level was considered light**.**

2. Bartlett Playground

Located between Whipple Street, Bartlett Street, Throop Avenue and Flushing Avenue, this 0.92 acre playground and the adjacent Bartlett Street are named in honor of Josiah Bartlett (1729-1795), signer of the Declaration of Independence and the first Governor of New Hampshire. The playground's facilities include basketball and handball courts, playground equipment, spray showers, fitness equipment, bathrooms and water fountains. At the time of its last inspection by DPR in December of 2011, the facility's condition was classified as acceptable. The observed use level was considered light.

3. Bushwick House's Playground and Pool

Located between Flushing Avenue and Beaver and Garden Streets, this 1.29 acre park's name comes from the Dutch word "boswijck," meaning "heavy woods." The City of New York acquired this property in 1956, and transferred it to the New York Housing Authority (NYCHA). The property was part of the Bushwick Houses residential complex, and was known as Bushwick Houses Playground and Pool. In the 1990s, the park underwent several renovations. Today, in addition to a pool, this area has play equipment with safety surfacing, benches, handball courts, spray showers, and swings. At the time of its last inspection by DPR in September of 2011, the facility's condition was classified as acceptable. The observed use level was considered light.

4. Classon Playground

Located along Lafayette and Classon Avenues and St. James Place, this 1.34 acre playground is also known as the DeKalb Playground, from the name from Revolutionary War hero General Baron Johann DeKalb (1721-1780). The City of New York acquired the land in 1954, and the playground opened in 1960. Until it was renamed it in 1986, DeKalb Playground was known as P.S. 270 Playground. In 1999, renovations included the installation of brand-new play equipment, safety surfacing, kindergarten swings and pavement. The playground's facilities include basketball and handball courts, playground equipment, spray showers, and water

fountains. At the time of its last inspection by DPR in September of 2011, the facility's condition was classified as unacceptable. The observed use level was considered light.

5. Classon Triangle

Located between Kent Avenue, Classon Avenue and Wallabout Street, this 0.21 acre triangle takes its name from the adjoining avenue. The property for this triangle was acquired in connection with the land purchased for the Brooklyn-Queens Connecting Highway/Expressway in 1946. Intended as a sitting area, the triangle was planted with trees and ringed with benches. Classon Triangle was developed as a Greenstreet in 1999. The renovations included the installation of a new concrete sidewalk and pedestrian ramps, and many new plantings. At the time of its last inspection by DPR in May of 2011, the facility's condition was classified as acceptable. The observed use level was considered light.

6. Eugenio Maria De Hostos Playground

Located along Harrison Avenue between Walton and Lorimer Streets, this 1.10 acre playground is named for Eugenio Maria De Hostos (1839-1903), the 19th century Puerto Rican revolutionary, reformer, and educator. The playground's facilities include basketball and handball courts, playground equipment, spray showers, and water fountains. At the time of its last inspection by DPR in September of 2011, the facility's condition was classified as unacceptable. The observed use level was considered light.

7. Project Roots Garden

This 0.17 acre open space is located along Walton Street between Harrison and Throop Avenues. Classification inspections from the DPR of this site were not available for review; however, the facility was observed to be in an acceptable condition during an AECOM field survey. The observed use level was considered light.

8. Lindsay Triangle

Located at Throop Avenue, Lormer Street and Broadway, this 0.04 acre triangle (also known as Zindel Park) is named for New York City Mayor John V. Lindsay (1921-2000, Mayor 1965-1973). In 1868, the property was given to the City of Williamsburg as a gift, with the stipulation that "no building was ever to be erected on the land." At the turn of the century, the site held several horses water troughs. By 1933, horses were no longer the main form of transportation and debris from the elevated train line built over the property made maintaining the park's greenery nearly impossible. The Brooklyn Parks Commissioner obtained approval from the donor's heir of the Wyckoff family to pave over the property. In 1998, the triangle was named to honor Mayor Lindsay, with renovations made for a bus stop and accompanying bench. At the time of its last inspection by DPR in June of 2011, the facility's condition was classified as acceptable. The observed use level was considered light.

9. Middleton Playground

Located between Lynch and Middleton Streets and Lee and Bedford Avenues, this 1.10 acre playground, along with the adjacent street, honors Arthur Middleton (1742-1787), one of the signers of the Declaration of Independence. The City of New York bought this property for park purposes in 1937, with renovations in 1998, 2000 and 2008. The playground's facilities include basketball and handball courts, playground equipment, spray showers, and water fountains. At the time of its last inspection by DPR in October of 2011, the facility's condition was classified as acceptable. The observed use level was considered light.

10. Penn Triangle-Playground

Located at Penn Street and Wythe Avenue, this 0.18 acre open space contains accessible playgrounds with ramped play equipment and universally accessible swings. At the time of its last inspection by DPR in May of 2011, the facility's condition was classified as acceptable. The observed use level was considered moderate.

11. Sternberg Park

Located between Lorimer Street, Montrose Avenue and Boerum Street, this 4.04 acre park honors Frances Hamburger Sternberg (1920-1990), a New York native and active Brooklyn community member. The City of New York acquired this property in 1919 for a park, originally known as the Williamsburg Park, and it was renamed in 1925 to Lindsay Park, in honor of Congressman George H. Lindsay (1837-1916). In 1964, the area surrounding the park underwent massive reconstruction, with the creation of the Lindsay Park Houses and the rebuilding of the George H. Lindsay School (P.S.250), when the original 1.84-acre park was expanded, adding over two acres to the park. In October 1990, the park and playground was again renamed for Sternberg. It offers baseball fields, basketball courts, and handball courts. The playground contains swings, play equipment with safety surfacing, benches, picnic tables, and a comfort station. At the time of its last inspection by DPR in August of 2011, the facility's condition was classified as unacceptable. The observed use level was considered light.

12. Sunshine Community Garden

This 0.12 acre community garden is located along McKibbin Street between Manhattan and Graham Avenues. Founded in 1991, the garden is noted as a peaceful sanctuary for the community. Annual barbecues are held with summer long workshops for the children. They also welcome family and church gatherings into the garden. The garden contains mostly vegetable beds with a star shaped children's bed, pint sized table in the children's area, and a swinging bench-rose arbor. Classification inspections from the DPR of this site were not available for review; however, the facility was observed to be in an acceptable condition during an AECOM field survey. The observed use level was considered light.

13. Crispus Attucks Playground

Located between Classon Avenue, Fulton Street and Irving Place, this 0.93 acre playground is named for Crispus Attucks (c. 1723-1770), an African American killed in the Boston Massacre on March 5, 1770. Attucks, the runaway slave whose freedom was always uncertain, became a symbol of the American colonial fight for freedom. The City of New York acquired this site in 1926, and the playground was opened in 1934. In 1989, the playground underwent a comprehensive renovation, with the installation of new concrete and asphalt pavements, game tables, a steel chain link fence, and timber-form play equipment, as well the refurbishment of the comfort station and basketball and handball courts, and the planting of additional trees and shrubs. At the time of its last inspection by DPR in June of 2011, the facility's condition was classified as unacceptable. The observed use level was considered moderate.

14. Pratt Playground

Located between Willoughby Avenue, Stuben Street and Emerson Place, this 0.92 acre park and playground is named for Charles Pratt (1830-1891), philanthropist, businessman, and founder of the Pratt Institute. Originally farmland, the land was subdivided and developed in the 1830s. Four of the mansions that Charles Pratt built for his sons are still in place along Clinton Avenue. In the early 1950s, the area was rejuvenated through a neighborhood redevelopment program. As part of a plan to redevelop the area, Pratt Institute gave this lot to the City in 1959. The playground originally contained slides, swings, see-saws, a shower basin, sand pit, slides, a jungle gym, games area with tables and benches, and a comfort station. Today, the park also contains basketball courts and games areas. At the time of its last inspection by DPR in November of 2011, the facility's condition was classified as acceptable. The observed use level was considered moderate.

15. Steuben Playground

Located just north of the Brooklyn-Queens Expressway between Flushing and Steuben Streets, the 1.17 acre Steuben Playground is named for Baron Friedrich Wilhelm Ludolf Gerhard Augustus von Steuben (1730-1794), a Prussian army officer and general in the American Revolution. The City of New York acquired the land in 1942, as part of the condemnation proceedings for the Brooklyn-Queens Connecting Highway. This park had been called Steuben Playground for years. In 1987, Parks formally conferred the name on the park. In 2000, Steuben Playground underwent a comprehensive reconstruction. The improvements included the replacement of an asphalt ballfield with picnic tables and a horticultural area. The park's open grass area was landscaped, the handball wall and court were reconstructed, new basketball backstops were added, and new exercise equipment was installed. In addition to the two new pieces of boar-shaped animal play sculptures, a new steel fence was added around the jogging area, new concrete game tables were installed, and two animal art sculptures of boars were added. At the time of its last inspection by DPR in December of 2011, the facility's condition was classified as acceptable. The observed use level was considered light.

16. Underwood Park

Located along Lafayette Avenue between Waverly and Washington Avenues, this 1.19 acre park was the site of the mansion of typewriter manufacturer John Thomas Underwood (1857-1937). Underwood's family donated this property to the City of New York in four parcels between 1951 and 1953, at which time the former mansion and greenhouse were demolished to make room for the neighborhood park. The park was named for its donors and opened to the public in 1956. Originally separated into sections to accommodate different age groups and activities, this park was completely renovated in 1997. The park was improved with the addition of two new playground areas, benches, a sprinkler system and fountain, chess and checkers tables, paving, landscaping and decorative elements that are consistent with the character of the surrounding historic district. At the time of its last inspection by DPR in December of 2011, the facility's condition was classified as acceptable. The observed use level was considered heavy.

17. Washington Hall Park

Located along Park Ave. between Washington Avenue and Hall Street, this 0.90 acre park was originally acquired as part of the widening of Park Avenue. It was acquired through property condemnation in 1942. It was named Washington Hall Park in 1987, for its three boundary streets. Designed in 1942, the original playground included a sandpit, children's swings, see-saws, wading pool and play equipment, two basketball courts, and a handball court. In the late 1950s an elevated section of the Brooklyn-Queens Expressway was erected along Park Avenue, the park's northern boundary. Washington Hall Park was rebuilt in 1997, and its new design incorporates woodland elements, with spray showers made of cast-concrete otters, and surrounding flora and fauna such as lily pads, cattails, butterflies and fish etched into the paving. A simulated dry river bed of beige concrete leads visitors to a planted area beside the renovated comfort station. The handball and basketball courts were refurbished, and two modular play structures installed, as well as World's Fair benches, game tables, and children's swings. At the time of its last inspection by DPR in March of 2011, the facility's condition was classified as acceptable. The observed use level was considered heavy.

18. All People's Church of the Apostolic Faith

This 0.06 acre community garden is located at the northeast corner of Tompkins and Willoughby Avenues. Classification inspections from the DPR of this site were not available for review; however, the facility was observed to be in an acceptable condition during an AECOM field survey. The observed use level was considered light.

19. American Heart

This small 0.05 acre community garden is located at 122 Hart Street, between Marcy and Tompkins Avenues. Classification inspections from the DPR of this site were not available for review. The observed use level was considered light.

20. Banneker Playground

Located along Macy Avenue between Lafayette Avenue and Kosciuszko Street, this 1.67 acre playground is named in honor of Benjamin Banneker (1731-1806), a noted African-American writer and mathematician. The site was formerly owned by the Board of Transportation, which held it as part of its property for the G subway line. After 1937, the City maintained a park on the site originally built by the Works Progress Administration (WPA). In 1957, the nearby public school, known as P.S. 256, or the Benjamin Banneker School, was constructed and the property was transferred to Parks and designated P.S. 256 Playground. In 1985, Parks named the playground in honor of Banneker. In 1997, Banneker Playground underwent a renovation with new play equipment and safety surfacing, handball courts, fences, guide rails, sidewalks, and paths. The park now includes a sculpture of a camel, a comfort station, a flagpole with a yardarm, basketball courts, benches, London plane trees, and a decorative gate. At the time of its last inspection by DPR in October of 2011, the facility's condition was classified as acceptable. The observed use level was considered light.

21. Cedar Tree Garden

This 0.18 acre community garden is located at 305 Greene Avenue, east of Classon Avenue. This vegetable garden is sponsored by the local block association, and contains a large pavilion and tool shed in the rear of the garden with bluestone pathways and old sidewalk slabs. The garden also features a master compost station with a scale to record contributions. The Green Guerillas helped the gardeners create a mosaic mural. A rainwater harvesting system catches water from an adjacent building. A special feature is a memorial dedicated to fallen African-American firefighters. Classification inspections from the DPR of this site were not available for review; however, the facility was observed to be in an acceptable condition during observation inspections. The observed use level was considered light.

22. Charles's Place / Broadway Triangle Park

Located on Hopkins Avenue between Tomkins and Throop Avenues, this 1.26 acres open space honors Charles Lubin (1903-1988). Lubin entered the bakery business in Chicago and founded Sara Lee in 1949, naming the company after his daughter, and in 1953 developed a method that allowed mass market desserts. Charlie's Place originally opened in 1957 as the playground for P.S. 148. In order to create a larger playground, Delmonico Place was closed and the homes along the street were bought and demolished. The present-day parking lot covers part of that playground. When P.S. 148 closed in 1985, joint operation of the playground ended and the park was closed as well. The school building was later reopened as the Blueberry School, a state-run secondary school for students with special needs. In 1991, the City created the Brooklyn Transition Center (373 K). The playground was reopened to provide play space for the children at the Beginning with Children School (P.S. 333). The charter school opened in 1992. The park was cleaned and seeded with grass. Climbing equipment with safety surfacing, planting beds and shaded picnic table was installed, benches were arranged in a sitting area, hopscotch squares were painted on the asphalt section. At the time of its last inspection by DPR in December of 2011, the facility's condition was classified as unacceptable. The observed use level was considered light.

23. Citizens For A Better Community

This 0.30 acre community garden is located between Patchen Avenue, Monroe Street and Madison Street. The garden contains fruits, vegetables and flower beds on three hills facing the street, with plots for family and individual planting. Activities for children include movies and an annual Easter egg hunt. A local block party is held in the garden every year, and the garden is available for community barbeques and birthday parties. Classification inspections from the DPR of this site were not available for review. The observed use level was considered light.

24. Clifton Place Memorial Park and Garden

This 0.17 acre open space is located at the southeast corner of the intersection of Bedford Avenue and Clifton Place. The garden was founded in 1982, after a fire destroyed the former building housed on the site in the 1970s. The garden contains apple, cherry, nectarine, peak and other fruit trees, various herbs and vegetables in raised beds, a 1,000 gallon rainwater harvesting tank, art sculptures, a gazebo, seating areas, a tool shed, grills, and water features and ponds with fish and other aquatic life. Events include picnics and workshops. Classification inspections from the DPR of this site were not available for review; however, the facility was observed to be in an acceptable condition during an AECOM field survey. The observed use level was considered light.

25. Eleanor Roosevelt Playground

Located between Lewis, Dekalb and Stuyvesant Avenues, this 1.21 acre playground is named after First Lady and United Nations Delegate Eleanor Roosevelt (1884-1962). In the 1960s, Bedford-Stuyvesant urgently needed additional elementary school facilities to stem the tide of rising enrollment and to replace obsolete structures erected in the early 1890s. The City acquired the land in 1964 and built Public School 81 on the site. After neighborhood parents and school officials began lobbying for the construction of a playground on the adjacent vacant lot, the playground opened a few years later as P.S. 81 Playground. In 1985, it was renamed Eleanor Roosevelt Playground. The playground contains basketball and handball courts, playground equipment, and water fountains. At the time of its last inspection by DPR in October of 2011, the facility's condition was classified as acceptable. The observed use level was considered moderate.

26. First Quincy Street Block Association

This 0.13 acre community garden is located along Quincy Street, east of Tompkins Avenue. The garden was founded in 2001 on the former site of three vacant lots. The garden contains flowers, vegetables, shrubs, fruit bearing trees, and garden beds and furnishings, as well as a gazebo/casita, pathways, rainwater catchment system, raised beds, table(s), a tool shed, art murals, and water features. Events include arts and crafts, barbecues, educational events and workshops. Classification inspections from the DPR of this site were not available for review; however, the facility was observed to be in an acceptable condition during an AECOM field survey. The observed use level was considered light.

27. Garden Beautiful

This 0.19 acre community garden is located at the northwest corner of Broadway and Putnam Avenue. Also known as the Umoja Garden, the garden contains a lawn area and beds for tomatoes, green peppers and other fruits and vegetables. Classification inspections from the DPR of this site were not available for review; however, the facility was observed to be in an acceptable condition during an AECOM field survey. The observed use level was considered light.

28. Greene Avenue United Neighbors Association

This small 0.05 acre community garden is located at the southwest corner of Greene and Nostrand Avenues. Classification inspections from the DPR of this site were not available for review; however, the facility was observed to be in an acceptable condition during an AECOM field survey. The observed use level was considered light.

29. Hancock Playground

Located between Bedford Avenue, Hancock Street and Jefferson Avenue, this 1.55 acre playground is named after John Hancock (1737-1793), best known as the first signer of the Declaration of Independence in 1776. The City bought the land in 1947 to provide recreation space for the new P.S. 3. It was not until the old P.S. 3 on the adjacent site was demolished, however, that the current playground could be constructed. It was opened in 1962, named simply P.S. 3 Playground, and later renamed Jefferson Playground in 1987, to match P.S. 3's formal name. The name again changed in 1999, to John Hancock Playground. The name retains the same "Founding Fathers" patriotic theme of the park, with its big eagles, stars and stripes, and use of red, white and blue. In 2000, renovation of the playground included the installation of new play equipment with safety surfacing, a new spray shower, and new paving and fencing. It also improved the schoolyard with new pavement, color-seal coating, fences and new line markings for the handball and basketball courts. At the time of its last inspection by DPR in October of 2011, the facility's condition was classified as acceptable. The facility was closed during use observations for utilization.

30. Hancock T & T Block Association

This small 0.08 acre community garden is located along the south side of Hancock Street, east of Tompkins Avenue. Classification inspections from the DPR of this site were not available for review; however, the facility was observed to be in an acceptable condition during an AECOM field survey. The observed use level was considered light.

31. Hart to Hart

This 0.33 acre open space is located at 104-108 Hart Street, between Marcy and Tompkins Avenues. Founded in 1990 on a former vacant lot, this open space includes a garden with raised beds filled with various fruits, herbs and vegetables, trees for shade, a chicken coop, grill, pathways, a rainwater catchment system, seating area, tables, toolshed, art and water features.

The garden hosts local events and barbecues. Classification inspections from the DPR of this site were not available for review; however, the facility was observed to be in an acceptable condition during an AECOM field survey. The observed use level was considered light.

32. Hattie Carthan Community Garden / Magnolia Tree Earth Center

Located at Marcy Avenue between Clifton Place and Lafayette Avenue, this 0.81 acre community garden (175 feet wide) was formed in 1991, named to honor Hattie Carthan (1900–1984), a Bedford-Stuyvesant resident who always had an interest in trees, but whose environmental conservation efforts stemmed from watching the natural environment in her neighborhood deteriorate. In the mid-1990s, the garden received preserved landmark status as a result of the community's organizing efforts and became an Operation Greenthumb Parks and Recreation site. Also known as the Magnolia Tree Earth Center, the garden is equipped with a learning garden, mushroom patches, new chicken coops, a three-bin composting system and vermin-composting system. The garden has its own water system and generator for lighting. Two-thirds of the garden is dedicated to food production. Classification inspections from the DPR of this site were not available for review; however, the facility was observed to be in an acceptable condition during an AECOM field survey. The observed use level was considered light.

33. Hattie Carthan Playground

Located between Monroe Street, Madison Street, Marcy Avenue and Tompkins Avenue, this 1.20 acre playground is named to honor Hattie Carthan (1900–1984). The playground was built in 1964, alongside P.S. 305, now the Dr. Peter Ray School, when the site was known simply as P.S. 305 Playground until 1995, when it was named for Carthan. The playground was renovated between 1998 and 2000, when the ball fields and the playground were reconstructed. The park contains a comfort station with a weathervane, a drinking fountain, benches, play equipment with safety surfacing, a spray shower, game tables, and basketball and handball courts. At the time of its last inspection by DPR in October of 2011, the facility's condition was classified as unacceptable. The observed use level was considered light.

34. Herbert Von King Park

Located between Marcy, Tompkins, Greene and Lafayette Avenues, this 7.82 acre park, formerly known as Tompkins Park for Daniel D. Tompkins, is now named for Herbert Von King (1912-1985), an active community leader for over 50 years who was known as the "Mayor of Bedford-Stuyvesant." Acquired in 1857, this park was one of the first established by the City of Brooklyn. It was not until 1871, however, that the plan for the park was submitted by Calvert Vaux and Frederick Law Olmsted, the designers of Prospect and Central Parks. The park was planned as a public square used for ceremonies and military reviews. Space was cleared in 1915 to accommodate the large crowds who turned out for concerts performed by regimental bands. A playground was built in 1927, and a public library was housed in the shelter building, until it burned down in 1969. A new recreation center opened in 1973, which houses the Eubie Blake Auditorium, a senior citizen and teen center, and an amphitheater. The park was renamed for Von King in 1985. The playground's facilities include handball courts, playground equipment,

fitness equipment, barbequing areas, dog runs, bathrooms and water fountains. At the time of its last inspection by DPR in September of 2011, the facility's condition was classified as unacceptable. The park's observed use level was considered moderate.

35. Raymond Bush / Israel Putnam Playground

This 1.8 acre playground is known as the Raymond Bush Playground. The monument is named after Revolutionary War Israel Putman, a Massachusetts native who served with distinction during the French and Indian War, and who later abandoned his plow in the field to join the Continental Army when the American Revolution began. The playground contains basketball and handball courts, playground equipment and water fountains. At the time of its last inspection by DPR in September of 2011, the facility's condition was classified as acceptable. The observed use level was considered moderate.

36. Jessie Owens Playground

Located along Lafayette Avenue between Stuyvesant Avenue and Malcolm X Boulevard, this 3.10 acre playground is named for the athlete Jesse Owens (1913-1980). Jesse Owens Playground adjoins P.S. 26 and J.H.S. 57. The City acquired this land by condemnation in 1952, and the playground originally included a school garden, a play area with a sandpit and see-saws, a softball diamond, a skating area, a wading pool, swings, basketball and handball courts, and a comfort station, which was rehabilitated in 1970. The playground was named for Jesse Owens in 1987. In 1991, renovations included the replacement of the safety surfacing, and in 1998 the playground was completely reconstructed. The garden, sandpit and seesaws were removed, and a painted potsy game, circular spray shower, play equipment and swings were added. The playground also includes a renovated mini-pool. At the time of its last inspection by DPR in December of 2011, the facility's condition was classified as acceptable. The park's observed use level was considered moderate.

37. Kosciusko Pool

Located between Marcy Avenue, Kosciusko Street, Dekalb Avenue and Nostrand Avenue, the 2.39 acre Kosciuszko Pool was named for Thaddeus Kosciuszko (1746-1817), a Polish general and statesmen who distinguished himself in both the American and Polish wars of independence. The City bought the property in 1968 to provide more open space and to build a community pool. The park has been known as both Bedford-Stuyvesant Community Pool and Henry Coursey Memorial Playground, but has long been popularly called "K" or Kosciuszko Pool. The park was formally renamed Kosciuszko Pool in 1987. The pool underwent restorations from 1994 to 2000. The pool can accommodate up to 920 bathers and is complemented by a spray pool, a baby pool, bleachers and a bathhouse. There are pipe sculptures for climbing, which are incorporated into the design of the bathhouse, a large mushroom sculpture, and a flagpole with a yardarm. Classification inspections from the DPR of this site were not available for review; however, the facility was observed to be in an acceptable condition during an AECOM field survey. The facility was closed during observation and utilization inspections.

38. Lafayette Gardens Playground

Located at the corner of Lafayette Avenue and Franklin Avenue within the Lafayette Houses, the 0.71 acre Lafayette Gardens is named in honor of the prominent French statesman and Revolutionary War military leader, Gilbert du Motier, Marquis de La Fayette (1757-1834). The City of New York acquired the property in 1959 for the houses and playground. In 1962, the Housing Authority completed the adjacent 880-unit housing complex. The playground boasts two handball courts, a basketball half-court, timber-form play equipment, swings, a semi-circle sitting area with cobblestone ground, a spray shower, and several game tables. In 1998, the playground underwent renovations, with improvements including the repair of sidewalks and the re-paving of damaged areas. At the time of its last inspection by DPR in November of 2011, the facility's condition was classified as acceptable. The observed use level was considered light.

39. Lafayette Playground

Located on Lafayette Avenue to the east of Reid Avenue, which is also known as Malcolm X Boulevard, the 0.52 acre playground is named in honor of the prominent French statesman and Revolutionary War military leader, Gilbert du Motier, Marquis de La Fayette (1757-1834). The City of New York acquired the property through a condemnation proceeding in 1936 and immediately transferred jurisdiction to DPR for a park. Approximately one year later, in 1937, the playground opened to the public. The playground contains handball courts, playground equipment, spray showers, and water fountains. At the time of its last inspection by DPR in August of 2011, the facility's condition was classified as acceptable. The observed use level was considered light.

40. Lefferts Place Block Association

This small 0.07 acre community garden is located along the south side of Lefferts Place, east of Classon Avenue. Classification inspections from the DPR of this site were not available for review; however, the facility was observed to be in an acceptable condition during an AECOM field survey. The observed use level was considered light.

41. Lewis Playground

This 0.16 acre playground is located along the north side of Willoughby Avenue, west of Lewis Avenue. The playground contains play equipment on a raised platform surrounded by fixed tables and seating. Classification inspections from the DPR of this site were not available for review; however, the facility was observed to be in an acceptable condition during an AECOM field survey. The observed use level was considered light.

42. Madison Community Greenthumb

This 0.06 acre community garden is located along the south side of Madison Street, between Ralph and Howard Avenues. Classification inspections from the DPR of this site were not available for review; however, the facility was observed to be in an acceptable condition during an AECOM field survey. The observed use level was considered light.

43. Marcy Playground

Located along Myrtle Avenue between Nostrand and Marcy Avenues, this 3.20 acre playground is named after William Learned Marcy (1786-1857) was a lawyer, soldier, and statesman who made his mark in both local and national politics. In 1945, New York City purchased 28.5 acres of land for the Marcy Houses development, and as part of the Marcy Houses design, a former existing playground was relocated, with 3.20 acres set aside for the park within the development. Marcy Playground was reconstructed in 1989, and a half-court and a regulation full court were added for basketball. The playground includes benches, game tables, a baseball diamond, spray showers, play equipment with safety surfacing, basketball hoops, swings for tots and children, picnic tables, and the flagpole, with its monumental base and a yardarm. At the time of its last inspection by DPR in April of 2011, the facility's condition was classified as acceptable. The observed use level was considered light.

44. Pulaski Playground

Located between Sumner Avenue Marcus Garvey Boulevard and Hart and Pulaski Streets, this 1.42 acre playground and nearby P.S. 304 is named after that Casimir Pulaski (1748-1779), a Polish patriot and military commander in the American Revolution. The City of New York acquired the site in 1960 for use as playground. The playground underwent a comprehensive renovation in 1988, with the refurbishment of the existing handball, basketball, and volleyball courts, and replacement of fencing and pavements. In addition, new wood and steel picnic tables, game tables, play and kindergarten swings, drinking fountains, and timber-form play equipment were installed. At the time of its last inspection by DPR in January of 2012, the facility's condition was classified as unacceptable. The observed use level was considered moderate.

45. Patrick Van Doren Pocket Park

This 0.04 acre open space is located at the northeast corner of Malcolm X Boulevard and Quincy Street. The park contains a gazebo, pathways and various trees and shrubs. Classification inspections from the DPR of this site were not available for review; however, the facility was observed to be in an acceptable condition during an AECOM field survey. The observed use level was considered light.

46. Police Officer Reinaldo Salgado Playground

Located between Monroe and Madison Streets and between Patchen and Ralph Avenues, this 2.29 acre playground, formerly named Patchen Playground, was renamed for Police Officer Reinaldo Salgado (1956-1997) of the 81st Precinct in August 1997. The playground was originally acquired by DPR in April of 1944. The playground is adjacent to P.S. 309, which was built in 1962. The playground's facilities include basketball and handball courts, playground equipment, spray showers, bathrooms and water fountains. At the time of its last inspection by DPR in June of 2011, the facility's condition was classified as acceptable. The observed use level was considered heavy.

47. Red Gate Garden

This 0.09 acre community garden is located at the southwest corner of Marcy Avenue and Willoughby Avenue. Founded in 1992 on a site of an abandoned building, the garden contains beds with fruits, vegetables and flowers. The garden is often decorated for Halloween and Christmas, and barbeques are held during the summer. Classification inspections from the DPR of this site were not available for review; however, the facility was observed to be in an acceptable condition during an AECOM field survey. The observed use level was considered light.

48. Saratoga Square Park

Located along Halsey Street between Howard and Saratoga Avenues, this 3.21 acre park takes its name from Saratoga Avenue just to the east, which was itself named in 1835 for the Revolutionary War Battles of Saratoga, New York in 1777. Standing in the center of the park is a bronze and pink granite memorial to the people of the neighborhood who gave their lives in World War I. The playground in Saratoga Square was built in 1936, and has since been renovated twice. A renovation was completed in the summer of 2000 and provided brand-new play equipment, spray shower, safety surfacing, swings, fences, pavement and landscaping for the playground. The park also contains bathrooms. At the time of its last inspection by DPR in August of 2011, the facility's condition was classified as unacceptable. The observed use level was considered light.

49. Shiloh Garden

This 0.07 acre open space is located at along the north side of Monroe Street between Tomkins and Marcy Avenues. Founded in 1985, the garden contains raised beds of various fruits, herbs, vegetables and other plants, including shaded trees and ornamental plantings. The garden also contains educational signs, a grill, seating area, tables, art and water features. Events held in the garden include arts and crafts, barbecues, picnics and workshops. Classification inspections from the DPR of this site were not available for review; however, the facility was observed to be in an acceptable condition during an AECOM field survey. The observed use level was considered light.

50. Spencer Street Block Association

This 0.04 acre community garden is located at along the west side of Spencer Street, north of DeKalb Avenue. Classification inspections from the DPR of this site were not available for review; however, the facility was observed to be in an acceptable condition during an AECOM field survey. The observed use level was considered light.

51. Star Spangled Playground

Located along Franklin Avenue between Willoughby and DeKalb Avenues, this 1.69 acre open space at I.S. 117 contains handball courts, playground equipment, spray showers, bathrooms and

water fountains. At the time of its last inspection by DPR in July of 2011, the facility's condition was classified as acceptable. The observed use level was considered moderate.

52. Stars of Hope

This small 0.03 acre community garden is located at along the north side of Madison Street, west of Nostrand Avenue. The garden contains a pathway and various plantings. Classification inspections from the DPR of this site were not available for review; however, the facility was observed to be in an acceptable condition during an AECOM field survey. The observed use level was considered light.

53. Stockton Playground

Located between Park Avenue, Martin Luther King Place and Marcy Avenue, the 1.09 acre Stockton Playground was named for Richard Stockton (1730-1781), a Justice of the Supreme Court of New Jersey and a delegate to the Continental Congress. The City acquired this property and constructed the playground in 1957, adjoining P.S. 297. It was named Stockton Playground in 1987. The park includes handball and basketball courts, play equipment with safety surfacing, a spray shower, bathrooms and a water fountain, with renovations of the playground in 1998. At the time of its last inspection by DPR in December of 2011, the facility's condition was classified as unacceptable. The observed use level was considered light.

54. Sumner Playground

Located between Throop, Park and Myrtle Avenues, this 1.97 acre playground was bought by the City in 1944 to provide a playground for P.S. 44, which had been built in 1940. Originally known simply as P.S. 44 Playground, the park was called Israel Putnam Playground from 1985 to 1997. The open space was renamed Sumner Playground in 1997. Between 1993 and 1995, the park was completely reconstructed with new play equipment, a restoration of the comfort station, fencing, benches, a new spray shower, and swings for younger and older children. In 1997, an irrigation system was added in the grass ballfield. The park also offers basketball and handball courts, a kiddie pool, slides, an asphalt play area, a flagpole with yardarm, and various plantings. At the time of its last inspection by DPR in September of 2011, the facility's condition was classified as unacceptable, as it was in June of 2011; the facility's condition was last classified as acceptable during the previous inspection in January of 2011. The observed use level was considered light.

55. Taaffe Playground

Located along Taaffe Place between Park and Myrtle Avenues, this 1.82 acre playground honors Monsignor Thomas Taaffe (1837-1920), pastor of St. Patrick's Roman Catholic Church in Brooklyn. The City of New York acquired this site for use as a playground in 1929, and the playground opened in 1934. Its includes basketball and handball courts, a soccer field, swings, slides, and various other pieces play equipment. In 1997 and 1999, the City repaired the play area safety surfacing, drinking fountains, granite floor embedding, and asphalt paving. At the

time of its last inspection by DPR in November of 2011, the facility's condition was classified as acceptable. The observed use level was considered heavy.

56. Vernon New Harvest

This 0.17 acre open space is located at along the south side of Vernon Avenue between Nostrand and Marcy Avenues. Classification inspections from the DPR of this site were not available for review; however, the facility was observed to be in an acceptable condition during an AECOM field survey. The observed use level was considered light.

57. Vernon T&T Block Association

This 0.05 acre community garden is located at 200 Vernon Avenue, east of Throop Avenue. The garden contains pathways leading to plantings and shaded trees. Classification inspections from the DPR of this site were not available for review; however, the facility was observed to be in an acceptable condition during an AECOM field survey. The observed use level was considered light.

58. Vernon/Throop Avenue Block Association

This 0.04 acre open space is located at 253 Throop Avenue, at the southeast corner of Throop and Vernon Avenues. Classification inspections from the DPR of this site were not available for review; however, the facility was observed to be in an acceptable condition during an AECOM field survey. The observed use level was considered light.

59. Victory Garden's Group

This 0.15 acre open space is located at 953 Gates Avenue, at the northwest corner of Gates and Patchen Avenues. Classification inspections from the DPR of this site were not available for review; however, the facility was observed to be in an acceptable condition during an AECOM field survey. The observed use level was considered light.

60. Willoughby Playground

Located between Tompkins, Willoughby and Vernon Avenues, this 0.91 acre open space and adjacent avenue is named for immigrant businessman Samuel Willoughby. The City acquired the land for the park in 1963, and it opened along with P.S. 23 in 1967. Formerly known as P.S. 23 Playground, the park was designated Willoughby Playground by Parks in 1986. The playground was renovated in 1997-98 with new play equipment with safety surfacing, handball courts, and improved pavements, paths, sidewalks, fences, and guiderails. In addition, the playground includes basketball courts, benches, a spray shower, a comfort station, a flagpole with yardarm, a camel sculpture, various plantings and a decorative gate. At the time of its last inspection by DPR in July of 2011, the facility's condition was classified as acceptable. The observed use level was considered light.

61. Concerned Citizens of Grove Street

This 0.11 acre open space is located at 72-74 Grove Street, between Evergreen and Bushwick Avenues. Classification inspections from the DPR of this site were not available for review; however, the facility was observed to be in an acceptable condition during an AECOM field survey. The observed use level was considered light.

62. Fermi Playground

Located along Troutman Street, Central Avenue and Starr Street, this 1.06 acre playground is named in honor of Enrico Fermi (1901-1954), a 20th century Italian physicist whose work revolutionized quantum physics and helped usher in the atomic age, including work on the Manhattan Project. The site was selected in 1961 for school and recreation purposes, and it opened in 1969. Originally named J.H.S. 111 Playground, it was renamed Fermi Playground in 1985. The park contains a comfort station, benches, a flagpole with a yardarm, handball courts, basketball courts, swings for tots and for children, and play equipment with safety surfacing. In 1998, renovations included work on the handball and basketball courts, fences, asphalt and concrete pavements. Renovations were also completed in 2001 with new play equipment, an automated spray shower feature, a community garden, security lighting, steel security fences, a weathervane, and the installation of animal art. At the time of its last inspection by DPR in October of 2011, the facility's condition was classified as acceptable. The observed use level was considered moderate to heavy.

63. Freedom Triangle (a.k.a. Freedom Square)

Located between Bushwick, Myrtle and Willoughby Avenues, this 0.01 acre landscaped area commemorates the sacrifice of the Brooklyn men who gave their lives during World War I (1914-1918). Acquired by the City in 1912, this park site was named Freedom Square in 1919. In 1921, Victory with Peace, a monument depicting Nike, the Greek Goddess of Victory, leaning forward with an olive branch, the symbol of peace, was erected to memorialize Brooklyn's losses during World War I. In 1936 the bronze statue was repaired and the pedestal re-pointed. At the time of its last inspection by DPR in November of 2011, the facility's condition was classified as acceptable. The observed use level was considered light.

64. Garden Playground

Located along Flushing Avenue between Beaver and Garden Streets, this 1.09 acre playground and nearby Joralemon Street is named for Tunis Joralemon's (1760-1840) prized garden. The site was approved for park use in 1962, and the playground opened in 1968 as the P.S. 120 Playground. It was renamed in 1987. The playground is two-tiered, with ball courts on the upper level closer to the school, and the lower area filled with benches, play structures, and toddler play equipment. The park contains basketball courts, a spray shower and many other features. At the time of its last inspection by DPR in October of 2011, the facility's condition was classified as acceptable. The observed use level was considered light.

65. Goodwin Gardens

This 0.35 acre open is located at the southwest corner of Grove Street and Godwin Place. At the time of its last inspection by DPR in October of 2011, the facility's condition was classified as acceptable. The observed use level was considered light.

66. Bushwick Green Central Knoll

Located between Flushing Avenue, Central Avenue, Noll Street, and Evergreen Avenue, the 2.60 acre Green Central Knoll Playground's name is unusual in that it combines the names of all three streets that bound it: Evergreen Avenue, Central Avenue, and Knoll Street. This specific playground was once the site of the Rheingold Brewery, dating back to 1855. The brewery was sold in 1964 to Pepsi-Cola, who renamed it Rheingold Brewery, and it was again sold in 1974 to Chock Full O'Nuts. The Brooklyn factory closed in 1976 and was taken over by the City for non-payment of taxes in 1979. In 1997, the site was developed as a park with a baseball field, play equipment with safety surfacing, a sitting area with plantings, benches, a bear sculpture, a drinking fountain, and a decorative gate. The playground design reflects a nautical theme. Water runs from this area through a rocky stream bed. The stream has brass casts of fish, such as perch, trout and bass. The stream meanders downward to the park's lower end where the water pours into a catch basin adjacent to an area adorned with spray showers. At the time of its last inspection by DPR in September of 2011, the facility's condition was classified as unacceptable. The observed use level was considered light.

67. Heckscher Playground

Located along Linden Street between Central and Wilson Avenues, this 1.24 acre playground is named for August Heckscher (1848-1941), real estate magnate, financier, philanthropist, and grandfather of August Heckscher (1913-1997), Parks Commissioner under Mayor John V. Lindsay (1921-2000, mayor 1966-73). The land was purchased from the Heckscher Foundation for Children for a park in 1935. Heckscher Playground was reconfigured into its present shape and size in the mid-1970s. Reconstructed in 1994, the playground contains benches, swings for tots and children, play equipment with safety surfacing, a comfort station, basketball and handball courts, a spray shower, and a mini pool. At the time of its last inspection by DPR in October of 2011, the facility's condition was classified as unacceptable; however, the facility was classified as acceptable during the previous inspection in June of 2011. The observed use level was considered moderate.

68. Tiger Playground

Located between Evergreen Avenue, Eldert Street and Covert Street, this 0.93 acre playground is named for the Tiger mascot of Junior High School 296, also known as the Halsey School. Tiger Playground was formerly named Halsey Playground for the adjoining school, the oldest junior high school in the nation. The title for this land was vested to the City of New York in 1957, and the playground opened in 1964. Halsey Playground was renamed Tiger Playground in 2000. It features benches, game tables, swings, a comfort station, play equipment with safety surfacing, a spray shower, as well as basketball and handball courts. A complete reconstruction of the

playground was completed in 2001. At the time of its last inspection by DPR in November of 2011, the facility's condition was classified as acceptable. The observed use level was considered light.

69. 700 Decatur Street Block Association

This small 0.04 acre open is located at the northeast corner of Hopkinson Avenue and Decatur Street. Classification inspections from the DPR of this site were not available for review; however, the facility was observed to be in an acceptable condition during an AECOM field survey. The observed use level was considered light.

70. Kosciusko Street Park

Located between Kosciusko Street, Marcus Garvey Boulevard, DeKalb and Lewis Avenues, this 0.19 acre park and garden is named after Thaddeus Kosciuszko (1746-1817), a Polish general and statesmen who distinguished himself in both the American and Polish wars of independence. Once an abandoned lot strewn with trash, the community organized in 1977 to beautify the site (through the Council on the Environment of New York City's Plant A Lot program). In addition to its wide variety of plants, the garden includes a circular seating area with red brick pavers, a bird house, gazebo, gravel paths, benches, picnic tables and a mural painted by local artists. Classification inspections from the DPR of this site were not available for review; however, the facility was observed to be in an acceptable condition during an AECOM field survey. The observed use level was considered light.

71. Greenstreet (Wallabout and Gerry Streets and Union and Marcy Avenues)

Greenstreet*s* is a citywide program to convert paved, vacant traffic islands and medians into green spaces filled with shade trees, flowering trees, shrubs, and groundcover. This 0.04 acre Greenstreet is located between Wallabout and Gerry Streets and Union and Marcy Avenues. Classification inspections from the DPR of this site were not available for review; however, the Greenstreet was observed to be in an acceptable condition during an AECOM field survey. The observed use level was considered light.

72. Greenstreet (Lawton and Pulaski Streets, Malcolm X Boulevard, and Broadway)

This 0.01 acre Greenstreet is located between Lawton and Pulaski Streets, Malcolm X Boulevard, and Broadway. Classification inspections from the DPR of this site were not available for review; however, the Greenstreet was observed to be in an acceptable condition during an AECOM field survey. The observed use level was considered light.

73. Greenstreet (Monroe Street, Broadway, and Howard Avenue)

This 0.01 acre Greenstreet is located between Monroe Street, Broadway, and Howard Avenue. Classification inspections from the DPR of this site were not available for review; however, the Greenstreet was observed to be in an acceptable condition during an AECOM field survey. The observed use level was considered light.

Quantitative Assessment of Open Space Adequacy under the Existing Condition

Based on the 2010 census study area population of 224,085 and the existing 67.46 acres of open space in the study area, the open space ratio in the study area is 0.301, which is substantially lower than the Citywide median community district open space ratio of 1.5 acres per 1,000 residents and the City's goal of 2.5 acres per 1,000 residents. The active open space ratio is 0.232 acres per 1,000 residents and the passive open space ratio is 0.069 acres per 1,000 residents. Overall, approximately 77.2 percent of open space in the study area is classified as active open space and the remaining 22.8 percent is classified as passive open space, close to the City's planning goal of 80 percent active open space and 20 percent passive open space.

Qualitative Assessment of Open Space Adequacy under the Existing Condition

In addition to the quantitative analysis, the *CEQR Technical Manual* also recommends a consideration of qualitative factors in an analysis of potential open space impacts. Qualitative factors include the availability of nearby destination resources, the beneficial effects of new open space resources provided by a project, the comparison of projected open space ratios with established City guidelines, and the characteristics of the user population.

A majority of open space resources in the study area are considered to be in acceptable condition, and most resources were observed to be lightly or moderately used. Although the amount of open space available does not meet CEQR guidelines, there are a variety of active and passive recreational resources in the study area that offer amenities that address the needs of the various age groups. Additionally, regional open space resources, including Prospect Park, are located outside of the study area, but available to the study area open space users.

The age distribution of the open space study area shown previously in **Table D-2** is discussed in further detail below. Approximately 8.1 percent of the residential open space study area population consists of children four years old and younger. This percentage is more than the percentage of residents within this age cohort in New York City (6.3 percent) and more than that of Brooklyn residents (7.1 percent). Typically, children four years old or younger use traditional playgrounds that have play equipment for toddlers and preschool children. Numerous facilities in the study area offer amenities appropriate to this age group, including Marcy, Fermi and Heckscher Playgrounds.

Approximately 7.3 percent of the open space study area population consists of children aged five to nine years old. This percentage is more than the percentage of residents within this age cohort in New York City (5.8 percent) and more than that of Brooklyn residents (6.4 percent). Children ages five through nine use traditional playgrounds with play equipment suitable for school-age children, as well as grassy and hard-surfaced open spaces, which are important for ball playing, running, and skipping rope. Numerous facilities in the study area offer amenities appropriate to this age group, including Bartlett, Classon and Middleton Playgrounds.

Approximately 14.7 percent of the open space study area population consists of children, teenagers, and young adults aged ten to 19. This percentage is more than the percentage of residents within this age cohort in New York City (12.3 percent) and more than that of Brooklyn

residents (13.1 percent). Children ages ten through 14 use playground equipment, court spaces, and ball fields. Teenagers and young adults (ages 15 to 19) tend to use court facilities such as basketball and field sports such as football or soccer. As with these age groups, there is a wide variety of open spaces that serve this age group. Numerous facilities in the study area offer amenities appropriate to this age group, including Taaffe Playground and the Bushwick Green Central Knoll.

Approximately 8.7 percent of the open space study area consists of seniors aged 65 years and older. This percentage is less than the percentage of residents within this cohort in New York City (12.1 percent) and less than that of Brooklyn residents (11.5 percent). Senior citizens engage in active recreation such as handball, tennis, gardening, and swimming, as well as recreational facilities that require passive facilities. Numerous facilities in the study area offer amenities appropriate to this age group, including Sternberg Park, Underwood Park and Charlie's Place/Broadway Triangle Park, as well as various community gardens in the area.

FUTURE NO-ACTION SCENARIO

Under the Future No-Action Scenario, as-of-right development is expected to occur within the rezoning area on the 31 projected development sites identified as part of the RWCDS for the proposed rezoning (see Attachment 1, "Project Description"). Additionally, other residential developments are expected to occur within the half-mile study area by the 2022 analysis year.

Residential Population under the Future No-Action Condition

As stated above in the discussion of the Existing Condition, the 2010 census population of the half-mile open space study area was 224,085, which is used as the base for current conditions in the study area. In order to account for background developments that are expected in the surrounding area, an annual background growth rate of 0.5 percent per year was applied to the existing population of the study area for the ten years[3], bringing the population of the open space study area to 235,289 residents.

In addition, the New York City Department of City Planning identified 14 known development projects expected to be complete by the 2022 analysis year. As shown in **Table D-4**, assuming the 2.59 average persons per household in Brooklyn CD 3, the additional 144 DUs are estimated to yield an additional 373 new residents to the area.

Under the Future No-Acton Scenario, it is expected that there would be 1,198 residential DUs on the projected development sites, due to as-of-right development (see Attachment 1, "Project Description"). This anticipated development would add an estimated 3,103 new residents to the open space study area over the next ten years, based on the average 2.59 persons per household in Brooklyn CD 3.

[3] New York City Department of City Planning, Sugar Hill Rezoning FEIS.

Table D-4
Known Developments Sites

Project Address	Block / Lot	Planned Dwelling Units
867-875 Dekalb	1777/54,56,58,59	52
896 Greene Avenue	1621/4	2
145 Skillman Street	1914/16	4
220 Walworth Street	1763/52	3
530 Lafayette Avenue	1788/24	8
126 Hart Street	1771/31	2
158 Franklin Avenue	1912/35	4
23 Verona Place	1850/2	4
596 Quincy Street	1629/34	4
366 Stockton Street	1584/9	11
221 Skillman Street	1928/11	3
733 Lafayette Avenue	1786/57	8
821 Willoughby Avenue	1589/58	23
267 Throop Avenue	1761/ 74	
890 Myrtle Avenue	1755/ 40	
119-125 Vernon Avenue	1755/54,55,56,57	16
	TOTAL	**144**

Source: New York City Department of City Planning.

The estimated 3,103 new residents expected under the Future No-Action Scenario at the 31 projected development sites and the estimated 373 new residents from the known development sites would result in a total estimated additional population of 3,476 residents under the Future No-Action Scenario. This would increase the background population of the study area to 238,765 under the Future No-Action Scenario. Substantial changes in the age group structure of the residential population are not expected by the 2022 build year. The number of residents in each age group as seen in **Table D-5**, is based on the percent share for that age group at the time of the 2010 census, which for the purposes of this analysis, is assumed to remain constant.

Table D-5
Open Space Study Area Population by Age Group under the Future No-Action Scenario

Age Category	Estimated Population	Percent of Total Population
<5 years	19,279	8.1%
5-9 years	17,523	7.3%
10-14 years	16,724	7.0%
15-19 years	18,435	7.7%
20-64 years	145,973	61.1%
65+ years	20,830	8.7%
TOTAL	**238,765**	**100%**

Sources: U.S. Bureau of the Census, 2010 Census of Population and Housing.

Open Space Resources/Inventory under the Future No-Action Scenario

According to DPR, there are no new parks, playgrounds or other open space resources planned for the study area. While improvements may occur within existing parks themselves, such park improvements would not expand the amount of publicly-accessible open space in the study area, but instead improve the quality of these facilities and access to the area's open space resources. Thus, the 67.46 acres under the Existing Condition would remain constant in the Future No-Action Scenario.

Quantitative Assessment of Open Space Adequacy under the Future No-Action Scenario

Under the Future No-Action Scenario, the total open space ratio for the study area is projected to decrease from 0.301 acres per 1,000 residents under the Existing Condition to 0.283 acres per 1,000 residents under the Future No-Action Condition, a 6.15 percent decrease. The open space ratio under the Future No-Action Scenario would continue to be below the Citywide median community district open space ratio of 1.5 acres per 1,000 residents and the City's planning goal of 2.5 acres per 1,000 residents. The active open space ratio would decrease from 0.232 acres per 1,000 residents, under the Existing Condition, to 0.218 acres of active open space per 1,000 residents under the Future No-Action Scenario. The passive open space ratio would decrease from 0.069 acres per 1,000 residents under the Existing Condition, to 0.064 acres per 1,000 residents under the Future No-Action Scenario.

FUTURE WITH-ACTION SCENARIO

As discussed in Attachment 2, "Reasonable Worst Case Development Scenario," it is expected that under the Future With-Action Scenario, the projected development sites would have a total of 1,988 dwelling units (DUs); 306,362 square feet of commercial retail space; 56,847 square feet of commercial office space; and 89,051 square feet of community facility space. This would represent a net incremental increase of 790 DUs, 135,964 square feet of retail commercial space, and 28,182 square feet of commercial office space over the Future No-Action Scenario; as well as a net incremental decrease of 291,775 square feet of community facility space.

Residential Population under the Future With-Action Scenario

The Proposed Actions are estimated to add 790 net new incremental DUs to the open space study area, compared to the Future No-Action Scenario. This would result in approximately 2,046 new incremental residents over the Future No-Action Condition, based on the average of 2.59 persons per household in Brooklyn CD 3. The total population in the study area in the Future With-Action Scenario is expected to increase to 240,811 residents.

Substantial changes in the age group structure of the residential population are not expected in the Future With-Action Scenario. As previously noted, the number of residents in each age group, as seen in **Table D-6** for the Future With-Action Scenario, is based on the percent share for that age group at the time of the 2010 census, which for the purposes of this analysis, is assumed to remain constant.

Table D-6
Open Space Study Area Population by Age Group under the Future With-Action Scenario

Age Category	Estimated Population	Percent of Total Population
<5 years	19,445	8.3%
5-9 years	17,674	7.2%
10-14 years	16,868	6.9%
15-19 years	18,593	7.6%
20-64 years	147,224	61.1%
65+ years	21,008	8.9%
Total	**240,811**	**100%**

Sources: U.S. Bureau of the Census, 2010 Census of Population and Housing.

Open Space Resources/Inventory under the Future With-Action Scenario

As previously noted, according to DPR, there are no new capital project parks, playgrounds or other open space resources planned for the study area by the 2022 analysis year. Furthermore, the Proposed Action does not include any proposed development of new open space. Thus, the 67.46 acres of open space resources found in the Existing Condition, and continued under the Future No-Action Scenario, would remain in the Future With-Action Scenario.

Quantitative Assessment of Open Space Adequacy under the Future With-Action Condition

Under the Future With-Action Scenario, the total open space ratio within the residential open space study area would decrease from 0.283 acres per 1,000 residents under the Future No-Action Scenario to 0.280 acres per 1,000 residents under the Future With-Action Scenario, a decrease of approximately 0.85 percent. The estimated open space ratio under the Future With-Action Scenario is below the CEQR guideline of 2.5 acres per 1,000 residents. The active open space ratio would decrease from 0.218 acres per 1,000 residents under the Future No-Action Scenario to 0.216 acres per 1,000 residents under the Future With-Action Scenario. This ratio continues to be below the DCP recommended guideline of 2.0 acres of active space per 1,000 residents, as it was under the Future No-Action Scenario. The passive open space ratio would remain constant at 0.064 acres per 1,000 residents. This ratio also continues to be below the DCP recommended guideline of 0.50 acres of passive space per 1,000 residents.

As discussed previously, given the range of age groups present in the study area, the need exists for various kinds of active and passive recreation facilities, including those with amenities that can be used by a wide range of age groups. However, since active and passive open space ratios would decrease by approximately 0.85 percent under the Future With-Action Scenario, compared to the Future No-Action Scenario, it is expected that no particular age group would be particularly affected as a result of the Proposed Actions.

The *CEQR Technical Manual* states that if the open space ratio would increase or remain substantially the same under the Future With-Action Scenario compared to the Future No-Action Scenario, further analysis of open space is not needed (unless direct, qualitative changes to an

open space may occur because of the project). The *CEQR Technical Manual* further states that a project would generally not result in any significant adverse impacts if the project would reduce the open space ratio by less than five percent. However, in areas that are extremely lacking in open space, a reduction as small as one percent may be considered significant, depending on the area of the City. These reductions may result in overburdening existing facilities or further exacerbating a deficiency in open space. The Proposed Actions would result in a reduction of the open space ratio in the open space study area of approximately 0.85 percent. Therefore, significant adverse impacts to open space resources are not expected.

CONCLUSION

The Proposed Actions would not result in any direct effects on any open space resources, as the project would not result in a physical loss of any public open spaces either by encroaching on open space resources or displacing open space resources. The Proposed Action would not change the use of any open space so that it no longer serves the same user population, nor would the Proposed Actions limit public access to open space or result in significant amounts of increased noise, air pollutant emissions, odors, or shadows on any public open spaces that would affect their usefulness.

Under the Future With-Action Scenario, available open space resources would fall below the open space ratio guideline set forth in the *CEQR Technical Manual* of 2.5 acres of open space per 1,000 residents, as well as the citywide community district median of 1.5 acres per 1,000 residents. However, it is recognized that these goals are not feasible for many areas of the City. As demonstrated above, the open space ratios in all conditions indicate a shortfall in the amount of open space located within the open space study area. Some of the lack of open space resources can be offset by the open space resources found in the nearby regional area, including Prospect Park in Brooklyn, that attract users from a wide area of the City.

According to the *CEQR Technical Manual*, an open space impact may be considered significantly adverse when the decrease in open space ratio is five percent or more as a result of a proposed action. However, in areas that are extremely lacking in open space, a reduction as small as one percent may be considered significant. The Proposed Actions would result in a reduction of the open space ratio in the open space study area of approximately 0.85 percent.

As further demonstrated in **Chapter E**, "Shadows", incremental shadows created by the full build-out of the Proposed Actions on the projected and potential development sites in 2022 horizon year would not result in any significant adverse shadow impacts. The Proposed Actions would not result in a substantial reduction in the usability of any open spaces as a result of increased and incremental shadows, as the durations are generally limited. While some open spaces would be subject to net new incremental shadows longer than 10 minutes, based on the difference of building heights between the Future No-Action and With-Action Scenarios from the RWCDS, the extent of the shadow durations would not result in any other impact criteria, as discussed in **Chapter E**, which would constitute a significant adverse shadow impact.

Therefore, significant adverse impacts regarding open space resources are not expected, and further open space assessment is not warranted.

E. SHADOWS

INTRODUCTION

The Proposed Action would not result in any significant adverse shadow impacts on open spaces or sunlight-sensitive architectural resources.

The *CEQR Technical Manual* defines a shadow as the condition that results when a building or other built structure blocks the sunlight that would otherwise directly reach a certain area, space or feature. An incremental shadow is the additional or new shadow that a building or other built structure resulting from a proposed project would cast on a sunlight-sensitive resource during the year. The sunlight-sensitive resources of concern are those resources that depend on sunlight or for which direct sunlight is necessary to maintain the resource's usability or architectural integrity, including public open space, architectural resources and natural resources. Shadows can have impacts on publicly accessible open spaces or natural features by adversely affecting their use and important landscaping and vegetation. In general, increases in shadow coverage make parks feel darker and colder, affecting the experience of park patrons. Shadows can also have impacts on historic resources whose features are sunlight-sensitive, such as stained-glass windows, by obscuring the features or details which make the resources significant.

As stated in the *CEQR Technical Manual*, structures within urban environments constantly cast shadows in their immediate vicinity. As the city develops and redevelops, the extent and duration of the shadows cast are altered. Sunlight and shadows affect people and their use of open space, although the effects vary by time of day and season. Sunlight can entice outdoor activities, support vegetation, and enhance architectural features, such as stained glass windows and carved detail on historic structures. Conversely, shadows can affect the growth cycle and sustainability of natural features and the architectural significance of built features.

Shadows also vary according to time of day and season. Shadows cast during the morning and evening, when the sun is low in the sky, are longer, while midday shadows are shorter in length. Shadows in winter, when the sun arcs low across the southern sky, are also longer throughout the day than at corresponding times in spring and fall seasons. In summer, the high arc of the sun casts shorter shadows than at any other time of year, and early and late shadows during the summer are cast towards the south than shadows cast in early and late winter months.

METHODOLOGY

The purpose of a shadow analysis per CEQR is to assess whether new structures may cast shadows on sunlight sensitive publicly-accessible resources or other resources of concern such as natural resources, and to assess the significance of their impact. If warranted, potential mitigation strategies and alternatives should be examined if and when significant adverse shadow impacts are identified. The majority of projects subject to CEQR, as noted in the *CEQR Technical Manual*, generally do not require a detailed shadow analysis.

The *CEQR Technical Manual* states that a shadow assessment considers projects that result in new shadows long enough to reach a sunlight-sensitive resource. Therefore, a shadow assessment is required only if the project would either result in: (a) new structures (or additions to existing structures including the addition of rooftop mechanical equipment) of 50 feet or more;

or, (b) be located adjacent to, or across the street from, a sunlight-sensitive resource. However, a project located adjacent to or across the street from a sunlight-sensitive open space resource (which is not a designated New York City Landmark or listed on the State/National Registers of Historic Places, or eligible for these programs) may not require a detailed shadow assessment if the project's height increase is ten feet or less.

The sunlight-sensitive resources of concern are those resources that depend on sunlight or for which direct sunlight is necessary to maintain the resource's usability or architectural integrity, including public open space, architectural resources and natural resources. In general, shadows on city streets and sidewalks or on other buildings are not considered significant. Some open spaces also contain facilities that are not sensitive to sunlight. These are usually paved such as handball or basketball courts, contain no seating areas and no vegetation, no unusual or historic plantings, or contain only unusual or historic plantings that are shade tolerant. These types of facilities do not need to be analyzed for shadow impacts. Additionally, it is generally not necessary to assess resources located to the south of projected development sites, as shadows cast by the action-generated development would not be cast in the direction of these resources. Furthermore, shadows occurring within one and one-half hour of sunrise or sunset generally are not considered significant in accordance with the *CEQR Technical Manual*.

Building heights on the projected development sites are expected to vary due to height regulations of the proposed contextual zoning districts. Under the Future With-Action Scenario, maximum buildings heights would range from 50 to 120 feet tall, with several projected development buildings approximately 70 to 100 feet tall. The net incremental difference of building heights from the Future No-Action Scenario compared to the Future With-Action Scenario also varies, with one of the project development sites (Site A) witnessing a net incremental decrease in allowable building heights of 62 feet. Overall, the net incremental difference of building heights ranges from increases of 10 to 100 feet, with several projected development sites witnessing incremental increases in building heights of 20 to 45 feet. Some incremental building heights over 50 feet, and some project development sites located near identified sunlight-sensitive resources of concern. Therefore, the Proposed Action could result in an increase in shadows falling on nearby sun-sensitive resources, and further shadow screening assessments were performed.

PRELIMINARY SHADOW SCREENING ASSESSMENT

The shadow assessment begins with a preliminary screening assessment to ascertain whether a project's shadow may reach any sunlight-sensitive resources at any time of the year. If the screening assessment does not eliminate this possibility, a detailed shadow analysis is generally required in order to determine the extent and duration of the incremental shadow resulting from the project. If required, the detailed shadow analysis provides the necessary information for the assessment of shadow impacts, which describes the effect of shadows on the sunlight-sensitive resources and their degree of significance.

The effects of shadows on a sunlight-sensitive resource are site-specific; therefore, as noted in the *CEQR Technical Manual*, the screening assessment and sub-sequent shadow assessment (if required) are performed for each of the sites where a new structure could be built as a result of a project (e.g. for projected and potential development sites).

Tier 1 Screening Assessment

The first step in the preliminary shadow screening assessment is a Tier 1 Screening Assessment. A base map is developed that illustrates the proposed site location in relationship to the sunlight-sensitive resources. The base map includes the location of the proposed project, the street layout, and the locations of the sunlight-sensitive resources. After the base map is developed, the longest shadow study area is determined. The longest shadow study area encompasses the site of the proposed project(s) and a perimeter around the site's boundary with a radius equal to the longest shadow that could be cast by the proposed structure, which is 4.3 times the height of the structure that occurs on December 21st, the winter solstice. To find the longest shadow length, the maximum height of the structure (including any rooftop mechanical equipment) resulting from the proposed project building(s) is multiplied by the factor of 4.3.

A shadow radius of 4.3 times the maximum heights of buildings on projected and potential development sites was performed, based on information provided in the RWCDS. Projected and potential development sites with shadow radii that did not intersect with a park, publicly accessible open space, or sunlight-sensitive architectural resource were determined not to have a potential for impact and were therefore eliminated from the analysis, as shadows from the proposed buildings on these projected and potential development sites could not reach them.

As shown in **Figure E-1** provided at the end of this chapter, the results of the Tier 1 screening assessment show that 25 sunlight-sensitive open space resources and 11 cultural and historic resources are located within a potential shadow radius of 4.3 times the maximum heights of buildings on projected and potential development sites, and thus warrant study under the next screening level. Resources listed below are keyed to **Figure E-1** for reference, with open spaces labeled (#) and cultural and historic resources labeled [#].

Public Open Spaces

- (#1) All People's Church of the Apostolic Faith - This 0.06 acre community garden is located at the northeast corner of Tompkins and Willoughby Avenues.
- (#2) Banneker Playground - This 1.67 acre playground is located along Macy Avenue between Lafayette Avenue and Kosciuszko Street.
- (#3) Beattie Square - This 0.01 open space is located between Broadway, Stuyvesant Avenue and Vernon Avenue**.**
- (#4) Clifton Place Memorial Park and Garden - This 0.17 acre open space is located at the southeast corner of the intersection of Bedford Avenue and Clifton Place.
- (#5) Goodwin Gardens - This 0.35 acre community garden is located at the southwest corner of Grove Street and Godwin Place.
- (#6) Greenstreet - This 0.01 acre Greenstreet is located between Lawton and Pulaski Streets, Malcolm X Boulevard, and Broadway.

- (#7) Greenstreet - This 0.01 acre Greenstreet is located between Monroe Street, Broadway, and Howard Avenue.
- (#8) Hart to Hart - This 0.33 acre community garden is located at 104-108 Hart Street, between Marcy and Tompkins Avenues.
- (#9) Herbert Von King Park - This 7.82 acre park is located between Marcy, Tompkins, Greene and Lafayette Avenues (formerly known as Tompkins Park).
- (#10) Kosciusko Pool - This 2.39 acre pool is located between Marcy Avenue, Kosciusko Street, DeKalb Avenue and Nostrand Avenue.
- (#11) Lafayette Playground - This 0.52 acre playground is located on Lafayette Avenue to the east of Reid Avenue, which is also known as Malcolm X Boulevard.
- (#12) Lewis Playground - This 0.16 acre playground is located along the north side of Willoughby Avenue, west of Lewis Avenue.
- (#13) Madison Community Greenthumb - This 0.06 acre community garden is located along the south side of Madison Street, between Ralph and Howard Avenues.
- (#14) Magnolia Tree Earth Center (Hattie Carthan Community Garden) - This 0.81 acre community garden is located at Marcy Avenue between Clifton Place and Lafayette Avenue, with the Magnolia Tree located at 677, 678, and 679 Lafayette Avenue (down the block from the nearby Hattie Carthan Community Garden).
- (#15) Marcy Playground - This 3.20 acre playground is located along Myrtle Avenue between Nostrand and Marcy Avenues.
- (#16) Red Gate Garden - This 0.09 acre community garden is located at the southwest corner of Marcy Avenue and Willoughby Avenue.
- (#17) Spencer Street Block Association - This 0.04 acre community garden is located at along the west side of Spencer Street, north of DeKalb Avenue.
- (#18) Star Spangled Playground - This 1.69 acre open space is located along Franklin Avenue between Willoughby and DeKalb Avenues.
- (#19) Stockton Playground - This 1.09 acre playground is located between Park Avenue, Martin Luther King Place and Marcy Avenue.
- (#20) Sumner Playground - This 1.97 acre playground is located between Throop, Park and Myrtle Avenues.
- (#21) Taaffe Playground - This 1.82 acre playground is located along Taaffe Place between Park and Myrtle Avenues.
- (#22) Vernon/Throop Avenue Block Association - This 0.04 acre community garden is located at 253 Throop Avenue, at the southeast corner of Throop and Vernon Avenues.
- (#23) Vernon New Harvest - This 0.17 acre community garden is located at along the south side of Vernon Avenue between Nostrand and Marcy Avenues.
- (#24) Vernon T&T Block Association - This 0.05 acre community garden is located at 200 Vernon Avenue, east of Throop Avenue.
- (#25) Willoughby Playground - This 0.91 acre playground is located between Tompkins, Willoughby and Vernon Avenues.

More information about the above open space resources can be found in **Chapter D** of this environmental assessment.

Cultural and Historic Resources

- [#1] 511 Lafayette Avenue – This State/National Register (S/NR)-eligible resource is a two-and-a-half-story, red-brick, Second Empire-style detached residence.
- [#2] Bedford-Stuyvesant East Central Historic District – This New York City Landmark (NYCL)-eligible and S/NR-eligible resource of brownstone rowhouses is roughly bounded to the north by Lafayette Avenue, the south by Lexington Avenue, the east by Patchen Avenue, and the west by Throop Avenue.
- [#3] Christ Evangelical English Lutheran Church – This S/NR-listed resource, also known as Rugged Cross Baptist Church, is located at 1084 Lafayette Avenue.
- [#4] Convert of the Sister of Mercy – This S/NR-eligible resource is located at 273 Willoughby Avenue and 249 Classon Avenue.
- [#5] Cripplebush Road Historic District – This S/NR-eligible resource of brownstone rowhouses generally encompasses those properties facing Willoughby Avenue and Hart Street between Nostrand and Marcy Avenues.
- [#6] East Brooklyn Savings Bank – This S/NR-eligible resource is located at 973 Bedford Avenue. The three-story masonry building was built in the Classical Revival-style.
- [#7] Magnolia Grandiflora and Magnolia Tree Earth Center – This NYCL designated resource is located at 677, 678, and 679 Lafayette Avenue (down the block from the nearby Hattie Carthan Community Garden). The resource consists of a Magnolia tree and three adjacent late-19th century houses.
- [#8] Public School 26 – This S/NR-eligible resource, also known as the Junior Academy, is a five-and-a-half-story, Tudor-style building located at 856 Quincy Street.
- [#9] Shannon's Garden Historic District – This S/NR-eligible resource of brownstone rowhouses is roughly located along Greene Avenue between Classon and Nostrand avenues.
- [#10] St. Mary's Episcopal Church – This S/NR-listed resource is located at 230 Classon Avenue.
- [#11] St. Peters German Evangelical Lutheran Church –This S/NR-eligible resource is located at 1004 Bedford Avenue.

More information about the above cultural resources can be found in **Chapter F** of this environmental assessment.

Tier 2 Screening Assessment

The *CEQR Technical Manual* states that if any portion of a sunlight-sensitive resource lies within the longest shadow study area, a Tier 2 screening assessment should be performed. Because of the path that the sun travels across the sky in the northern hemisphere, no shadow can be cast in a triangular area south of any given project site. In New York City, this area lies between -108 and +108 degrees from true north.

For a Tier 2 screening assessment, sunlight sensitive resources within the triangular area that cannot be shaded by the proposed project site, starting from the southernmost portion of the site covering the area between -108° degrees from true north and +108 degrees from true north, are screened out. The complementing portion to the north within the longest shadow study area is

the area that can be shaded by the proposed project. The *CEQR Technical Manual* further notes that if a sunlight-sensitive feature on an architectural resource is located on a facade that faces directly away from the proposed project site (i.e. when an architectural resource is west of the proposed project site and the sun-sensitive feature is on the west facade of that structure), no further shadows assessment is needed for that particular resource, because no shadows from the proposed project could fall on that sunlight-sensitive face.

Public Open Spaces

As shown in **Figures E-2.1** through **E-2.5** provided at the end of this chapter, the results of the Tier 2 screening assessment show that the following seven sunlight-sensitive open space resources are located within the triangular area that cannot be shaded by any the potential shadows from buildings on the projected and potential development sites:

- All People's Church of the Apostolic Faith.
- Herbert Von King Park.
- Lewis Playground.
- Madison Community Greenthumb.
- Magnolia Tree Earth Center (Hattie Carthan Community Garden portion).
- Vernon T&T Block Association.
- Willoughby Playground.

As these seven identified sun-light sensitive open space resources would not be covered by shadows cast from buildings on the projected and potential development sites, no further analysis is required for these resources.

However, the Tier 2 screening assessment shows that the following 18 sunlight-sensitive open space resources do not screen out, as these sites lies outside of the -108 and +108 degrees from true north area, and the need for further screening assessment is required:

- Banneker Playground.
- Beattie Square.
- Clifton Place Memorial Park and Garden.
- Goodwin Gardens.
- Greenstreet (Lawton and Pulaski Streets, Malcolm X Boulevard, and Broadway).
- Greenstreet (Monroe Street, Broadway, and Howard Avenue).
- Hart to Hart.
- Kosciusko Pool.
- Lafayette Playground.
- Marcy Playground.
- Red Gate Garden.
- Spencer Street Block Association.
- Star Spangled Playground.
- Stockton Playground.
- Sumner Playground.

- Taaffe Playground.
- Vernon/Throop Avenue Block Association.
- Vernon New Harvest.

Based on the results of the Tier 2 screening assessment, a Tier 3 screening assessment is required for these identified sunlight-sensitive open space resources that have the potential to receive shadows cast from new buildings on the projected and potential development sites.

Cultural and Historic Resources

As also shown in **Figures E-2.1** through **E-2.5** provided at the end of this chapter, the results of the Tier 2 screening assessment show that the following eight sunlight-sensitive cultural resources are located within the triangular area that cannot be shaded by any the potential shadows from buildings on the projected and potential development sites:

- 511 Lafayette Avenue.
- Bedford-Stuyvesant East Central Historic District.
- Convert of the Sister of Mercy.
- Cripplebush Road Historic District.
- East Brooklyn Savings Bank.
- Public School 26.
- Shannon's Garden Historic District.
- St. Mary's Episcopal Church.

As these eight identified cultural sensitive resources would not be covered by shadows cast from buildings on the projected and potential development sites, no further analysis is required for these resources.

However, the Tier 2 screening assessment shows that the following three historic and cultural resources do not screen out, as these sites lies outside of the -108 and +108 degrees from true north area, and the need for further screening assessment is required:

- Christ Evangelical English Lutheran Church.
- Magnolia Grandiflora and Magnolia Tree Earth Center (677-679 Lafayette Street).
- St. Peters German Evangelical Lutheran Church.

The above three cultural resources have also been determined to be sunlight-sensitive resources, as two of these resources are churches with stain-glass windows, and one resource includes a tree and cultural center. Based on the results of the Tier 2 screening assessment, a Tier 3 screening assessment is required for these identified sunlight-sensitive resources that have the potential to receive shadows cast from new buildings on the projected and potential development site.

Tier 3 Screening Assessment

The *CEQR Technical Manual* states that a Tier 3 screening assessment is used to determine if shadows resulting from the proposed project can reach a sunlight-sensitive resource. Because the sun rises in the east and travels across the southern part of the sky to set in the west, a project's earliest shadows would be cast almost directly westward. Throughout the day, shadows shift clockwise (moving northwest, then north, then northeast) until sunset, when they would fall east. Therefore, a project's earliest shadow on a sunlight-sensitive resource would occur in a similar pattern, depending on the location of the resource in relation to the project site.

In order to determine whether the sun-sensitive features of nearby resources would potentially be affected by shadows cast from buildings on the projected and potential development sites, three-dimensional models were created surrounding each Tier 3 identified resource of concern. The models included data on the height and location of existing buildings from the New York City Department of City Planning's PLUTO database, as well as the heights and locations of potential and projected developments from the RWCDS.

The *CEQR Technical Manual* states that for the New York City area, the months of interest for an open space resource encompass the growing season (March through October) and one month between November and February (usually December) representing a cold-weather month. Representative days for the growing season are generally the March 21st vernal equinox (or the September 21st autumnal equinox, which is approximately the same), the June 21st summer solstice, and a spring or summer day halfway between the summer solstice and equinoxes such as May 6th or August 6th (which are approximately the same). For the cold-weather months, the December 21st winter solstice is usually included to demonstrate conditions during cold-weather when people who do use open spaces rely most heavily on available sunlight for warmth, as project shadows that reach a sunlight-sensitive resource during any of these months could be of concern. As representative of the full range of possible shadows, these months and days are used for assessing shadows on historic or natural sunlight-sensitive resources.

Assessments of the incremental shadows cast during four representative dates were made in accordance with the *CEQR Technical Manual* to encompass the growing season and December, representing a cold-weather month (and the longest shadow of the year). The following three dates of the Tier 3 study represent the growing season and one date represents the winter months:

- March 21st.
- May 6th.
- June 21st.
- December 21st.

Shadows occurring within one and one-half hour of sunrise or sunset generally are not considered significant in accordance with the *CEQR Technical Manual*, and thus were not included in the screening assessment.

The need to perform detailed shadow studies are based on the results of a performed Tier 3 screening assessment. The Tier 3 screening reviewed shadows cast from the projected and

potential development sites on the four analysis dates, and if shadows have the potential to reach a resource of concern on one or more of the analysis dates. The results of the Tier 3 screening showed that, in the absence of intervening buildings, shadows have the potential to reach the identified open space and cultural resources, as follows:

Public Open Spaces

- Banneker Playground – for this playground, the Tier 3 screening assessment shows that shadows could reach the sunlight sensitive resources on three of the four representative analysis days, and therefore, a detailed shadow analysis is warranted for the analysis dates of March 21st, May 6th, and June 21st.
- Beattie Square – for this open space resource, the Tier 3 screening assessment shows that shadows could reach the sunlight sensitive resources on two of the four representative analysis days, and therefore, a detailed shadow analysis is warranted for the analysis dates of December 21st and June 21st.
- Clifton Place Memorial Park and Garden – for this open space resource, the Tier 3 screening assessment shows that shadows could reach the sunlight sensitive resources on three of the four representative analysis days, and therefore, a detailed shadow analysis is warranted for the analysis dates of December 21st, March 21st, and June 21st.
- Goodwin Gardens – for this community garden, the Tier 3 screening assessment shows that shadows could reach the sunlight sensitive resources on one of the four representative analysis days, and therefore, a detailed shadow analysis is warranted for the analysis date of December 21st.
- Greenstreet (Lawton and Pulaski Streets, Malcolm X Boulevard, and Broadway) – for this Greenstreet, the Tier 3 screening assessment shows that shadows could reach the sunlight sensitive resources on one of the four representative analysis days, and therefore, a detailed shadow analysis is warranted for the analysis date of December 21st.
- Greenstreet (Monroe Street, Broadway, and Howard Avenue) – for this Greenstreet, the Tier 3 screening assessment shows that shadows could reach the sunlight sensitive resources on two of the four representative analysis days, and therefore, a detailed shadow analysis is warranted for the analysis dates of May 6th and June 21st.
- Hart to Hart – for this community garden, the Tier 3 screening assessment shows that shadows could reach the sunlight sensitive resources on two of the four representative analysis days, and therefore, a detailed shadow analysis is warranted for the analysis dates of March 21st and May 6th.
- Kosciusko Pool – for this open space resource, the Tier 3 screening assessment shows that shadows could reach the sunlight sensitive resources on two of the four representative analysis days, and therefore, a detailed shadow analysis is warranted for the analysis dates of December 21st and March 21st.
- Lafayette Playground – for this playground, the Tier 3 screening assessment shows that shadows could reach the sunlight sensitive resources on one of the four representative analysis days, and therefore, a detailed shadow analysis is warranted for the analysis date of June 21st.
- Marcy Playground – for this playground, the Tier 3 screening assessment shows that shadows could reach the sunlight sensitive resources on all four of the four representative

analysis days, and therefore, a detailed shadow analysis is warranted for the analysis dates of December 21st, March 21st, May 6th and June 21st.

- Red Gate Garden – for this community garden, the Tier 3 screening assessment shows that shadows could reach the sunlight sensitive resources on one of the four representative analysis days, and therefore, a detailed shadow analysis is warranted for the analysis date of December 21st.
- Spencer Street Block Association – for this community garden, the Tier 3 screening assessment shows that shadows could reach the sunlight sensitive resources on one of the four representative analysis days, and therefore, a detailed shadow analysis is warranted for the analysis date of December 21st.
- Star Spangled Playground – for this playground, the Tier 3 screening assessment shows that shadows could reach the sunlight sensitive resources on one of the four representative analysis days, and therefore a detailed shadow analysis is warranted for the analysis date of December 21st.
- Stockton Playground – for this playground, the Tier 3 screening assessment shows that shadows could not reach the sunlight sensitive resources on any of the four representative analysis days, and therefore, a detailed shadow analysis is not warranted for any of the four analysis days on this resource.
- Sumner Playground – for this playground, the Tier 3 screening assessment shows that shadows could reach the sunlight sensitive resources on one of the four representative analysis days, and therefore, a detailed shadow analysis is warranted for the analysis date of December 21st.
- Taaffe Playground – for this playground, the Tier 3 screening assessment shows that shadows could reach the sunlight sensitive resources on one of the four representative analysis days, and therefore, a detailed shadow analysis is warranted for the analysis date of December 21st.
- Vernon/Throop Avenue Block Association – for this community garden, the Tier 3 screening assessment shows that shadows could reach the sunlight sensitive resources on one of the four representative analysis days, and therefore, a detailed shadow analysis is warranted for the analysis date of June 21st.
- Vernon New Harvest – for this community garden, the Tier 3 screening assessment shows that shadows could not reach the sunlight sensitive resources on any of the four representative analysis days, and therefore, a detailed shadow analysis is not warranted for any of the four analysis days on this resource.

Cultural and Historic Resources

- Christ Evangelical English Lutheran Church - for this cultural resource (also known as the Rugged Cross Baptist Church), the Tier 3 screening assessment shows that shadows could reach the sunlight sensitive resources on two of the four representative analysis days, and therefore, a detailed shadow analysis is warranted for the analysis dates of May 6th and June 21st.
- Magnolia Grandiflora and Magnolia Tree Earth Center - for this cultural resource, the Tier 3 screening assessment shows that shadows could reach the sunlight sensitive resources on two of the four representative analysis days, and therefore, a detailed shadow analysis is warranted for the analysis dates of May 6th and June 21st.

- St. Peters German Evangelical Lutheran Church - for this cultural resource, the Tier 3 screening assessment shows that shadows could reach the sunlight sensitive resources on two of the four representative analysis days, and therefore, a detailed shadow analysis is warranted for the analysis dates of December 21st and March 21st.

Based on the Tier 3 screening, detailed shadow studies were performed for the above resources on one or more of the four representative analysis dates, when shadows cast from projected and potential development site buildings have the potential to reach these resources of concern.

DETAILED SHADOW ANALYSES

The *CEQR Technical Manual* states that a detailed shadow analysis is warranted when the screening analyses does not rule out the possibility that project-generated shadows would reach any sunlight-sensitive resources. The detailed shadow analysis establishes a baseline condition (the Future No-Action Condition) that is compared to the future condition resulting from the proposed project (the Future With-Action Condition), to illustrate the shadows cast by existing or future buildings and distinguish the additional (incremental) shadow cast by a project.

The purpose of the detailed analysis is to determine the extent and duration of new incremental shadows that fall on a sunlight-sensitive resource as a result of the proposed project. To evaluate the extent and duration of new shadow that would be added to a sunlight-sensitive resource as a result of the Proposed Action, shadows that would exist under the Future No-Action Condition were defined, based on information and expected building heights provided in the RWCDS. In addition, because existing buildings already cast shadows on sun-sensitive resources of concern, there are certain instances when the Proposed Action would not result in additional, or incremental, shadows upon that resource.

The results of the detailed shadow analyses on the identified resources of concern are noted in **Table E-1** and illustrated in **Figures E-3.1** through **E-3.64**, provided at the end of this chapter, showing net incremental shadows durations and enter and exit times. For each identified resource, the table details the times when net new incremental shadows enter and exit the open space or cultural resource, as well as the duration of net new incremental shadows during each analysis date. Results are further described below.

Public Open Spaces

Banneker Playground

- On the March 21st study date, net new incremental shadows enter the open space at 7:36 a.m. and exit the open space at 9:18 a.m., for a duration of approximately one hour and 42 minutes. Net new incremental shadows cover no more than approximately five percent of the open space at any one time during this duration, as shadows sweep clockwise, covering the northeast corner of the playground, improved with open paved play areas and playground equipment. The playground equipment itself would receive net incremental shadows for approximately a half-hour of this duration.
- On the May 6th study date, net new incremental shadows enter the open space at 6:27 a.m. and exit the open space at 8:47 a.m., for a duration of approximately two hours and

20 minutes. Net new incremental shadows cover no more than approximately ten percent of the open space at any one time during this duration, as shadows sweep clockwise, covering the northeast corner of the playground, improved with open paved play areas and playground equipment. The playground equipment itself would receive net incremental shadows for approximately a half-hour of this duration.

- On the June 21st study date, net new incremental shadows enter the open space at 5:57 a.m. and exit the open space at 8:38 a.m., for a duration of approximately two hours and 41 minutes. Net new incremental shadows cover no more than approximately ten percent of the open space at any one time during this duration, as shadows sweep clockwise, covering the central section to northern sections of the playground, improved with open paved play areas and playground equipment.

Beattie Square

- On the December 21st study date, net new incremental shadows enter the open space at 8:51 a.m. and exit the open space at 9:00 a.m., for a duration of approximately nine minutes. Net new incremental shadows cover approximately five percent of the open space during this duration, covering a small portion along the open space's eastern border, near the elevated railroad tracks along Broadway.
- On the June 21st study date, while shadows from the Proposed Actions would reach into the resource, no new net incremental shadows would be cast within the resource, as it is covered by existing and/or projected Future No-Action Scenario shadows.

Clifton Place Memorial Park and Garden

- On the December 21st study date, while shadows from the Proposed Actions would reach into the resource, no new net incremental shadows would be cast within the resource, as it is covered by existing and/or projected Future No-Action Scenario shadows.
- On the March 21st study date, net new incremental shadows enter the open space at 8:30 a.m. and exit the open space at 1:20 p.m., for a duration of approximately four hours and 50 minutes. Net new incremental shadows cover no more than approximately 20 percent of the open space during this duration, covering the southwest to the southeast portions of the garden as shadows sweep clockwise.
- On the June 21st study date, while shadows from the Proposed Actions would reach into the resource, no new net incremental shadows would be cast within the resource, as it is covered by existing and/or projected Future No-Action Scenario shadows.

Goodwin Gardens

- On the December 21st study date, net new incremental shadows enter the open space at 2:40 p.m. and exit the open space at 2:53 p.m., for a duration of approximately 13 minutes. Net new incremental shadows cover approximately five percent of the open space during this limited duration, covering various plantings and landscaping.

Greenstreet (Lawton and Pulaski Streets, Malcolm X Boulevard, and Broadway)

- On the December 21st study date, while shadows from the Proposed Actions would reach into the resource, no new net incremental shadows would be cast within the resource, as it is covered by existing and/or projected Future No-Action Scenario shadows.

Greenstreet (Monroe Street, Broadway, and Howard Avenue)

- On the May 6th study date, while shadows from the Proposed Actions would reach into the resource, no new net incremental shadows would be cast within the resource, as it is covered by existing and/or projected Future No-Action Scenario shadows.
- On the June 21st study date, net new incremental shadows enter the open space at 4:23 p.m. and exit the open space at 5:10 p.m., for a duration of approximately 47 minutes in the late afternoon. Of note, the Greenstreet would be fully covered by shadows by 5:10 p.m. under both the Future No-Action and With-Action Scenarios.

Hart to Hart Community Garden

- On the March 21st study date, while shadows from the Proposed Actions would reach into the western side of the resource, no new net incremental shadows would be cast within the resource, as it is covered by existing and/or projected Future No-Action Scenario shadows.
- On the May 6th study date, while shadows from the Proposed Actions would reach into the western side of the resource, no new net incremental shadows would be cast within the resource, as it is covered by existing and/or projected Future No-Action Scenario shadows.

Kosciusko Pool

- On the December 21st study date, while shadows from the Proposed Actions would reach into the western side of the resource, no new net incremental shadows would be cast within the resource, as it is covered by existing and/or projected Future No-Action Scenario shadows.
- On the March 21st study date, net new incremental shadows enter the open space at 7:36 a.m. and exit the open space at 9:10 a.m., for a duration of approximately one hour and 34 minutes. Net new incremental shadows cover approximately five percent of the open space during this duration, but only cover the rooftop section of the structure and the adjacent paved areas within the east side of the resource . The pool itself would not receive any new net incremental shadows as a result of the Proposed Actions.

Lafayette Playground

- On the June 21st study date, net new incremental shadows enter the open space at 5:57 a.m. and exit the open space at 6:24 a.m., for a duration of approximately 27 minutes in the early morning. Net new incremental shadows cover approximately 25 percent of the open space during this duration, covering basketball and handball courts within the eastern portion of the playground.

Marcy Playground

- On the December 21st study date, net new incremental shadows enter the open space at 8:51 a.m. and exit the open space at 2:53 p.m., for a duration of approximately six hours and two minutes. Net new incremental shadows sweep across the playground from the central section (improved with a baseball field) in the morning to the western section (improved with play areas and basketball courts) in the afternoon. Approximately no more than one-quarter to one-third of the resource is covered at any one time, as net incremental shadows sweep clockwise.
- On the March 21st study date, net new incremental shadows enter the open space at 7:36 a.m. at two locations (within the southern central section and northeast corner) and

exit the open space at 9:30 a.m. and 12:30 p.m. at these locations, respectively, durations of approximately 4 hours and 54 minutes and one hour and 54 minutes, respectively. Net new incremental shadows cover no more than approximately five to ten percent of the southern central section of the open space and cover no more than five percent of the northeast corner of the open space during these durations, as shadows sweep clockwise over small sections of the resource's baseball field and basketball courts in the areas.

- On the May 6th study date, net new incremental shadows enter the open space at 6:27 a.m. and exit the open space at 9:20 a.m., for a duration of approximately 2 hours 53 minutes. Net new incremental shadows cover no more than approximately five to ten percent of the open space during this duration as shadows sweep clockwise over open paved areas and the basketball courts within the east side section of the resource.
- On the June 21st study date, net new incremental shadows enter the open space at 5:57 a.m. and exit the open space at 9:10 a.m., for a duration of approximately three hours and 13 minutes. Net new incremental shadows cover no more than approximately five to ten percent of the open space at any one time, as shadows sweep clockwise from the central to western sections of the playground, covering limited portions of the resource's baseball field and basketball courts.

Red Gate Garden

- On the December 21st study date, net new incremental shadows enter the open space at 8:51 a.m. and exit the open space at 9:54 a.m., for a duration of approximately 53 minutes. Net new incremental shadows cover a very small sliver of the southern section of the resource near the southeast corner of approximately one to two percent of the open space during this duration.

Spencer Street Block Association Community Garden

- On the December 21st study date, while shadows from the Proposed Actions would reach into the southwest corner of the resource, no new net incremental shadows would be cast within the resource, as it is covered by existing and/or projected Future No-Action Scenario shadows.

Star Spangled Playground

- On the December 21st study date, while shadows from the Proposed Actions would reach into the southeast corner of the resource (improved with playground equipment), no new net incremental shadows would be cast within the resource, as it is covered by existing and/or projected Future No-Action Scenario shadows.

Sumner Playground

- On the December 21st study date, net new incremental shadows enter the open space at 8:51 a.m. and exit the open space at 9:17 a.m., for a duration of approximately 26 minutes. Net new incremental shadows cover approximately five percent of the open space during this time in the early morning, covering a portion of the southeast corner which contains the right field area of the playground's baseball field.

Taaffe Playground

- On the December 21st study date, net new incremental shadows enter the open space at 11:25 a.m. and exit the open space at 1:44 p.m. for a duration of approximately two hours and 19 minutes. Net new incremental shadows cover no more than approximately

five percent of the open space during this duration as shadows sweep clockwise, covering a small portion of the handball court located within the southern section of the playground, near Myrtle Avenue.

Vernon/Throop Avenue Block Association Community Garden

- On the June 21st study date, net new incremental shadows enter the open space at 5:23 p.m. and exit the open space at 6:01 p.m., for a limited duration of approximately 38 minutes. Net new incremental shadows sweep in from the north to cover approximately 50 percent of the open space during this duration by the time net incremental shadows exit the community garden (at an hour and a half before sunset).

Cultural and Historic Resources

Christ Evangelical English Lutheran Church (Rugged Cross Baptist Church)

- On the May 6th study date, while shadows from the Proposed Actions would reach into the eastern side of the resource, no new net incremental shadows would be cast within the resource on the windows along the eastern facade, as the resource and the windows are covered by existing and/or projected Future No-Action Scenario shadows.
- On the June 21st study date, while shadows from the Proposed Actions would reach into the eastern side of the resource, no new net incremental shadows would be cast within the resource on the windows along the eastern facade, as the resource and the windows are covered by existing and/or projected Future No-Action Scenario shadows.

Magnolia Grandiflora and Magnolia Tree Earth Center (677-679 Lafayette Avenue)

- On the May 6th study date, net new incremental shadows reach the cultural resource at 5:12 p.m. and exit the resource at 5:18 p.m., for a limited duration of approximately 6 minutes in the late afternoon/evening. Net new incremental shadows cover a very small area of approximately one to two percent of the resource during this duration, along the western lot line of the resource. However, net incremental shadows do not fall on the Magnolia Tree itself.
- On the June 21st study date, while shadows from the Proposed Actions would reach into the western side of the resource, no new net incremental shadows would be cast within the resource, as it is covered by existing and/or projected Future No-Action Scenario shadows.

St. Peters German Evangelical Lutheran Church

- On the December 21st study date, net new incremental shadows reach the cultural resource at 8:51 a.m. and exit the resource at 9:09 a.m., for a limited duration of approximately 18 minutes. Net new incremental shadows fall on the east side of the church and cover approximately the bottom half of the windows along that facade (facing Bedford Avenue) during this timeframe. Net incremental shadows do not fall on the top half of these windows. The top halves of the east side windows are shadow free at the 8:51 a.m., and the windows are completely shadow free by 9:09 a.m.
- On the March 21st study date, while shadows from the Proposed Actions would reach the east side of the resource (the east side windows facing Bedford Avenue), no new net incremental shadows would be cast within the resource, as it is covered by existing and/or projected Future No-Action Scenario shadows.

CONCLUSIONS

Incremental shadows created by the full build-out of the Proposed Action on the projected and potential development sites in 2022 horizon year would not result in any significant adverse shadow impacts.

The *CEQR Technical Manual* states that the determination of significance of shadow on a sunlight-sensitive resource is based on: (1) the information resulting from the detailed shadow analysis describing the extent and duration of incremental shadows; and (2) an analysis of the resource's sensitivity to reduced sunlight. The goal of the assessment is to determine whether the effects of incremental shadows on a sunlight-sensitive resource are significant under CEQR. A shadow impact occurs when the incremental shadow from a proposed project falls on a sunlight-sensitive resource or feature and reduces its direct sunlight exposure. Determining whether this impact is significant or not, under CEQR, depends on the extent and duration of the incremental shadow and the specific context in which the impact occurs.

For open space and natural resources, the uses and features of a resource is an indicator of its sensitivity to shadows. Shadows occurring during the cold-weather months of interest generally do not affect the growing season of outdoor vegetation; however, their effects on other uses and activities should be assessed. This sensitivity is assessed for warm-weather-dependent features (such as wading pools and sand boxes) or vegetation that could be affected by a loss of sunlight during the growing season, and for features (such as benches) that could be affected by a loss of winter sunlight. Vegetation requiring direct sunlight includes the tree canopy, flowering plants and plots in community gardens. Generally, four to six hours a day of sunlight, particularly in the growing season, is often a minimum requirement. Where the incremental shadows from the project fall on sunlight-sensitive features or uses, the analysis assesses the loss of sunlight relative to sunlight that would be available without the project.

For historic resources, the shadow sensitivity of the sunlight-sensitive features of an historic structure depends on its design and setting. If any of the characteristics or elements that make the resource historically significant depend on sunlight, it is necessary under CEQR to inventory those features to determine their sensitivity to a reduction in sunlight. As stated in the *CEQR Technical Manual*, the assessment should consider the specific context in which the incremental shadow occurs and provide an analysis of how other shadows from existing structures affect the sunlight-sensitive features of the historic resource throughout the day. The assessment of shadows on an historic resource focuses only on those features or portions of the historic resource that are sunlight-sensitive and can be enjoyed by the public. Only the incremental shadow duration on the sun-sensitive features of the historic resource is of concern.

As stated in the *CEQR Technical Manual*, in order to determine impact significance, an incremental shadow is generally not considered significant when its duration is no longer than 10 minutes at any time of year and the resource continues to receive substantial direct sunlight. A significant shadow impact generally occurs when an incremental shadow of 10 minutes or longer falls on a sunlight sensitive resource and results in one of the following:

Vegetation

- A substantial reduction in sunlight available to a sunlight-sensitive feature of the resource to less than the minimum time necessary for its survival (when there was sufficient sunlight in the future without the project).
- A reduction in direct sunlight exposure where the sensitive feature of the resource is already subject to substandard sunlight (i.e., less than minimum time necessary for its survival).

Historic and Cultural Resources

- A substantial reduction in sunlight available for the enjoyment or appreciation of the sunlight-sensitive features of an historic or cultural resource.

Open Space Utilization

- A substantial reduction in the usability of open space as a result of increased shadow.

For Any Sunlight-Sensitive Feature of a Resource

- Complete elimination of all direct sunlight on the sunlight-sensitive feature of the resource, when the complete elimination results in substantial effects on the survival, enjoyment, or, in the case of open space or natural resources, the use of the resource.

Open Spaces

As shown in **Table E-1**, for the identified open space resources, the Proposed Actions would not result in a substantial reduction in the usability of any of these open spaces as a result of increased shadow, as the durations are generally limited. While some open spaces would be subject to net new incremental shadows longer than 10 minutes, based on the difference of building heights between the Future No-Action and With-Action Scenarios from the RWCDS, the extent of the shadow durations not result in any of the other above impact criteria.

The incremental shadow cast on the open spaces within the area would generally not cover any of the resources during all three of the growing season study dates (March through October), but rather for limited durations on one or two of the analysis dates, with the exception of the Marcy Playground at Myrtle, Marcy, and Nostrand Avenues. The analyses show that ample time will remain for sunlight during the growing season. Incremental shadows shift over the period covering each specific resource and shadow coverage on these resources generally decrease from maximum coverage points. Only in a few instances does the total duration of net new incremental shadows cover a substantial amount of the open space or over multiple dates, such as the Marcy Playground. Yet the Proposed Action would not result in a substantial reduction in sunlight available to any vegetative sunlight-sensitive features or any other resources to less than the minimum time necessary for its survival.

At the Marcy Playground, the remaining sections of the playground would remain free of shadows on all four analysis dates, with the playground completely free of shadows in the afternoon periods during warm weather months. On the March 21st, May 6th and June 21st study dates, while net new incremental shadows enter the open space in the morning hours and last for

durations varying from two to five hours, net incremental shadows cover no more than approximately five to ten percent of the open space during these durations, as shadows sweep clockwise over small sections of the resource's baseball field and basketball courts in the areas. On the December 21st study date, net new incremental shadows enter the open space at 8:51 a.m. and exit the open space at 2:53 p.m., for a duration of approximately six hours and two minutes. Net new incremental shadows sweep across the playground from the central section in the morning hours. This portion of the playground is covered by a baseball field, which is not expected to be in use during the December analysis period. Mature trees are present throughout the playground and are expected to be tolerant of the net new shadow during the December analysis period. No other significant vegetation is present within the playground. The new incremental shadow would sweep to the western section of the playground in the afternoon. This portion of Marcy Playground contains play areas, game tables and basketball courts, which are open space resource elements that are generally lightly used during winter months. Approximately no more than one-quarter to one-third of the resource would be covered at any one time, as net incremental shadows sweep clockwise and remain in the playground until the end of the analysis day.

At the Banneker Playground, net new incremental shadows would fall within the open space on three of the four analysis dates. On the March 21st, May 6th and June 21st study dates, net new incremental shadows cover the open space in the early morning for durations of approximately one hour and 42 minutes to approximately two hours and 41 minutes. Net new incremental shadows cover no more than approximately five to ten percent of the open space at any one time during this duration, as shadows sweep clockwise, covering the central to northeast corner of the playground, improved with open paved play areas and playground equipment. The playground equipment itself would only receive net incremental shadows for approximately a half-hour during these durations.

On the March 21st study date, net new incremental shadows enter the Clifton Place Memorial Park and Garden at 8:30 a.m. and exit the open space at 1:20 p.m., for a duration of approximately four hours and 50 minutes. However, net new incremental shadows cover no more than approximately 20 percent of the open space during this duration, covering the southwest to the southeast portions of the garden, which include fruit trees, vegetable planters and seating areas, as shadows sweep clockwise. Considering the relatively small incremental shadow cast on this analysis day, the park's vegetation and seating areas would not be adversely impacted by net new shadow, as the majority of Clifton Place Memorial Park and Garden would receive direct sunlight during this analysis period.

On the March 21st study date, net new incremental shadows enter the Kosciusko Pool border at 7:36 a.m. and exit the open space at 9:10 a.m., for a duration of approximately one hour and 34 minutes. However, net new incremental shadows cover approximately five percent of the open space during this duration, and only cover the rooftop section of the structure and the adjacent paved areas within the east side of the resource . The pool itself would not receive any new net incremental shadows as a result of the Proposed Actions.

At the Taaffe Playground, net new incremental shadows enter the open space at 11:25 a.m. and exit the open space at 1:44 p.m. on the December 21st study date, for a duration of approximately two hours and 19 minutes. However, net new incremental shadows cover no more than approximately five percent of the open space during this duration as shadows sweep clockwise,

covering a small portion of the paved handball court located within the southern section of the playground, near Myrtle Avenue.

The remaining open space resources considered in the detailed shadow analysis would not experience significant new incremental shadow as a result of the Proposed Actions. These resources include Beattie Square; the Greenstreet located at the intersection of Lawton Street, Pulaski Street, Malcolm X Boulevard and Broadway; Hart to Hart Community Garden; Spencer Street Block Association; Star Spangled Playground; and Stockton Playground. Of these open space resources, as discussed above and in **Chapter D**, "Open Space," Beattie Square would experience nine minutes of net new shadow along the northeastern edge during the December 21st analysis day, from 8:51 a.m. to 9:00 a.m., when it exits the resource. The remaining five resources would experience no net new shadow.

As also noted in **Chapter D**, "Open Space," significant adverse impacts would also not occur as a result of anticipated new users and the reduction of estimated open space's utilization rates.

Historic Resources

For the three identified cultural and historic resource, the Proposed Actions would not result in a substantial reduction in sunlight available for the enjoyment or appreciation of any sunlight-sensitive features on these historic or cultural resources. The proposed action would not result in the complete elimination of all direct sunlight on any of the sunlight-sensitive features on any of these resources.

While shadows from the Proposed Actions would reach into the eastern side of the Christ Evangelical English Lutheran Church (Rugged Cross Baptist Church) in the early morning hours on the June 21st and May 6th analysis dates, no new net incremental shadows would be cast within the resource on the windows along the eastern facade, as the resource and the windows are covered by existing and/or projected Future No-Action Scenario shadows on these dates.

The net incremental shadows cast on the east side windows of St. Peters German Evangelical Lutheran Church would occur in the early morning hours on the December 21st analysis date, with net new incremental shadows entering at 8:51 a.m. and exit the resource at 9:09 a.m., for a limited duration of approximately 18 minutes. Net new incremental shadows fall on the east side of the church and cover approximately the bottom half of the windows along that facade (facing Bedford Avenue) during this timeframe. Net incremental shadows do not fall on the top half of these windows, and the top haves of the east side windows are shadow free at the 8:51 a.m., with the windows completely shadow free by 9:09 a.m.

At the Magnolia Grandiflora and Magnolia Tree Earth Center (677-679 Lafayette Avenue), net new incremental shadows reach the cultural resource on the May 6th study date at 5:12 p.m. and exit the resource at 5:18 p.m., for a limited duration of approximately 6 minutes in the late afternoon/evening. Net new incremental shadows cover a very small area of approximately one to two percent of the resource during this duration, along the western lot line of the resource in the backyard and rear portion of the westernmost building. However, net incremental shadows do not fall on the Magnolia Tree itself, which is located in the front yard along the sidewalk.

Therefore, significant adverse impacts are not expected from net new incremental shadows as a result of the Proposed Actions, and further shadow analyses are not warranted.

Table E-1
Detailed Shadow Analysis Summary

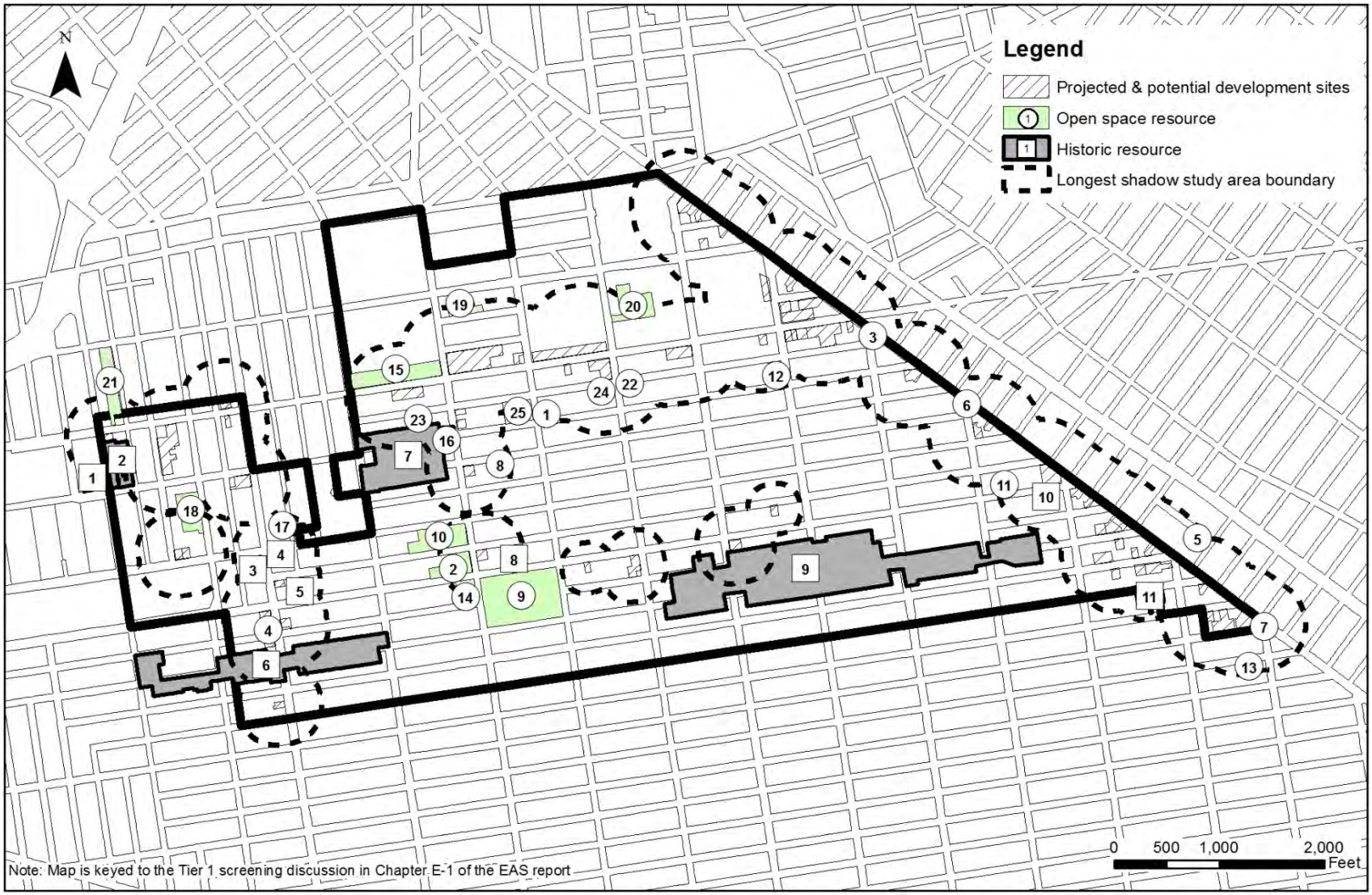
Resource Time Frame Window	December 21 8:51 a.m. – 2:53 p.m.	March 21 / September 7:36 a.m. – 4:29 p.m.	May 6 / August 6 6:27a.m. – 5:18 p.m.	June 21 5:57 a.m. – 6:01 p.m.
Public Open Spaces				
Banneker Playground				
Net Shadows Enter – Exit Times	----	7:36 a.m.-9:18 a.m.	6:27 a .m.-8:47 a.m.	5:57 a.m.-8:38 a.m.
Net Incremental Shadow Duration	----	1 hour 42 minutes	2 hours 20 minutes	2 hours 41 minutes
Clifton Place Memorial Park and Garden				
Net Shadows Enter – Exit Times	----	8:30 a.m.-1:20 p.m.	----	----
Net Incremental Shadow Duration	----	4 hours 50 minutes	----	----
Goodwin Gardens				
Net Shadows Enter – Exit Times	2:40 p.m.-2:53 p.m.	----	----	----
Net Incremental Shadow Duration	13 minutes	----	----	----
Greenstreet (Monroe St, Broadway, Howard Ave)				
Net Shadows Enter – Exit Times	----	----	----	4:23 p.m.-5:10 p.m.
Net Incremental Shadow Duration	----	----	----	47 minutes
Kosciusko Pool				
Net Shadows Enter – Exit Times	----	7:36 a.m.-9:10 a.m.	----	----
Net Incremental Shadow Duration	----	1 hour 34 minutes	----	----
Lafayette Playground				
Net Shadows Enter – Exit Times	----	----	----	5:57 a.m.-6:24 a.m.
Net Incremental Shadow Duration	----	----	----	27 minutes
Marcy Playground				
Net Shadows Enter – Exit Times	8:51 a.m.-2:53 p.m.	7:36 a.m.-12:30 p.m. 7:36 a.m.-9:30 a.m.	6:27 a.m.-9:20 a.m.	5:57 a.m.-9:10 a.m.
Net Incremental Shadow Duration	6 hours 2 minutes	4 hours 54 minutes 1 hour 54 minutes	2 hours 53 minutes	3 hours 13 minutes
Red Gate Garden				
Net Shadows Enter – Exit Times	8:51 a.m.-9:44 a.m.	----	----	----
Net Incremental Shadow Duration	53 minutes	----	----	----

Sumner Playground				
Net Shadows Enter – Exit Times	8:51 a.m.-9:17 a.m.	----	----	----
Net Incremental Shadow Duration	26 minutes	----	----	----
Taaffe Playground				
Net Shadows Enter – Exit Times	11-25 a.m.-1:44 p.m.	----	----	----
Net Incremental Shadow Duration	2 hours 19 minutes	----	----	----
Vernon/Throop Avenue Block Association				
Net Shadows Enter – Exit Times	----	----	----	5:23 p.m.-6:01 p.m.
Net Incremental Shadow Duration	----	----	----	38 minutes
Cultural Resources				
St. Peters German Evangelical Lutheran Church				
Net Shadows Enter – Exit Times	8:51 a.m.-9:09 a.m.	----	----	----
Net Incremental Shadow Duration	18 minutes	----	----	----

Note: Daylight Saving Time not used/applied (per CEQR)

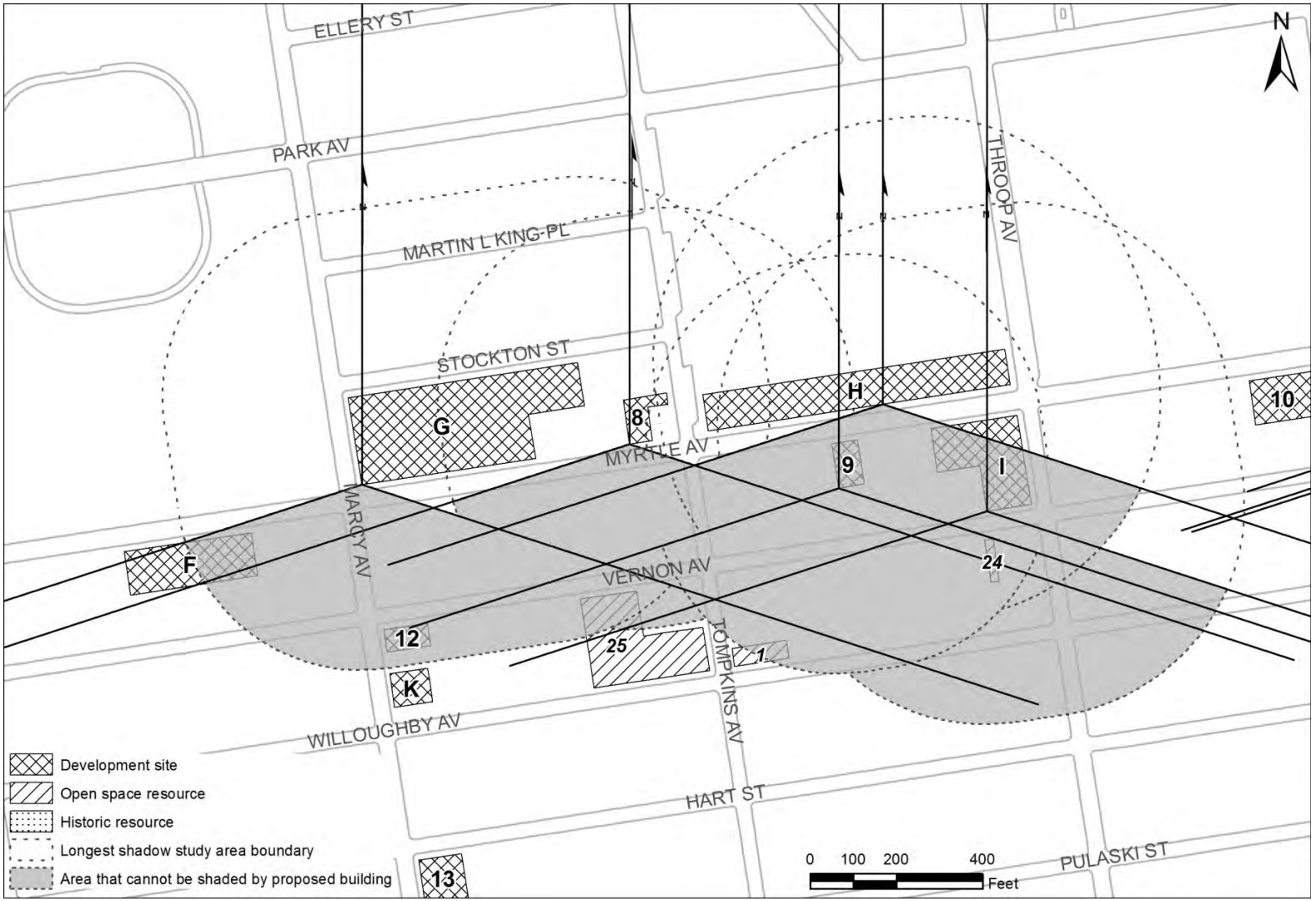
Bedford-Stuyvesant North Rezoning

Figure E-1 – Tier 1 Screening Analysis



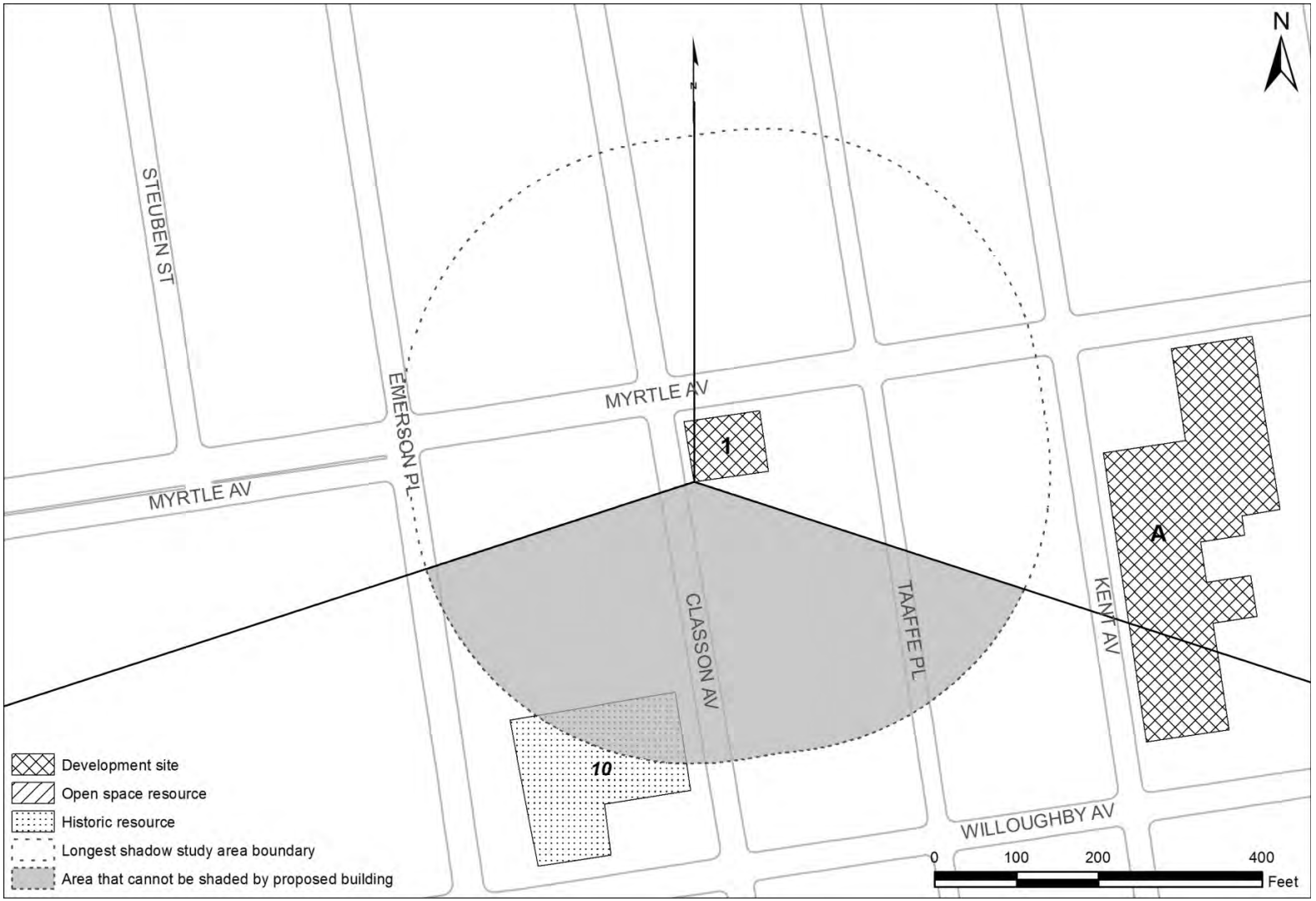
Bedford-Stuyvesant North Rezoning

Figure E-2.1 – Tier 2 Screening Analysis



Bedford-Stuyvesant North Rezoning

Figure E-2.2 – Tier 2 Screening Analysis



Bedford-Stuyvesant North Rezoning

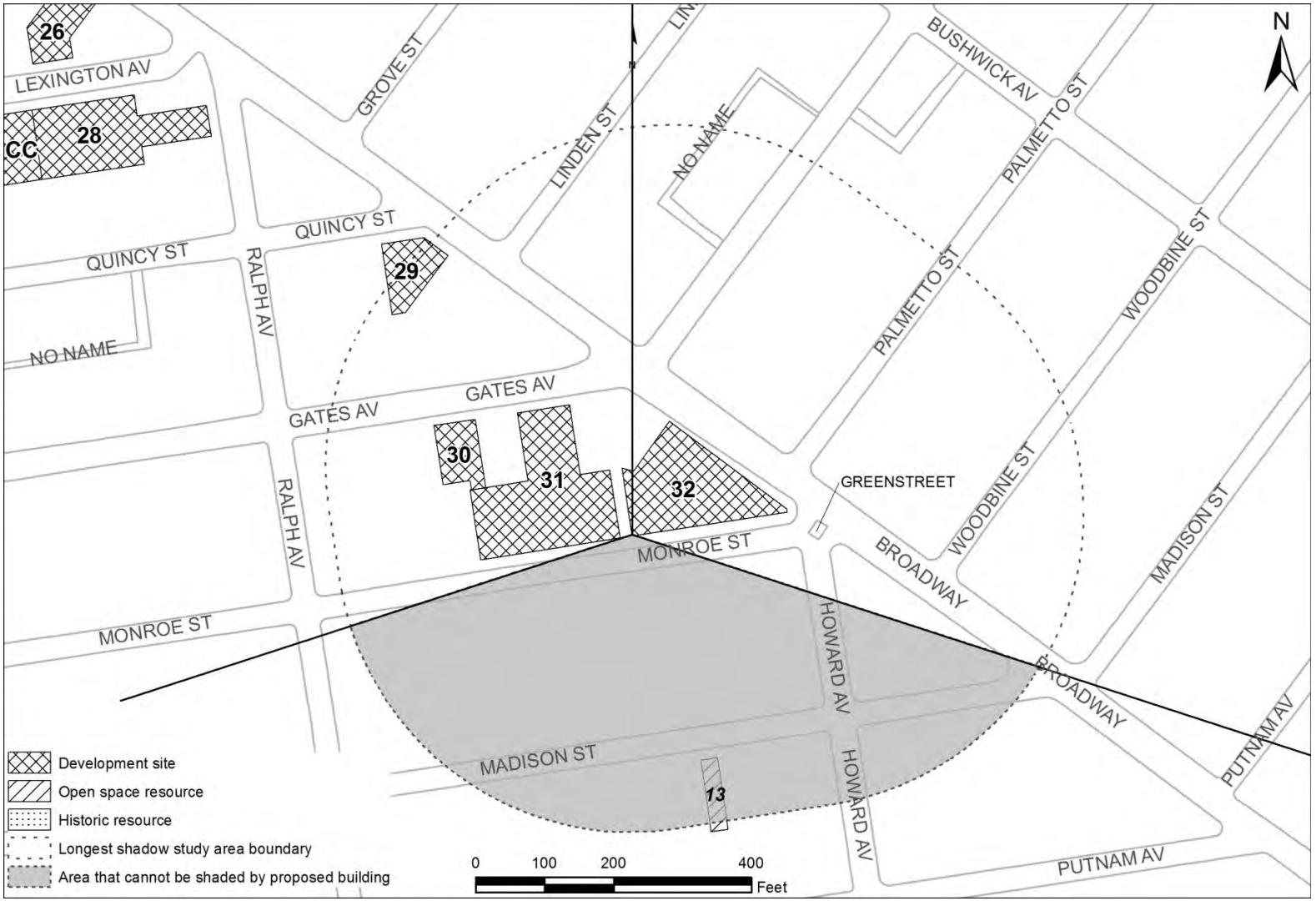
Figure E-2.3 – Tier 2 Screening Analysis





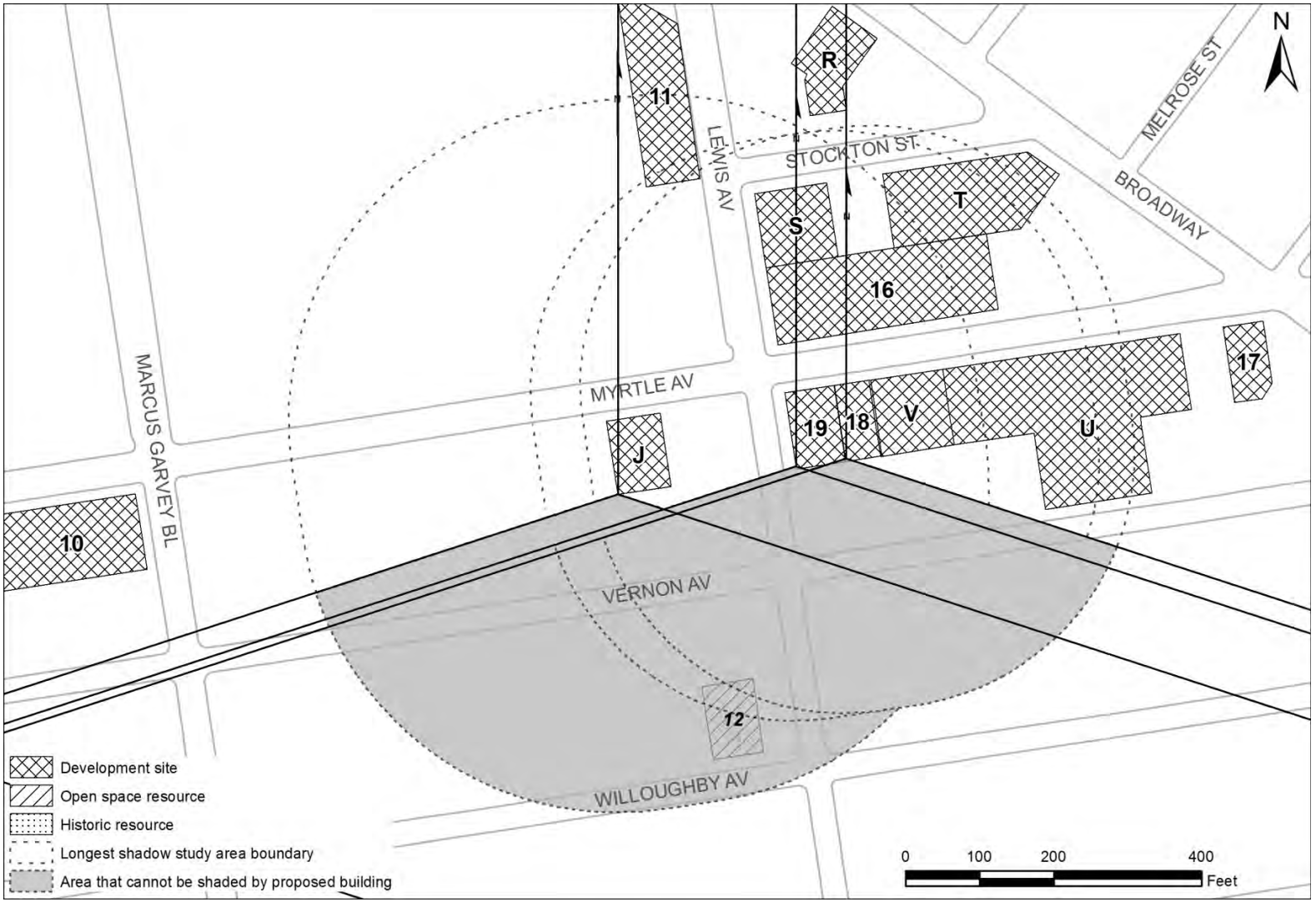
Bedford-Stuyvesant North Rezoning

Figure E-2.4 – Tier 2 Screening Analysis



Bedford-Stuyvesant North Rezoning

Figure E-2.5 – Tier 2 Screening Analysis



Bedford-Stuyvesant North Rezoning

December 21, 2:40 p.m.

Figure number E-3.1



Bedford-Stuyvesant North Rezoning

December 21, 2:53 p.m.

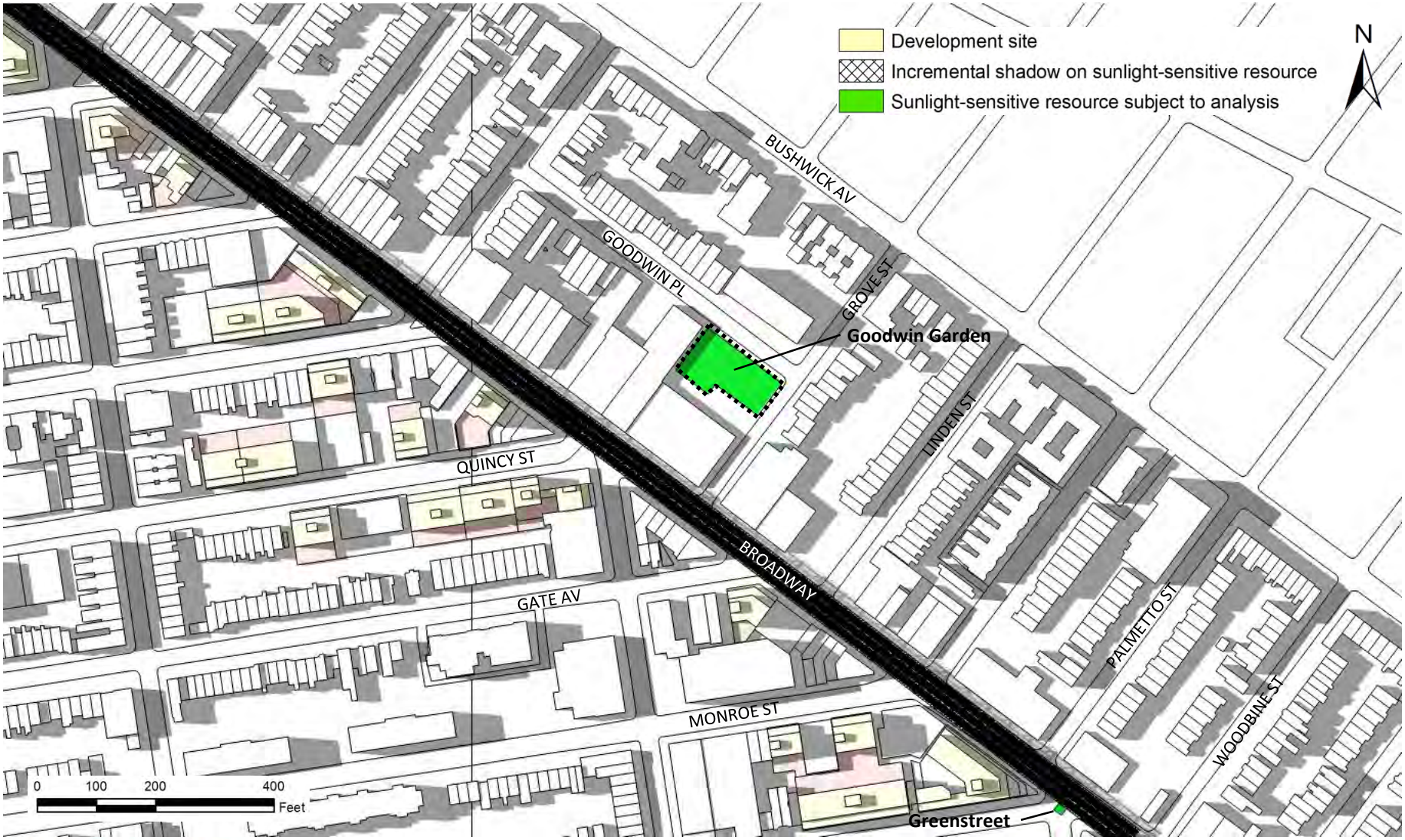
Figure number E-3.2



Bedford-Stuyvesant North Rezoning

June 21, 4:23 p.m.

Figure number E-3.3



Bedford-Stuyvesant North Rezoning

June 21, 5:00 p.m.

Figure number E-3.4





Bedford-Stuyvesant North Rezoning

June 21, 5:10 p.m.

Figure number E-3.5





Bedford-Stuyvesant North Rezoning

June 21, 5:57 a.m.

Figure number E-3.6





Bedford-Stuyvesant North Rezoning

June 21, 6:24 a.m.

Figure number E-3.7





Bedford-Stuyvesant North Rezoning

December 21, 8:51 a.m.

Figure number E-3.8



Bedford-Stuyvesant North Rezoning

December 21, 9:00 a.m.

Figure number E-3.9



Bedford-Stuyvesant North Rezoning

December 21, 8:51 a.m.

Figure number E-3.10



Bedford-Stuyvesant North Rezoning

December 21, 9:17 a.m.

Figure number E-3.11





Bedford-Stuyvesant North Rezoning

June 21, 5:23 p.m.

Figure number E-3.12





Bedford-Stuyvesant North Rezoning

June 21, 5:30 p.m.

Figure number E-3.13



Bedford-Stuyvesant North Rezoning

June 21, 6:01 p.m.

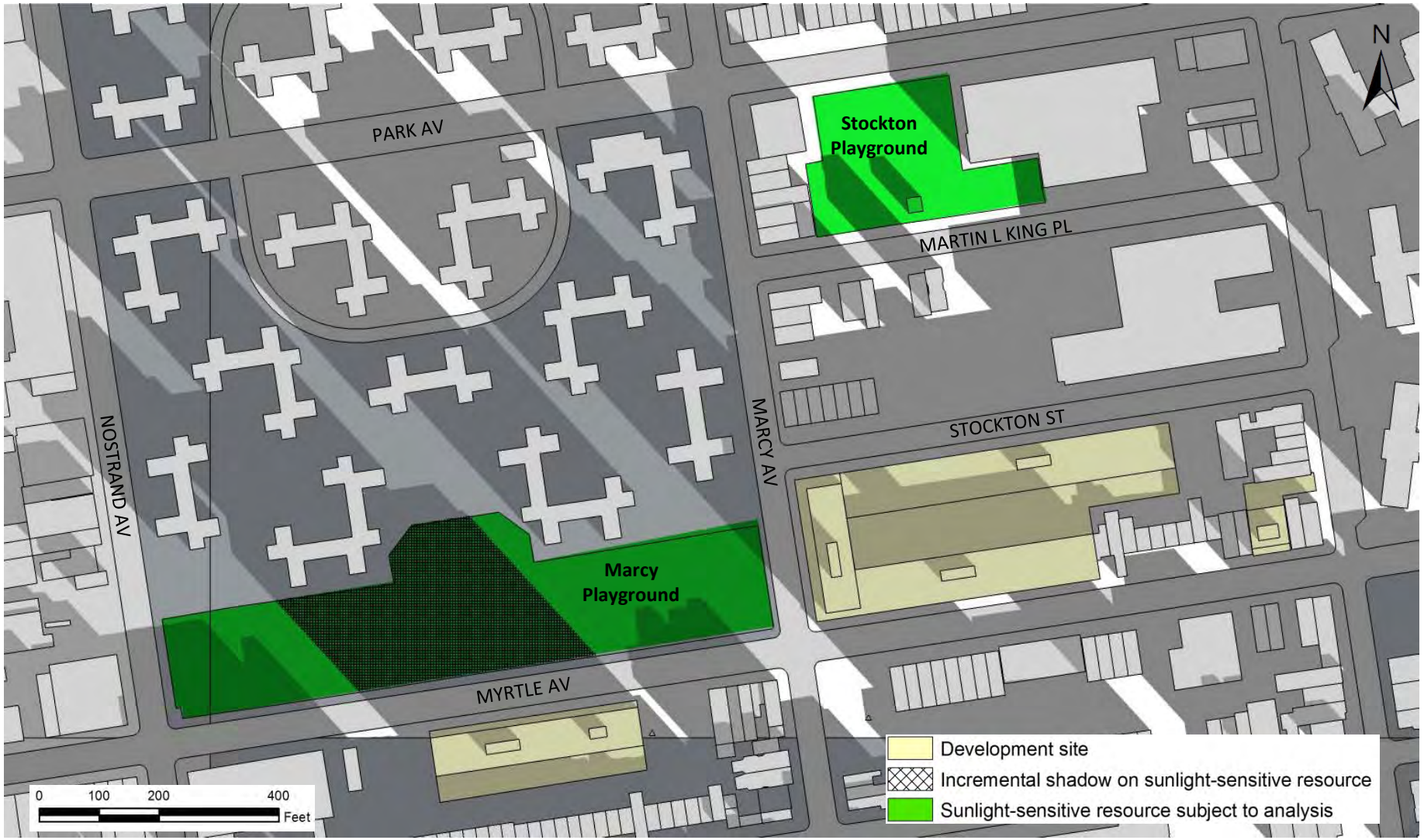
Figure number E-3.14



Bedford-Stuyvesant North Rezoning

December 21, 8:51 a.m.

Figure number E-3.15





Bedford-Stuyvesant North Rezoning

December 21, 10:00 a.m.

Figure number E-3.16





Bedford-Stuyvesant North Rezoning

December 21, 11:00 a.m.

Figure number E-3.17





Bedford-Stuyvesant North Rezoning

December 21, 12:00 p.m.

Figure number E-3.18

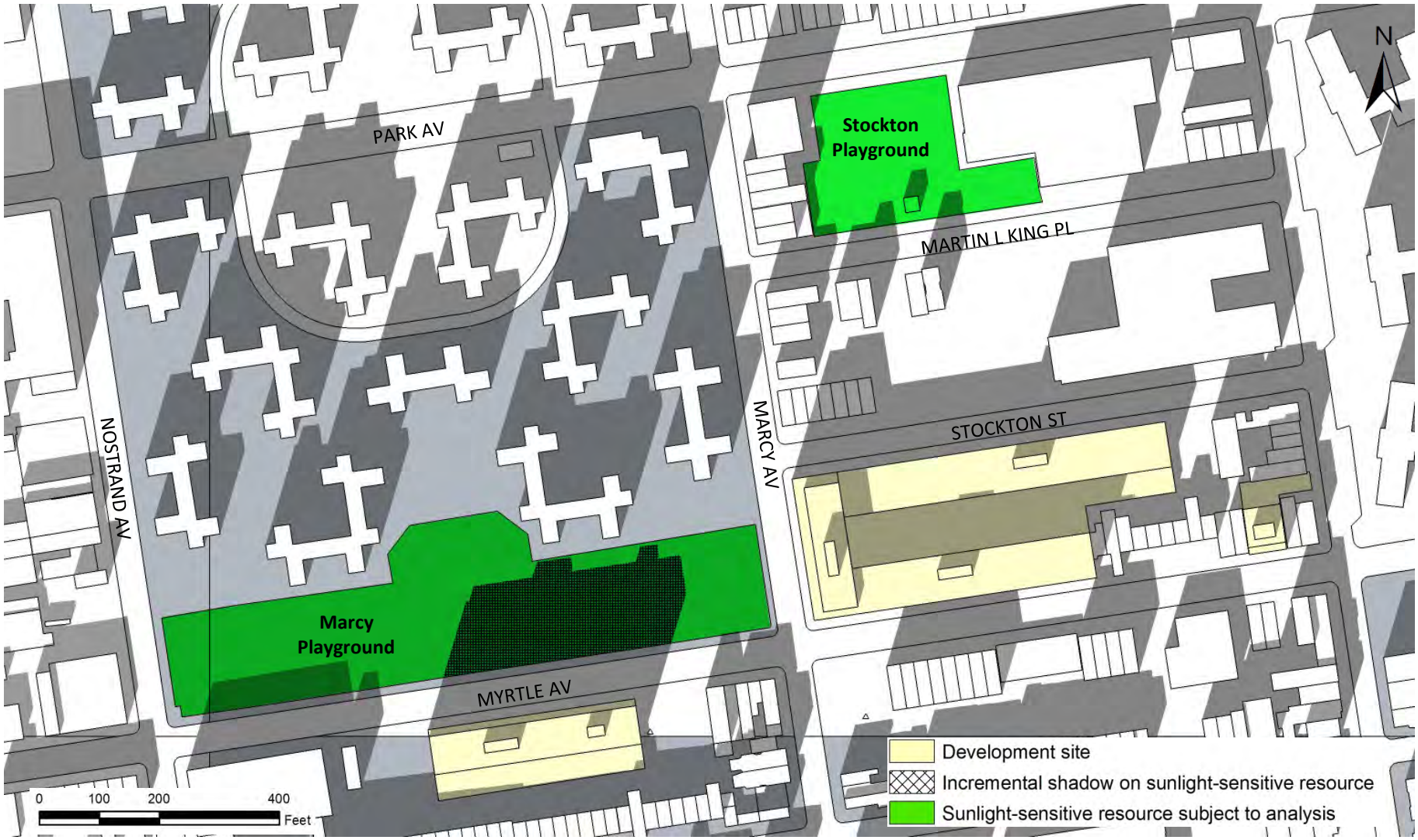




Bedford-Stuyvesant North Rezoning

December 21, 1:00 p.m.

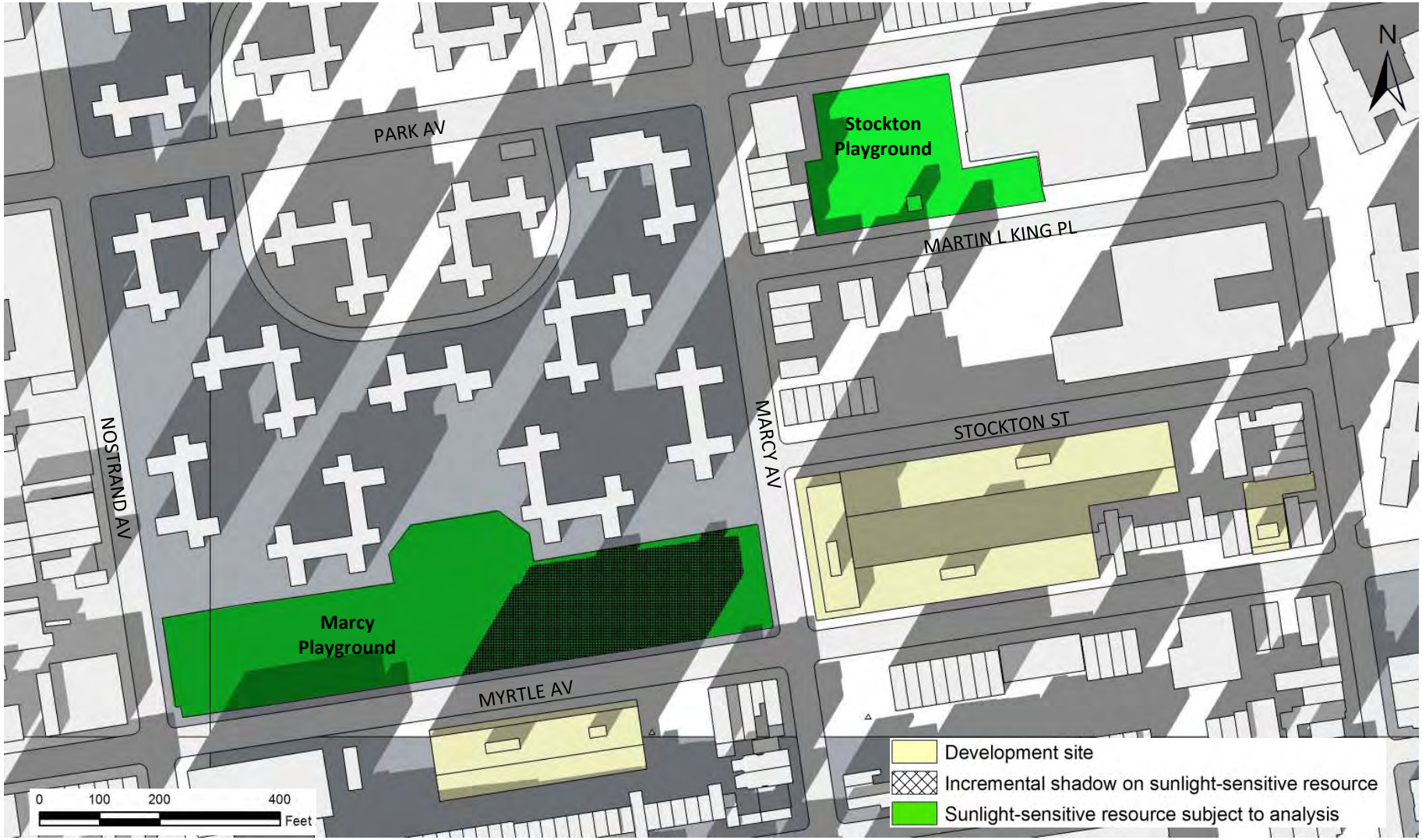
Figure number E-3.19



Bedford-Stuyvesant North Rezoning

December 21, 2:00 p.m.

Figure number E-3.20

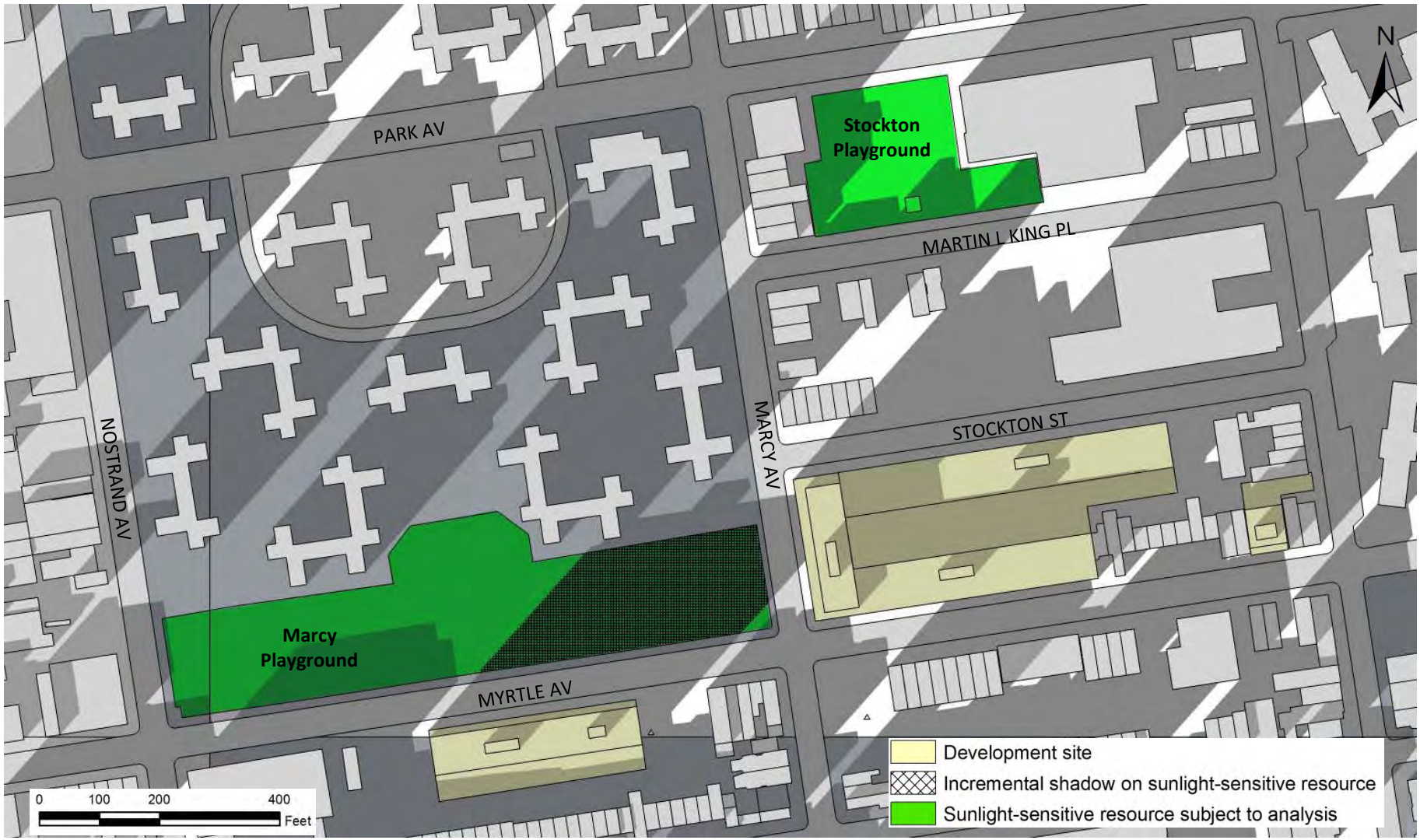




Bedford-Stuyvesant North Rezoning

December 21, 2:53 p.m.

Figure number E-3.21



Bedford-Stuyvesant North Rezoning

March 21, 7:36 a.m.

Figure number E-3.22





Bedford-Stuyvesant North Rezoning

March 21, 8:30 a.m.

Figure number E-3.23





Bedford-Stuyvesant North Rezoning

March 21, 9:30 a.m.

Figure number E-3.24





Bedford-Stuyvesant North Rezoning

March 21, 10:30 a.m.

Figure number E-3.25





Bedford-Stuyvesant North Rezoning

March 21, 11:30 a.m.

Figure number E-3.26





Bedford-Stuyvesant North Rezoning

March 21, 12:30 p.m.

Figure number E-3.27



Bedford-Stuyvesant North Rezoning

May 6, 6:27 a.m.

Figure number E-3.28





Bedford-Stuyvesant North Rezoning

May 6, 7:30 a.m.

Figure number E-3.29





Bedford-Stuyvesant North Rezoning

May 6, 8:30 a.m.

Figure number E-3.30

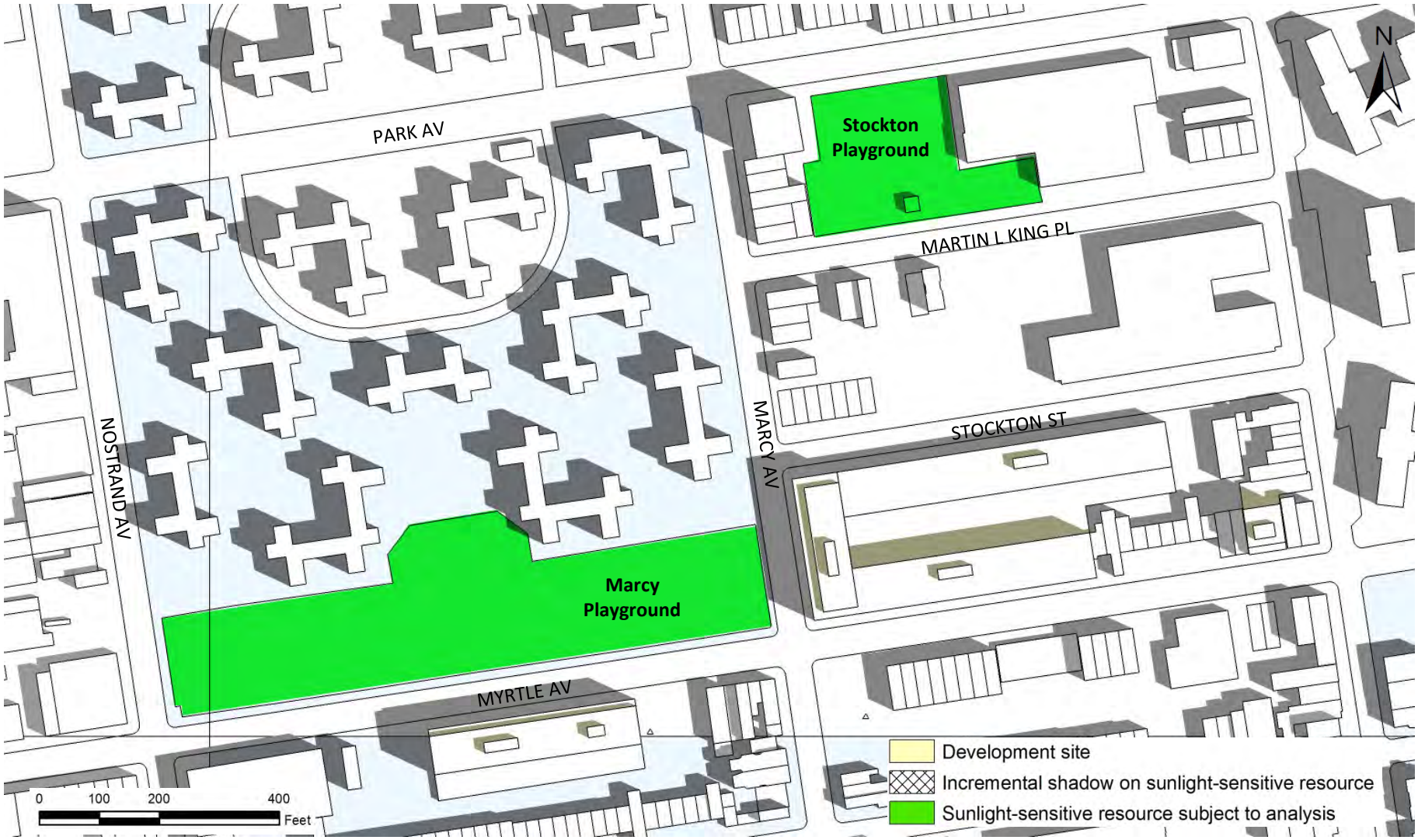




Bedford-Stuyvesant North Rezoning

May 6, 9:20 a.m.

Figure number E-3.31



Bedford-Stuyvesant North Rezoning

June 21, 5:57 a.m.

Figure number E-3.32





Bedford-Stuyvesant North Rezoning

June 21, 7:00 a.m.

Figure number E-3.33





Bedford-Stuyvesant North Rezoning

June 21, 8:00 a.m.

Figure number E-3.34





Bedford-Stuyvesant North Rezoning

June 21, 9:00 a.m.

Figure number E-3.35





Bedford-Stuyvesant North Rezoning

June 21, 9:10 a.m.

Figure number E-3.36





Bedford-Stuyvesant North Rezoning

December 21, 8:51 a.m.

Figure number E-3.37





Bedford-Stuyvesant North Rezoning

December 21, 9:44 a.m.

Figure number E-3.38



Bedford-Stuyvesant North Rezoning

March 21, 7:36 a.m.

Figure number E-3.39



Bedford-Stuyvesant North Rezoning

March 21, 8:30 a.m.

Figure number E-3.40





Bedford-Stuyvesant North Rezoning

March 21, 9:10 a.m.

Figure number E-3.41





Bedford-Stuyvesant North Rezoning

March 21, 9:18 a.m.

Figure number E-3.42



Bedford-Stuyvesant North Rezoning

May 6, 6:27 a.m.

Figure number E-3.43





Bedford-Stuyvesant North Rezoning

May 6, 7:30 a.m.

Figure number E-3.44





Bedford-Stuyvesant North Rezoning

May 6, 8:30 a.m.

Figure number E-3.45



Bedford-Stuyvesant North Rezoning

May 6, 8:47 a.m.

Figure number E-3.46



Bedford-Stuyvesant North Rezoning

May 6, 5:12 p.m.

Figure number E-3.47



Bedford-Stuyvesant North Rezoning

May 6, 5:18 p.m.

Figure number E-3.48



Bedford-Stuyvesant North Rezoning

June 21, 5:57 a.m.

Figure number E-3.49





Bedford-Stuyvesant North Rezoning

June 21, 7:00 a.m.

Figure number E-3.50





Bedford-Stuyvesant North Rezoning

June 21, 8:00 a.m.

Figure number E-3.51





Bedford-Stuyvesant North Rezoning

June 21, 8:38 a.m.

Figure number E-3.52



Bedford-Stuyvesant North Rezoning

December 21, 11:25 a.m.

Figure number E-3.53





Bedford-Stuyvesant North Rezoning

December 21, 12:00 p.m.

Figure number E-3.54





Bedford-Stuyvesant North Rezoning

December 21, 1:00 p.m.

Figure number E-3.55

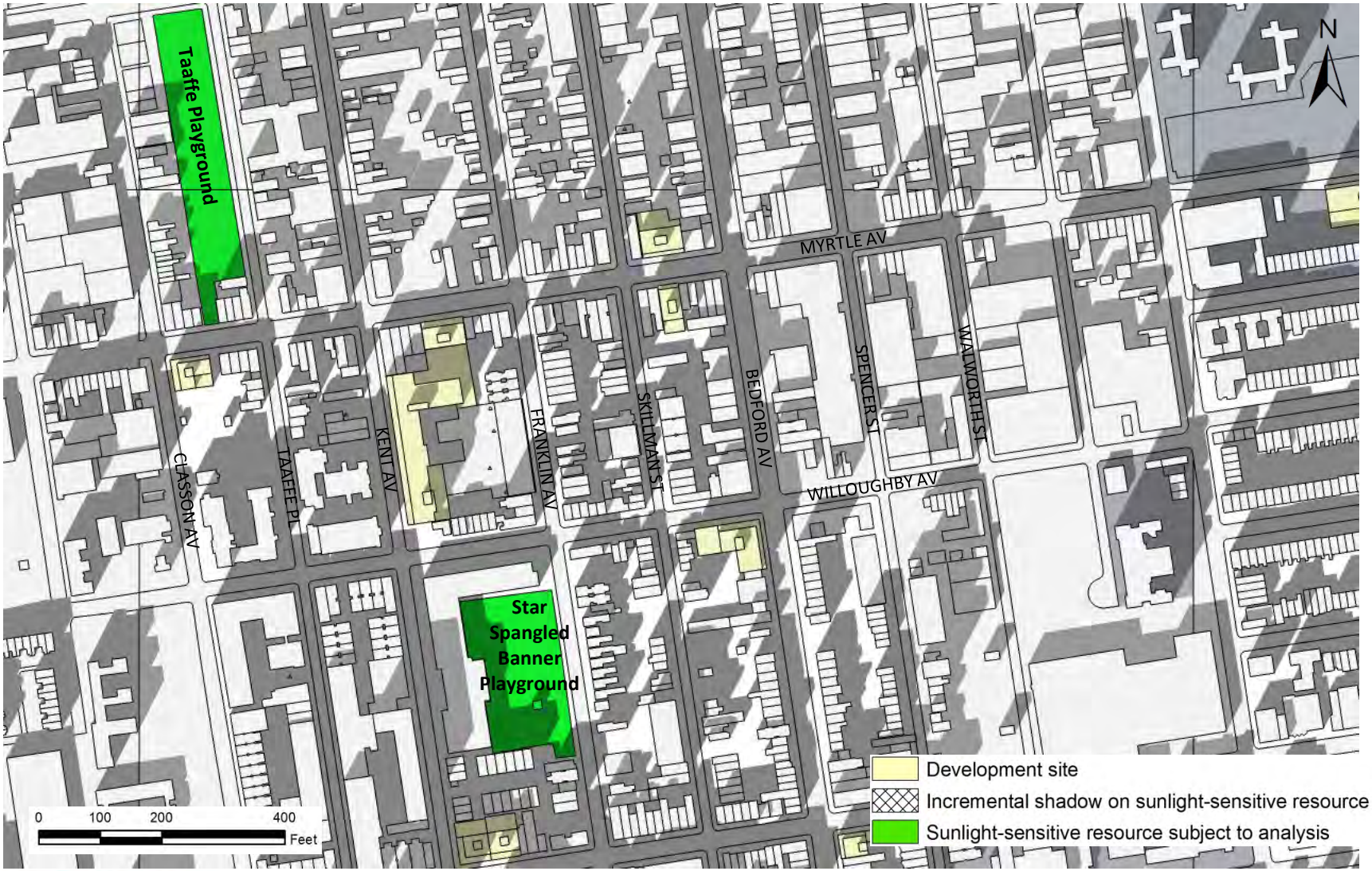




Bedford-Stuyvesant North Rezoning

December 21, 1:44 p.m.

Figure number E-3.56



Bedford-Stuyvesant North Rezoning

March 21, 8:30 a.m.

Figure number E-3.57





Bedford-Stuyvesant North Rezoning

March 21, 9:30 a.m.

Figure number E-3.58



Bedford-Stuyvesant North Rezoning

March 21, 10:30 a.m.

Figure number E-3.59





Bedford-Stuyvesant North Rezoning

March 21, 11:30 a.m.

Figure number E-3.60





Bedford-Stuyvesant North Rezoning

March 21, 12:30 p.m.

Figure number E-3.61



Bedford-Stuyvesant North Rezoning

March 21, 1:20 p.m.

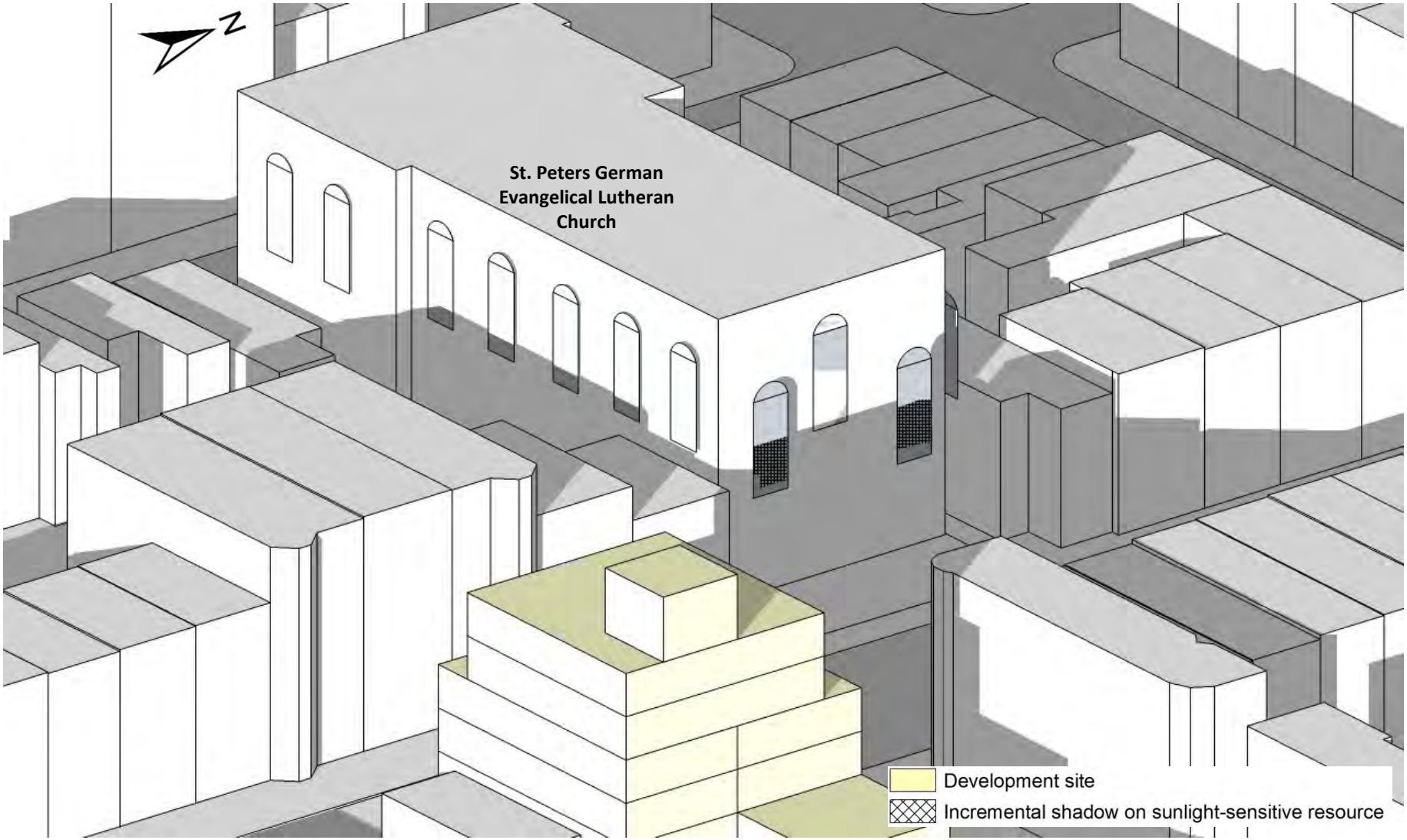
Figure number E-3.62



Bedford-Stuyvesant North Rezoning

December 21, 8:51 a.m.

Figure number E-3.63

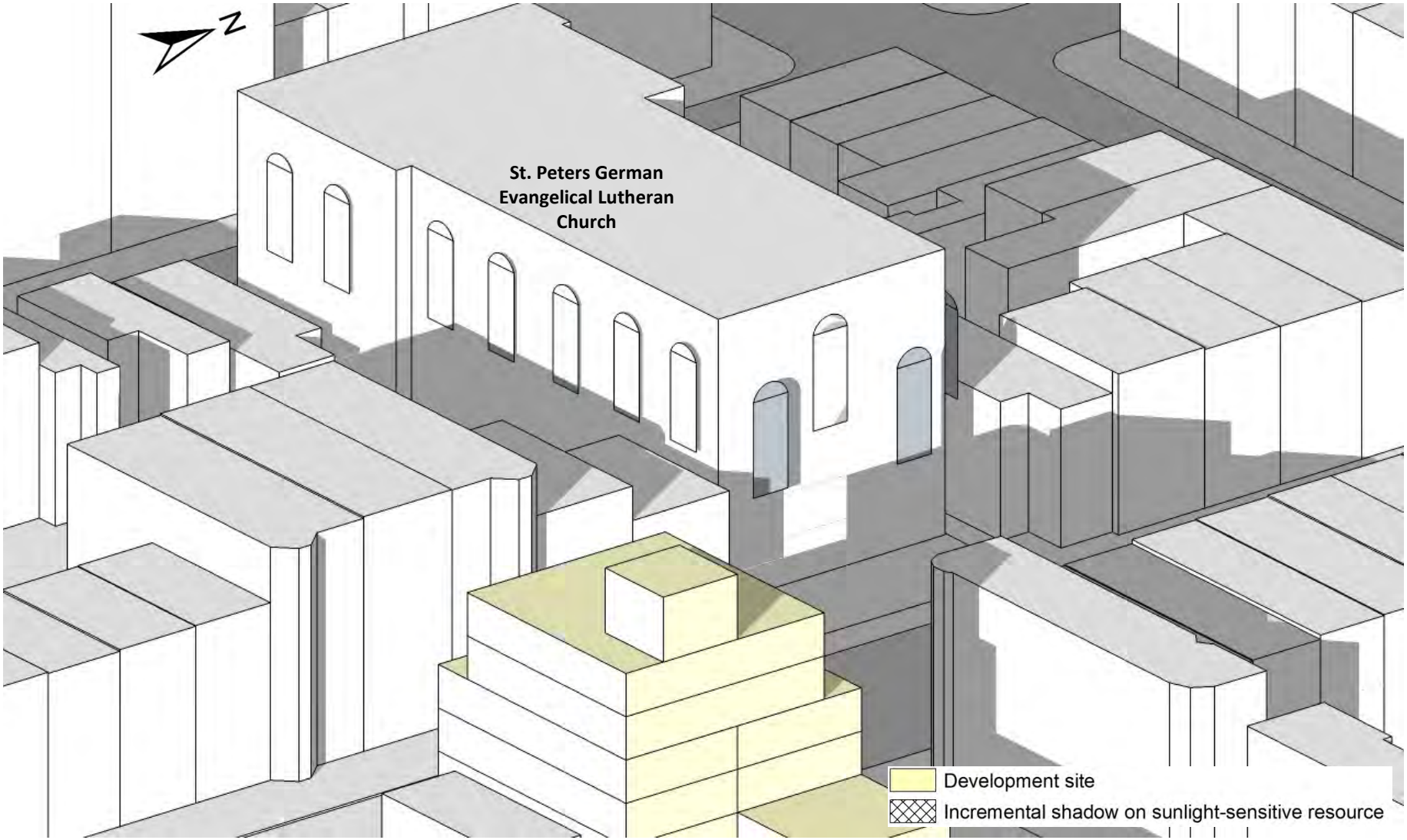




Bedford-Stuyvesant North Rezoning

December 21, 9:09 a.m.

Figure number E-3.64



F. HISTORIC AND CULTURAL RESOURCES

INTRODUCTION

This chapter assesses the potential effect of the Proposed Action on historic architectural and archaeological resources. The *CEQR Technical Manual* identifies historic resources as districts, buildings, structures, sites, and objects of historical, aesthetic, cultural, and archaeological importance. This includes designated New York City Landmarks; properties calendared for consideration as landmarks by the New York City Landmarks Preservation Commission (LPC); properties listed or determined eligible for listing in the State/National Registers of Historic Places (S/NR), or contained within a district listed in or formally determined eligible for S/NR listing by the New York State Office of Parks, Recreation, and Historic Preservation, also known as the New York State Historic Preservation Office (SHPO); properties recommended by the New York State Board for listing in the S/NR; National Historic Landmarks; and properties not identified by one of the programs listed above, but that meet their eligibility requirements.

According to *CEQR Technical Manual* guidelines, impacts on historic resources are considered on those sites affected by the Proposed Action, and in the area surrounding identified development sites. The historic architectural resources study area is therefore defined as the sites that are projected or have the potential to be redeveloped, plus an approximately 400-foot radius around these redevelopment sites, see Figure F-1. These are the areas in which it is expected that new development could affect physical, visual, and historic relationships of historic architectural resources. Archaeological resources are considered only in those areas where excavation is likely, and would result in new in-ground disturbance. These are limited to sites that may be developed in the rezoning area, including projected and potential development sites.

There are 15 historic architectural resources and one area of archeological sensitivity located in the historic resources study area. As the Proposed Action would generate development that could result in new in-ground disturbance and construction of a building type not currently permitted in the affected area, the Proposed Action has the potential to affect historic architectural resources and archeological resources. However, as discussed below, the Proposed Action would not result in significant adverse impacts on historic resources.

Background/History

Bedford-Stuyvesant is a large neighborhood in north-central Brooklyn, roughly bound to the north by Flushing Avenue, to the south by Atlantic Avenue, to the east by Broadway, and to the west by Classon Avenue. The earliest development in the Bedford-Stuyvesant neighborhood was the village of Bedford, which was settled prior to the American Revolution. It was the first major settlement east of the village of Brooklyn, and forms the center of the present neighborhood. A railroad station was erected in Bedford by the Brooklyn & Jamaica Railroad in the 1830s. In the 1860s, the neighborhood hosted the Capitoline Grounds, home of the Brooklyn Atlantics baseball team (Kelly, 2007).

During the second half of the 19th century, Bedford grew due to the completion of the Brooklyn Bridge, the introduction of electric trolleys, and the completion of the Fulton Street Elevated Railroad, predecessor to the present-day elevated subway. The neighborhood became a working-

and middle-class bedroom community of downtown Brooklyn and Manhattan. As the population increased, frame residences were replaced with brownstone rowhouses, resulting in its present appearance (Kelly, 2007).

In the 1930s, the neighborhoods of Bedford, Stuyvesant Heights, Ocean Hill, and Weeksville were consolidated under the name Bedford-Stuyvesant, which forms part of present-day Brooklyn Community Board 3. Following the construction of the Independent (IND) Fulton Street Line subway in 1936, many African-Americans relocated from overcrowded conditions in Harlem to more affordable housing in Bedford-Stuyvesant, and some sought skilled jobs at the Brooklyn Navy Yard. Since that time, Bedford-Stuyvesant has become a hub of African-American culture (Echanove, 2003).

Gang wars erupted in Bedford-Stuyvesant in 1961, and the race riots that broke out in Harlem in 1964 spread to Bedford-Stuyvesant (Clark, May 2, 1961). In 1965, Andrew Cooper brought a suit under the Voting Rights Act against racial gerrymandering in Bedford-Stuyvesant. This suit resulted in the creation of New York's 12th Congressional District, and the election of Shirley Chisholm, the first African-American woman and West Indian American to be elected to the US Congress (Lueck, January 30, 2002).

Social and political unrest continued through the 1960s to the early 1970s. The population of Bedford-Stuyvesant peaked in the late 1960's, but suffered a dramatic decline in the 1970's. In 1975, a massive layoff occurred at the Navy Yard, and 80 percent of the affected workers were residents of Bedford-Stuyvesant and adjacent neighborhoods. The power outage in New York City in 1977 caused by a failure at the Con Edison plant hit Bedford-Stuyvesant particularly hard. Thirty-five blocks of Broadway were affected, and many stores were looted and set on fire (Kaplan, December 29, 1977).

Subsequent decades have seen slow and steady growth in the population of Bedford-Stuyvesant. Beginning in the early 2000s, Bedford-Stuyvesant began to undergo gentrification due in part to the affordable brownstone housing stock, and a decrease in crime. This decrease was attributed to an increased police presence, and the decline in the influence of drugs on crime. As a result, Bedford-Stuyvesant has become racially and economically diverse. In contrast to most examples of gentrification, the existing population in Bedford-Stuyvesant has experienced less displacement than other Brooklyn neighborhoods, such as Williamsburg and Cobble Hill. New businesses have been attracted to the neighborhood as many existing properties have been renovated, and new properties developed (Echanove, 2003).

Presently, Bedford-Stuyvesant continues to experience redevelopment, especially in the western and southern areas of the neighborhood. A business improvement district (BID) has formed with a particular focus on the Fulton Street and Nostrand Avenue corridors, as it continues to help draw new business to the area. In 2011, three restaurants in Bedford-Stuyvesant were included in the Zagat restaurant guide, signifying its emergence as an up-and-coming neighborhood (Roberts, August 4, 2011).

ARCHAEOLOGICAL RESOURCES

Archaeological resources are physical remains, usually buried, of past activities on a site. They can include remains from Native American people who used or occupied a site, including tools, refuse from tool-making activities, habitation sites, etc. Archaeological resources can also include remains from activities that occurred during the historic period (beginning with European colonization of the New York area in the 17th century) that include European contact with Native Americans, as well as battle sites, foundations, wells, and privies. Archaeological resources in developed areas may have been disturbed or destroyed by grading, excavation, and infrastructure installation and improvements. However, some resources do survive in an urban environment. Deposits may have been protected either by being paved over or by having a building with a shallow foundation constructed above them. In both scenarios, archaeological deposits may have been sealed beneath the surface, protected from further disturbance.

The *CEQR Technical Manual* requires a detailed evaluation of an action's potential effect on archaeological resources if it would result in an in-ground disturbance to an area not previously excavated, or would be subject to new excavation deeper and/or wider than previous excavation on the same site. For any actions that would result in new ground disturbance, assessment of both prehistoric and historic archaeological resources is generally appropriate.

The impact area for potential archaeological resources affected by the Proposed Action is considered to be the area where in-ground disturbance may occur. LPC reviewed the projected and potential development sites to determine the potential for effects to archaeological resources. LPC determined that one projected development site, Site DD at 404-410 Kosciuszko Street, has the potential to be archaeologically sensitive for prehistoric and historic archaeological resources. As discussed in Attachment 2, "Reasonable Worst Case Development Scenario," it is assumed that Projected Development Site DD would be developed in the future without the Proposed Action. Further, as shown in the RWCDS, the area of the lot developed on Projected Development Site DD would be the same under Future No-Action and Future With-Action Scenarios. Since development of the site would occur in the future without the Proposed Action, development of the site as a result of the Proposed Action would not result in significant adverse archeological impacts.

None of the other projected or potential development sites were determined to be archaeologically sensitive. Accordingly, this chapter focuses exclusively on the potential for the proposed rezoning to result in significant adverse impacts to architectural resources in the study area.

HISTORIC ARCHITECTURAL RESOURCES

Existing Conditions

As noted above, in order to assess the potential impacts of the proposed rezoning on historic architectural resources, a study area was defined by drawing a 400-foot radius around the boundaries of the projected and potential development sites, as depicted in **Figure F-1**. There are 15 resources within the study area. One resource is a designated New York City Landmark

(NYCL), two resources are State and National Register (S/NR)-listed, five resources are both eligible New York City historic districts (NYCL-eligible) and S/NR-eligible, and seven resources are S/NR-eligible. Photographs of all designated NYCL, NYCL-eligible, and S/NR-listed and -eligible resources are shown in **Figure F-2**, and are keyed to **Figure F-1**. The resources are described below:

1. **St. Mary's Episcopal Church** (Figure F-2, Photo 1, S/NR-listed) is a Gothic Revival-style church located at 230 Classon Avenue. It is constructed of Belleville brownstone, and capped by an asphalt-shingle-sheathed, side-gable roof. The bell tower features a copper spire. The church was designed in 1858 by Richard Auchmuty, partner of James Renwick. It is significant as one of the most intact surviving Gothic Revival-style churches from the mid-19th century in Brooklyn.

2. The former **Convent of the Sisters of Mercy** (Figure F-2, Photo 2, S/NR-eligible) is located at 273 Willoughby Avenue and 249 Classon Avenue. The brick-and-brownstone convent was designed by Patrick Charles Keeley in the Second Empire style, and constructed in 1862. Patrick Charles Keeley was an Irish-American architect who designed over 600 churches and other institutional buildings for the Roman Catholic Church during the second half of the 19th century. It was built for the Sisters of Mercy, known locally as the "Walking Sisters" for their work in the community. It is significant for its architectural design.

3. The **St. Peter's Historic District** (Figure F-2, Photo 3, NYCL-eligible, S/NR-eligible) is centered around the intersection of Bedford and DeKalb avenues. The district is comprised primarily of three- and four-story, mixed-use, Italianate-style buildings situated along a commercial and transportation corridor, punctuated by institutional buildings including a church and a bank. These buildings effectively illustrate the character of this commercial crossroads at the end of the 19th century. The St. Peter's Area Historic District was identified by LPC, and SHPO concurred with LPC's findings.

4. **St. Peter's German Evangelical Lutheran Church** (Figure F-2, Photo 4, S/NR-eligible) is a Gothic Revival-style church located at 1004 Bedford Avenue. The St. Peter's German Evangelical Lutheran Church was organized in 1868 to serve German families in the Village of Bedford, and the congregation was able to construct the church in 1887. The church is clad in painted stucco with limestone foundation and detailing. The tower has 11 bells cast by Meneely & Company of Troy, New York in 1910, and the organ was produced by the J.H. & C.S. Odell Factory. The spire on the tower has been removed. It is significant for its architectural design, and for representing the immigration of German-speaking people to the US in the mid-19th century.

5. The former **East Brooklyn Savings Bank** (Figure F-2, Photo 5, S/NR-eligible) is located at 973 Bedford Avenue, and is a three-story, Classical Revival-style, masonry building that rests on a raised granite foundation. It was constructed in 1921 for the former East Brooklyn Savings Bank. The East Brooklyn Savings Bank received a charter to organize from New York State in 1860. The bank went through a series of mergers and name changes until it finally merged with HSBC in 1999. The building currently houses a

branch of J.P. Morgan Chase. It is significant for its architectural design, and for reflecting the history of Brooklyn's financial institutions.

6. The building at **511 Lafayette Avenue** (Figure F-2, Photo 6, S/NR-eligible) is a two-and-a-half-story, red-brick, Second Empire-style detached residence set back on a small, urban lot. Constructed circa (ca.) 1860, the symmetrical residence is clad in brick with brownstone window sills and lintels. The mansard roof is clad in asphalt roll, and is pierced by three pedimented dormers. The residence is accessed by seven curved steps that lead to the primary entrance. The front areaway is paved in concrete with two small planters that flank the primary entrance to the east and west. It is significant for its architectural design, as a rare example of a single-family detached Second Empire-style residence in Brooklyn.

7. The **College of Pharmacy Historic District** (Figure F-2, Photo 7, NYCL-eligible, S/NR-eligible) is generally located along Greene Avenue between Classon and Nostrand avenues. The district is comprised of long blocks of mostly intact brownstone rowhouses, framed by taller mixed-use buildings at the end of the blocks, situated in the vicinity of the Brooklyn College of Pharmacy. The College of Pharmacy Historic District was identified by LPC, and SHPO concurred with these findings according to LPC correspondence dated March 14, 2012. A copy of the correspondence is included in the appendix of this report.

8. The **Cripplebush Road Historic District** (Figure F-2, Photo 8, NYCL-eligible, S/NR-eligible) is located in the northern section of Bedford-Stuyvesant, and generally encompasses those properties facing Willoughby Avenue and Hart Street between Nostrand and Marcy avenues. The district is mostly comprised of long blocks of intact brownstone rowhouses. It features a variety of end-block properties; including rowhouses, taller mixed-use buildings, and a detached single-family Queen Anne-style residence constructed ca. 1890 on a mid-sized lot. The name of the Cripplebush Road Historic District is derived from its close proximity to the former Village of Cripplebush, one of the original Dutch villages in the Town of Brooklyn. The Village of Cripplebush was located along Cripplebush Road, which connected the colonial village of Bedford Corners to Long Island City. The Dutch residents of the nearby village of Wallabout were granted a patent to incorporate the Village of Cripplebush in 1654. The Cripplebush Road Historic District is significant as an intact example of the brownstone rowhouses that characterized the growth of Bedford-Stuyvesant during the second half of the 19th-century. The district was identified by LPC, and SHPO concurred with these findings according to LPC correspondence dated March 14, 2012. A copy of the correspondence is included in the appendix of this report.

9. The **Tompkins Park Historic District** (Figure F-2, Photo 9, NYCL-eligible, S/NR-eligible) is roughly bound to the north by DeKalb Avenue, the south by Lexington Avenue, the east by Throop Avenue, and the west by Nostrand Avenue. The 119 buildings in this district were laid out on the property of Garrett Nostrand and Tunis Johnson, and arranged around Herbert Von King Park. Herbert Von King Park was originally named after the former Vice President, New York State Governor, and

abolitionist Daniel D. Tompkins. Tompkins Park was acquired in 1857. It was one of the first established parks in the City of Brooklyn, and is documented on Phelp's New Map (of Brooklyn) from 1861. The park was renamed Herbert Von King Park in honor of community activist Herbert Von King in 1985. The Tompkins Park Historic District was identified by LPC, and SHPO concurred with these findings according to LPC correspondence dated March 14, 2012. A copy of the correspondence is included in the appendix of this report.

10. The **Magnolia Grandiflora and Magnolia Tree Earth Center** (Figure F-2, Photo 10, NYCL) is located at 677, 678, and 679 Lafayette Avenue, and consists of a Magnolia tree located in south of the hous**e at 679 Lafayette Avenue, and three adjacent late-19th c**entury rowhouses. The tree, which grows at the northern edge of its species' rang**e, was brought to New York from N**orth Carolina, and planted ca. 1885. The rowhouses were each desigNated separately, and converted to serve as an environmental education center, known as the Magnolia Tree Earth Center. Furthermore, the rowhouses have protected the Magnolia tree, allowing it to grow to its present size. The preservation of the tree and reuse of the rowhouses inspired Hattie Carthen, who began the grassroots movement to revitalize Bedford-Stuyvesant in the late 1950s-1960s. The Magnolia Grandiflora and Magnolia Tree Earth Center are significant for their connection with Hattie Carthen. The Magnolia Tree Earth Center is also significant for its architectural design, which provides a unique example of the relationship between the natural and built environments.

11. The **Traffic Court Historic District** (Figure F-2, Photo 11, NYCL-eligible, S/NR-eligible) is roughly bound to the north by Myrtle Avenue, the south by DeKalb Avenue, the east by Marcus Garvey Boulevard, and the west by Marcy Avenue. The district is comprised of two- and three-story brick and brownstone rowhouses located mid-block, and mixed-use and apartment buildings at the block ends. Approximately a third of the buildings were built in or before 1886. The early development in this district was concentrated in the vicinity of old 18th-century roads, such as the old Reid Road which was located on a diagonal alignment through the center of the district. The Traffic Court Historic District was identified by LPC, and SHPO concurred with these findings according to LPC correspondence dated March 14, 2012. A copy of the correspondence is included in the appendix of this report.

12. The **Bedford-Stuyvesant East-Central Historic District** (Figure F-2, Photo 12, NYCL-eligible, S/NR-eligible) is roughly bound to the north by Lafayette Avenue, the south by Lexington Avenue, the east by Patchen Avenue, and the west by Throop Avenue. The district is comprised of long blocks of mostly intact brownstone rowhouses, framed by taller mixed-use buildings at the block ends. Forty-two percent of its rowhouses were built in or before 1886, on the lands of the Delmonico, Vandervoort, Lott, Rapelyea, Boerum, Nostrand, and Lefferts families. These families had been Brooklyn residents since the 18th century. One of the reasons for the early development was the district's easy access to public transportation systems: the north-south oriented trolleys ran through the district on Sumner and Reid avenues, and the Lexington Avenue elevated which ran along its southern border. The Bedford-Stuyvesant East-Central Historic District is significant as an intact example of brownstone rowhouses that characterized the growth of the neighborhood during the second half of the 19th-century.The district was identified

by LPC, and SHPO concurred with these findings according to LPC correspondence dated March 14, 2012. A copy of the correspondence is included in the appendix of this report.

13. The **former Christ Evangelical English Lutheran Church** (Figure F-2, Photo 13, S/NR-listed), also known as the Rugged Cross Baptist Church, is located at 1084 Lafayette Avenue. Lutheran churches from this era were largely established to serve German-speaking immigrant populations. However, as children and grandchildren of the immigrants became fluent in English, English-language congregations, such as the Christ Evangelical English Lutheran Church, became more common. The church was constructed between 1898-99 in the Romanesque Revival st[yl]e by Dodge & Morrison, a New York City-based firm known for its church design. The Franz Mayer Studios designed the windows. The church is clad in cream brick with terra cotta and limestone details. It was purchased by the Rugged Cross Baptist Church in 1980. The church is significant for its architectural design, and for representing the assimilation of German-speaking immigrants into American culture.

14. The **Bedford-Stuyvesant at Broadway Historic District** (Figure F-2, Photos 14 and 15, NYCL-eligible, S/NR-eligible) is roughly bound to the north by Lafayette Avenue, the south by Gates Avenue, the east by Broadway, and the west by Malcolm X Boulevard. The district includes a variety of low- and mid-rise mixed-use buildings to the east along Broadway; brownstone rowhouses and apartment buildings comprise the remainder of the district. The district, located on the former properties of J. Meserole and John Delmonico, developed as an urban environment early in Bedford-Stuyvesant's history due, in part, to its location near transportation arteries. The Bedford-Stuyvesant at Broadway Historic District was identified by LPC, and SHPO concurred with these findings according to LPC correspondence dated March 14, 2012. A copy of the correspondence is included in the appendix of this report.

15. **Public School 26** (Figure F-2, Photo 16, S/NR-eligible), also known as the Junior Academy, is located at 856 Quincy Street. It is a rectangular-plan, five-and-a-half-story, nine-bay, Tudor-style building clad in brick with brownstone details. It rests on a raised rusticated foundation, and is capped by an asphalt-shingle-sheathed cross-gable roof. The primary façade features a series of end-gable wall dormers, and the off-center primary entrance. The building currently houses the Brooklyn Excelsior Charter School, which was established by the State University of New York in 2003. It is significant for its architectural design.

Future No-Action Scenario

Under the Future No-Action Scenario, the status of historic architectural resources could change. S/NR-eligible resources could be listed in the State and/or National Registers; NYCL-eligible properties could be calendared for a designation hearing by LPC; and properties pending designation as Landmarks could be designated by LPC. It is also possible, given the project's 2022 completion year, additional significant architectural resources could be identified over time.

Under the Future No-Action Scenario, existing zoning would remain in place. It is expected that the Bedford-Stuyvesant North Rezoning Area would experience growth in community facility, commercial, and residential uses, see Attachment 2. Under the Reasonable Worst Case Development Scenario (RWCDS), as-of-right development would be expected to occur on most of the 31 projected development sites. As a result, a total of 1,198 dwelling units (DUs); approximately 170,399 square feet of commercial retail space, approximately 28,666 square feet of commercial office space, and approximately 380,826 square feet of community facility space may be erected.

Under the RWCDS in the Future No-Action Scenario**,** five historic architectural resources would be affected by development on identified projected and potential development sites, including one individually S/NR-eligible resource, and four NYCL-eligible and S/NR-eligible resources.

- The **East Brooklyn Savings Bank** (S/NR-eligible), known as Potential Development Site 5, is anticipated to be redeveloped as a six-story, 20,615-square-foot, mixed-use building with underground parking.

- The **Bedford-Stuyvesant at Broadway Historic District** (NYCL-eligible, S/NR-eligible) includes Projected Development Sites Z and AA, and Potential Development Sites 20, 24, and 25. It is anticipated that Projected Development Site Z would be redeveloped as two two-story, 7,467-square-foot, mixed-use buildings, and Projected Development Site AA would be redeveloped with a five-story, 29,000-square-foot, mixed-use building and a single-story, 7,358-square-foot medical building. It is anticipated that Potential Development Site 20 would be redeveloped as two four-story, 10,000-square-foot, community facility-use buildings. It is anticipated that Potential Development Site 24 would be redeveloped as two four-story, 7,303-square-foot, commercial buildings. It is anticipated that Potential Development Site 25 would be redeveloped as two four-story, 2,700-square-foot, commercial buildings with underground parking.

- The **Traffic Court Historic District** (NYCL-eligible, S/NR-eligible) includes a portion of Projected Development Site I. It is anticipated that Projected Development Site I would be redeveloped with two buildings: one five-story, 30,000 square-foot building with underground parking, and a renovation of the existing supermarket resulting in an eight-story, 100,000-square-foot, mixed-use building with underground parking.

- The **Tompkins Park Historic District** (NYCL-eligible, S/NR-eligible) includes Projected Development Site EE, which is anticipated to be redeveloped as a four-story, 9,501-square-foot, residential building.

- The **St. Peter's Historic District** (NYCL-eligible, S/NR-eligible) includes Potential Development Site 5, also known as the former East Brooklyn Savings Bank, which is described above.

- The **Bedford-Stuyvesant East-Central Historic District** (NYCL-eligible, S/NR-eligible) includes Projected Development Site M, which is anticipated to be redeveloped with a five-story, 22,489-square-foot, mixed-use building.

The as-of-right development of the projected and potential development sites occupied by or included within the boundaries of the NYCL-eligible and/or S/NR-eligible resources listed above would not trigger LPC review because they are not LPC-designated landmarks. In addition, if the development is funded privately, it would not trigger SHPO review. Therefore, the development could be undertaken without regulating oversight. However, if the historic districts were designated by LPC, the development within those districts would be subject to LPC review. Additionally, if the development is state or federally funded, or requires state or federal permits, then it would be subject to SHPO review.

Additionally, five architectural resources are located within 90 feet of projected and potential development sites, and could be impacted by inadvertent construction-related effects through adjacent construction. These include the **Christ Evangelical English Lutheran Church**, **Convent of the Sisters of Mercy**, **College of Pharmacy Historic District**, **Cripplebush Road Historic District**, and **St. Peter's German Evangelical Lutheran Church**. These resources would be subject to protection through Department of Building (DOB) controls governing the protection of adjacent properties from construction activities.

Future With-Action Scenario

Assessment Methodology

According to the *CEQR Technical Manual*, significant adverse effects to historic and cultural resources could potentially result if a Proposed Action affects those characteristics that make a resource eligible for LPC designation or S/NR listing. This section assesses the potential for project actions to result in significant adverse effects on identified historic and cultural resources. **Table F-1** provides information about possible direct and indirect impacts to historic and cultural resources according to *CEQR Technical Manual,* Chapter 9 – Historic and Cultural Resources.

The effects of the Future With-Action Scenario on historic resources were assessed in accordance with **Table F-1** to determine (a) whether there would be a physical change to any designated resource or its setting, and (b) if so, is the change likely to diminish the qualities of the resource that make it important (including non-physical changes such as context or visual prominence). The assessment of the potential for impacts on significant resources are described below.

Table F-1 Possible Impacts to Historic and Cultural Resources

• Construction resulting in ground disturbance, including construction of temporary roads and access facilities, grading, and landscaping.
• Below-ground construction, such as excavation or installation of utilities.
• Physical destruction, demolition, damage, alteration or neglect of all or part of an historic property
• Changes to the architectural resource that cause it to become a different visual entity, such as a new location, design, materials, or architectural features.
• Isolation of the property from, or alteration of, its setting or visual relationship with the streetscape. This includes changes to the resource's visual prominence so that it no longer conforms to the streetscape in terms of height, footprint, or setback; is no longer part of an open setting; or can no longer be seen as part of a significant view corridor.
• Introduction of incompatible visual, audible, or atmospheric elements to a resource's setting.
• Replication of aspects of the resource so as to create a false historical appearance.
• Elimination or screening of publicly accessible views of the resource.
• Construction-related impacts such as falling objects, vibration, dewatering, flooding, subsidence, or collapse.
• Introduction of significant new shadows, or significant lengthening of the duration of existing shadows, over an historic landscape or an historic structure to the extent that the architectural details that distinguish that resource as significant are obscured.

Source: *CEQR Technical Manual.* January 2012.

Direct Effects

Historic resources could be directly affected by physical destruction, demolition, damage, alteration, or neglect of all or part of a historic resource. For example, alterations, such as the addition of a new wing to a historic building could result in significant adverse impacts, depending on the design. Direct effects also include changes to an architectural resource that cause it to become a different visual entity, such as a new location, design, materials, or architectural features.

NR-listed and eligible resources are given a measure of protection from the effects of projects sponsored, assisted, or approved by federal agencies under Section 106 of the National Historic Preservation Act. Although preservation is not mandated, federal agencies must attempt to avoid adverse effects on such resources through a notice, review, and consultation process. S/NR-listed and eligible resources are similarly protected against effects resulting from projects sponsored, assisted, or approved by State agencies under the State Historic Preservation Act. However,

private owners of S/NR-listed and eligible resources using private funds can alter or demolish their properties without such a review process. Privately owned properties that are NYCLs, in LPC-designated historic districts, or pending designation as Landmarks by LPC are protected under the New York City Landmarks Law. The law requires LPC review and approval before any alteration or demolition occurs, regardless of whether the project is publicly or privately funded. Publicly owned resources are also subject to review by LPC before project implementation; however, the LPC's role in projects sponsored by other city or state agencies generally is advisory only.

The Proposed Action has the potential to result in direct effects to six of the 15 identified historic architectural resources, including the **East Brooklyn Savings Bank**, **Bedford-Stuyvesant East-Central Historic District**, **Bedford-Stuyvesant and Broadway Historic District**, **Traffic Court Historic District**, **Tompkins Park Historic District**, and **St. Peter's Historic District**. The projected and potential development sites that have the potential to directly affect historic architectural resources are described, below by resource. It should be noted that potential development sites are considered less likely to be redeveloped than projected development sites.

- The **East Brooklyn Savings Bank** (S/NR-eligible) occupies Potential Development Site 5, which is assumed under the RWCDS would be redeveloped as an eight-story 24,955-square-foot mixed-use building.

- The **Bedford-Stuyvesant East-Central Historic District** (NYCL-eligible, S/NR-eligible) includes Projected Development Site M, which is assumed under the RWCDS would be redeveloped as a seven-story, 34,599-square-foot, mixed-use building with underground parking.

- The **Bedford-Stuyvesant at Broadway Historic District** (NYCL-eligible, S/NR-eligible) includes Projected Development Sites Z and AA, and Potential Development Sites 20, 24, and 25. It is assumed under the RWCDS that Projected Development Site Z would be redeveloped as two eight-story, 33,867-square-foot, mixed use buildings; and Projected Development Site AA would be redeveloped as a seven-story, 52,074-square-foot, mixed-use building with underground parking. It is also assumed under the RWCDS that Potential Development Site 20 would be redeveloped as an eight-story, 46,000-square-foot, mixed-use building; Potential Development Site 24 would be redeveloped as a ten-story, 37,334-square-foot, mixed-use building; and Potential Development Site 25 would be redeveloped as an eight-story, 36,800-square-foot, mixed-use building.

- The **Traffic Court Historic District** (NYCL-eligible, S/NR-eligible) includes a portion of Projected Development Site I. It is assumed under the RWCDS that site I would be redeveloped with two buildings: one seven-story, 29,500-square-foot, mixed-use building with parking, and the renovation of the existing supermarket resulting in an 11-story, 129,000-square-foot, mixed-use building with underground parking.

- The **Tompkins Park Historic District** (NYCL-eligible, S/NR-eligible) includes Projected Development Site EE, which is assumed under the RWCDS to be redeveloped with two five-story, 5,758-square-foot, residential buildings.

- The **St. Peter's Historic District** (NYCL-eligible, S/NR-eligible) includes Potential Development Site 5, also known as the former East Brooklyn Savings Bank, which is described above.

As previously discussed, it is assumed that these projected and potential development sites would be redeveloped in the Future No-Action Scenario. Therefore, the redevelopment of these projected and potential development sites under the Proposed Action would not result in significant adverse impacts.

None of the nine remaining historic architectural resources in the study area are located on or include projected or potential development sites. Thus, the development expected to be generated by the Proposed Action is not anticipated to directly affect these nine resources.

Construction Effects

Historic resources may be subject to indirect construction effects from activities taking place nearby. Under the Proposed Action, construction activities at projected and potential development sites could have indirect adverse physical impacts on 11 of the 15 identified historic architectural resources within 90 feet of site construction. These include:

- Christ Evangelical English Lutheran Church
- Convent of the Sisters of Mercy
- College of Pharmacy Historic District
- Cripplebush Road Historic District
- East Brooklyn Savings Bank
- St. Peter's German Evangelical Lutheran Church
- Bedford-Stuyvesant East-Central Historic District
- Bedford-Stuyvesant at Broadway Historic District
- Traffic Court Historic District
- Tompkins Park Historic District
- St. Peter's Historic District.

The 90-foot buffer is recognized as being close enough to potentially experience adverse construction-related impacts from ground-borne construction-period vibrations, falling debris, and/or collapse.

There are two mechanisms to protect buildings in New York City from potential indirect damage caused by construction activities. All buildings are provided some protection from accidental

damage through DOB controls that govern the protection of adjacent properties from construction activities under Building Code Section 27-166 (C26-112.4) For all construction work, this building code protects buildings by requiring that all lots, buildings, and service facilities adjacent to foundation and earthwork areas be protected and supported in accordance with the requirements of Building Construction Subchapter 7 and Building Code Subchapters 11 and 19. The second protective measure applies to designated NYCL and S/NR-listed historic buildings. For these structures, the DOB's *Technical Policy and Procedure Notice* (*TPPN) #10/88* applies. *TPPN 10/88* supplements the standard building protections afforded by the Building Code C26-112.4 by requiring a monitoring program to reduce the likelihood of construction damage to adjacent LPC-designated or S/NR-listed resources within 90 feet of construction activity, and to detect at an early stage the beginnings of damage so that construction procedures can be changed.

The **Christ Evangelical English Lutheran Church** (S/NR-listed) is within 90 feet of Potential Development Site 22, and would therefore be protected under *TPPN 10/88*. Provided these measures are followed at Christ Evangelical English Lutheran Church, significant, adverse construction-related impacts would not occur.

The remaining 10 historic architectural resources are NYCL-eligible and/or S/NR-eligible, and are not protected under *TPPN 10/88*, including the former **Convent of the Sisters of Mercy**, **College of Pharmacy Historic District**, **Cripplebush Road Historic District**, **East Brooklyn Savings Bank**, **St. Peter's German Evangelical Lutheran Church**, **Bedford-Stuyvesant East-Central Historic District, Bedford-Stuyvesant at Broadway Historic District**, **Traffic Court Historic District**, **Tompkins Park Historic District**, and **St. Peter's Historic District**.

As previously discussed, the 10 historic architectural resources would be afforded some protection under DOB regulations applicable to all buildings located adjacent to construction sites (C26-112.4). Since the 10 NYCL-eligible and/or S/NR-eligible resources are not S/NR-listed or NYCL, these 10 resources are not afforded special protections under DOB's *TPPN 10/88*. Additional protective measures afforded under DOB *TPPN 10/88* would become applicable if the NYCL-eligible and S/NR-eligible resources are listed and/or designated in the future prior to the initiation of construction. If the 10 resources are not listed and/or designated, however, they would not be subject to *TPPN 10/88*. As stated above for all construction work, Building Code Section 27-166 (C26-112.4) offers protection to adjacent buildings in accordance with the requirements of Building Construction Subchapter 7 and Building Code Subchapter 11 and 19. Therefore, it is concluded that construction effects related to the Proposed Action would not lead to significant adverse impacts.

Indirect Effects

Indirect effects, also referred to as contextual effects, can occur when development results in the isolation of a property from or alteration of its setting or visual relationship with the streetscape; introduction of incompatible visual, audible, or atmospheric elements to a resource's setting; replication of aspects of a resource so as to create a false historic appearance; or elimination or screening of publicly accessible views of the resource. Whereas this section of the chapter focuses specifically on the Proposed Action's effects on the physical and visual context of

historic architectural resources, an assessment of the Proposed Action's effect on the visual character of the study area in general is provided separately in Section G, "Urban Design and Visual Resources" and in Section E, "Shadows." The following is a discussion of indirect effects, by resource.

St. Mary's Episcopal Church (S/NR-listed) at 230 Classon Avenue is located at the western edge of the historic architectural resources study area. It is located approximately 265 feet southwest of Potential Development Site 1. It is assumed under the RWCDS that Potential Development Site 1 may be redeveloped with an eight-story, 30,498-square-foot, mixed-use building. Since the Proposed Action assumes new construction on Potential Development Site 1, there is the potential for visual impacts. The RWCDS would not result in isolation of the church from its setting. St. Mary's Episcopal Church is located in an urban environment with multiple six-story buildings in its immediate vicinity. Therefore, the anticipated development under the RWCDS for Potential Development Site 1 is not incompatible with the existing built environment surrounding the church. Furthermore, the oblique views of Potential Development Site 1 from the church are partially screened by intervening development and mature trees. The views of the other potential and projected development sites from St. Mary's Episcopal Church are screened by intervening development. Therefore the Proposed Action would result in no effect to the resource.

The former **Convent of the Sisters of Mercy** (S/NR-eligible) is located at 273 Willoughby Avenue and 249 Classon Avenue. The convent is adjacent to Potential Development Site 1, and approximately 296 feet west of Projected Development Site A. Under the RWCDS, Potential Development Site 1 may be redeveloped as described above. It is also assumed that Projected Development Site A may be redeveloped with an eight-story, 190,857-square-foot, mixed-use building with underground parking. Since the RWCDS assumes new construction on Potential Development Site 1 and Projected Development Site A, there is the potential for visual impacts. The Convent of the Sisters of Mercy is located in an urban environment with multiple six-story buildings in its immediate vicinity. Furthermore, the Potential Development Site 1 is separated from the convent by a parking lot and garden, and is not anticipated to alter the setting of the convent. Views of Projected Development Site A are mostly screened from the convent by intervening development, and would not affect the historic context of the resource. Therefore, the anticipated development under the RWCDS for Potential Development Site 1 and Projected Development Site A would be compatible with the existing built environment surrounding the convent. The views of the other potential and projected development sites from the convent are screened by intervening development. Therefore the Proposed Action would result in no indirect effect to the resource.

The **St. Peter's Historic District** (NYCL-eligible, S/NR-eligible) is centered around the intersection of Bedford and DeKalb avenues. Potential Development Site 5 is located within the district, and is discussed under the Direct Effects section. The district is located approximately 52 feet north of Potential Development Site 6, and 267 feet north of Potential Development Site 7. Under the RWCDS, it is assumed that Potential Development Site 6 redeveloped with an eight-story, 25,392-square-foot, mixed-use building, and Potential Development Site 7 may be redeveloped as an eight-story, 38,088-square-foot, mixed-use building.

Since the Proposed Action assumes new construction on Potential Development Sites 5, 6, and 7, there is the potential for visual impacts. The St. Peter's Historic District is situated along commercial and transportation thoroughfares, and features a variety of building types, including a church and a bank. It is anticipated that under the RWCDS for Potential Development Sites 5, 6, and 7, the development would be compatible with the existing built environment of the district, and would not result in the isolation of the district from its surrounding neighborhood. Additionally, a majority of the district is screened from the Potential Development Sites 6 and 7 by intervening development, therefore new construction would not adversely affect the historic context of the district. The views of the other potential and projected development sites from the district are screened by intervening development. Therefore the Proposed Action would result in no indirect effect to the resource.

St. Peter's German Evangelical Lutheran Church (S/NR-eligible) is located at 1004 Bedford Avenue. The church is located approximately 90 feet southwest of Potential Development Site 5, 102 feet northwest of Potential Development Site 6, and 366 feet north of Potential Development Site 7. Under the RWCDS, it is assumed that Potential Development Sites 5, 6, and 7 may be redeveloped as described above. Since the RWCDS assumes new construction on sites 5, 6, and 7, there is the potential for visual impacts. Under the RWCDS, new construction would not result in the isolation of the church from its setting. St. Peter's German Evangelical Lutheran Church is located in an urban environment along a commercial street lined with multi-story development. Therefore, the anticipated development under the RWCDS for sites 5, 6, and 7 would be compatible with the existing built environment surrounding the church. The views of the other potential and projected development sites from the church are screened by intervening development. Therefore the Proposed Action would result in no indirect effect to the resource.

The **East Brooklyn Savings Bank** (S/NR-eligible) is located at 971 Bedford Avenue. The bank is the location of Potential Development Site 5, and is approximately 214 feet north of Potential Development Site 6. The RWCDS for Potential Development Site 5 would result in a direct effect to the bank, and is addressed in the Direct Effects section. It is anticipated that Potential Development Site 6 may be redeveloped as described above. Since the RWCDS assumes new construction on Potential Development Sites 5 and 6, there is the potential for visual impacts. Under the RWCDS for Potential Development Site 6, new construction would not result in the isolation of the bank from its setting. The bank is located in an urban environment, and is anticipated that the RWCDS for Potential Development Site 6 would be compatible with the existing built environment surrounding the bank. The oblique views of Potential Development Site 6 from the East Brooklyn Savings Bank are mostly screened by intervening development. The views of the other potential and projected development sites from the bank are also screened by intervening development. Therefore the Proposed Action would result in no indirect effect to the resource.

The residence at **511 Lafayette Avenue** (S/NR-eligible) is located approximately 150 feet southeast of Potential Development Site 6, 290 feet northeast of Potential Development Site 7, and 220 feet northeast of Projected Development Site D. Under the RWCDS, it is assumed that Potential Development Sites 6 and 7 may be redeveloped as described above. It is also assumed that Projected Development Site D may be redeveloped with an eight-story, 38,640-square-foot, mixed-use building. Since the RWCDS assumes new construction on Potential Development

Sites 6 and 7, and Projected Development Site D, there is the potential for visual impacts. Development under the RWCDS would not result in the isolation of 511 Lafayette Avenue from its setting. The residence at 511 Lafayette Avenue is located mid-block in an urban environment, therefore it is screened from development occurring on the block ends. It is anticipated that the RWCDS for Potential Development Sites 6 and 7, and projected development site D would be compatible with the existing urban built environment surrounding the residence. The views of the other potential and projected development sites from 511 Lafayette Avenue are also screened by intervening development. Therefore the Proposed Action would result in no indirect effect to the resource.

The **College of Pharmacy Historic District** (NYCL-eligible, S/NR-eligible) is located along Greene Avenue between Classon and Nostrand avenues. It is located 75 feet south of Projected Development Site E, 269 feet south of Projected Development Site D, 305 feet south of Potential Development Site 7, 250 feet north of Projected Development Site N. It is anticipated that Projected Development Site D and Potential Development Site 7 may be redeveloped as described above. Under the RWCDS, it is assumed that Projected Development Site E would be redeveloped with an eight-story, 34,500-square-foot, mixed-use building. It is also anticipated that Projected Development Site N would be redeveloped with an eight-story, 25,654-square-foot, mixed-use building.

Since the RWCDS assumes new construction on sites E, D, 7, and N, there is the potential for visual impacts. Development under the RWCDS would not result in the isolation of the district from its setting. The district consists of a pocket of rowhouses located in an urban neighborhood. It is anticipated that the RWCDS for Projected Development Sites E, D, and N, and Potential Development Site 7 would be compatible with the existing built environment of the district. Additionally, a majority of the district is screened from Projected Development Sites E, D, and N, and Potential Development Site 7 by intervening development. The views of the other potential and projected development sites from the district are also screened by intervening development. Therefore the Proposed Action would result in no indirect effect to the resource.

The **Cripplebush Road Historic District** (NYCL-eligible, S/NR-eligible) is located at Willoughby Avenue and Hart Street between Nostrand and Marcy avenues. It is approximately 130 feet west of Potential Development Site 13, 74 feet west of Projected Development Site K, 145 feet southwest of Potential Development Site 12, and 240 feet south of Projected Development Site F. Under the RWCDS, it is assumed that Potential Development Site 13 may be redeveloped with an eight-story, 46,000-square-foot, mixed-use building. It is also anticipated that Projected Development Site K may be redeveloped with an eight-story, 30,894-square-foot, mixed-use building. It is anticipated that Potential Development Site 12 may be redeveloped with an eight-story, 23,000-square-foot, mixed-use building. It is anticipated that Projected Development Site F may be redeveloped with a 10-story, 138,000-square-foot, mixed-use building with underground parking.

Since the Proposed Action assumes new construction on Projected Development Sites K and F, and Potential Development Sites 12 and 13, there is the potential for visual impacts. Development under the RWCDS would not result in the isolation of the district from its setting. The Cripplebush Road Historic District is a pocket of rowhouses located in an urban

neighborhood. It is anticipated that the RWCDS for Projected Development Sites K and F and Potential Development Sites 12 and 13 would be compatible with the existing built environment of the district. Additionally, a majority of the district is screened from Projected Development Sites K and F and Potential Development Sites 12 and 13 by intervening development. The views of the other potential and projected development sites from the district are also screened by intervening development. Therefore the Proposed Action would result in no indirect effect to the resource.

The **Tompkins Park Historic District** (NYCL-eligible, S/NR-eligible) is roughly bound to the north by DeKalb Avenue, the south by Lexington Avenue, the east by Throop Avenue, and the west by Nostrand Avenue. Projected development site EE is located within the district, and is discussed in the Direct Effects section. The district is located adjacent to Projected Development Site L. Under the RWCDS, it is assumed that site L may be redeveloped with an eight-story, 46,000-square-foot, mixed-use building. Since the RWCDS assumes new construction on sites EE and L, there is the potential for visual impacts. Development under the RWCDS would not result in isolation of the district from its setting. The Tompkins Park Historic District is a pocket of brownstone rowhouses centered around the Herbert Von King Park. It is anticipated that new construction under the RWCDS for Projected Development Site L would be compatible with the existing built environment of the district, and would not disrupt the historic relationship of the rowhouses to the park. Additionally, a majority of the district is screened from Projected Development Sites EE and L by intervening development. The views of the other potential and projected development sites from the district are also screened by intervening development. Therefore the Proposed Action would result in no indirect effect to the resource.

The **Magnolia Grandiflora and Magnolia Tree Earth Center** (NYCL) is located at 677, 678, and 679 Lafayette Avenue. It is approximately 200 feet east of Projected Development Site L, which is assumed to be redeveloped as described above. Since the RWCDS assumes new construction on site L, there is the potential for visual impacts. Development under the RWCDS would not result in the isolation of the Magnolia Grandiflora and Magnolia Tree Earth Center from its setting. The Magnolia Grandiflora and Magnolia Tree Earth Center is located mid-block in an urban environment, therefore it is screened from development occurring at the block ends. It is anticipated that new construction under the RWCDS for Projected Development Site L would be compatible with the existing built environment of Magnolia Grandiflora and Magnolia Tree Earth Center, and it would not disrupt the historic relationship between the rowhouses and the tree. The views of the other potential and projected development sites from Magnolia Grandiflora and Magnolia Tree Earth Center are screened by intervening development. Therefore the Proposed Action would result in no indirect effect to the resource.

The **Traffic Court Historic District** (NYCL-eligible, S/NR-eligible) is roughly bound to the north by Myrtle Avenue, the south by DeKalb Avenue, the east by Marcus Garvey Boulevard, and the west by Marcy Avenue. A portion of Projected Development Site I is located within the district, and is discussed in the Direct Effects section. The district is located adjacent to Potential Development Sites 9 and 10. It is also approximately 173 feet south of Projected Development Site H, 169 feet south of Potential Development Site 8, and 219 feet southeast of Projected Development Site G. Under the RWCDS, it is assumed that Potential Development Site 9 would be redeveloped as a ten-story, 33,600-square-foot, mixed-use building; and Potential

Development Site 10 would be redeveloped as a 10-story, 140,000-square-foot, mixed-use building with underground parking. It is also anticipated that projected site H would be redeveloped as a 12-story, 114,780-square-foot, mixed-use building with parking. It is anticipated that Potential Development Site 8 would be redeveloped as a 10-story, 35,633-square-foot, mixed-use building. It is anticipated that Projected Development Site G would be redeveloped with three buildings: a seven-story, 139,500-square-foot, mixed-use building with parking; a 10-story, 190,785-square-foot, mixed-use building with underground parking; and a 10-story, 61,600-square-foot, mixed-use building with underground parking.

Since the RWCDS assumes new construction on Projected Development Sites I, H, and G and Potential Development Sites 8, 9, and 10, there is the potential for visual impacts. Development under the RWCDS would not result in the isolation of the district from its setting. The Traffic Court Historic District consists of a variety of buildings types, including mid-block rowhouses with larger apartment and mixed-use buildings on the block ends. It is anticipated that new construction under the RWCDS for Projected Development Sites I, H, and G and Potential Development Sites 8, 9, and 10 would be compatible with the existing built environment of the district. Additionally, a majority of the district is screened from Projected Development Sites I, H, and G and Potential Development Sites 8, 9, and 10 by intervening development. The views of the other potential and projected development sites from the district are also screened by intervening development. Therefore the Proposed Action would result in no indirect effect to the resource.

The **Bedford-Stuyvesant East-Central Historic District** (NYCL-eligible, S/NR-eligible) is roughly bound to the north by Lafayette Avenue, the south by Lexington Avenue, the east by Patchen Avenue, and the west by Throop Avenue. The Bedford-Stuyvesant East-Central Historic District is located adjacent to Projected Development Site M, 270 feet south of Projected Development Site DD, and 290 feet east of Potential Development Site 33. Under the RWCDS, it is assumed that Projected Development Site M may be redeveloped with a seven-story, 34,599-square-foot, mixed-use building with underground parking. It is also anticipated that Projected Development Site DD may be redeveloped with two five-story, 6,688-square-foot, residential buildings. It is anticipated that Potential Development Site 33 may be redeveloped with a five-story, 35,860-square-foot, mixed-use building with parking.

Since the RWCDS assumes new construction on Projected Development Sites M and DD and Potential Development Site 33, there is the potential for visual impacts. Development under the RWCDS would not result in the isolation of the Bedford-Stuyvesant Historic District from its setting. The district consists of rowhouses located in an urban neighborhood. It is anticipated that new construction under the RWCDS for Projected Development Sites M and DD and Potential Development Site 33 would be compatible with the existing built environment of the district. Additionally, a majority of the district is screened from Projected Development Sites M and DD and Potential Development Site 33 by intervening development. The views of the other potential and projected development sites from the district are also screened by intervening development. Therefore the Proposed Action would result in no indirect effect to the resource.

The former **Christ Evangelical English Lutheran Church** (S/NR-listed) is located at 1084 Lafayette Avenue. It is located approximately 45 feet south of Potential Development Site 22,

207 feet west of Projected Development Site Y, and 333 feet northwest of Potential Development Site 23. Under the RWCDS, it is assumed that Potential Development Site 22 would be redeveloped with a 10-story, 124,393-square-foot, mixed-use building with underground parking. It is also anticipated that Projected Development Site Y would be redeveloped with a 10-story, 38,608-square-foot, mixed-use building. It is anticipated that Potential Development Site 23 would be redeveloped with a 10-story, 24,987-square-foot, mixed-use building.

Since the RWCDS assumes new construction on Projected Development Site Y and Potential Development Sites 22 and 23, there is the potential for visual impacts. Development under the RWCDS would not result in the isolation the church from its setting. The Christ Evangelical English Lutheran Church is located in an urban environment, and it is anticipated that new construction under the RWCDS for Projected Development Site Y and Potential Development Sites 22 and 23 would be compatible with the existing urban context of the church. Therefore, it would not adversely affect the historic context of the resource. The views of the other potential and projected development sites from the church are screened by intervening development. Therefore the Proposed Action would result in no indirect effect to the resource.

The **Bedford-Stuyvesant at Broadway Historic District** (NYCL-eligible, S/NR-eligible) is roughly bound to the north by Lafayette Avenue, the south by Gates Avenue, the east by Broadway, and the west by Malcolm X Boulevard. The district encompasses Projected Development Sites Z and AA, and Potential Development Sites 20, 24, and 25, which are discussed in the Direct Effects section. The district is located adjacent to Projected Development Sites BB and CC and Potential Development Sites 25, 26 29, and 28. It is also located approximately 50 feet south of Potential Development Site 23, 225 feet southwest of Projected Development Site Y, and 188 feet south of Potential Development Site 22. The redevelopment of Projected Development Site Y and Potential Development Sites 23 and 22 are described above. Under the RWCDS, it is assumed that Projected Development Site CC would be redeveloped with a seven-story, 30,000-square-foot, mixed-use building with underground parking. It is also anticipated that projected site BB would be redeveloped with a seven-story, 23,400-square-foot, mixed-use building. It is anticipated that Potential Development Site 28 would be redeveloped with a 10-story, 89,700-square-foot, mixed-use building with underground parking. It is anticipated that Potential Development Site 29 would be redeveloped with a 10-story, 42,320-square-foot, mixed-use building. It is anticipated that Potential Development Site 25 would be redeveloped as an eight-story, 36,800-square-foot, mixed-use building. It is anticipated that Potential Development Site 26 would be redeveloped as a 10-story, 34,058-square-foot, mixed-use building.

Since the RWCDS assumes new construction on Projected Development Sites Y, BB, and CC and Potential Development Sites 29, 28, 25, 26, 23, and 22, there is the potential for visual impacts. Development under the RWCDS would not result in the isolation of the district from its setting. The Bedford-Stuyvesant at Broadway Historic District consists of a variety of building types and heights, and it is anticipated that new construction under the RWCDS for Projected Development Sites Y, BB, and CC and Potential Development Sites 29, 28, 25, 26, 23, and 22 would be compatible with the existing built environment of the district. Therefore, it would not adversely affect the historic context of the resource. The views of the other potential and

projected development sites from the district are screened by intervening development. Therefore the Proposed Action would result in no indirect effect to the resource.

Public School 26 (S/NR-eligible) is located at 856 Quincy Street. It is located approximately 185 feet south of Projected Development Site CC, 177 feet south of Projected Development Site BB, 186 feet south of Potential Development Site 28, 360 feet west of Potential Development Site 29, and 400 feet northwest of Potential Development Site 30. The redevelopment of Projected Development Sites CC and BB and Potential Development Sites 28 and 29 are described above. Under the RWCDS, it is assumed that Potential Development Site 30 would be redeveloped with a10-story, 24,776-square-foot, mixed-use building.

Since the RWCDS assumes new construction on Projected Development Sites CC and BB and Potential Development Sites 28, 29, and 30, there is the potential for visual impacts. Development under the RWCDS would not result in the isolation of the school from its setting. Public School 26 is located in an urban environment, and it is anticipated that new construction under the RWCDS for Projected Development Sites CC and BB and Potential Development Sites 28, 29, and 30 would be compatible with the existing urban context of the school. Furthermore, views toward Projected Development Sites CC and BB and Potential Development Sites 28, 29, and 30 are mostly screened by intervening development. The views of the other potential and projected development sites from the school are screened by intervening development. Therefore the Proposed Action would result in no indirect effect to the resource.

Shadows

As described in Section E, "Shadows," the projected and potential development sites have the potential to affect three of the 15 identified historic architectural resources. Sunlight-sensitive resources include the **Christ Evangelical English Lutheran Church**, **St. Peter's German Evangelical Lutheran Church**, and the **Magnolia Grandiflora and Magnolia Tree Earth Center**. A detailed shadow impacts assessment was conducted for these three resources of concern, and the results are summarized below.

After further 3D analysis, the **Christ Evangelical English Lutheran Church** would not be covered by any new net incremental shadows. On the May 6th and June 21st study dates, shadows from the RWCDS would potentially reach the east façade of the church, which features stained-glass windows. However, no new net incremental shadows would be cast on the windows on the east façade of the church, as the church and its windows are covered by shadows in the Existing Condition and/or Future No-Action Scenario.

On the March 21st study date at **St. Peters German Evangelical Lutheran Church**, shadows from the RWCDS would potentially reach the east façade of the church, which features stained-glass windows. No new net incremental shadows would be cast on the church, as it is covered by shadows in both the Existing Condition and/or Future No-Action Scenario. On the December 21st study date, net new incremental shadows reach the east façade of the church at 8:51 a.m. and exit the east façade of the church at 9:09 a.m., for a limited duration of approximately 18 minutes. Net new incremental shadows fall on the bottom half of the windows along the east

facade during this timeframe. Net incremental shadows do not fall on the top half of the windows. The windows are completely shadow-free by 9:09 a.m.

On the June 21st study date for the **Magnolia Grandiflora and Magnolia Tree Earth Center**, shadows from the RWCDS would potentially reach the west boundary of the resource. However, no new net incremental shadows would be cast within the boundaries of the resource, as it is covered by shadows in both the Existing Condition and/or Future No-Action Scenario. On the May 6th study date, net new incremental shadows reach the resource at 5:12 p.m., and exit it at 5:18 p.m., for a limited duration of approximately 6 minutes in the late afternoon/evening. Net new incremental shadows cover approximately one-and-a-half percent of the resource along its western boundary during this timeframe. However, net incremental shadows do not fall on the Magnolia Grandiflora. Shadows fall on the western side of the north (rear) yard, and the western-most building. It should be noted that the north yard is not cited as a character-defining feature of the resource in the LPC designation report (LPC, 1977).

None of the 12 remaining resources have the potential to be indirectly affected by significant new shadows. Thus, any incremental shadows caused by the Proposed Action would not create a significant adverse impact.

CONCLUSION

LPC was consulted to determine if the Proposed Action had the potential for effects on archaeological resources. LPC found that one projected development site, projected development Site DD, had the potential for the recovery of possible archaeological remains. Upon further investigation, DCP determined that the site no longer had a potential to be archaeologically sensitive for prehistoric and historic archaeological resources since the area of the lot developed on Projected Development Site DD would be the same under Future No-Action and Future With Action Scenario. Therefore the proposed rezoning does not have the potential to result in significant adverse archaeological impacts.

The Proposed Action would not result in direct significant adverse impacts to historic architectural resources on projected or potential development sites. The **East Brooklyn Savings Bank** is located on Potential Development Site 5. In addition, five eligible New York City historic districts have the potential to be impacted by projected and potential development sites, including the **Bedford-Stuyvesant East-Central Historic District**, **Bedford-Stuyvesant and Broadway Historic District**, **Traffic Court Historic District**, **Tompkins Park Historic District**, and **St. Peter's Historic District**. However, since it is assumed that these projected and potential development sites would be redeveloped in the Future No-Action Scenario, the redevelopment of these projected and potential development sites under the Proposed Action would not result in significant adverse impacts.

Furthermore, it is anticipated that construction-related activities would not result in significant adverse impacts to historic architectural resources. The **Christ Evangelical English Lutheran Church** is located fewer than 90 feet from Potential Development Site 22, though as it is a S/NR-listed resource it would be protected by *TPPN 10/88,* as discussed above, and is therefore not expected to be adversely affected by the proposed action.

Additionally, the **Convent of the Sisters of Mercy**, **College of Pharmacy Historic District**, **Cripplebush Road Historic District**, **East Brooklyn Savings Bank**, **St. Peter's German Evangelical Lutheran Church**, **Bedford-Stuyvesant East-Central Historic District, Bedford-Stuyvesant at Broadway Historic District**, **Traffic Court Historic District**, **Tompkins Park Historic District**, and **St. Peter's Historic District** are located within 90 feet of projected and/or potential development sites, but are not afforded protection under *TPPN 10/88*. These resources would be afforded protection under Building Code Section 27-166 (C26-112.4) as adjacent buildings in accordance with the requirements of Building Construction Subchapter 7 and Building Code Subchapter 11 and 19 for all construction work. Therefore, it is concluded that construction effects related to the Proposed Action would not lead to significant adverse impacts.

The proposed rezoning is not expected to alter the visual context of the historic resources and no indirect impacts are anticipated as a result of the Proposed Action. In addition, the **Christ Evangelical English Lutheran Church**, **St. Peter's German Evangelical Lutheran Church**, and the **Magnolia Grandiflora and Magnolia Tree Earth Center** all have the potential to be affected by new net incremental shadows. A detailed 3D analysis conducted for the Christ Evangelical English Lutheran Church indicated that no new incremental shadows from development under the RWCDS would be introduced on the church. The shadows impact analysis for the St. Peter's German Evangelical Lutheran Church indicated that new net incremental shadows would reach the windows on the east façade of the church for approximately 18 minutes on the December 21st study date. However, these shadows would only cover the bottom half of the windows, and cease by 9:09 a.m. Finally, a shadows impact analysis for the Magnolia Grandiflora and Magnolia Tree Earth Center indicated that new net incremental shadows would fall within the boundaries of the resources for approximately six minutes on the evening of the May 6th study date. However, these shadows do not fall on the Magnolia Grandiflora, or on character-defining features of the resource, as specified in the LPC designation report.

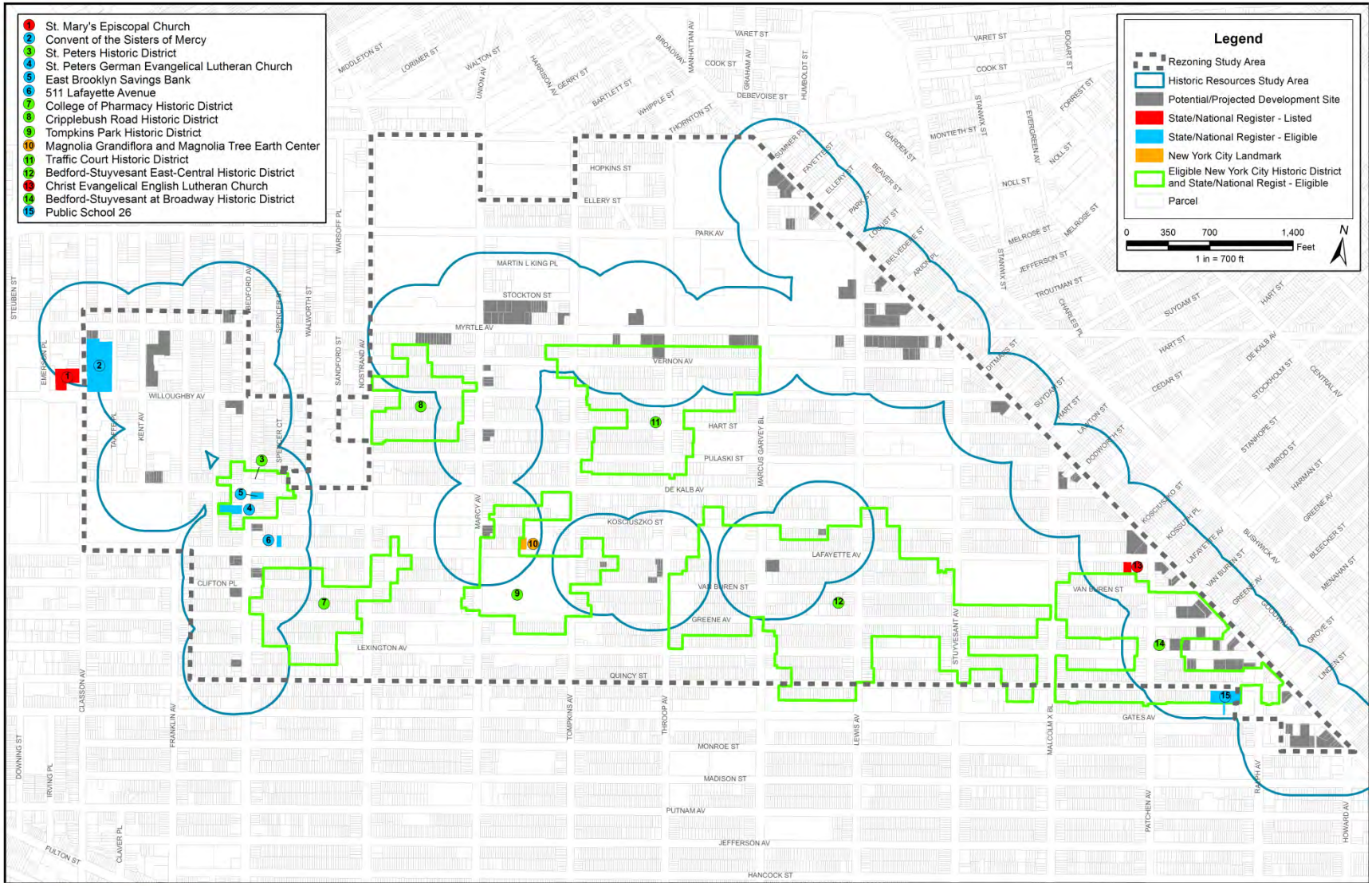
Therefore, the Proposed Action is not expected to result in significant adverse impacts on historic resources and therefore no further analysis is necessary.



Bedford-Stuyvesant North Rezoning

Historic Resources in Study Area

F-1





Bedford-Stuyvesant North Rezoning

Historic Architectural Resources Photographs

Figure F-2

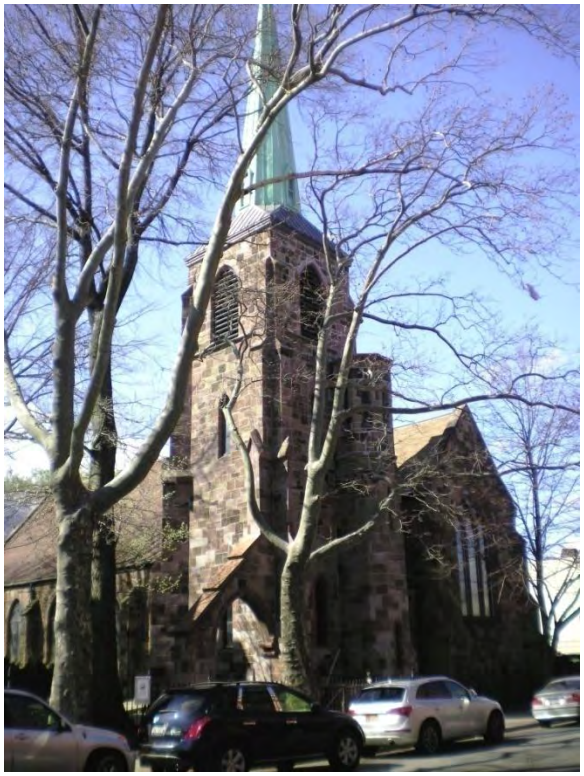


Photo 1: View looking northwest toward St. Mary's Episcopal Church at 230 Classon Avenue. The church is near Potential Development Site 1. It is anticipated that the RWCDS would be compatible with the existing urban context of the church, resulting in no adverse effect.



Photo 2: View looking northeast toward the Convent of the Sisters of Mercy at 273 Willoughby Avenue and 249 Classon Avenue. The convent is near Projected Development Site A and Potential Development Site 1. It is anticipated that the RWCDS would be compatible with the existing urban context of the convent, resulting in no adverse effect.



Bedford-Stuyvesant North Rezoning

Historic Architectural Resources Photographs

Figure F-2



Photo 3: View looking south along west side of Bedford Avenue in the St. Peter's Historic District. Potential Development Sites 5, 6, and 7 are located near the district. It is anticipated that the RWCDS would compatible with the existing built environment of the district, and would result in no adverse effect.

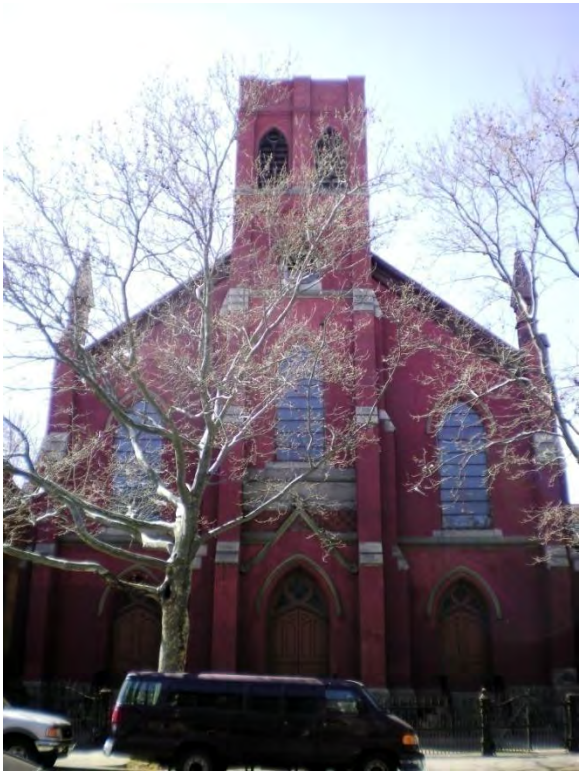


Photo 4: View looking west toward St. Peter's German Evangelical Lutheran Church at 1004 Bedford Avenue. The church is near Potential Development Sites 5, 6, and 7. It is anticipated that the RWCDS would be compatible with the existing urban context of the resource, resulting in no adverse effect.



Bedford-Stuyvesant North Rezoning

Historic Architectural Resources Photographs

Figure F-2



Photo 5: View looking southeast toward the East Brooklyn Savings Bank at 971 Bedford Avenue located on Potential Development Site 5. The RWCDS assumes potential redevelopment of the bank in both the Future No-Action Condition and the Future With-Action Condition; therefore, the RWCDS would result in no adverse effect.



Photo 6: View looking north toward the residence at 511 Lafayette Avenue. The residence is near Projected Development Site D and Potential Development Sites 6 and 7. The residence is screened from the RWCDS by intervening development; therefore, the RWCDS would result in no adverse effect.



Bedford-Stuyvesant North Rezoning

Historic Architectural Resources Photographs

Figure F-2



Photo 7: View looking east along the north side of Greene Avenue, east of Bedford Avenue in the College of Pharmacy Historic District. The district is near Projected Development Sites E, D, and N and Potential Development Site 7. It is anticipated that the RWCDS would be compatible with the urban neighborhood surrounding the district, resulting in no adverse effect.



Photo 8: View looking east along the north side of Willoughby Avenue, east of Nostrand Avenue in the Cripplebush Road Historic District. The district is near Projected Development Sites F and K, and Potential Development Sites 12 and 13. The district is mostly screened from projected and potential development sites; therefore, the RWCDS would result in no adverse effect.



Bedford-Stuyvesant North Rezoning

Historic Architectural Resources Photographs

Figure F-2



Photo 9: View looking east along the north side of Lafayette Avenue in the Tompkins Park Historic District. The district is near Projected Development Sites L and EE. It is assumed under the RWCDS that Projected Development Sites L and EE would not disrupt the historic relationship between the rowhouses and the park; therefore, the RWCDS would result in no adverse effect.



Photo 10: View looking northwest toward the Magnolia Grandiflora and Magnolia Tree Earth Center. It is near Projected Development Site L. The relationship between the natural and built environments at this resource would not be altered by the RWCDS; therefore, it would result in no adverse effect.



Bedford-Stuyvesant North Rezoning

Historic Architectural Resources Photographs

Figure F-2



Photo 11: View looking northwest along north side of Willoughby Avenue, west of Throop Avenue in the Traffic Court Historic District. The district is near Projected Development Sites H, I, and G, and Potential Development Sites 8, 9, and 10. It is anticipated that the RWCDS would be compatible with the character of the urban neighborhood surrounding the district, resulting in no adverse effect.



Photo 12: View looking east along the north side of Greene Avenue, east of Lewis Avenue toward the Bedford-Stuyvesant East-Central Historic District. The district is near Projected Development Sites M and DD, and Potential Development Site 33. It is anticipated that the RWCDS would be compatible with the existing built environment; therefore, resulting in no adverse effect.



Bedford-Stuyvesant North Rezoning

Historic Architectural Resources Photographs

Figure F-2



Photo 13: View looking southeast toward Christ Evangelical English Lutheran Church at 1084 Lafayette Avenue. The church is near Projected Development Site Y, and Potential Development Sites 22 and 23. The church is protected from construction impacts by DOB policies because it is S/NR listed.



Photo 14: View looking northwest at the corner of Broadway and Greene Avenue in the Bedford-Stuyvesant at Broadway Historic District. The district is near Projected Development Sites Y, Z, AA, BB, and CC, and Potential Development Sites 29, 28, 25, 26, 23, and 22. The district is comprised of a variety of building types along Broadway, so it is anticipated that the RWCDS would be compatible with the existing built environment, resulting in no adverse effect.

Bedford-Stuyvesant North Rezoning

Historic Architectural Resources Photographs

Figure F-2



Photo 15: View looking south along the west side of Patchen Avenue at Greene Avenue in the Bedford-Stuyvesant at Broadway Historic District. The district west of Broadway is largely comprised of residential buildings, and is screened by intervening development from projected and potential development sites; therefore, the RWCDS would have no adverse effect.



Photo 16: View looking southeast toward Public School 26 at 856 Quincy Street. The school is near Projected Development Sites CC and BB, and Potential Development Sites 28, 29, and 30. The school is mostly screened from projected and potential development sites by intervening development; therefore, the RWCDS would have no adverse effect.

G. URBAN DESIGN AND VISUAL RESOURCES

INTRODUCTION

No significant adverse impacts related to urban design and visual resources are anticipated as a result of the proposed rezoning action. The proposed action would promote new construction that is consistent with existing uses, density, scale and bulk, and would not result in buildings or structures that would be substantially different in character or arrangement than those that currently exist.

According to the *CEQR Technical Manual*, a preliminary assessment of potential urban design impacts is appropriate when there is the potential for a pedestrian to observe from the street level a physical alteration beyond that allowed by the existing zoning. The purpose of the preliminary assessment is to determine whether any physical changes proposed by the project may raise the potential to significantly and adversely affect elements of Urban Design. Since the proposed zoning increases permitted floor area and enlargement of permitted building envelopes in select locations, a preliminary assessment was conducted.

The proposed actions are intended to reinforce the character of Bedford-Stuyvesant's residential blocks. The proposed zoning would ensure that future development is largely consistent in built form with the existing neighborhood context. The proposed rezoning would also target select areas where moderate increases to residential bulk would be introduced. These increases consist entirely of contextual zoning districts with height limits and would be generally limited to Myrtle Avenue, Bedford Avenue, and Broadway. The focus of the preliminary assessment is limited to these areas, and selected additional sites to illustrate the affect of the proposed action on the existing context in the overall rezoning area.

The moderate increases in residential bulk allowed by the proposed zoning would not be significant because the new districts would encourage development that is consistent with bulk available in the existing zoning districts in the area. The proposed zoning districts would impose height limits in these areas. The proposal would also update commercial overlays to bolster opportunities for ground-floor retail uses, thereby enhancing the streetscape. Proposed regulations for Broadway and Myrtle Avenue will strengthen the active commercial character of these corridors and enhance the public realm by requiring uses and building features on the ground floor that engage the pedestrian. In addition, proposed regulations for Broadway would respond to the presence of the elevated train and further enhance the public realm by widening the sidewalk and defining a building form that maximizes light at street level.

EXISTING CONDITIONS AND STUDY AREAS

Bedford-Stuyvesant is characterized by a variety of residential, commercial, and industrial building types. East-west midblocks are generally comprised of two- to four- story brownstones and rowhouses, which have front stoops and street parking. Medium-density five- to eight-story apartment buildings are generally located on the north-south avenues. Dekalb Avenue and Bedford Avenue are transit corridors, well-served by bus lines and near the G subway line, and include some high-density apartments with ground floor retail uses. Myrtle Avenue is the area's

most significant east-west commercial street, with medium and high-density apartment buildings, including NYCHA developments, and ground floor retail activity. Broadway is a regional commercial corridor with a broad range of retail, commercial and community facility activity as well as residences. The elevated J, M, and Z train lines run along the 80-foot wide street. Five NYCHA housing developments, characterized by residential towers up to 24 stories tall, occupy 10 super blocks throughout the area.

Two corridors in the rezoning area have been chosen for analysis in order to examine the effects the proposed actions would have on the urban design character of these areas. The Myrtle Avenue study area was selected on the basis that the proposed actions would introduce greater allowed density than what is allowed under the existing zoning. The Broadway study area was identified because the proposed zoning would introduce regulations that address the special character of the corridor and the relationship to the elevated train, and allow greater residential density than what is allowed under the existing zoning. Three additional sites outside these study areas were selected for analysis to illustrate the characteristic development that could occur under the proposed zoning.

Myrtle Avenue Study Area

The first study area is a section of Myrtle Avenue between Nostrand and Lewis Avenues. Myrtle Avenue is 75 feet wide and is the main east-west commercial street in the northern part of Bedford-Stuyvesant. The existing development fronting on this portion of Myrtle Avenue includes a mix building types, with many northerly blocks developed with tower-in-the-park public housing projects up to 16 stories tall, and the southerly blocks characterized mainly by mixed-use buildings ranging from three to seven stories with ground floor commercial use and residential use on the upper floors. In addition, there is a complex of industrial buildings at Myrtle Avenue and Throop Avenue and several vacant sites.

Development Site G is located in the Myrtle Avenue study area at 98 – 138 Stockton Avenue and 847 – 869 Myrtle Avenue. The site is an assemblage of fourteen lots developed with nine structures ranging from one- to five stories, all in commercial use. The surrounding area is a mix of two- to four-story residential buildings, and local retail, with a NYCHA residential towers development across Marcy Avenue.

Broadway Study Area

The second study area for the preliminary assessment is a group of blocks on the west side of Broadway, stretching from Marcus Garvey Boulevard in the north to Monroe Street in the south. This section of Broadway is an established commercial corridor, developed with buildings ranging from one-story commercial buildings to two- to six-story mixed-use buildings with commercial use on the ground floor and residential use or community facility use on the upper floors.

There are four projected sites selected for this analysis in the Broadway Study Area. Development Sites O and P are adjacent sites fronting on Broadway between Sumner Place and

Lafayette Street, Site T is located at 912 Broadway, and Site W is located at 874 Willoughby Avenue, on the southwest corner of Willoughby Avenue and Broadway.

Site O is developed with a three-story building in commercial use, and Site P is developed with a single-story building in commercial use. These two sites were chosen to illustrate the effects of the proposed actions on the area's urban design characteristics in a C4-3 zoning district proposed for rezoning to C4-4L.

Site T is currently vacant and Site W is underutilized with one small single-story building in commercial use. Sites T and W were chosen to illustrate the effects of the proposed actions on the area's urban design characteristics in an R6 zoning district proposed for rezoning to C4-4L.

Additional Sites for Analysis

Development Site E is located at 1062 Bedford Avenue. The existing development is a corner lot occupied by an auto related use with a single-story structure covering part of the lot. Site E was chosen to illustrate the effects of the proposed actions on the area's urban design characteristics in an R6 zoning district changing to R7A

Development Site M is located at 830 Lafayette Avenue. The site is a corner lot occupied by a single-story supermarket. Site M was chosen to illustrate the effects of the proposed actions on the area's urban design characteristics in an R5 zoning district proposed for rezoning to R6A.
Development Site AA is located at 843 – 853 Lexington Avenue. The site is on the corner of Broadway and Stockton Street. The site is developed with a single-story building and a two-story building both in commercial use. Site AA was chosen to illustrate the effects of the proposed actions on the area's urban design characteristics in an R6/C8-2 zoning district proposed to be rezoned to R6A/C2-4.

FUTURE NO-ACTION SCENARIO

The existing zoning throughout the rezoning area is predominately R6 with C1-3 and C2-3 commercial overlays generally on Broadway, Myrtle and Flushing Avenues, and some of the north/south avenues. An R5 district is located in the center of the neighborhood. Additionally, there are C8-2 and C4-3 commercial districts mapped on portions of Broadway. The existing zoning districts allow new buildings that are not of a similar type and scale as the predominant neighborhood fabric that exists today. For example, the existing R6 zoning regulations, which have been in place since 1961, allow the option to develop tall, 12- to 14-story apartment buildings that are out-of-scale with the overall neighborhood character.

Myrtle Avenue Study Area

The Myrtle Avenue study area is currently zoned R6 with C1-3 commercial overlays on some block fronts. The current R6 zoning districts allow all housing types including detached, semi-detached, attached and multi-family residences. The maximum FAR is 2.43 for height factor development, 3.0 FAR utilizing the optional Quality Housing program for wide streets, and 4.8 FAR for community facility buildings. Height factor development is governed by a sky-

Figure G-1. Site G



Site Photo



No- Action Scenario: R6



With- Action Scenario: R7D/C2-4

Site O



Site Photo



No- Action Scenario: C4-3



With- Action Scenario: C4-4L

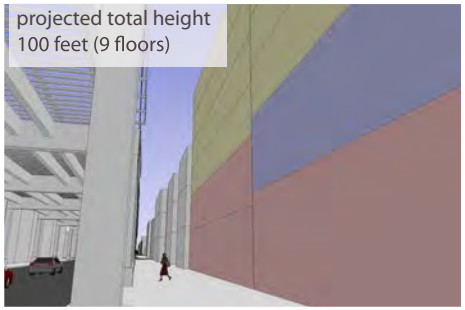
Site P



Site Photo



No -Action Scenario: C4-3



With -Action Scenario: C4-4L

Figure G-2. Site T



Site Photo

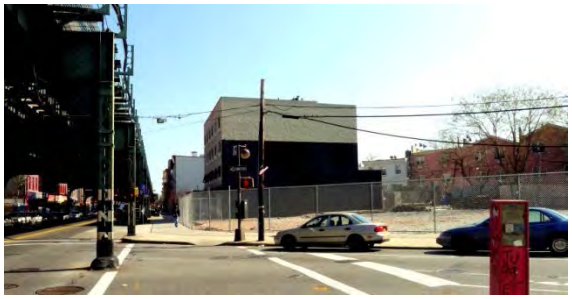


No -Action Scenario: R6/C2-1



With -Action Scenario: C4-4L

Site W



Site Photo



No- Action Scenario: R6/C2-3

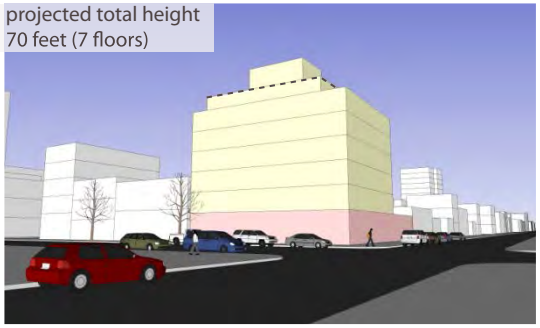


With- Action Scenario: C4-4L

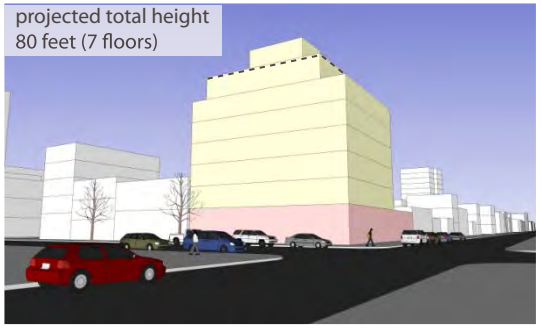
Site E



Site Photo



No- Action Scenario: R6/C2-3



With- Action: R7A

Figure G-3. Site AA



Site Photo



No -Action Scenario: R6/C8-2



With -Action Scenario: R6A/C2-4

Site M



Site Photo



No -Action Scenario: R5/C1-3



With -Action Scenario: R6A/C2-4

exposure plane and is not subject to maximum height limits. Maximum building height for buildings under the optional Quality Housing program on wide streets is 70 feet, after a setback at 40-60 feet.

The Future No-Action scenario projects that Site G would be developed with five buildings: two five-story buildings, each with community facility use on the ground floor, and residential above, with parking spaces in the rear yard; two seven-story buildings, each with community uses on the ground floor, and residential above, parking spaces in the rear yard; and one five-story building with community facility space on the ground floor, and residential above, parking spaces in the rear yard. However, the existing zoning would allow this site to be developed pursuant to the R6 height factor regulations with a 4.8 FAR building of 12-14 stories with high lot-coverage community facility use on the ground and residences in a tower above.

Broadway Avenue Study Area

The existing zoning districts along Broadway are R6 with a C2-3 commercial overlay, C4-3, and C8-2. R6 has a maximum FAR of 2.43 for height factor buildings and 3.0 utilizing the optional wide street Quality Housing program, and 4.8 for community facility buildings. C4-3 districts are regional commercial districts where regulations permit commercial buildings of up to 3.4 FAR, residential development up to 3.0 FAR and community facility development up to 4.8 FAR. C8-2 districts allow a wide variety of commercial uses, including automotive and other heavy commercial services, up to 2.0 FAR and 4.8 FAR for community facility use. Residential use is prohibited. Building height is governed by a sky exposure plane.

The Future No-Action scenario projects that Site O would be developed with two seven-story buildings, each with local retail use office use on the first floor, and medical office use on the second floor, and residential above. The buildings would have underground parking. Likewise, Site P would be developed with two seven-story buildings, each with local retail use on the ground floor, medical office use on the second and third floors, and residential above. The buildings would have underground parking.

Under the Future No-Action scenario, Site T would be developed with three five-story buildings, each with local retail use on the first floor, medical office use on the second floor, and residential above. The buildings would have underground parking.

The Future No-Action scenario projects that Site W would be developed with two seven-story buildings, each with local retail use on the ground floor, medical office use on the second floor, and residential above. The buildings would have underground parking.

The Future No-Action scenario projects development on sites O, P, T and W would utilize the Quality Housing program. However, there is no requirement that developers use this program, and the existing zoning would also allow any of the sites above to be developed pursuant to height factor regulations with a 4.8 FAR building of 12-14 stories with high lot-coverage commercial and community facility use on the lower floors and residences in a narrow tower above.

Additional Sites for Analysis

Site E is currently zoned R6 with a C2-3 overlay. R6 has a maximum FAR of 2.43 for height factor buildings and 3.0 utilizing the optional wide street Quality Housing program, and 4.8 for community facility buildings. In the Future No-Action scenario, Site E would be developed with one seven-story building, with local retail uses on the ground floor, community uses on the second floor, and residential above. The buildings would have underground parking.

Site M is currently zoned R5 with a C2-3 commercial overlay. R5 has a maximum residential FAR of 1.25, with 1.65 FAR permitted under the R5 infill regulations, and 2.0 FAR for community facility use. In the Future No-Action scenario, Site M would be developed with one five-story building, with local retail use on the ground floor, community facility use on the second floor, and residential above. No parking spaces would be required.

Site AA is currently split between a C8-2 and an R6 zoning district. R6 has a maximum FAR of 2.43 for height factor buildings and 3.0 utilizing the optional wide street Quality Housing program, and 4.8 for community facility buildings. C8-2 districts allow a wide variety of commercial uses, including automotive and other heavy commercial services, up to 2.0 FAR and 4.8 FAR for community facility use. In the Future No-Aciton scenario, Site AA would be developed with two buildings: one five-story building, with community facility use on the ground floor and residential above, the buildings would have underground parking; and one single-story building, with community use only and no parking spaces required.

The Future No-Action scenario projects development on sites E and AA would utilize the Quality Housing program. However, there is no requirement that developers use this program, and the existing zoning would also allow these sites above to be developed pursuant to height factor regulations with a 4.8 FAR building of 12-14 stories with high lot-coverage commercial and community facility use on the lower floors and residential or hotel use in a narrow tower above.

FUTURE WITH-ACTION SCENARIO

Myrtle Avenue Study Area

An R7D district with C2-4 commercial overlay is proposed for the Myrtle Avenue corridor study area, with the option of using the Inclusionary Housing program (bonus up to 5.6 FAR). The proposed R7D/C2-4 district would allow development with a maximum as of right FAR of 4.2 for residential and community facility use. The maximum base height would be 85 feet and a maximum height limit of 100 feet, after a setback of 15 feet. The proposed C2-4 commercial overlays would allow for the development of commercial uses with a maximum FAR of 2.0.

R7D districts mapped in conjuction with a commercial overlay, as is proposed for Myrtle Avenue, also apply special use rules for the ground floor. No residential or parking use would be permitted adjacent to Myrtle Avenue. This requirement ensures that spaces for commercial businesses or community facilities would occupy the ground floor, strengthening the active

character of the commercial corridor. In addition, the proposed zoning text change would establish transparency requirements at the ground floor, with 50 percent of the area between 2 and 12 feet required to be glazed.

The Future With-Action scenario projects development of three buildings on Site G : one seven-story building with surface parking; one 10-story building with local retail space and community facility space on the first and second floors, residential above, and surface parking; and one ten-story building, with local retail space on the ground floor, residential above, and underground parking.

Development under the proposed R7D zoning will reinforce the active, lively character of Myrtle Avenue by requiring a consistent street wall, active use on the ground floor, and transparent glazing to engage the pedestrian. In contrast, the existing R6 zoning does not require a consistent street wall or active use, and would not ensure that future development contributes to the vitality of Myrtle Avenue.

Broadway Study Area

A C4-4L district, with the option of using the Inclusionary Housing program, is proposed for the Broadway corridor study area. The proposed C4-4L district would allow development with a maximum as of right FAR of 4.0 for commercial, and community facility use; with 3.45 FAR of residential use without affordable housing, or up to 4.6 FAR under the Inclusionary Housing Program.

The proposed zoning would allow two distinct building types depending on the location in relation to elevated train tracks:

- lots not fronting on the elevated train, require a street wall between 40’ and 65’ high and allow a maximum building height of 80’.

- lots fronting on the elevated train and within 125 feet of the street line adjacent to the elevated train, are required to set back five feet from the street line adjacent to the elevated train at the ground floor, and allowed to rise to a maximum height of 100’, with a minimum base height of 30’ and a maximum base height of 65’. Above the base height, buildings would be required to set back at least 15’.

A new Enhanced Commercial District is also proposed for Broadway. The Enhanced Commercial District is intended to reinforce the active commercial character of Broadway by establishing regulations that address ground floor use, and transparency, and parking and curb cuts. For properties fronting on Broadway, no residential use or off-street parking spaces would be permitted within 30 feet of the street, and the ground floor is required to provide 50 percent of the area between 2 and 12 feet as transparent surface. No curb cuts would be permitted on Broadway, unless a site lacks access to a side street and is at least 60 feet wide. These regulations aim to foster a lively streetscape that is safe for pedestrians, with active uses on the ground floor.

Under the proposal Site O would be developed with two 10-story buildings, each with local retail space on the ground floor, and either office use, or community use on the second floor, and residential above, with 20% affordable units. No parking spaces would be required.

Site P would be developed with one 10-story building, with local retail space on the ground floor, office use on the second floor, and residential above with 20% affordable units, with underground parking.

Site T would be developed with two 10-story buildings, each with local retail space on the ground floor, office space on the second floor, residential above with 20% affordable units, and surface parking.

Site W would be developed with two 10-story buildings, each with local retail space on the ground floor, community facility or office space on the second floor, and residential above with 20% affordable units,. No parking spaces would be required.

Development under the proposed C4-4L zoning and Enhanced Commercial District will contribute to the vitality of Broadway by providing wider sidewalks, consistent active use and transparency on the ground floor, and allowing light and air to penetrate to the street. Residential portions of new buildings would be allowed to set back from the elevated train, while a consistent active streetlife would be reinforced with active use and design that engages pedestrians. In contrast, the existing zoning on Broadway does not maximize light and air, widen the sidewalk, ensure active ground floor uses, or require consistent ground floor street frontage.

Additional Sites for Analysis

An R7A district with a C2-4 commercial overlay is proposed for portions of Bedford Avenue, with the option of using the Inclusionary Housing program (bonus up to 4.6 FAR). The proposed R7A/C2-4 district would allow development with a maximum as of right FAR of 3.45 for residential and community facility use, with up to 4.6 FAR with use of the Inclusionary Housing Program. A streetwall would be required with a minimum base height of 40 feet, a maximum base height of 65 feet and a maximum height limit of 80 feet. The proposed C2-4 commercial overlays would allow for the development of commercial uses with a maximum FAR of 2.0.

Site E would be developed with one eight-story building, with commercial space on the ground floor and residential above with 20% affordable units. No parking spaces would be required.

An R6A district with a C2-4 commercial overlay is proposed for portions of Marcus Garvey Boulevard. The proposed R6A/C2-4 district would allow development with a maximum FAR of 3.0 for residential and community facility use. The maximum base height would be 60 feet with required setbacks of 10 feet on a wide street and 15 feet on a narrow street to reach a maximum height limit of 70 feet. The proposed C2-4 commercial overlay would allow for the development of commercial uses with a maximum FAR of 2.0. In the Future With-Action scenario, Site M

would be developed with one seven-story building, with local retail space on the ground floor and residential above and surface parking.

An R6A district with a C2-4 commercial overlay is proposed for portions of Lexington Avenue between Patchen Avenue and Broadway. The proposed R6A/C2-4 district would allow development with a maximum FAR of 3.0 for residential and community facility use. The maximum base height would be 60 feet with required setbacks of 10 feet on a wide street and 15 feet on a narrow street to reach a maximum height limit of 70 feet. The proposed C2-4 commercial overlay would allow for the development of commercial uses with a maximum FAR of 2.0. In the Future With-Action scenario, Site AA would be developed with one seven-story building, with local retail space on the ground floor and residential above and surface parking.

Sidewalk Cafés

The New York City Zoning Resolution prohibits sidewalk cafes of any type from opening on streets that have elevated rail lines above them (Section 14-41). This prohibition is in place in order to ensure adequate pedestrian circulation space on sidewalks that may contain the structural elements of the elevated train line above. Another issue is that sidewalk cafes on narrower streets with elevated rail lines above would be exposed to large amounts of noise and other environmental factors produced by the tracks. However, if these are not considered issues for a street or portion of a street, it can be listed in ZR Section 14-43, which states that only small sidewalk cafes are allowed. Small sidewalk cafes are limited to occupying a strip of the sidewalk no deeper than 4 feet 6 inches running along the street line. Currently all types of sidewalk cafes are prohibited along the blockfronts facing Broadway.

The proposed action would allow for the opening of small sidewalk cafes along this portion of Broadway. Currently, the sidewalk on Broadway measures between 18 and 19 feet wide. Under the proposal, new development would be required to set back five feet from the streetline, resulting in a sidewalk width of close to 25 feet. This provides ample room on the sidewalk for pedestrian circulation around the elevated rail supports, staircases, and small sidewalk cafes. Furthermore, allowing sidewalk cafes where many existing restaurants are already in operation would further enliven the street by bringing more activity to the sidewalk.

CONCLUSION

As described, existing buildings and land uses in the study area are not unique in terms of Urban Design character. Potential new development would be consistent in character with the building forms and massing of many existing buildings, would not alter block forms, and would encourage a greater continuity in the street wall. Therefore such changes would not negatively affect a pedestrian's experience of the area.

The proposed actions aim to support, rather than change, existing urban design patterns. It is not expected that the proposed actions and projected and potential development pursuant to the proposed action would have significant adverse impacts on the urban design and visual resources of the project area. There will be no changes to the topography, natural features, street hierarchy,

block shapes, or building arrangements. Consequently, the Proposed Action is not expected to have a significant adverse impact on urban design and therefore no further analysis is necessary.

H. NATURAL RESOURCES

The Proposed Actions would not result in significant adverse natural resource impacts.

According to the *CEQR Technical Manual*, a natural resource is defined as follows: (1) The City's biodiversity (plants, wildlife and other organisms); (2) Any aquatic or terrestrial areas capable of providing suitable habitat to sustain the life processes of plants, wildlife, and other organisms; and (3) Any areas capable of functioning in support of the ecological systems that maintain the City's environmental stability.

Under CEQR, a natural resources assessment considers species in the context of the surrounding environment, habitat or ecosystem and examines a project's potential to impact those resources. Resources considered for appropriate analysis include ground water, soils and geologic features, numerous types of natural and human-created aquatic and terrestrial habitats (including wetlands, dunes, beaches, grasslands, woodlands, landscaped areas, gardens, parks and built structures) and any areas used by wildlife. Stormwater runoff may also be considered in a natural resources assessment and evaluated in the context of its impact on local ecosystem functions and on the quality of adjacent waterbodies. Although any aspect of the City's biodiversity may be considered in a CEQR evaluation, those species classified as sensitive, vulnerable, rare, special concern, threatened, endangered or otherwise worthy of protection are to be given individual consideration within the context of New York City's environment.

The *CEQR Technical Manual* states that two factors determine whether an adverse impact on a natural resource might occur, and therefore, whether a natural resource assessment may be appropriate: (1) The presence of a natural resource on or near the site of the project; and (2) disturbance of that resource caused by the project. Furthermore, the *CEQR Technical Manual*, states that no natural resources assessment is necessary if all of the following are true for a proposed project:

- The site of the project and the immediate adjacent area is substantially devoid of defined natural resources, or the project site either contains, or is near or contiguous to, natural resources or important subsurface conditions, but no activity associated with the project would disturb them, either directly or indirectly.
- The project site contains no "built resource" that is known to contain or may be used as a habitat by a protected species as defined in the Federal Endangered Species Act (50 CFR 17) or the State's Environmental Conservation Law (6 NYCRR Parts 182 and 193).
- The project site contains no subsurface conditions, the disruption of which might affect the function or value of an adjacent or nearby natural resource.
- As determined by satisfying all of the above criteria, the proposed project involves the disturbance of a natural resource, but that disturbance has been deemed insignificant by a government agency with jurisdiction over that resource and conditions have not changed significantly since the permit was issued (an example would be the repair or replacement of piers, piles, bulkheads, and other waterfront structures).

If the project does not meet all of these conditions, or if it is unknown whether the project meets one or more of these conditions, some assessment of natural resources is appropriate.

As discussed in Attachment 2, "Reasonable worst Case Development Scenario," a reasonable worst-case development scenario (RWCDS) was developed for 31 projected development sites by 2022. Under the Future With-Action Condition, the projected development sites would have a total of 1,988 dwelling units (DUs), of which 428 DUs would be affordable housing units; 299,732 square feet of commercial retail space; 56,847 square feet of commercial office space; and 89,051 square feet of community facility space. There are 33 potential development sites in the rezoning area. Although considered possible sites for future development these sites are considered less likely to be developed in the foreseeable future. Site conditions, location and market demand are among the factors contributing to the more limited likelihood for the redevelopment of potential development sites.

The rezoning area is urbanized and densely developed, does not contain natural features of significance, and is not located immediately adjacent to any natural resources. Plant communities within the rezoning area consist of cultivated gardens, yards, and street trees, and are not significant natural resources. All of the projected and potential development sites are essentially either developed or are vacant lots devoid of natural resources. Any vegetation on these sites in the existing condition would be typical urban invasive vegetation with no vegetation or wildlife of special or unique habitat value. Wildlife in the area is limited to mammals adapted to urban environments and transitory avian wildlife. There are no streams, ponds, or lakes that would provide any habitat for aquatic-related wildlife. The project area is located in a fully developed area of Brooklyn and has limited potential to provide unique habitat for noteworthy wildlife. Landscaped areas would continue to provide limited habitat for small urban mammals, birds and insects.

Therefore, a detailed assessment of the potential for impacts on natural resources is not warranted and significant adverse natural resources impacts are not expected.

I. HAZARDOUS MATERIALS

The proposed actions would not result in significant adverse impacts due to hazardous materials with the incorporation of (E) designations on the projected and potential development sites.

A hazardous materials assessment was conducted to determine whether the proposed actions could lead to potential increased human exposure to hazardous materials and whether the increased exposure could lead to significant public health impacts or environmental impacts. The objective of this analysis is to determine which, if any, of the projected and potential development sites identified in the RWCDS may have been adversely affected by current or historical uses on-site, adjacent to, or within 400 feet of the sites, such that the property may be adversely impacted by hazardous materials. The potential for significant impacts from hazardous materials can occur when a) hazardous materials exist on a site, and b) an action would increase pathways to their exposure; or c) an action would introduce new activities or processes using hazardous materials.

As described in the *January 2012 CEQR Technical Manual*, a hazardous material is defined as any substance that poses a threat to human health or to the environment. Such substances include, but are not limited to: metals, volatile organic compounds (VOCs), commonly found in petroleum products and solvents; semi-volatile organic compounds (SVOCs), typically associated with fuel oil, coal and ash; and polychlorinated biphenyls (PCBs), usually associated with transformers and utilities. Hazardous materials also include substances used in building materials and fixtures, such as asbestos-containing material (ACM), lead-based paint (LBP), and mercury.

Analysis of available land use data, including governmental databases and historical documentation, revealed numerous instances where land uses throughout the rezoning area were, or presently are, consistent with land uses that could trigger potential hazardous materials impacts. Facilities listed in the *January 2012 CEQR Technical Manual* with respect to hazardous materials were identified throughout the rezoning area, including lots with a historical land use such as automobile repair stations, gasoline service stations, filling stations, various manufacturing facilities, assorted factories, printing companies, etc. that make use of, potentially generate, or dispose chemicals that may have a negative impact on the environment. Additionally, releases from petroleum storage tanks and hazardous waste generators may have occurred and adversely impacted the environment.

In general, the Bedford Stuyvesant rezoning area is currently a mix of commercial, industrial and residential uses. The historical and existing conditions of the rezoning area are summarized below:

- The western portion historically had commercial and industrial development with numerous auto repair garages, manufacturing and commercial uses, warehouses, and storage sites. Residential development was also noted, along with churches and schools.
- The central portion historically had commercial and residential development, including schools, churches, apartment complexes, and public parks.
- The northeastern portion historically had commercial and residential development. Several gas stations, auto repair garages, and manufacturing facilities previously existed in the throughout the area.

TABLE I-1:
Projected and Potential Sites Requiring (E) Designations for Hazardous Materials

Site #	Site Address	Block	Lot	2012 Land Use	Preliminary screening	Hazardous Materials Conditions	Comments
Projected Rezoning Sites							
Projected Site A	913 Kent Avenue	1912	3	Medical Office	VOC, SVOC, PCB, Metals	Former historic utility office located on site. Adjacent to historic garage with underground gasoline tanks. Adjacent to former automobile repair garage with fuel oil storage tanks. Petroleum spills and fuel oil storage tanks adjacent and upgradient. Hazardous waste generator upgradient.	Recommended (E) Designation
Projected Site B	673 Myrtle Avenue 671 Myrtle Avenue Myrtle Avenue 667 Myrtle Avenue	1900	67, 68, 69, 70	Medical Office	VOC, SVOC, PCB, Metals	Adjacent to former machine shop. Historic auto repair shop upgradient. Hazardous waste generator and petroleum spills upgradient.	Recommended (E) Designation

TABLE I-1:
Projected and Potential Sites Requiring (E) Designations for Hazardous Materials

Site #	Site Address	Block	Lot	2012 Land Use	Preliminary screening	Hazardous Materials Conditions	Comments
Projected Site C	930 Bedford Avenue	1928	34	Child Care Facility	VOC, SVOC, PCB, Metals	Former automobile service station and 100 car garage with underground gasoline tanks on site. Adjacent to gasoline station with petroleum spills. Petroleum spill and fuel oil storage tanks upgradient.	Recommended (E) Designation
Projected Site D	1027 Bedford Avenue 1023 Bedford Avenue 1021 Bedford Avenue	1788	2, 4, 5	Medical Office	VOC, SVOC	Former auto repair facility on site and adjacent. Petroleum spill adjacent.	Recommended (E) Designation
Projected Site E	1062 Bedford Avenue	1954	22	House of Worship	VOC, SVOC, PCB, Metals	Historic filling station with four gasoline tanks. Former garage with gasoline tanks and auto repair garage adjacent. Fuel oil storage tanks on Site. Petroleum spills and fuel oil storage tanks upgradient.	Recommended (E) Designation

TABLE I-1:
Projected and Potential Sites Requiring (E) Designations for Hazardous Materials

Site #	Site Address	Block	Lot	2012 Land Use	Preliminary screening	Hazardous Materials Conditions	Comments
Projected Site F	784-806 Myrtle Avenue	1754	24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35		VOC, SVOC	Petroleum spills adjacent. Leaking fuel oil tanks adjacent. Gasoline station upgradient.	Recommended (E) Designation
Projected Site G	98, 106, 128, 130, 132, 134, 136, 138 Stockton Avenue 833, 839, 847, 851, 869 Myrtle Avenue 553 Marcy Avenue	1747	7, 10, 19, 20, 21, 22, 23, 24, 51, 53A, 53B, 62, 64, 67, 1	House of Worship Medical Office Child Care Facility Medical Office	VOC, SVOC, PCB, Metals	Historic linen and uniform service facility – possible dry cleaners on site. Petroleum contaminated soil and groundwater on site. Fuel oil tanks, hazardous waste generator, and air discharge facility on site. Filling station with spills upgradient. Petroleum spills, hazardous waste generator, and fuel oil storage tanks upgradient.	Recommended (E) Designation
Projected Site H	65 Tompkins Avenue	1740	1	Part of NYCHA Tompkins Houses Apartment Complex	VOC, SVOC, PCB, Metals	Petroleum spills, fuel oil storage tanks, hazardous waste generators, and air discharge facility adjacent. Petroleum spills and fuel oil storage tanks upgradient.	Recommended (E) Designation

TABLE I-1:
Projected and Potential Sites Requiring (E) Designations for Hazardous Materials

Site #	Site Address	Block	Lot	2012 Land Use	Preliminary screening	Hazardous Materials Conditions	Comments
Projected Site I	936 and 946 Myrtle Avenue 258 Throop Avenue	1756	33, 37, 42	Medical Offices	VOC, SVOC, PCB, Metals	Two historic garages with underground gasoline tanks. Former filling station. Fuel oil storage tanks adjacent. Petroleum spill, fuel oil storage tanks, and hazardous waste generators adjacent and upgradient.	Recommended (E) Designation
Projected Site J	1066-1070 Myrtle Avenue	1585	31, 32, 33	Medical Offices	VOC, SVOC, PCB, Metals	Former auto repair garage and factories adjacent. Petroleum spills, fuel oil storage tanks, hazardous waste generators, and air discharge facilities adjacent and upgradient.	Recommended (E) Designation
Projected Site K	605-609 Marcy Avenue	1759	2, 3, 4	Medical Offices	VOC, SVOC, PCB, Metals	Fuel oil storage tank and hazardous waste generator adjacent. Petroleum spills, fuel oil storage tanks, and hazardous waste generator upgradient.	Recommended (E) Designation

TABLE I-1:
Projected and Potential Sites Requiring (E) Designations for Hazardous Materials

Site #	Site Address	Block	Lot	2012 Land Use	Preliminary screening	Hazardous Materials Conditions	Comments
Projected Site L	683-689 Marcy Avenue	1785	1, 3, 5	Medical Office Child Care Facility	VOC, SVOC, PCB, Metal	Historic garage with gasoline tank on site. Petroleum spills adjacent. Petroleum spills, fuel oil storage tanks, and hazardous waste generator upgradient.	Recommended (E) Designation
Projected Site N	1104 Bedford Avenue	1971	28	Child Care Facility	VOC, SVOC, PCB, Metal	Historic dry cleaners on site. Hazardous waste generator upgradient. Former gasoline station with petroleum spills and fuel oil storage tanks upgradient.	Recommended (E) Designation
Projected Site O	7 Marcus Garvey Boulevard	1578	5	Medical Office	VOC, SVOC, PCB, Metals	Petroleum spills adjacent. Petroleum spills, fuel oil storage tanks, hazardous waste generators, and air discharge facilities upgradient.	Recommended (E) Designation
Projected Site P	790 Broadway	1578	14	Medical Office	VOC, SVOC, PCB, Metals	Petroleum spills adjacent. Petroleum spills, fuel oil storage tanks, hazardous waste generators, and air discharge facilities upgradient.	Recommended (E) Designation

TABLE I-1:
Projected and Potential Sites Requiring (E) Designations for Hazardous Materials

Site #	Site Address	Block	Lot	2012 Land Use	Preliminary screening	Hazardous Materials Conditions	Comments
Projected Site Q	869 Park Avenue	1579	50, 51, 53	Medical Offices	VOC, SVOC, PCB, Metals	Adjacent to fuel oil storage tanks and hazardous waste generator. Petroleum spills, fuel oil storage tanks, hazardous waste generators, and air discharge facilities upgradient.	Recommended (E) Designation
Projected Site R	886 Broadway	1582	15	Medical Offices	VOC, SVOC	Fuel oil storage tanks upgradient. Historic auto repair facility crossgradient.	Recommended (E) Designation
Projected Site S	23 Lewis Avenue 354 Stockton Street	1584	1, 4	House of Worship	VOC, SVOC	Fuel oil storage tank on site. Petroleum spill and fuel oil storage tank adjacent and upgradient.	Recommended (E) Designation
Projected Site T	912 Broadway	1584	11	Medical Office	VOC, SVOC, PCB, Metals	Historic garage with underground gasoline tanks adjacent. Fuel oil storage tank adjacent. Petroleum spill and hazardous waste generator upgradient.	Recommended (E) Designation

TABLE I-1:
Projected and Potential Sites Requiring (E) Designations for Hazardous Materials

Site #	Site Address	Block	Lot	2012 Land Use	Preliminary screening	Hazardous Materials Conditions	Comments
Projected Site U	1100 Myrtle Avenue 1102 Myrtle Avenue 1116 Myrtle Avenue 1122 Myrtle Avenue 367-373 Vernon Avenue	1586	12, 14, 24, 27, 51, 52, 53, 56	Medical Office Child Care Facility	VOC, SVOC, PCB, Metals	Soil contamination upgradient. Historic garage with underground gasoline tank and auto repair facility on site. Auto repair upgradient. Petroleum spills, fuel oil tanks, and hazardous waste generators adjacent.	Recommended (E) Designation
Projected Site V	1090-1096 Myrtle Avenue	1586	8, 10, 11		VOC, SVOC, PCB, Metals	Soil contamination upgradient. Historic garage with underground gasoline tank and auto repair facility adjacent. Adjacent to New York City Transit Myrtle sub-station. Auto repair upgradient. Petroleum spills, fuel oil tanks, and hazardous waste generators adjacent.	Recommended (E) Designation

TABLE I-1:
Projected and Potential Sites Requiring (E) Designations for Hazardous Materials

Site #	Site Address	Block	Lot	2012 Land Use	Preliminary screening	Hazardous Materials Conditions	Comments
Projected Site W	874 Willoughby Avenue	1593	23	Medical Office	VOC, SVOC, PCB, Metals	Former furniture manufacturer on site. Dry cleaners upgradient noted as a hazardous waste generator and air discharge facility. Contaminated soil and fuel oil storage tank crossgradient.	Recommended (E) Designation
Projected Site X	Malcolm X Boulevard 1107 De Kalb Avenue	1600	1, 28	Medical Offices	VOC, SVOC, PCB, Metals	Former garage with gasoline tanks, auto repair facility, and filling station on site. Open spill with contaminated soil and groundwater on site. Gasoline and fuel oil tanks formerly on site. Petroleum spills and hazardous waste generator upgradient.	Recommended (E) Designation
Projected Site Y	1182 Broadway	1613	9	Medical Office	VOC, SVOC, PCB, Metals	Historical printing facility on site. Former gasoline station crossgradient. Petroleum contaminated soil and groundwater crossgradient.	Recommended (E) Designation

TABLE I-1:
Projected and Potential Sites Requiring (E) Designations for Hazardous Materials

Site #	Site Address	Block	Lot	2012 Land Use	Preliminary screening	Hazardous Materials Conditions	Comments
Projected Site Z	1003 Greene Avenue	1618	35	Medical Office	VOC, SVOC, PCB, Metals	Former garage and auto repair center with gasoline tanks. Garage with gasoline tanks adjacent. Fuel oil storage tanks adjacent. Petroleum spills and fuel oil storage tanks upgradient.	Recommended (E) Designation
Projected Site AA	843 and 853 Lexington Avenue	1623	70, 73	House of Worship Medical Office	VOC, SVOC, PCB, Metals	Former laundry and printing facility on site. Hazardous waste generator on site. Petroleum spills and fuel oil storage tanks upgradient.	Recommended (E) Designation
Projected Site BB	814-820 Lexington Avenue	1628	21, 22, 23		VOC, SVOC, PCB, Metals	Former laundry service – possible dry cleaners on site. Petroleum spills and fuel oil storage tank adjacent. Petroleum spills, fuel oil storage tanks, and hazardous waste generators upgradient.	Recommended (E) Designation

TABLE I-1:
Projected and Potential Sites Requiring (E) Designations for Hazardous Materials

Site #	Site Address	Block	Lot	2012 Land Use	Preliminary screening	Hazardous Materials Conditions	Comments
Projected Site CC	834 Lexington Avenue	1628	30	Medical Office	VOC, SVOC, PCB, Metals	Possible auto repair garage on site. Fuel oil storage tank on site. Fuel oil storage tank and petroleum spill adjacent. Petroleum spills, fuel oil storage tanks, and hazardous waste generators upgradient. Historic garage with gasoline tanks and motor freight station.	Recommended (E) Designation
Projected Site DD	404-410 Kosciusko Street	1605	23, 24, 25, 26		VOC, SVOC,	Petroleum spills adjacent.	Recommended (E) Designation
Projected Site EE	716-720 Lafayette Avenue	1791	17, 18, 19		VOC, SVOC, PCB, Metals	Petroleum spills and hazardous waste generator upgradient.	Recommended (E) Designation
Potential Rezoning Sites							
Potential Site 1	586-590 Myrtle Avenue	1910	23, 24, 25		VOC, SVOC, PCB, Metals	Former private garage and factory. Adjacent to former gasoline station. Petroleum spills, fuel oil storage tanks, and air discharge facility adjacent.	Recommended (E) Designation

TABLE I-1:
Projected and Potential Sites Requiring (E) Designations for Hazardous Materials

Site #	Site Address	Block	Lot	2012 Land Use	Preliminary screening	Hazardous Materials Conditions	Comments
Potential Site 2	676 Myrtle Avenue	1914	22		VOC, SVOC, PCB, Metals	Petroleum spills adjacent. Petroleum spills, hazardous waste generators, and air discharge facilities upgradient. Former electric plating facility adjacent.	Recommended (E) Designation
Potential Site 3	973 Kent Avenue 465-471 De Kalb Avenue	1926	1, 77, 78, 79, 80		VOC, SVOC, PCB, Metals	Petroleum spills, fuel oil storage tank, hazardous waste generator, and air discharge facility adjacent.	Recommended (E) Designation
Potential Site 4	473-477 De Kalb Avenue	1926	74, 75, 76		VOC, SVOC, PCB, Metals	Petroleum spills, fuel oil storage tank, hazardous waste generator, and air discharge facility adjacent.	Recommended (E) Designation
Potential Site 5	971 Bedford Avenue	1778	9		VOC, SVOC	Former garage with gasoline tanks crossgradient. Petroleum spills and fuel oil storage tanks adjacent.	Recommended (E) Designation
Potential Site 6	993-995 Bedford Avenue	1783	8, 9		VOC, SVOC, PCB, Metals	Former auto repair garage on site. Former auto repair garage with gasoline tanks adjacent. Petroleum spills and fuel oil storage tanks adjacent.	Recommended (E) Designation

TABLE I-1:
Projected and Potential Sites Requiring (E) Designations for Hazardous Materials

Site #	Site Address	Block	Lot	2012 Land Use	Preliminary screening	Hazardous Materials Conditions	Comments
Potential Site 7	488 Lafayette Avenue 1040-1044 Bedford Avenue	1950	30, 31, 33		VOC, SVOC	Historic auto repair facility on site. Former auto repair facility upgradient. Petroleum spills adjacent.	Recommended (E) Designation
Potential Site 8	901 Myrtle Avenue	1747	34		VOC, SVOC, PCB, Metals	Petroleum spills, fuel oil storage tanks, hazardous waste generators, and air discharge facilities adjacent and upgradient.	Recommended (E) Designation
Potential Site 9	902-924 Myrtle Avenue	1756	23, 24, 25		VOC, SVOC, PCB, Metals	Petroleum spills and hazardous waste generator on site. Former garage with gasoline tanks crossgradient.	Recommended (E) Designation
Potential Site 10	994-1008 Myrtle Avenue	1757	27, 33, 34, 134, 35		VOC, SVOC, PCB, Metals	Former auto repair adjacent. Former dry cleaners adjacent. Petroleum spills, fuel oil storage tanks, and hazardous waste generator adjacent. Petroleum spills, fuel oil storage tanks, and hazardous waste generators upgradient.	Recommended (E) Designation

TABLE I-1:
Projected and Potential Sites Requiring (E) Designations for Hazardous Materials

Site #	Site Address	Block	Lot	2012 Land Use	Preliminary screening	Hazardous Materials Conditions	Comments
Potential Site 11	33 Marcus Garvey Boulevard	1580	1		VOC, SVOC, PCB, Metals	Former knitting mill on site. Part of NYCHA Sumner Houses. Petroleum spills, fuel oil storage tanks, hazardous waste generators, and air discharge facilities adjacent and upgradient.	Recommended (E) Designation
Potential Site 12	599 Marcy Avenue	1759	7		VOC, SVOC, PCB, Metals	Former public market. Adjacent to former auto repair garage. Fuel oil storage tank and hazardous waste generator adjacent. Petroleum spills, fuel oil storage tanks, and hazardous waste generator upgradient.	Recommended (E) Designation
Potential Site 13	629-633 Marcy Avenue	1771	5, 7, 8		VOC, SVOC, PCB, Metals	Fuel oil storage tanks adjacent. Petroleum spills and fuel oil storage tanks upgradient. Former auto repair adjacent.	Recommended (E) Designation
Potential Site 14	794 Broadway	1578	17		VOC, SVOC, PCB, Metals	Petroleum spills, fuel oil storage tanks, hazardous waste generator, and air discharge facility upgradient.	Recommended (E) Designation

TABLE I-1:
Projected and Potential Sites Requiring (E) Designations for Hazardous Materials

Site #	Site Address	Block	Lot	2012 Land Use	Preliminary screening	Hazardous Materials Conditions	Comments
Potential Site 15	310 Ellery Street 822 Broadway	1579	22, 25		VOC, SVOC, PCB, Metals	Former furniture manufacturer. Petroleum spills, fuel oil storage tanks, hazardous waste generator, and air discharge facility upgradient.	Recommended (E) Designation
Potential Site 16	1123 Myrtle Avenue 1101-1103 Myrtle Avenue	1584	39, 50, 51		VOC, SVOC, PCB, Metals	Former beer depot and garage with underground gasoline tanks. Petroleum spill and fuel oil storage tank on site. Petroleum spills and hazardous waste generators upgradient.	Recommended (E) Designation
Potential Site 17	1128 Myrtle Avenue	1586	31		VOC, SVOC, PCB, Metals	Hazardous waste generator on site. Possible dry cleaners on site. Petroleum spills, fuel oil storage tanks, and hazardous waste generators adjacent and upgradient.	Recommended (E) Designation
Potential Site 18	1086 Myrtle Avenue	1586	6		VOC, SVOC, PCB, Metals	Former New York City Transit System Myrtle Substation. Soil contamination upgradient. Historic garage with underground gasoline tank and auto repair facility crossgradient. Petroleum spills, fuel oil tanks, and hazardous waste generators adjacent.	Recommended (E) Designation

TABLE I-1:
Projected and Potential Sites Requiring (E) Designations for Hazardous Materials

Site #	Site Address	Block	Lot	2012 Land Use	Preliminary screening	Hazardous Materials Conditions	Comments
Potential Site 19	1080 Myrtle Avenue	1586	3		VOC, SVOC, PCB, Metals	Soil contamination upgradient. Historic garage with underground gasoline tank and auto repair facility crossgradient. Petroleum spills, fuel oil tanks, and hazardous waste generators adjacent.	Recommended (E) Designation
Potential Site 20	1005 Greene Avenue	1618	40		VOC, SVOC, PCB, Metals	Historic garage with underground gasoline tanks on site. Former garage and auto repair garage with gasoline tanks adjacent. Fuel oil tanks adjacent. Petroleum spills, fuel oil storage tanks, and hazardous waste generators upgradient.	Recommended (E) Designation
Potential Site 21	1092-1096 Broadway	1600	13, 14, 15		VOC, SVOC, PCB, Metals	Historic garage/auto repair/filling station with gasoline tanks, printing company, and used auto sales adjacent. Petroleum spills and fuel oil storage tanks adjacent. Adjacent to former gasoline station. Petroleum spill and hazardous waste generator upgradient.	Recommended (E) Designation

TABLE I-1:
Projected and Potential Sites Requiring (E) Designations for Hazardous Materials

Site #	Site Address	Block	Lot	2012 Land Use	Preliminary screening	Hazardous Materials Conditions	Comments
Potential Site 22	618 Kosciuszko Street Broadway	1608	27, 34		VOC, SVOC, PCB, Metals	Former lumber yard and lamp manufacturer. Former gasoline station adjacent and upgradient. Petroleum spill and hazardous waste generator adjacent. Petroleum spill and fuel oil tanks upgradient.	Recommended (E) Designation
Potential Site 23	1198-1200 Broadway 541 Van Buren Street	1613	16, 17, 23		VOC, SVOC, PCB, Metals	Historic garage and auto repair facility with gasoline tanks upgradient. Petroleum spill, fuel oil storage tanks, and hazardous waste generator upgradient.	Recommended (E) Designation
Potential Site 24	1224 Broadway	1618	22		VOC, SVOC, PCB, Metals	Historic garage and auto repair facility with gasoline tanks on site. Petroleum spills and hazardous waste generator adjacent. Petroleum spills, fuel oil storage tanks, and hazardous waste generators upgradient.	Recommended (E) Designation

TABLE I-1:
Projected and Potential Sites Requiring (E) Designations for Hazardous Materials

Site #	Site Address	Block	Lot	2012 Land Use	Preliminary screening	Hazardous Materials Conditions	Comments
Potential Site 25	1038 Greene Avenue	1623	25		VOC, SVOC, PCB, Metals	Historic motor freight station with gasoline tanks on site. Historic garage and auto repair facility with gasoline tanks adjacent. Petroleum spill and fuel oil storage tank adjacent. Petroleum spills and fuel oil storage tanks upgradient.	Recommended (E) Designation
Potential Site 26	1266-1268 Broadway 891 Lexington Avenue	1623	41, 42, 53		VOC, SVOC, PCB, Metals	Historic furniture manufacture on site. Former garage/motor freight station with gasoline tanks upgradient. Petroleum spills, fuel oil storage tanks, and hazardous waste generator upgradient.	Recommended (E) Designation
Potential Site 27	881 Lexington Avenue	1623	57		VOC, SVOC, PCB, Metals	Petroleum spill on site. Fuel oil storage tanks adjacent. Petroleum spills and fuel oil storage tanks upgradient. Historic lumber yard on site. Former private garage with gasoline tanks adjacent.	Recommended (E) Designation

TABLE I-1:
Projected and Potential Sites Requiring (E) Designations for Hazardous Materials

Site #	Site Address	Block	Lot	2012 Land Use	Preliminary screening	Hazardous Materials Conditions	Comments
Potential Site 28	842 Lexington Avenue 850 Lexington Avenue 4 Ralph Avenue	1628	34, 38, 42		VOC, SVOC, PCB, Metals	Historic garage/motor freight station with gasoline tanks on site. Fuel oil storage tank on site. Petroleum spill and fuel oil storage tank adjacent.	Recommended (E) Designation
Potential Site 29	894 Quincy Street 1336 Broadway	1479	8, 11		VOC, SVOC, PCB, Metals	Former photo processing facility on site. Fuel oil storage tank and hazardous waste generator adjacent. Petroleum spills, fuel oil storage tanks, and hazardous waste generator upgradient.	Recommended (E) Designation
Potential Site 30	1008-1010 Gates Avenue	1480	16, 17		VOC, SVOC, PCB, Metals	Adjacent to former Borden Farm Products garage with gasoline tanks. Petroleum spill adjacent. Petroleum spills and fuel oil storage tanks upgradient.	Recommended (E) Designation
Potential Site 31	1024 Gates Avenue Monroe Street	1480	23, 55, 56		VOC, SVOC, PCB, Metals	Former parking lot on site. Petroleum spills adjacent. Petroleum spills and fuel oil storage tanks upgradient. Former Borden Farm Products garage with gasoline tanks crossgradient.	Recommended (E) Designation

TABLE I-1:
Projected and Potential Sites Requiring (E) Designations for Hazardous Materials

Site #	Site Address	Block	Lot	2012 Land Use	Preliminary screening	Hazardous Materials Conditions	Comments
Potential Site 32	1372-1392 Broadway	1480	34, 36, 38, 40, 41, 42		VOC, SVOC, PCB, Metals	Former parking lot on site. Petroleum spill adjacent. Petroleum spill, fuel oil storage tanks, and hazardous waste generator upgradient.	Recommended (E) Designation
Potential Site 33	Lafayette Avenue 760-762 Lafayette Avenue Throop Avenue 67-69 Van Buren Street	1791	42, 43, 44, 45, 47, 48, 51, 52, 53, 54		VOC, SVOC	Petroleum spills adjacent. Fuel oil storage tanks upgradient.	Recommended (E) Designation

- The southeastern portion historically had commercial and residential development. Numerous gas stations, auto repair garages, and manufacturing facilities were present in the area.

All projected and potential development sites, as identified in the RWCDS, are potentially affected by contamination because they are: 1) currently comprise uses consistent with *January 2012 CEQR Technical Manual*'s List of Facilities, Activities or Conditions Requiring Assessment, 2) adjacent to such land uses, or 3) within 400 feet of such land uses. The specific hazardous materials conditions for each of the projected and potential development sites are shown in **Table I-1**, "Proposed (E) Designations." To preclude the potential for significant adverse hazardous materials impacts, an (E) designation would be incorporated into the proposed actions applicable for 30 of the 31 projected development sites and each of the 33 potential development sites:

- Block 1912, Lot 3
- Block 1900, Lots 67, 68, 69, 70
- Block 1928, Lot 34
- Block 1788, Lots 2, 4, 5
- Block 1954, Lot 22
- Block 1754, Lots 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35
- Block 1747, Lots 7, 10, 19, 20, 21, 22, 23, 24, 51, 53A, 53B, 62, 64, 67, 1
- Block 1740, Lot 1
- Block 1756, Lots 33, 37, 42
- Block 1585, Lots 31, 32, 33
- Block 1759, Lots 2, 3, 4
- Block 1785, Lots 1, 3, 5
- Block 1971, Lot 28
- Block 1578, Lot 5
- Block 1578, Lot 14
- Block 1579, Lots 50, 51, 53
- Block 1582, Lot 15
- Block 1584, Lots 1, 4
- Block 1584, Lot 11
- Block 1586, Lots 12, 14, 24, 27, 51, 52, 53, 56
- Block 1586, Lots 8, 10, 11
- Block 1593, Lot 23
- Block 1600, Lots 1, 28
- Block 1613, Lot 9
- Block 1618, Lot 35
- Block 1623, Lots 73, 70

- Block 1628, Lots 21, 22, 23
- Block 1628, Lot 30
- Block 1605, Lots 23, 24, 25, 26
- Block 1791, Lots 17, 18, 19
- Block 1910, Lots 23, 24, 25
- Block 1914, Lot 22
- Block 1926, Lots 1, 7, 77, 78, 79, 80
- Block 1926, Lots 74, 75, 76
- Block 1778, Lot 9
- Block 1783, Lots 8, 9
- Block 1950, Lots 30, 31, 33
- Block 1747, Lot 34
- Block 1756, Lots 23, 24, 25
- Block 1757, Lots 27, 33, 34, 134, 35
- Block 1580, Lot 1
- Block 1759, Lot 7
- Block 1771, Lots 5, 7, 8
- Block 1578, Lot 17
- Block 1579, Lots 22, 25
- Block 1584, Lots 39, 50, 51
- Block 1586, Lot 31
- Block 1586, Lot 6
- Block 1586, Lot 3
- Block 1618, Lot 40
- Block 1600, Lots 13, 14, 15
- Block 1608, Lots 27, 34
- Block 1613, Lots 16, 17, 23
- Block 1618, Lot 22
- Block 1623, Lot 25
- Block 1623, Lots 41, 42, 53
- Block 1623, Lot 57
- Block 1628, Lots 34, 38, 42
- Block 1479, Lots 8, 11
- Block 1480, Lots 16, 17
- Block 1480, Lots 23, 55, 56
- Block 1480, Lots 34, 36, 38, 40, 41, 42

- Block 1791, Lots 42, 43, 44, 45, 47, 48, 51, 52, 53, 54

An (E) designation is not necessary for Block 1609, Lot 5. The assessment determined little or no likelihood of contamination and therefore, no significant impacts from hazardous materials. A list of the sites, blocks and lots affected by the (E) designations is presented in Table 1.

The (E) designation would require that, prior to redevelopment, the property owner conduct a Phase I Environmental Site Assessment (ESA) in accordance with the American Society of Testing Materials (ASTM) E1527-05, a soil and groundwater testing protocol, and remediation where appropriate, to the satisfaction of the New York City Office of Environmental Remediation (OER) before issuance of construction-related New York City Department of Buildings (DOB) permits (pursuant to Section 11-15 of the *Zoning Resolution*—Environmental Requirements). The E-designation also requires mandatory construction-related health and safety plans, which must also be approved by OER. Under the E-designation, the following tasks are undertaken:

Task 1 – The applicant must submit to the Mayor's Office of Environmental Remediation (OER) for review and approval, a Phase 1 of the site along with a soil and groundwater testing protocol, including a description of methods and a site map with all sampling locations clearly and precisely represented. If site sampling is necessary, no sampling should begin until written approval of a protocol is received from OER. The number and location of sample sites should be selected to adequately characterize the site, the specific source of suspected contamination (i.e., petroleum based contamination and non-petroleum based contamination), and the remainder of the site's condition. The characterization should be complete enough to determine what remediation strategy (if any) is necessary after review of sampling data. Guidelines and criteria for selecting sampling locations and collecting samples are provided by OER upon request.

Task 2 – A written report with findings and a summary of the data must be submitted to OER after completion of the testing phase and laboratory analysis for review and approval. After receiving such results, a determination is made by OER if the results indicate that remediation is necessary. If OER determines that no remediation is necessary, written notice shall be given by OER. If remediation is indicated from the test results, a proposed remediation plan must be submitted to OER for review and approval. The applicant must complete such remediation as determined necessary by OER. The applicant should then provide proper documentation that the work has been satisfactorily completed.

Regardless of the proposed actions, the conditions in the future would be the same for the development of the sites qualifying for an (E) designation. Within the proposed rezoning area, 64 potential and projected development sites may be contaminated as a result of historical and/or current land use activity, the presence of fuel storage tanks, or some other condition identified in the *CEQR Technical Manual*. As such, these locations would receive an (E) designation pursuant to the proposed action.

In conclusion, the proposed actions would not result in significant adverse impacts due to hazardous materials as long as the (E) designations as described above are incorporated into the proposed actions.

J. WATER AND SEWER INFRASTRUCTURE

Introduction

This chapter provides an evaluation of the potential effect of the Proposed Actions on the City's water supply, wastewater treatment, and stormwater management infrastructure. Based on the methodology set forth in the *CEQR Technical Manual*, the Proposed Actions would not result in significant adverse impacts to these infrastructure systems.

Included is a description of the existing water supply and wastewater infrastructure in the study area and identified changes to water supply, stormwater and wastewater conditions that would occur in the future with and without the Proposed Actions. Other City infrastructure identified in the *CEQR Technical Manual*, including the waste and sanitation services and public transportation systems, are discussed in the other chapters of this EAS document. The *CEQR Technical Manual* states that projects that would result in an incremental increase above 400 residential units or 150,000 square feet of commercial space in Brooklyn require a preliminary analysis of water and sewer infrastructure. Accordingly, because the proposed project would result in an incremental increase of more than 400 residential units and greater than 150,000 square feet of commercial space, a preliminary analysis was conducted which calculated the increases in sanitary and stormwater flows as compared to the existing conditions.

Existing Conditions

Water Supply

The New York City water supply system is comprised of a network of reservoirs, lakes and aqueducts extending into the Catskill region and a pipe network that distributes water within the City. New York City obtains nearly all of its water from the Delaware, Catskill and Croton watersheds located within 125 miles north of the City. Water from the watersheds is stored at 19 reservoirs and three control lakes, having a combined capacity of approximately 580 billion gallons. The water is then carried into the city by a number of aqueducts. It enters the City via City Tunnel 1, which runs through the Bronx, Manhattan and Queens, and City Tunnel 2, which runs through the Bronx, Queens and Brooklyn. City Tunnel 3, partially complete, currently serves the Bronx, Manhattan and Queens, and when fully complete, will serve Brooklyn. Staten Island obtains its water from the Richmond Tunnel, an extension of City Tunnel 2.

Once water arrives in the City, the three aqueducts distribute water into a network of water mains. Water mains up to 96-inches in diameter feed smaller mains that deliver water to a final destination. Nearly all of the water in New York City reaches its destination by gravity alone, although some areas, generally located at the outer limits of the system where pressure is low, require water to be pumped to its final destination. Pressure regulators throughout the City monitor and control the water pressure.

The New York City Department of Environmental Protection (NYCDEP) estimates that New York City consumes approximately 1.3 billion gallons of water per day. Given this supply capacity, the *CEQR Technical Manual* notes the unlikelihood that any particular action would result in a significant adverse impact on the City's water supply or water pressure.

In the existing condition, uses on the projected development sites include two dwelling units, 287,393 square feet of retail space and 58,792 square feet of industrial-related uses. The anticipated water usage for these areas is calculated using the consumption rates in the following table.

Based on the *CEQR Technical Manual* consumption rates, it is estimated that the existing uses consume approximately 96,559 gallons per day (gpd) of water for domestic uses and 58,851 gpd of water for air conditioning for a total of 155,411 gpd (0.16 million gallons per day [mgd]) of water. These results are summarized in **Table J-1**.

Wastewater Treatment

According to the *CEQR Technical Manual* wastewater is considered to include sanitary sewage, wastewater generated by industries, and stormwater. Water used for air conditioning generates a negligible amount of wastewater, as it is recirculated or evaporates in the cooling and heating process.

The majority of New York City's wastewater treatment system is comprised of the sewer network beneath the streets and the 14 water pollution control plants (WPCPs) located throughout the City. The majority of the New York City sewers are combined sewers that receive sanitary wastewater and stormwater runoff. Wastewater generated in a "drainage basin," the area served by a WPCP, is conveyed through a network of combined sewers to the WPCP.

During dry weather, a WPCP primarily treats sanitary sewage. The average daily flow during dry weather is known as the average "dry-weather flow." WPCPs have treatment capacities set at twice their dry-weather design flow for a limited amount of time. However, because the majority of New York City sewers are combined sewers, the sewers are also the recipients of stormwater and rainwater runoff from impermeable surfaces that generally contain pollutants such as oil and floatable debris. During wet weather, stormwater enters the combined sewer system along with sanitary sewage, and are both treated at a WPCP. During wet weather, rainfall runoff can reach 10 to 50 times the dry weather flow, sometimes well above the WPCP design capacity. To avoid flooding the WPCPs, built-in regulators act as relief valves to direct the excess water to an outfall. During storm events, sanitary sewage entering or already in the combined sewer system, stormwater, and debris can be discharged (or overflowed) untreated into the nearest body of water. This untreated overflow is known as "combined sewer overflow" (CSO).

Table J-1:
Existing Water Consumption and Wastewater Generation Due to Land Uses on the Projected Development Sites

Land Use	***Rate***[1]	***Existing Conditions***		
		Area (sf)/ Dwelling Units	*Water/ Wastewater Generation (gpd)*	*Air Conditioning (gpd)*
Residential[2]	Domestic: 100 gpd/person (270 gpd/DU) Air Conditioning: 0 gpd/sf	2	541	-
Retail[3]	Domestic: 0.24 gpd/sf Air Conditioning: 0.17 gpd/sf	287,393	68,974	48,857
Office	Domestic: 0.10 gpd/sf Air Conditioning: 0.17 gpd/sf	-	-	-
Hotel[4]	Domestic: 120 gpd/rm/occup (0.60 gpd/sf) Air Conditioning: 0.17 gpd/sf	-	-	-
Community Facility[5]	Domestic: 0.17 gpd/sf Air Conditioning: 0.17 gpd/sf	-	-	-
Industrial/Manufacturing[6]	Domestic: 2,000 gpd/acre (0.46 gpd/sf) Air Conditioning: 0.17 gpd/sf	58,792	27,044	9,995
Water Consumption Subtotals			96,559	58,851
Sewage Generation Subtotal		96,559		
Total Water Consumption		155,411		
Total Wastewater Generation		96,559		

Notes:
1- Consumption rates obtained from *CEQR Technical Manual* unless otherwise indicated.
2- Assumes 100 gpd/person. The average household size for the proposed rezoning area is 2.70 persons per dwelling unit (DU) (2010 Census). This equates to 270 gpd/DU.
3- Use group is comprised of retail and restaurant space.
4- Assumes 120 gpd/room/occupant, 400 sf per room and 2 occupants per room, which equates to 0.60 gpd/sf.
5- Assumes retail consumption rates.
6- Use group includes automotive-related, storage, and other (non-categorizable) uses. Source: Willets Point Development Plan FEIS, 2008.

The proposed rezoning area is located within the Bedford-Stuyvesant neighborhood of Brooklyn, and generally bounded by Flushing Avenue to the north, Quincy Street to the south, Broadway to the east, and Classon Avenue to the west (see Attachment 1, "Project Description"). Wastewater generated in this area is treated at the Newtown Creek WPCP (via the NCB-014 and NCB-015 subcatchment areas) and Red Hook WPCP (via the RH-005 subcatchment area).

All 14 WPCPs in New York City have a State Pollution Discharge Elimination System (SPDES) permitted capacity of 1.8 billion gallons per day. The Newtown Creek WPCP is regulated by a SPDES permit to treat and discharge up to 310 mgd of wastewater. In 2011, the Newtown Creek WPCP treated an average daily flow of 234 mgd, with 76 mgd available capacity. The Red Hook WPCP has a permit to treat 60 mgd of wastewater daily. The Red Hook WPCP treated an average daily flow of 31 mgd, with a capacity of 29 mgd.

Based on the wastewater generation rates provided in **Table J-1** and the *CEQR Technical Manual*, existing uses on the projected development sites generate approximately 96,559 gpd (0.10 mgd) of wastewater (**Table J-1**).

Stormwater Management

Stormwater runoff from impermeable surfaces is collected by catch basins along the street and conveyed by the City's combined sewer system to the Newtown Creek and Red Hook WPCPs. During dry weather, regulators built into the combined sewer system direct flows to interceptor sewers leading to the WPCPs. However, during storm events, the regulators allow only twice the dry-weather design flow into interceptor sewers and the remaining flow is diverted as a CSO to the nearest water body (e.g. Newtown Creek).

In the existing condition, the total site area of the projected development sites consists of 660,865 square feet, of which 44 percent (288,391 square feet) has the permeability of rooftops, 18 percent (119,878 square feet) is covered by pavement and walkways, mostly surface parking lots, and 38 percent (252,596 square feet) is covered in grass/softscapes. **Table J-2**, "Existing Surface Calculations," contains a breakdown of surface area and runoff coefficient calculations by subcatchment area. For this analysis, the CEQR Sanitary and Stormwater Drainage Calculation Matrix was used to calculate the total volume from the proposed project area to the combined sewer systems during a range of storm events.

Table J-2:
Existing Surface Calculations

	EXISTING					
	WEIGHTED RUNOFF COEFFICIENT, (C)					
	SURFACE TYPE	ROOF	PAVT & WALKS	OTHER	GRASS & SOFT SCAPE	TOTAL
Newtown Creek WPCP (NCB-014)	AREA %	38%	15%	0%	46%	100%
	SURFACE AREA, SF	184,693	74,256	-	223,137	482,085
	RUNOFF COEFFICIENT	1.0	0.85	0.85	0.20	0.61
Newtown Creek WPCP (NCB-015)	AREA %	61%	27%	0%	12%	100%
	SURFACE AREA, SF	97,788	43,099	-	18,751	159,638
	RUNOFF COEFFICIENT	1.0	0.85	0.85	0.20	0.87
Red Hook WPCP (RH-005)	AREA %	31%	13%	0%	56%	100%
	SURFACE AREA, SF	5,910	2,524	-	10,708	19,141
	RUNOFF COEFFICIENT	1.00	0.85	0.85	0.20	0.53

Notes:
1- Runoff coefficients for each surface type are as per NYCDEP.
2- Total roof areas onsite.
3- Identify and other surfaces onsite and obtain runoff coefficients from DEP

The total combined stormwater and wastewater flow generated by the existing uses on the projected development sites are presented in **Table J-3**, broken down by subcatchment areas. Runoff in million gallons (mg) are shown in **Table J-3**.

Individual development projects are required to manage on-site stormwater runoff in accordance with NYCDEP requirements. To be issued a permit to connect to a City sewer, NYCDEP requires that storm runoff from new developments and certain alterations in excess of the amount allowed under the applicable drainage plan be detained on-site. The method to be used to calculate this amount is described in the NYCDEP document "Criteria for Determination of Detention Facility Volume" (June 2002). Since most of the buildings in the area most likely pre-date NYCDEP requirements, it is likely that there is little or no on-site detention of stormwater within the proposed project area.

Table J-3:
Existing Combined Stormwater and Sanitary
from Project Area during Different Storm Events

Newtown Creek WPCP (NCB-014)

Rainfall, in	Duration, hr	Total Area (A), acre	Weighted Runoff Coefficient (C)	Stormwater to CSS, MG	Daily Sanitary Sewage Generation per CEQR TM, MGD	Sanitary to CSS, MG
0	3.8	11.07	0.61	0.00	0.06	0.010
0.4	3.8	11.07	0.61	0.07	0.06	0.010
1.2	11.3	11.07	0.61	0.22	0.06	0.029
2.5	19.5	11.07	0.61	0.46	0.06	0.050

Newtown Creek WPCP (NCB-015)

Rainfall, in	Duration, hr	Total Area (A), acre	Weighted Runoff Coefficient (C)	Stormwater to CSS, MG	Daily Sanitary Sewage Generation per CEQR TM, MGD	Sanitary to CSS, MG
0	3.8	3.66	0.87	0.00	0.03	0.005
0.4	3.8	3.66	0.87	0.03	0.03	0.005
1.2	11.3	3.66	0.87	0.10	0.03	0.014
2.5	19.5	3.66	0.87	0.22	0.03	0.024

Red Hook WPCP (RH-005)

Rainfall, in	Duration, hr	Total Area (A), acre	Weighted Runoff Coefficient (C)	Stormwater to CSS, MG	Daily Sanitary Sewage Generation per CEQR TM, MGD	Sanitary to CSS, MG
0.00	3.80	0.44	0.53	0.00	0.01	0.001
0.40	3.80	0.44	0.53	0.00	0.01	0.001
1.20	11.30	0.44	0.53	0.01	0.01	0.002
2.50	19.50	0.44	0.53	0.02	0.01	0.004

Water Conservation and WPCP Load Reduction

During the 1990s, the City instituted a range of water conservation measures in response to excess flow to the City's WPCPs that exceeded the dry weather flow allowed in their respective SPDES permits. Measures included equipping fire hydrants with locks to prevent illegal use and requiring that all new plumbing fixtures in the City, including replacements in existing structures and new fixtures in new structures, be of a low-flow design (Local Law No. 29, 1989). The City also implemented a metering program, installing water meters at thousands of properties where water fees had previously been based on property frontage rather than usage. This metering provided a new financial incentive for consumers to conserve. The City also implemented leak detection programs to identify and repair leaks in the water distribution system.

These programs have reduced water demand and the load on the City's WPCPs. At many WPCPs, this reduction has been in an order of magnitude of several million gallons per day. NYCDEP projects that savings from the continued implementation of these conservation measures over the next decade would exceed any increase in water demand from consumers.

Future Without the Proposed Actions

In the future without the Proposed Actions, anticipated growth in the vicinity of Brooklyn's Bedford-Stuyvesant North neighborhood, as well as development that would occur on the projected sites without the Proposed Actions would result in additional demand for water, wastewater production and stormwater runoff. As identified in Attachment 1, "Project Description," the future development without the Proposed Actions would consist of 1,198 dwelling units, 170,399 square feet of commercial space (including 15,351 square feet of hotel), 28,666 square feet of office space and 380,826 square feet of community facility space. In the future without the Proposed Actions, there are also 14 known developments in the study area that are taken into consideration in the analysis, as shown in **Table J-4**: 867-875 Dekalb, 896 Greene Avenue, 145 Skillman Street, 220 Walworth Street, 530 Lafayette Avenue, 126 Hart Street, 158 Franklin Avenue, 23 Verona Place, 596 Quincy Street, 366 Stockton Street, 221 Skillman Street, 733 Lafayette Avenue, the Marcy/Willoughby Houses (821 Willoughby Avenue, 267 Throop Avenue and 890 Myrtle Avenue) and the Vernon Avenue Houses (HPD) at 119-125 Vernon Avenue.

Table J-4
Known Development Sites in the Future Without the Proposed Actions

Address	Planned Use	Dwelling Units (DUs)
867-875 Dekalb	Residential	52
896 Greene Avenue	Residential	2
145 Skillman Street	Residential	4
220 Walworth Street	Residential	3
530 Lafayette Avenue	Residential	8
126 Hart St	Residential	2
158 Franklin Av	Residential	4
23 Verona Place	Residential	4
596 Quincy Street	Residential	4
366 Stockton Street	Community Facility/Residential	11
221 Skillman Street	Residential	3
733 Lafayette Avenue	Residential	8
Marcy/Willoughby Houses (821 Willoughby Avenue, 267 Throop Avenue And 890 Myrtle Avenue)	Residential	23 (combined)
119-125 Vernon Avenue	Residential	16
	Total	**144**

Water Supply

In the future without the Proposed Actions, as shown in **Table J-5**, the water consumption that would occur at the development sites would total approximately 575,516 gpd (0.58 mgd). This represents an increase from the existing conditions of approximately 420,105 gpd (0.42 mgd) or approximately 270 percent over the existing water demand for these sites. As noted previously, New York City consumes approximately 1.3 billion gallons of water per day. Given this level of consumption, this incremental demand of 0.42 mgd would not be large enough to significantly impact the ability of the City's water system to deliver water in the future without the Proposed Actions.

Wastewater Treatment

As indicated on **Table J-5**, in the future without the Proposed Actions, 476,934 gpd (0.48 mgd) of wastewater would be generated, most of which (approximately 0.46 mgd) would go to Newtown Creek WPCP. This wastewater generation to the Newtown Creek WPCP is 457,594 gpd or an approximately 400 percent increase over the existing level of wastewater generation on the projected development sites. This increment represents 0.6 percent of the 76 mgd available capacity of the plant. The Newtown Creek WPCP therefore would be expected to continue to operate within its design capacity. The wastewater generation to the Red Hook WPCP would equal approximately 19,340 gpd (0.02 mgd), which represents 0.1 percent of the 29 mgd available capacity of the plant. The Red Hook WPCP would therefore be expected to continue to operate within its design capacity.

Table J-5:
Water Consumption and Wastewater Generation in the Future Without the Proposed Actions

Land Use	*Rate*	*Existing Conditions*			*Conditions in the Future Without the Proposed Actions*			*Change in Conditions in the Future Without the Proposed Actions Compared to Existing Conditions*		
		Area (sf)/ Dwelling Units	*Water/ Wastewater Generation (gpd)*	*Air Conditioning (gpd)*	*Area (sf)/ Dwelling Units*	*Water/ Wastewater Generation (gpd)*	*Air Conditioning (gpd)*	*Area (sf)/ Dwelling Units*	*Water/ Wastewater Generation (gpd)*	*Air Conditioning (gpd)*
Residential	Domestic: 100 gpd/person (270 gpd/DU) Air Conditioning: 0 gpd/sf	2	541	-	1,342	362,905	-	1,340	362,364	-
Retail/Public Use	Domestic: 0.24 gpd/sf Air Conditioning: 0.17 gpd/sf	287,393	68,974	48,857	155,048	37,212	26,358	(132,345)	(31,763)	(22,499)
Office	Domestic: 0.10 gpd/sf Air Conditioning: 0.17 gpd/sf	-	-	-	28,666	2,867	4,873	28,666	2,867	4,873
Hotel	Domestic: 120 gpd/rm/occup (0.60 gpd/sf) Air Conditioning: 0.17 gpd/sf	-	-	-	15,351	9,211	2,610	15,351	9,211	2,610
Community Facility	Domestic: 0.17 gpd/sf Air Conditioning: 0.17 gpd/sf	-	-	-	380,826	64,740	64,740	380,826	64,740	64,740
Industrial/ Manufacturing	Domestic: 2,000 gpd/acre (0.46 gpd/sf) Air Conditioning: 0.17 gpd/sf	58,792	27,044	9,995	-	-	-	(58,792)	(27,044)	(9,995)
Water Consumption Subtotals			96,559	58,851		476,934	98,581		380,375	39,730
Sewage Generation Subtotal			96,559			476,934			380,375	
Total Water Consumption			155,411			575,516			420,105	
Total Wastewater Generation			96,559			476,934			380,375	

Notes:
Refer to **Table J-1** for consumption rate assumptions.

Stormwater Management

In the future without the Proposed Actions, there will be a minimal increase in sanitary flow and stormwater runoff would continue to be collected and directed through the existing combined sewer system and then conveyed to the Newtown Creek and Red Hook WPCPs for treatment. Some change in the amount of impervious surfaces is anticipated in the study area, as additional development is expected to occur at the projected development sites. Without the Proposed Actions in the future, though one site (projected development site F) would remain vacant, the majority of sites would experience either new construction or conversion of existing uses. This development would include new residential, retail, office and community facility uses.

Future With the Proposed Actions

In the future with the Proposed Actions, the existing water supply, wastewater treatment and stormwater management systems are expected to support the Proposed Actions without incurring significant adverse impacts. The Proposed Actions would facilitate more mixed-use commercial and residential development than would occur in the future without the Proposed Actions. With the Proposed Actions the rezoning area would include a total of 1,988 dwelling units, 306,362 square feet of retail space, 56,847 square feet of office space and 89,051 square feet of community facility space. Compared to the condition in the future without the Proposed Actions, conditions in the future with the Proposed Actions would add a net total 790 dwelling units, 135,964 square feet of retail space (there would be a decrease of 15,351 square feet of hotel), 28,182 square feet of office and 291,775 square feet of community facility space. An additional 144 dwelling units are included in this analysis as known no-build sites, as identified in **Table J-4** above.

Water Supply

The Proposed Actions would not result in significant adverse impacts on the City's water supply system. As shown in **Table J-6**, the proposed development would generate a water supply demand of approximately 747,772 gpd (0.75 mgd), an increase of 172,257 gpd (0.17 mgd) or approximately 30 percent, compared to demand in the future without the Proposed Actions. Demand with the Proposed Actions would represent less than 0.1 percent of the City's water supply demand. The incremental demand with the Proposed Actions would, therefore, not adversely impact the City's water supply or system water pressure.

Table J-6:
Water Consumption and Wastewater Generation in the Future Without and With the Proposed Actions

Land Use	*Rate*	*Conditions in the Future Without the Proposed Actions*			*Conditions in the Future With the Proposed Actions*			*Changes in Water Consumption and Wastewater Generated With the Proposed Actions*		
		Area (sf)/ Dwelling Units	*Water/ Wastewater Generation (gpd)*	*Air Conditioning (gpd)*	*Area (sf)/ Dwelling Units*	*Water/ Wastewater Generation (gpd)*	*Air Conditioning (gpd)*	*Area (sf)/ Dwelling Units*	*Water/ Wastewater Generation (gpd)*	*Air Conditioning (gpd)*
Residential	Domestic: 100 gpd/person (270 gpd/DU) Air Conditioning: 0 gpd/sf	1,342	362,905	-	2,132	576,538	-	790	213,633	-
Retail/ Public Use	Domestic: 0.24 gpd/sf Air Conditioning: 0.17 gpd/sf	155,048	37,212	26,358	306,362	73,527	52,082	151,314	36,315	25,723
Office	Domestic: 0.10 gpd/sf Air Conditioning: 0.17 gpd/sf	28,666	2,867	4,873	56,847	5,685	9,664	28,181	2,818	4,791
Hotel	Domestic: 120 gpd/rm/occup (0.60 gpd/sf) Air Conditioning: 0.17 gpd/sf	15,351	9,211	2,610	-	-	-	(15,351)	(9,211)	(2,610)
Community Facility	Domestic: 0.17 gpd/sf Air Conditioning: 0.17 gpd/sf	380,826	64,740	64,740	89,051	15,139	15,139	(291,775)	(49,602)	(49,602)
Industrial/ Manufacturing	Domestic: 2,000 gpd/acre (0.46 gpd/sf) Air Conditioning: 0.17 gpd/sf	-	-	-	-	-	-	-	-	-
Water Consumption Subtotals			476,934	98,581		670,888	76,884		193,954	(21,697)
Sewage Generation Subtotal			476,934			670,888			193,954	
Total Water Consumption			575,516			747,772			172,257	
Total Wastewater Generation			476,934			476,934			193,954	

Notes:
Refer to **Table J-1** for consumption rate assumptions.

Wastewater Treatment

In the future with the Proposed Actions, wastewater from the study area would continue to be treated by the Newtown Creek and Red Hook WPCPs. The capacity of the plants would not change as a result of the Proposed Actions and the facilities would retain their SPDES permitted capacities of 310 mgd and 60 mgd, respectively. As shown in **Table J-6**, the Proposed Actions would generate approximately 670,888 gpd of sanitary sewage. This sanitary sewage generation is a 193,954 gpd (0.19 mgd or 41 percent) increase from the amount of sanitary sewage that would be generated in the future without the Proposed Actions. The increase represents 0.26 percent of the reserve capacity of the Newtown Creek WPCP and an increase of 0.01 percent of the reserve capacity of the Red Hook WPCP compared to the future without the Proposed Actions. **Table J-8** shows the additional wastewater generated in the subcatchment areas within the development sites. Since the demand associated with the Proposed Actions is well within the capacity of each treatment plant, no significant adverse impacts to the City's wastewater treatment services would occur as a result of the rezoning.

Stormwater Management

In the future with the Proposed Actions, the development sites would total 660,865 sf of land, all of which would be covered by impervious surface. Consequently, the stormwater runoff would be greater than under existing conditions. **Table J-7,** "Surface Calculations for the Future With the Proposed Actions," contains a breakdown of surface area and runoff coefficient calculations by subcatchment area.

Table J-7:
Surface Calculations for the Future With the Proposed Actions

	WITH-ACTION SCENARIO (PROJECT + NO-ACTION SCENARIO)					
	WEIGHTED RUNOFF COEFFICIENT, C					
	SURFACE TYPE	ROOF	PAVT & WALKS	OTHER	GRASS & SOFT SCAPE	TOTAL
Newtown Creek WPCP (NCB-014)	AREA %	86%	14%	0%	0%	100%
	SURFACE AREA, SF	413,207	68,879	-	-	482,085
	RUNOFF COEFFICIENT	1.00	0.85	0.85	0.20	0.98
Newtown Creek WPCP (NCB-015)	AREA %	100%	0%	0%	0%	100%
	SURFACE AREA, SF	159,638	-	-	-	159,638
	RUNOFF COEFFICIENT	1.00	0.85	0.85	0.20	1.00
Red Hook WPCP (RH-005)	AREA %	97%	3%	0%	0%	100%
	SURFACE AREA, SF	18,526	615	-	-	19,141
	RUNOFF COEFFICIENT	1.00	0.85	0.85	0.20	1.00

Note: Refer to **Table J-2** for assumptions

Table J-8:
Combined Stormwater and Sanitary from Project Area during Different Storm Events in the Future With the Proposed Actions

Newtown Creek WPCP (NCB-014)

Rainfall, in	Duration, hr	Total Area (A), acre	Weighted Runoff Coefficient (C)	Stormwater to CSS, MG	Daily Sanitary Sewage Generation per CEQR TM, MGD	Sanitary to CSS, MG
0.0	3.8	11.07	0.98	0.00	0.57	0.091
0.4	3.8	11.07	0.98	0.12	0.57	0.091
1.2	11.3	11.07	0.98	0.35	0.57	0.270
2.5	19.5	11.07	0.98	0.74	0.57	0.467

Newtown Creek WPCP (NCB-015)

Rainfall, in	Duration, hr	Total Area (A), acre	Weighted Runoff Coefficient (C)	Stormwater to CSS, MG	Daily Sanitary Sewage Generation per CEQR TM, MGD	Sanitary to CSS, MG
0	3.8	3.66	1.00	0.0	0.08	0.012
0.4	3.8	3.66	1.00	0.04	0.08	0.012
1.2	11.3	3.66	1.00	0.12	0.08	0.035
2.5	19.5	3.66	1.00	0.25	0.08	0.061

Red Hook WPCP (RH-005)

Rainfall, in	Duration, hr	Total Area (A), acre	Weighted Runoff Coefficient (C)	Stormwater to CSS, MG	Daily Sanitary Sewage Generation per CEQR TM, MGD	Sanitary to CSS, MG
0.00	3.80	0.44	1.00	0.00	0.02	0.003
0.40	3.80	0.44	1.00	0.00	0.02	0.003
1.20	11.30	0.44	1.00	0.01	0.02	0.010
2.50	19.50	0.44	1.00	0.03	0.02	0.017

A comparison of combined stormwater runoff and wastewater flows in the future with the Proposed Actions and combined flows in the future without the Proposed Actions is provided in **Table J-9**. As shown in this table, the total combined stormwater and wastewater flows with the Proposed Actions would result in an increase of the combined flows compared to the existing conditions during a range of storm events.

Table J-9:
Combined Stormwater and Sanitary Volumes from Project Area during Different Storm Events –
Comparison of Existing Conditions to Future With the Proposed Actions Conditions

Existing		Area =482,085SF (11.07 ACRES)				Area =159,638SF (3.66 ACRES)				Area = 19,141 SF (0.44 ACRES)			
		Newtown Creek WPCP (NCB-014)				**Newtown Creek WPCP (NCB-015)**				**Red Hook WPCP (RH-005)**			
Rainfall Volume (In)	***Rainfall Duration (Hr)***	***Runoff Volume Direct Drainage (Mg)***	***Runoff Volume To CSS (Mg)***	***Sanitary Volume To CSS (Mg)***	***Total Volume To CSS (Mg)***	***Runoff Volume Direct Drainage (Mg)***	***Runoff Volume To CSS (Mg)***	***Sanitary Volume To CSS (Mg)***	***Total Volume To CSS (Mg)***	***Runoff Volume To River (Mg)***	***Runoff Volume To CSS (Mg)***	***Sanitary Volume To CSS (Mg)***	***Total Volume To CSS (Mg)***
0.00	3.80	0.00	0.000	0.010	0.01	0.00	0.000	0.005	0.00	0.00	0.00	0.001	0.00
0.40	3.80	0.00	0.073	0.010	0.08	0.00	0.034	0.005	0.04	0.00	0.00	0.001	0.00
1.20	11.30	0.00	0.219	0.029	0.25	0.00	0.103	0.014	0.12	0.00	0.01	0.002	0.01
2.50	19.50	0.00	0.456	0.050	0.51	0.00	0.215	0.024	0.24	0.00	0.02	0.004	0.02

With-Action		Area =482,085SF (11.07 ACRES)				Area =159,638SF (3.66 ACRES)				Area = 19,141 SF (0.44 ACRES)			
		Newtown Creek WPCP (NCB-014)				**Newtown Creek WPCP (NCB-015)**				**Red Hook WPCP (RH-005)**			
Rainfall Volume (In)	***Rainfall Duration (Hr)***	***Runoff Volume Direct Drainage (Mg)***	***Runoff Volume To CSS (Mg)***	***Sanitary Volume To CSS (Mg)***	***Total Volume To CSS (Mg)***	***Runoff Volume Direct Drainage (Mg)***	***Runoff Volume To CSS (Mg)***	***Sanitary Volume To CSS (Mg)***	***Total Volume To CSS (Mg)***	***Runoff Volume To River (Mg)***	***Runoff Volume To CSS (Mg)***	***Sanitary Volume To CSS (Mg)***	***Total Volume To CSS (Mg)***
0.00	3.80	0.00	0.00	0.091	0.09	0.00	0.000	0.012	0.01	0.00	0.000	0.003	0.00
0.40	3.80	0.00	0.12	0.091	0.21	0.00	0.040	0.012	0.05	0.00	0.005	0.003	0.01
1.20	11.30	0.00	0.35	0.270	0.62	0.00	0.119	0.035	0.15	0.00	0.014	0.010	0.02
2.50	19.50	0.00	0.74	0.467	1.20	0.00	0.249	0.061	0.31	0.00	0.030	0.017	0.05

Notes: 1- Based on ***Intensity/duration/Frequency Rainfall Analysis, New York City and the Catskill Mountain Water Supply Reservoirs,*** Vieux & Associates, Inc., April 4, 2006. The 24-hour rainfall volume is based on average rainfall intensity over 24-hours (inch/per) times 24 hrs. (Duration information provided by T. Newman & P. Jadhav, HydroQual).

As **Table J-9** demonstrates, the combined stormwater and sanitary volumes from the project area would experience an increase above existing conditions, depending on subcatchment area and different storm events. Flows and volumes to the combined sewer system would increase from the project area. These increased volumes and flows would be conveyed to Newtown Creek WPCP, Red Hook WPCP, or discharged directly to the nearest waterbody (e.g. Newtown Creek) dependent upon the storm event.

New York City; however, has regulations and practice requirements in place to control the flow of stormwater. Self-certification of sewer connection applications would not be permitted by the New York City Department of Buildings or New York City Department of Environmental Protection (NYCDEP) in connection with any proposed development or enlargement of buildings for which sewer connection approval is required. Prior to filing a House or Site Connection application, applicants may be required to submit a site-specific hydraulic analysis and a stormwater and water conservation best management practices concept plan to the NYCDEP for its review and approval, to establish the adequacy of existing sanitary and storm sewers to serve the proposed development or enlargement.

Enhanced stormwater management throughout the City to improve water quality in adjacent waterways is consistent with recent policies including the *NYC Green Infrastructure Plan* and Mayor Bloomberg's *PlaNYC 2030* and *Sustainable Stormwater Management Plan*. The *NYC Green Infrastructure Plan*, released September 2010, includes a goal of capturing the first inch of rainfall on 10 percent of the impervious areas in combined sewer watersheds through detention or infiltration techniques over 20 years. Generally, *PlaNYC* calls for water quality improvements through stormwater source controls to expand recreation opportunities adjacent to and in the City's waterways. The *Sustainable Stormwater Management Plan*, which describes a framework for meeting this water quality goal, identified new development and redevelopment as a cost effective and feasible means of implementing greater source controls. In addition, NYCDEP recently released *Guidelines for the Design and Construction of Stormwater Management Systems*, which must be utilized for all new and redevelopment projects in CSO watersheds. In all watersheds, new and redevelopment projects must also meet the requirements in New York State Department of Environmental Conservation's (NYSDEC) I*Management Design Manual* (August 2010).

As the proposed rezoning area is within a CSO watershed, both the NYCDEP and the NYSDEC stormwater guidelines must be used to properly select and design stormwater management Best Management Practices (BMPs) to control water quantity & quality, as well as promote groundwater recharge/infiltration. As per the *NYC Green Infrastructure Plan*, BMPs can include blue and green roofs, subsurface detention, porous pavement, enhanced tree pits, rain gardens or infiltration swales and rain barrels. Each new area developed would be required to design and select one or more BMP measures to meet the NYCDEP and NYSDEC stormwater management requirements as applicable.

Project designs would be required to follow a five-step planning process, in accordance with the NYSDEC stormwater manual. Required percent reductions and water quality improvements are based on existing conditions. The five steps include:

1. Site planning to preserve natural features and reduce impervious cover;
2. Calculation of the water quality volume for the site;
3. Incorporation of green infrastructure techniques and standard SMPs with

Runoff Reduction Volume (RRv) capacity;

4. Use of standard SMPs, where applicable, to treat the portion of water quality volume not addressed by green infrastructure techniques and standard SMPs with RRv capacity; and
5. Design of volume and peak rate control practices where required.

Specific design criteria for completing the stormwater analysis and design are detailed in NYCDEP's *Guidelines for the Design and Construction of Stormwater Management Systems* and the NYSDEC's *New York State Stormwater Management Design Manual*.

Stormwater Best Management Practices Concept Plan Summary

The following Best Management Practices (BMPs) Concept Plan summary illustrate the ways that BMPs could be integrated into the development which is expected to occur with the proposed rezoning action. The stormwater source controls incorporated during the site planning and building design phase of project development would help to achieve a stormwater release rate development sites of 0.25 CFS, or 10% of the allowable flow per the drainage plan, whichever is greater.

R6B

As described in the project description, R6B is a typical row house district that includes height limits and street wall lineup provisions to ensure that new buildings are consistent with the scale of the existing built context. R6B permits residential and community facility uses to a maximum FAR of 2.0. Building heights are limited to 50 feet and street wall heights to 40 feet. New development in the proposed R6B district would be required to line up with adjacent structures to maintain the continuous street wall character. A 30' residential rear yard is required. Storm Water Best Management Practices suitable for this type of development include subsurface open bottom detention system and rain barrels or cisterns. There are four projected and one potential development sites within the proposed R6B district.

R6A

As described in the project description, R6A is a medium-density apartment district, with a maximum FAR of 3.0. Above a base height of 40 to 60 feet, the building must set back to a depth of 10 feet on a wide street and 15 feet on a narrow street before rising to a maximum height of 70 feet. New structures in R6A districts are required to line up with adjacent structures to maintain the streetwall. Storm Water Best Management Practices suitable for this type of development include, green roofs and blue roofs, which would retain or detain and release with slowed discharge rates storm water to control peak run off rates. There are three projected and one potential development sites within the proposed R6A district.

R7A

As described in the project description, the R7A district permits residential and community facility uses. The R7A district has a base FAR of 3.45 and may be increased to 4.6 if affordable housing is provided. Base heights are required to be between 40 and 65 feet, and the maximum building height is 80 feet after a setback from the street. This typically produces six- to eight-story buildings. New buildings in R7A districts must be located no closer to the street than a neighboring building. A 30 foot rear yard is required for the residential portion of the building. Storm Water Best Management Practices suitable for this type of development include green roofs and blue roofs, which would retain or detain and release with slowed

discharge rates storm water to control peak run off rates. An R7A designation is proposed for 38 full and partial blocks along major thoroughfares, including portions of Myrtle, Marcy and Bedford Avenues. There are 8 projected and eight potential development sites within the proposed R7A district.

R7D

As described in the Project Description, the R7D district permits residential and community facility development with maximum Floor Area Ratios (FAR) of 4.20 (increased to a maximum of 5.60 under inclusionary housing), 2.00, and 4.20 respectively. New development must be built within a contextual envelope. New structures in R7D districts are required to line up with adjacent structures to maintain the streetwall. Above a base height of 60 to 85 feet, the building must set back to a depth of 10 feet on a wide street and 15 feet on a narrow street before rising to its maximum height of 100 feet. In addition, where commercial overlays are mapped (C2-4), active ground floor uses, such as retail uses, commercial services, and community facilities are required. Maximum Lot coverage in the R7D is 65% on an interior or through lot and 80% on a corner lot. A 30-foot rear yard is required for the residential portion of the building. Non-residential portions of a building are permitted obstructions in a rear yard, up to a height of 23 feet. Storm Water Best Management Practices suitable for this type of development include, green roofs and blue roofs, which would retain or detain and release with slowed discharge rates storm water to control peak run off rates. The R7D is proposed for six full and partial blocks along Myrtle Avenue, between Nostrand Avenue and Lewis Avenue. There are four projected and four potential development sites within the proposed R7D district.

C4-4L

As described in the Project Description C4-4L districts are tailored for significant commercial corridors with elevated trains, like Broadway in Bedford-Stuyvesant. Commercial and community facility development is allowed to a maximum FAR of 4.0. Residential development is allowed to a maximum FAR of 4.6 under the Inclusionary Housing bonus and 3.45 when not using the Inclusionary Housing bonus. A thirty-foot rear yard is required. Storm Water Best Management Practices suitable for this type of development include, green roofs and blue roofs, which would retain or detain and release with slowed discharge rates storm water to control peak run off rates. A C4-4L designation is proposed for 18 full and partial blocks along Broadway. There are 12 projected and 18 potential development sites within the proposed C4-4L district.

Without the implementation of stormwater management BMPs, the increased volumes and flows associated with the Proposed Actions would be conveyed to Newtown Creek WPCP or Red Hook WPCP. However, with the implementation of the required stormwater management BMPs, the flows and volumes would be reduced to equal to or less than the flows and volumes of existing conditions, as required by the NYCDEP and NYSDEC regulations.

It is anticipated that no significant adverse impacts would result from the Future With-Action Condition for stormwater management infrastructure systems if the NYCDEP & NYSDEC stormwater management regulations are implemented.

The New York City Department of Environmental Protection (DEP) amended Chapter 31 of

Title 15 of the Rules of the City of New York (RCNY), the existing rules governing house and site connections to the city's sewer system. The rule amendment modifies the flow rate of stormwater to the city's combined sewer system for new and existing development, as part of sewer availability and connection approvals, and applies to development lots where new buildings or alterations of existing buildings that would result in an expansion of building footprint or impervious surfaces are proposed. The rule was promulgated on January 4, 2012 and goes into effect on July 4, 2012. For a new development, the Stormwater Release Rate will be the greater of 0.25 cubic feet per second (cfs) or 10% of the Allowable Flow, unless the Allowable Flow is less than 0.25 cfs, in which case the Stormwater Release Rate shall be the Allowable Flow. For Alterations, the Stormwater Release Rate for the altered area will be directly proportional to the ratio of the altered area to the total site area and no new points of discharge are permitted.

Therefore, any developments or alternations under the proposed rezoning requiring a connection to the sewer system beginning July 4, 2012 would be required to achieve the new flow rate. Flexibility in achieving this rate is provided to the development community through a variety of approvable systems including subsurface and rooftop systems. Joint DEP and New York City Department of Buildings (DOB) guidelines (http://www.nyc.gov/html/dep/html/stormwater/stormwater_management_construction.shtml) are available to ensure the proper design and construction of approvable systems and encourage design professionals to include onsite source controls in the early stages of site planning and building design. This performance standard allows for a wide range of management techniques, costs and space considerations.

Conclusion

Water Supply

In the future with the Proposed Actions, development on the projected development sites would generate water supply demand of approximately 0.17 mgd greater than estimated in the future without the Proposed Actions. This demand represents less than 0.1 percent of the City's overall water supply demand of 1.3 billion gallons per day. Therefore, since the Proposed Actions would not result in developments that consume an exceptional amount of water, the Proposed Actions would not result in a significant adverse impact on the City's water supply or water pressure.

Wastewater Treatment

The Proposed Actions would generate approximately 0.19 mgd more sanitary sewage over the future without the Proposed Actions, which is equivalent to 0.26 percent of the 76 mgd reserve capacity of the Newtown Creek WPCP and 0.67 percent of the 29 mgd reserve capacity of the Red Hook WPCP. Therefore, the Proposed Actions would not result in a significant adverse impact on either WPCP.

Sanitary and Stormwater Drainage and Management

The Proposed Actions would generate additional runoff compared to the amount of runoff that would occur in the existing condition, because the amount of impervious surfaces (roofs, pavement, etc) on the projected development sites would change as a result of the action.

However, as discussed above, any development or redevelopment projects would implement stormwater management BMPs in accordance with the NYCDEP and NYCDEC stormwater management guidelines. The stormwater source controls incorporated during the site planning and building design phase of project development would help to achieve a stormwater release rate development sites of 0.25 CFS, or 10% of the allowable flow per the drainage plan, whichever is greater. Implementation of these BMPs is expected reduce to the stormwater flows and volumes for future conditions to those that are equal to or less than the flows and volumes of existing conditions, as required.

Additional Considerations – Cumulative Effects

It should be noted that there are other rezonings in the project area which would have a cumulative effect. These rezoning include the City Council approved Broadway Triangle rezoning and the proposed Rheingold rezoning. The projected development from the Broadway Triangle rezoning is 1,851 dwelling units, 103,286 SF of retail space and 35,456 SF of community facility space; 535,760 GPD sanitary increase (completely within subcatchment NCB-014). The Rheingold rezoning is projected to consist of approximately 1,076 dwelling units and 74,194 square feet of retail space. However, the GPD sanitary increase is unknown at this point in the proposal. The cumulative effects from these actions would occur under No-Action and With-Action conditions.

Conclusion

Based on the analysis described above, conducted pursuant to CEQR Technical Manual methodologies it is concluded that the Proposed Actions would not result in significant adverse impacts to the local water supply, sanitary wastewater treatment, or stormwater management infrastructure systems with the appropriate stormwater management measures in place.

K. SOLID WASTE AND SANITATION SERVICES

INTRODUCTION

According to the *CEQR Technical Manual*, a solid waste assessment determines whether a project has the potential to cause a substantial increase in solid waste production that may overburden available waste management capacity, or otherwise be inconsistent with the City's Solid Waste Management Plan (SWMP) or with state policy related to the City's integrated solid waste management system. Most projects would not have the potential to generate sufficient waste to overburden the available waste management capacity and would not warrant a detailed solid waste analysis. However, it is recommended by the *CEQR Technical Manual* that the estimated demand for solid waste and services that could generated by a proposed project be disclosed (if applicable).

METHODOLOGY

The analysis for solid waste and sanitation services focuses on the 31 projected development sites that are projected to be developed under the Future No-Action and Future With-Action scenarios, as presented in the Reasonable Worst Case Development Scenario (RWCDS) in Attachment 2. The current demand for existing solid waste services at these projected development sites is based on existing land uses and the number of employees and residential units present on the sites. The incremental difference of estimated solid waste as a result of the Proposed Actions is the net difference in estimated solid waste generated in the Future With-Action Scenario compared to the estimated solid waste generated in the Future No-Action Scenario.

It is expected that under the Future With-Action Scenario, the projected development sites would have a total of 1,988 dwelling units (DUs), of which 428 DUs would be affordable housing units; 306,362 square feet of commercial retail space; 56,847 square feet of commercial office space; and 89,051 square feet of community facility space. This would represent a net incremental increase over Future No-Action Scenario of 790 DUs, including 285 DUs of affordable housing; 135,964 square feet of retail commercial space; and 28,182 square feet of commercial office space; as well as a net incremental decrease of 291,775 square feet of community facility space.

Table 14-1 of the *CEQR Technical Manual* provides weekly solid waste generation rates that are based on land use, including residential, general retail, commercial office and community facility uses. Other solid waste generation rates were obtained from other approved environmental studies, as well as the average numbers of employees per square feet per type of use.[1],[2].

[1] Auto-Related and Child/Day Care rates and assumptions from: New York City Department of City Planning, Crotona Park East/West Farms Rezoning and Related Actions FEIS, August 2011, http://www.nyc.gov/html/dcp/html/env_review/crotona_park_east.shtml.

[2] Medical Office rates and assumptions from: New York City Department of City Planning, Saint Vincent's Campus Redevelopment FEIS, January 2012, http://www.nyc.gov/html/dcp/html/env_review/saint_vincent.shtml.

The relevant solid waste generation rates used for the assessment of the Proposed Actions are as follows:

- General Retail - 79 pounds per week, per employee (with an average of three employees per 1,000 square feet of floor area).
- Commercial Office - 13 pounds per week, per employee (with an average of one employee per 250 square feet of floor area)
- Medical Office - 13 pounds per week, per employee (with an average of one employee per 450 square feet of floor area).
- House of Worship (Community Facility) - 0.03 pounds per week, per square foot (based on the CEQR rate for institutional government offices).
- Child/Day Care - 3 pounds per week, per child/day care space (with an average of one child/day care space per 100 square feet of area).
- Auto-Related Uses - 183 pounds per week, per employee (with an average of one employee per 800 square feet of area).

The *CEQR Technical Manual* states that if a project's generation of solid waste in the future with the Proposed Action would not exceed 50 tons per week, it may be assumed that there is sufficient public or private carting and transfer station capacity in the metropolitan area to absorb the increment, and further assessment is generally not required.

EXISTING CONDITION

Current Sanitation Services in New York City

In New York City, the Department of Sanitation (DSNY) is the agency responsible for the collection and disposal of solid waste and recyclable materials generated by residences, some non-profit institutions, tax exempt properties, and City agencies. DSNY also collects waste from street garbage containers, and handles street-sweeping operations and lot cleaning activities. Commercial operations handle solid waste from other uses, including commercial retail, office, and industrial operations.

Most of the City's municipal solid waste, including the solid waste generated in the rezoning area, is collected and delivered to transfer stations for sorting and then transported out of New York City. Private carters also consolidate solid waste from commercial and industrial operations and haul it to waste transfer facilities for transport to disposal facilities. It is estimated that DSNY collects approximately 13,000 tons of solid waste per day (tpd). It is also estimated that the non-residential solid waste stream is approximately 13,000 tpd. Thus, in total the solid waste generated in the City averages approximately 26,000 tpd.[3]

Solid waste in New York City is managed in conformance with a ten-year Comprehensive Solid Waste Management Plan (SWMP). The most recent SWMP was released in September 2006. It addresses recycling, residential waste, and commercial waste, providing a framework for waste collection and disposal through 2026. The SWMP provides a long-term export plan for

[3] DSNY website: http://www.nyc.gov/html/dsny/html/about/about.shtml. Last accessed February 21, 2012.

residential waste, in which the City's waterways and existing infrastructure are used for the containerization of waste and the long distance export of the containerized waste by rail or barge. With respect to commercial refuse, the SWMP aims to improve conditions at transfer stations used for commercial solid waste, facilitate private waste carters' transition from truck-based to barge- and rail-based transport, and ensure that certain communities are not disproportionally affected by private transfer activities. Finally, the SWMP addresses residential, institutional, and commercial recycling, and strategies for the stabilization and strengthening of recycling processes in the City.

Local Law 19 of 1989 requires that DSNY and private carters collect recyclable materials and deliver them to material recovery facilities. New York City residents are required to separate aluminum foil, glass, plastic and metal containers, and newspapers and other paper wastes from household waste for separate collection. The SWMP also mandates that commercial and industrial establishments are subject to recycling requirements. Businesses must source-separate certain types of paper wastes, cardboard, metal items, and construction wastes. Food and beverage establishments must recycle metal, glass, and plastic containers, and aluminum foil, in addition to meeting the commercial recycling requirements.

Currently, the projected development sites within the rezoning area contain residential, commercial and auto-related uses, with some projected development sites currently vacant. Solid waste generated by existing residential and other non-commercial uses is collected by the DSNY municipal service routes. For the private commercial businesses on the projected development sites, it is assumed that these uses are served by commercial solid waste and recycling management companies; however, estimated solid waste currently generated on all projected development sites, by use, is included in the assessment.

Table K-1 summarizes the current estimated solid waste generation on the 31 projected development sites. As shown in the table, the existing uses currently generate a total of approximately 81,643 pounds (40.8 tons) of solid waste per week. Approximately 82 pounds per week is solid waste generated from residences, which is handled by DSNY. The remaining solid waste, 81,561 pounds per week, comes from commercial and industrial/automotive uses, which is generally handled by private carters.

Table K-1
Estimated Weekly Solid Waste Generation on
Projected Development Sites - Existing Conditions

Use	EXISTING CONDITIONS		
	Square Feet/ Dwelling Units	Generation Rate Factor	Solid Waste Generated (pounds per week)
Auto-Related[1]	58,792 SF	183 lbs per employee	13,449
Residential	2 DUs	41 lbs per DU	82
Commercial/Retail[2]	287,393 SF	79 lbs per employee	68,112
		TOTAL	**81,643**

Notes: [1]The number of auto-related employees assumes 1 employee per 800 SF.
[2]The solid waste generation rate and number of employees for all commercial uses in the Existing Condition are estimated based on the more conservative commercial/retail factors; thus, 3 employees per 1,000 SF and 79 pounds per week, per employee for the solid waste generation rate.

According to the *CEQR Technical Manual*, a typical DSNY collection truck for residential refuse carries a load of approximately 12.5 tons of waste material. Therefore, the volume of solid waste generated by the existing residential uses on the projected development sites generates approximately one DSNY collection truck load per week. Commercial solid waste (including auto-related uses) is picked up by private carters. Commercial carters typically carry a load of between 12 and 15 tons of waste material per truck. Conservatively assuming a 12-ton capacity, commercial solid waste removal on the projected development sites generates approximately four truck loads.

FUTURE NO-ACTION SCENARIO

In the absence of the Proposed Actions, it is expected that the rezoning area would experience growth in community facility, commercial and residential uses. Under the Future No-Action Scenario, as-of-right development would be expected to occur on the 31 projected development sites. With new development in the rezoning area, there is expected to be higher solid waste generation on the 31 projected development sites in the Future No-Action, compared to the Existing Condition.

In the Future No-Action, there are expected to be a total of 1,198 DUs; approximately 170,399 square feet of commercial retail space, approximately 28,666 square feet of commercial office space, and approximately 380,826 square feet of community facility space. Of the community facility space, approximately 296,760 square feet would be medical office space, approximately 38,530 square feet would be house of worship related space, and approximately 45,536 square feet would be child/day care space.

Table K-2 summarizes the solid waste generation for each use under the Future No-Action Scenario. The same assumptions used for the Existing Condition were applied in calculating solid waste generation on the projected development sites under the Future No-Action Condition.

It is estimated that the projected development sites would generate approximately 102,088 pounds (51 tons) of solid waste per week in the Future No-Action Scenario. Approximately 60,213 pounds (30.1 tons), or approximately 59 percent of the total estimated solid waste produced, would be generated by community facilities and residential dwelling units and removed by DSNY. The majority of the non-residential solid waste, or approximately 41 percent (20.9 tons), is assumed to continue to be removed by private carters.

The volume of solid waste under the Future No-Action Scenario would generate approximately three DSNY collection truck loads per week, compared to one DSNY collection truck load per week estimated under the Existing Condition. Commercially-generated solid waste would generate approximately two collection truck loads per week, compared to four collection truck loads per week estimated under the Existing Condition.

Table K-2
Estimated Weekly Solid Waste Generation on Projected Development Sites
- Future No-Action Scenario

Use	FUTURE NO-ACTION		
	Square Feet/DU	**Generation Rate Factor**	**Solid Waste Generated (pounds per week)**
Community Facility	380,826 SF		11,095
Medical Office[1]	*296,760 SF*	13 lbs per employee	*8,573*
House of Worship	*38,530 SF*	0.03 lbs per SF	*1,156*
Child/Day Care[2]	*45,536 SF*	3 lbs per Care Space	*1,366*
Residential	1,198 DUs	41 lbs per DU	49,118
Office[3]	28,666 SF	13 lbs per employee	1,491
Retail[4]	170,399 SF	79 lbs per employee	40,385
		TOTAL	**102,088**

Notes: [1] The number of medical office employees assumes 1 employee per 450 SF
[2] The number of child/day care spaces assumes 1 space per 100 SF
[3] The number of general office employees assumes 1 employee per 250 SF.
[4] The number of retail employees assumes 3 employees per 1,000 SF.

FUTURE WITH-ACTION SCENARIO

The same assumptions used under the Existing Condition and the Future No-Action Scenario were applied in estimating solid waste generation on the 31 projected development sites for the Future With-Action Scenario. **Table K-3** shows the solid waste expected to be generated by the 31 projected development sites under the Future No-Action Scenario, the Future With-Action Scenario, and the incremental change in solid waste generation associated with the Proposed Actions. It is estimated that the 31 projected development sites would generate approximately 162,322 pounds (81.2 tons) of solid waste per week under the Future With-Action Scenario. Therefore, the Proposed Actions would result in an incremental increase of approximately 49,139 pounds (24.6 tons) of solid waste generated weekly, compared to the Future No-Action Scenario.

Table K-3
Estimated Weekly Solid Waste Generated on Projected Development Sites - Future No-Action Scenario, Future With-Action Scenario and Incremental Difference of Proposed Action

Use	FUTURE NO-ACTION		FUTURE WITH-ACTION		INCREMENT
	Square Feet/ Dwelling Units	Solid Waste Generated (pounds per week)	Square Feet/ Dwelling Units	Solid Waste Generated (pounds per week)	Solid Waste Generated (pounds per week)
Community Facility	380,826 SF	11,095	89,051 SF	2,625	(8,470)
Medical Office	*296,760 SF*	*8,573*	*41,642 SF*	*1,203*	*(7,370)*
House of Worship	*38,530 SF*	*1,156*	*23,448 SF*	*703*	*(452)*
Child/Day Care	*45,536 SF*	*1,366*	*23,961 SF*	*719*	*(647)*
Residential	1,198 DUs	49,118	1,988 DUs	81,508	32,390
Office	28,666 SF	1,491	56,847 SF	2,956	1,465
Retail	170,399 SF	40,385	306,362 SF	72,608	32,223
TOTAL		**102,088**		**162,322**	**49,139**

Notes: See Table K-2 for solid waste generation factors, employee and related assumptions.

The solid waste generated by residential and community facilities would be collected by DSNY. Under the Future With-Action Scenario, the solid waste generated by these uses would be approximately 84,133 pounds (42.1 tons) per week, for a net incremental increase of approximately 23,920 pounds (12 tons) per week compared to the Future No-Action Scenario. The volume of solid waste under the Future With-Action Scenario would generate approximately three to four DSNY collection truck loads per week, compared to three DSNY collection truck loads per week estimated under the Future No-Action Scenario. This represents a net increment of one additional truck load per week.

The solid waste generated by of commercial uses is assumed to continue to be removed by private carters. In the Future With-Action Scenario, approximately 75,564 pounds (37.8 tons) per week, for a net incremental increase of approximately 33,688 pounds (16.8 tons) per week . Commercially-generated solid waste would generate approximately four collection truck loads per week in the Future With-Action, two more than the number of collection truck loads per week estimated under the Future No-Action Scenario.

CONCLUSION

The incremental increase of approximately 12 tons per week, as a result of the Proposed Actions, in residential and community facility-related solid waste to be picked up by DSNY is relatively small compared to the estimated nearly 13,000 tons of residential and institutional refuse and recyclables collected by DSNY per day. In addition, due to the Proposed Actions, the net incremental non-residential waste collected by private carters would increase by approximately 16.8 tons per week over the Future No-Action Scenario, an insignificant amount compared to the estimated 13,000 tons of commercial waste currently removed by private carters per day.

Furthermore, the total incremental increase in solid waste generated by the Proposed Actions of approximately 24.6 tons per week is less than the 50 tons per week CEQR screening threshold and the Proposed Actions does not warrant a detailed solid waste assessment.

In conclusion, the Proposed Actions would not lead to significant adverse impacts to residential or commercial solid waste collection and disposal services, nor would the proposed project conflict or affect the City's Solid Waste Management Plan. Therefore, the Proposed Actions would not have a significant adverse impact on the City's solid waste and sanitation services.

L. ENERGY

INTRODUCTION

The Proposed Actions would not result in significant adverse energy impacts. This chapter describes the effects that the Proposed Actions may have on energy consumption. Although the exisitng uses on the projected development sites create some demand for energy, new development resulting from the Proposed Actions would place an increased overall demand on energy resources. As discussed further in this chapter, while the Proposed Actions would create new demand for energy, the additional demand would not be large enough to constitute a significant adverse energy impact.

According to the *CEQR Technical Manual*, an energy analysis focuses on a project's consumption of energy and, where relevant, potential effects on the transmission of energy that may result from the project. The assessment is of the energy sources typically used in a project's operation (HVAC, lighting, etc.) and includes electricity, fossil fuels, nuclear power, hydroelectric power, and, occasionally, other fuels like wood, solid waste, or other combustible materials.

According to the *CEQR Technical Manual*, all new structures requiring heating and cooling are subject to the New York City Energy Conservation Code, which reflects state and City energy policy. Electricity used in New York City is delivered to most New York City users by Consolidated Edison (Con Edison), with a small number of users in the Rockaways receiving power from the Long Island Power Authority. Projected generation and transmission requirements are forecasted by both the New York State Independent System Operator (NYISO) and Con Edison, ensuring that the City's power supply and transmission systems have the capacity to meet expected future demand. The incremental demand caused by most projects results in incremental supply, and consequently, an individual project's energy consumption often would not create a significant impact on the availablility of energy supply. Consequently, a detailed assessment of energy impacts is typically limited to projects that may significantly affect the transmission or generation of energy. For energy intensive facilities that may significantly affect the transmission or generation of energy, consideration of clean on-site generation alternatives is recommended. Although significant adverse energy impacts are not anticipated for the great majority of projects analyzed under CEQR, it is recommended that the projected amount of energy consumption during long-term operation be disclosed in the environmental assessment.

The Energy System

Electricity within Brooklyn is distributed by Con Edison. The electrical energy is derived from a variety of resources that originate within and outside New York City. These include nonrenewable resources, such as oil, natural gas, coal fuel, and uranium, and renewable resources, such as hydroelectricity and, to a much lesser extent, biomass fuels, solar power, and wind power. New York City's electrical demands are met primarily by electricity generating sources within New York City, and supplemented during periods of peak demand by generating sources across the Northeast, including sources as far away as Canada.

Con Edison provides the electrical power transmission system for the City through a network of cables and substations. The substations receive electricity from the transmission system and reduce the voltage to a level that can be delivered to the distribution system or "grid" in the streets. In the distribution system, the electricity's voltage is reduced further for delivery to customers. Each area substation serves one or more distinct geographic areas, called networks, which are isolated from the rest of the local distribution system. The purpose of creating distinct network areas is to contain the potential spread of power outages. If one substation goes out of service, the problem would be within the network area and would not spread. Substations are designed to have sufficient excess capacity to accommodate growth in demand for power within the network.

According to the New York Independent System Operator (NYISO) *2011 Load & Capacity Data* report, the peak electrical demand for New York City in summer 2011 was 11,505 Megawatts (MW), and the peak demand for summer 2012 is forecasted at 11,635 MW.[1] Typically, the electricity generated within the City is sufficient to satisfy the demand. However, during the peak demand periods, locally-generated electricity must be supplemented through the transmission grid with power from across the Northeast. Con Edison's distribution grid has a finite capacity, and during heavy demand periods, the transmission grid is strained. There is an ongoing service and distribution improvement program for Con Edison's infrastructure, which upgrades localized areas that are continually high demand zones.

A number of power plants are located in the five boroughs, providing electric generation resources to New York City. According to NYISO's *Locational Minimum Installed Capacity Requirements Study* for the 2011-2012 capability year, New York City has an existing installed capacity of 11,514 MW.[2]

Energy Conservation Directives

In 2001, New York State began taking measures to address the increasing capacity needs of the Metropolitan New York City region. NYISO implemented the Emergency Demand Response and the "Day-Ahead Demand Bidding" programs to reduce utility electrical power demand during peak load periods. New York State Governor's Executive Order No. 111 (EO 111), introduced in June of 2001, directed state agencies, state authorities, and other affected entities to address energy efficiency, renewable energy, green building practices, and alternate fuel vehicles. EO 111 identified the New York State Energy Research and Development Authority (NYSERDA) as the organization responsible for coordinating and assisting agencies and other affected entities with their responsibilities. NYSERDA and other utilities have implemented programs to encourage businesses to reduce energy usage and increase energy efficiency.

The independent, non-profit New York State Reliability Council (NYSRC) has determined that a minimum of 80 percent of the City's peak load must be provided by generating sources within the City to maintain compliance with the criteria established by the regional and national

[1] New York Independent System Operator *2011 Load & Capacity Data*, released April 2011.
[2] NYISO *Locational Minimum Installed Capacity Requirements Study Covering the New York Control Area for the 2011-2012 Capability Year*, January 14, 2011.

reliability councils. Presently, there is sufficient capacity within the City to meet this 80 percent local energy generation requirement. As the energy demand increases over time, additional in-City generation would be needed to satisfy this requirement.

NYISO, which manages the safety and reliability of the state's electric transmission system, developed and implemented an annual review of New York State's energy reliability and needs in December 2005. According to NYISO's 2010 Reliability Needs Assessment, the forecasted baseline system meets applicable reliability criteria for the next 10 years, from 2011 through 2020, without any additional resource needs, assuming all modeled transmission and generation facilities remain in service.[3]

METHODOLOGY

This section has been prepared following the guidance of the *CEQR Technical Manual*, which requires detailed energy assessments for projects that may significantly affect the transmission or generation of energy. As a public initiative that would result in new residential and commercial development, the Proposed Actions would not require a detailed energy assessment. This chapter therefore estimates the annual energy of the properties that are anticipated to be affected by the proposed rezoning (i.e. the projected development sites) under the Existing Scenario, the Future No-Action Scenario and the Future With-Action Scenario, as well as the net incremental change in energy consumption associated with the Future With-Action Scenario, when compared to the Future No-Action Scenario.

As discussed in Attachment 2, a Reasonable Worst-Case Development Scenario (RWCDS) of the future without the action and the future with the action was developed for the Proposed Actions that identified 31 projected development sites by 2022. The Proposed Action would result in the incremental increase of 790 DUs, including 285 DUs of affordable housing; 135,964 square feet of retail commercial space; and 28,182 square feet of commercial office space; as well as a net incremental decrease of 291,775 square feet of community facility space.

The measure of energy used in the analysis is British Thermal Units (Btu) per year. One Btu is the quantity of heat required to raise the temperature of one pound of water one degree Fahrenheit. This unit of measure may be used to compare consumption of energy from different sources (e.g., gasoline, hydroelectric power, etc.), taking into consideration how efficiently those sources are converted to energy. The use of Btu avoids the confusion inherent in comparing different measures of output (e.g., horsepower, kilowatt hours, etc.) and consumption (e.g., tons per day, cubic feet per minute, etc.). In general 1 kilowatt (KW) is equivalent to 3,413 Btu per hour.

The *CEQR Technical Manual* identifies several different methods for calculating energy use of existing and proposed buildings. If feasible, based on knowledge of a project's site design and the applicant's control over the development site(s), energy consumption should be estimated by the project engineers or by using an energy modeling tool such as eQuest, Trace, HAP, or DOE-2. Such programs calculate a building's energy use by analyzing energy requirements of various building systems. For development sites not controlled by the applicant, or for sites that are not

[3] NYISO *2010 Reliability Needs Assessment*, released September, 2010.

far enough along in the design stage to provide enough details for energy modeling, such as the case with the development sites in the rezoning area, it is appropriate to estimate the project's energy consumption based on Table 15-1 of the *CEQR Technical Manual.* Table 15-1 provides the average annual energy consumption rates for various land uses.

EXISTING CONDITIONS

As shown in **Table L-1**, current annual energy use on the 31 projected development sites is estimated to be approximately 94,984,350 thousand Btu for all heating, cooling, and electric power, based on existing built square footages for residential, commercial and industrial/automotive uses.

Table L-1
Estimated Annual Energy Consumption on
Projected Development Sites - Existing Condition

Use	Source Energy (MBtu/Sq Ft)[1]	EXISTING	
		Square Feet [2]	Annual Energy Use (MBtu)
Commercial	216.3	287,393	62,163,106
Industrial [3]	554.3	58,792	32,588,406
Institutional	250.7	0	0
Large Residential (>4 Family)	126.7	0	0
Small Residential (1-4 Family)	94.0	2,477	232,838
TOTAL			**94,984,350**

Notes: [1] Based on consumption rates from *CEQR Technical Manual* Table 15-1; MBtu = Thousand Btu.
[2] Square footages are approximate.
[3] Auto-related uses are included in the industrial category
Estimates and square feet are rounded to the nearest whole number.

FUTURE NO-ACTION

Under the Future No-Action Scenario, the existing zoning districts would remain in place. It is expected that the rezoning area would experience some as-of-right growth in commercial, residential and community facility uses. In the future without the Proposed Actions, as-of-right development would be expected to occur on all of the projected development sites. With new development in the rezoning area, the Future No-Action Scenario is expected to result in higher energy consumption on the projected development sites than under the Existing Condition.

The NYISO *2011 Load & Capacity Data* report forecasts energy requirements through 2021 for summer months and 2022 for winter months (2021-2022). According to the report, the summer peak load for New York City is expected to be 12,758 MW in 2021, and 8,515 MW in the winter of 2021-2022. The 2021 annual energy requirements for New York City are forecasted at approximately 57,043 gigawatt hours (GWH).[4]

[4] New York Independent System Operator *2011 Load & Capacity Data*, released April 2011.

Under the Future No-Action Scenario, there is expected to be a total of 199,064 square feet of commercial space (consisting of 170,399 square feet of commercial retail space and 28,666 square feet of office space), 1,166,466 square feet of residential space, and 380,826 square feet of community facility space.

Table L-2 summarizes the annual energy consumption for each use under the Future No-Action Scenario. The same assumptions used for the Existing Condition were used to estimate energy consumption on the projected development sites under the Future No-Action Scenario. As shown in **Table L-2**, it is estimated that the 31 projected development sites would use approximately 286,322,080 thousand Btu of energy annually in 2022, under the Future No-Action Scenario.

Table L-2
Estimated Annual Energy Consumption on Projected Development Sites - Future No-Action Scenario

		FUTURE NO-ACTION	
Use	**Source Energy (MBtu/Sq Ft)[1]**	**Square Feet**	**Annual Energy Use (MBtu)**
Commercial	216.3	199,064	43,057,760
Industrial	554.3	0	0
Institutional	250.7	380,826	95,473,078
Large Residential (>4 Family)	126.7	1,166,466	147,791,242
Small Residential (1-4 Family)	94.0	0	0
TOTAL			**286,322,080**

Notes: [1] Based on consumption rates from *CEQR Technical Manual* Table 15-1; MBtu = Thousand Btu.
Estimates and square feet are rounded to the nearest whole number.

FUTURE WITH-ACTION

As discussed in Attachment 2, "Reasonable Worst Case Development Scenario," a RWCDS was developed for the Proposed Actions that identified 31 projected sites that could be reasonably developed by 2022. It is expected that under the Future With-Action Scenario, the projected development sites would have a total of 1,988 DUs, of which 428 DUs would be affordable housing units; 306,362 square feet of commercial retail space; 56,847 square feet of commercial office space; and 89,051 square feet of community facility space. This would represent a net incremental increase over the Future No-Action Scenario of 790 DUs, including 285 DUs of affordable housing; 135,964 square feet of retail commercial space; and 28,182 square feet of commercial office space; as well as a net incremental decrease of 291,775 square feet of community facility space.

The same assumptions used for the Existing Condition and Future No-Action Scenario were used to estimate energy consumption on the projected development sites under the Future With-Action Scenario. **Table L-3** shows the energy expected to be consumed by the projected development sites in the Future No-Action Scenario and the Future With-Action Scenario, as well as the net incremental change in energy consumption associated with the Future With-Action Scenario, compared to the Future No-Action Scenario.

Table L-3
Estimated Annual Energy Consumption on Projected Development Sites - Future No-Action, Future With-Action and Incremental Difference

Use	NO-ACTION		WITH-ACTION		INCREMENTAL DIFFERENCE
	SF	Annual Energy Use (MBtu)[1]	SF	Annual Energy Use (MBtu)[1]	Annual Energy Use (MBtu)[1]
Commercial	199,064	43,057,760	363,209	78,562,107	35,504,347
Industrial	0	0	0	0	0
Institutional	380,826	95,473,078	89,051	22,325,086	-73,147,993
Large Residential (>4 Family)	1,166,466	147,791,242	1,961,022	248,461,487	100,670,245
Small Residential (1-4 Family)	0	0	0	0	0
TOTAL		**286,322,080**		**349,348,680**	**63,026,600**

Notes: [1] Based on consumption rates from *CEQR Technical Manual* Table 15-1; MBtu = Thousand Btu.
Estimates and square feet are rounded to the nearest whole number.

As shown above in **Table L-3**, it is estimated that the 31 projected development sites would use approximately 349,348,680 thousand Btu of energy annually under the Future With-Action Scenario. Therefore, compared to the Future No-Action Scenario, the Proposed Actions would result in an incremental increase of approximately 63,026,600 thousand Btu in annual energy use.

Future development resulting from the Proposed Actions, would be required to comply with the New York State Conservation Construction Code, which governs performance requirements of heating, ventilation, and air conditioning systems, as well as the exterior building envelope of new buildings. In compliance with the Code, the buildings to be constructed on the projected development sites would incorporate all required energy conservation measures, including meeting the Code's requirements relating to energy efficiency and combined thermal transmittance.

CONCLUSION

The Proposed Actions is not anticipated to result in significant adverse energy impacts. Consumption of electrical energy on the 31 projected development sites in the Future With-Action Scenario would total approximately 349,348,680 thousand Btu in annual energy use and an incremental increase of approximately 63,026,600 thousand Btu in annual energy use, compared to the Future No-Action Scenario. The annual energy use under the Future With-Action Scenario for the 31 projected development sites represents a small fraction of the City's forecasted peak summer load of 12,758 MW in 2021, and of the 8,515 MW forecasted load for the winter of 2021-2022. Furthermore, it is a minor fraction of the City's forecasted annual energy requirements for the 2022 horizon year. Annual electric sales total nearly 50 billion kilowatt hours (KWH) of electricity supplied to Con Edison's delivery area (New York City and Westchester County). Comparatively, this is equivalent to an estimated 170.75 trillion Btu and does not include the energy content in the natural gas and other energy sources used in New York City. The relatively small incremental demand generated by the Proposed Actions is not large enough to significantly impact the City's energy system.

M. TRANSPORTATION

According to the *CEQR Technical Manual*, interrelationships between the key technical areas of the transportation system – traffic, transit, pedestrians, and parking – should be taken into account in any assessment. Furthermore, the individual technical areas should be separately assessed to determine whether a project has the potential to adversely and significantly affect a specific area of the transportation system. The *CEQR Technical Manual* states that a preliminary trip generation assessment should be prepared to determine whether a quantified analysis of any technical areas of the transportation system is necessary. Except in unusual circumstances, a further quantified analysis would typically not be needed for a technical area if the proposed development would result in fewer than the following increments:

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

The *CEQR Technical Manual* also states that if the threshold for traffic is not surpassed, it is likely that further parking assessment is also not needed

Traffic

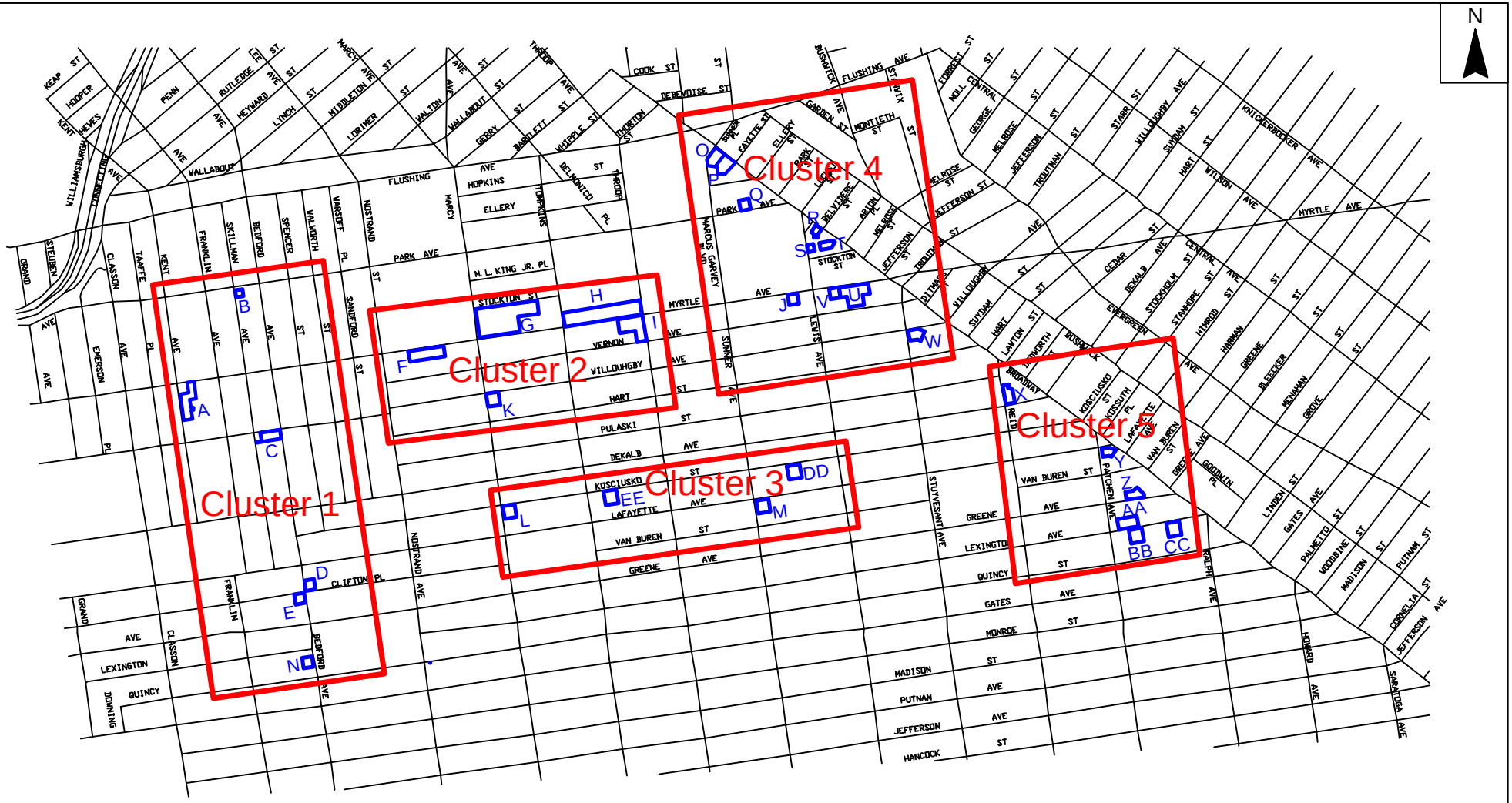
Vehicle Trip Generation Screening

To determine the potential for the Proposed Actions to result in significant adverse impacts to transportation conditions, screening analyses were performed pursuant to the methodologies identified in the *CEQR Technical Manual*. Based on the Reasonable Worst Case Development Scenario (RWCDS) of a total net increase of 790 dwelling units, a total net increase of 135,964 square feet (sf) of retail space, a total net increase of 28,182 sf of office/commercial space, and a total net decrease of 291,772 sf of community facility space, it was determined that the Proposed Action would not result in significant adverse traffic impacts.

The study area contains 31 projected development sites, and is generally bounded by Flushing Avenue to the north, Quincy Street to the south, Broadway to the east, and Kent Avenue to the west. Trip generation calculations were performed for each of the 31 projected development sites under the No-Action condition, and again under the With-Action condition. The No-Action and With-Action conditions trip generation estimates were then compared to determine the net incremental changes in trip generation associated with the Proposed Actions. To ensure a comprehensive analysis, person-trips and vehicle-trips were computed for each of four potential critical peak hours (weekday AM, weekday midday, weekday PM, and Saturday midday).

The 31 projected development sites are generally concentrated in five specific geographic areas of Bedford-Stuyvesant. For analysis purposes, and based on guidance received from NYC Department of City Planning staff, the sites were aggregated into the following "clusters" as shown in **Figure M-1**:

- **Cluster 1**: Sites A, B, C, D, E, and N



AECOM

Bedford-Stuyvesant North Rezoning

Brooklyn, New York

Projected Development Sites by Cluster

Figure M-1

- **Cluster 2**: Sites F, G, H, I, and K
- **Cluster 3**: Sites L, M, DD and EE
- **Cluster 4**: Sites J, O, P, Q, R, S, T, U, V, and W
- **Cluster 5**: Sites X, Y, Z, AA, BB, and CC

The net changes in trip generation between the No-Action condition and the With-Action condition were then calculated for each site and then combined into the five clusters as indicated above. Any sites that are projected to experience a net loss in residential units, retail space, or office space due to the proposed rezoning (i.e. under the With-Action condition) result in a net reduction of trips. **Table M-1** shows the projected net vehicle-trip increments between the No-Action and With-Action condition for each site and for each of the five clusters.

As shown in **Table M-1**, the Proposed Action is projected to result in increments of fewer than 50 vehicle-trips—and in some cases, a net decrease in trips (negative trips)—at each cluster during the weekday AM, weekday midday, weekday PM, and Saturday midday peak hours.

The distribution of vehicle trips onto the roadway network was based on journey-to-work destinations from the census tracts within which the proposed development sites are located. Based on the trip generation described above and the trip distribution, traffic assignments were prepared for all four analysis peak hours by assigning the individual vehicle-trip increments for each of the proposed development sites to the roadways within the study area. The results of these assignments indicated that fewer than 50 vehicle trips (or negative trips, indicating a reduction in traffic) are projected to be generated through all intersections within the rezoning area as a result of development under the Proposed Action. Therefore, in accordance with *CEQR* guidelines, a more detailed traffic analysis is not needed.

Parking

As per the *CEQR Technical Manual, Chapter 16, Section 313.4. Parking*, a parking analysis may be needed if a quantified traffic analysis is necessary based on the initial screening analyses. Because a traffic analysis has been determined to be not necessary for the proposed rezoning, the parking assessment is not warranted for the Proposed Action.

Table M-1 – Projected Net Vehicle-Trip Increments by Site and Cluster

Site / Cluster	Peak Hour Time Period			
	Weekday AM	**Weekday Midday**	**Weekday PM**	**Saturday Midday**
Site A	-89	-115	-74	-32
Site B	-15	-18	-13	-7
Site C	-30	6	-31	9
Site D	-9	-11	-8	-4
Site E	0	-1	0	-2
Site N	-11	-3	-13	0
Cluster 1 Total	**-154**	**-142**	**-139**	**-36**
Site F	34	34	41	43
Site G	-70	-58	-50	-12
Site H	3	21	10	12
Site I	-11	-13	-7	1
Site K	-8	-11	-7	-3
Cluster 2 Total	**-52**	**-27**	**-13**	**41**
Site L	-12	3	-8	7
Site M	0	3	2	4
Site DD	0	0	1	0
Site EE	1	0	1	1
Cluster 3 Total	**-11**	**6**	**-4**	**12**
Site J	-8	-3	-4	2
Sites O and P	-32	-33	-26	-14
Site Q	3	12	6	7
Site R	-18	-20	-16	-6
Site S	7	17	12	8
Site T	-11	-14	-8	-5
Sites U and V	-42	-39	-27	4
Site W	-7	-10	-5	-3
Cluster 4 Total	**-108**	**-90**	**-68**	**-7**
Site X	1	0	1	1
Site Y	-10	-12	-8	-6
Site Z	7	5	18	12
Sites AA, BB and CC	-40	-38	-31	-7
Cluster 5 Total	**-42**	**-45**	**-20**	**0**
Grand Total	**-367**	**-298**	**-244**	**10**

Note: All vehicle trips rounded to the nearest one (1) vehicle.

Pedestrians

The objective of the pedestrian analyses is to determine whether the proposed With-Action condition can be expected to have any significant adverse impacts on pedestrian operations in the study area. Based on the results of the pedestrian operations analysis described below, no significant adverse impacts to pedestrians are anticipated as a result of the Proposed Action.

Pedestrian Trip Generation Screening

To assess the potential effects of the Proposed Action on pedestrian conditions, the appropriate trip generation screening analyses were performed. The assumptions utilized for these analyses are detailed in the "Trip Generation Screening" sub-section in the "Traffic" section of this report. The screening analysis for pedestrians was conducted by first aggregating the 31 individual development sites into the same clusters that were used in the traffic screening analysis (see **Figure M-1**), namely:

- **Cluster 1**: Sites A, B, C, D, E, and N
- **Cluster 2**: Sites F, G, H, I, and K
- **Cluster 3**: Sites L, M, DD and EE
- **Cluster 4**: Sites J, O, P, Q, R, S, T, U, V, and W
- **Cluster 5**: Sites X, Y, Z, AA, BB, and CC

Table M-2 shows the projected net pedestrian-trip (i.e., subway, bus, and walk) increments between the No-Action and With-Action condition for each site and for each cluster, during each of the four analysis peak hours. The values in **Table M-2** represent the incremental changes in trips generated by the With-Action condition, relative to the No-Action condition. In other words, positive trip values represent an incremental *increase* in trips under the With-Action condition as compared to the No-Action condition. Conversely, negative trip values represent an incremental *decrease* in trips under the With-Action condition, as compared to the No-Action condition.

The *CEQR Technical Manual* indicates that a detailed pedestrian analysis be performed for projects that generate 200 or more net new (i.e., incremental) pedestrian trips during any peak hour on any individual pedestrian element (i.e., a crosswalk, corner, or sidewalk). As shown in **Table M-2**, during the weekday AM peak hour, four of the five clusters—Clusters 1, 3, 4, and 5—generate fewer than 200 combined pedestrian trips (i.e., total of subway, bus, and walk trips). Although Cluster 2 generates slightly more than 200 combined pedestrian trips (i.e., 228 trips) during the weekday AM peak hour, this cluster is not likely to exceed the 200-trip *CEQR* threshold *for any single pedestrian element* (i.e., crosswalks, sidewalks, and corners) after the trips are distributed and assigned to individual pedestrian elements on the street network throughout the cluster. Therefore, an analysis of weekday AM peak hour pedestrian conditions were screened out.

Furthermore, Clusters 1 and 3 were screened out for the remaining peak hour time periods (i.e., weekday midday, weekday PM, and Saturday midday). Neither of these clusters exceeds the 200-trip *CEQR* threshold during the weekday PM peak hour. Although both clusters exceed the

200-trip threshold during the weekday midday and Saturday midday peak hours, they are not projected to generate more than 200 combined pedestrian trips *on any one pedestrian element* during either of these peak hours after the trips are distributed and assigned to individual pedestrian elements on the street network throughout the cluster.

Of the remaining three clusters that did not screen out of the analysis (Clusters 2, 4, and 5), a comparison of the pedestrian trips generated during the weekday midday and Saturday midday peak hours reveals that the trips generated by all three clusters during the Saturday midday peak hour are lower than the respective number of trips generated by each cluster during the weekday midday peak hour. Overall, the total number of incremental pedestrian trips generated during the weekday midday peak hour (i.e., 4,029) is projected to be higher than the number of pedestrian trips generated during the Saturday midday peak hour (i.e., 2,892), making the weekday midday peak hour the more critical of the two time periods. Because baseline pedestrian volumes are projected to be similar during the weekday midday and Saturday midday peak hours, analysis of the Saturday midday peak hour time period was eliminated. However, analysis of the weekday PM peak hour was retained because the baseline pedestrian travel patterns during the weekday PM peak hour are expected to be different than patterns during the weekday midday peak hour.

Therefore, Clusters 2, 4, and 5 were selected for further analysis during the weekday midday and weekday PM peak hours. These three clusters generate combined pedestrian trips (i.e., subway, bus, and walk trips) as shown below:

Cluster 2

- Approximately **1,471** net new pedestrian trips (76 subway trips, 367 bus trips, and 1,028 walk trips) are projected to be generated as a result of the proposed rezoning during the weekday midday peak hour; and
- Approximately **818** net new pedestrian trips (99 subway trips, 189 bus trips, and 530 walk trips) are projected to be generated as a result of the proposed rezoning during the weekday PM peak hour.

Cluster 4

- Approximately **1,137** net new pedestrian trips (20 subway trips, 277 bus trips, and 840 walk trips) are projected to be generated as a result of the proposed rezoning during the weekday midday peak hour; and
- Approximately **594** net new pedestrian trips (23 subway trips, 131 bus trips, and 440 walk trips) are projected to be generated as a result of the proposed rezoning during the weekday PM peak hour.

Cluster 5

- Approximately **875** net new pedestrian trips (-1 subway trips, 222 bus trips, and 654 walk trips) are projected to be generated as a result of the proposed rezoning during the weekday midday peak hour; and
- Approximately **512** net new pedestrian trips (26 subway trips, 116 bus trips, and 370 walk trips) are projected to be generated as a result of the proposed rezoning during the weekday PM peak hour.

Table M-2 – Projected Net Pedestrian-Trip Increments by Site and Cluster

Site/ Cluster	Peak Hour Time Period															
	Weekday AM Peak Hour Trips Generated				Weekday Midday Peak Hour Trips Generated				Weekday PM Peak Hour Trips Generated				Saturday Midday Peak Hour Trips Generated			
	Sub-way Trips	Bus Trips	Walk Trips	Total Ped Trips	Sub-way Trips	Bus Trips	Walk Trips	Total Ped Trips	Sub-way Trips	Bus Trips	Walk Trips	Total Ped Trips	Sub-way Trips	Bus Trips	Walk Trips	Total Ped Trips
Site A	-27	-29	1	-55	-50	-11	54	-7	-14	-15	29	-1	14	15	43	72
Site B	-9	-7	-1	-16	-10	-6	-2	-18	-8	-6	0	-14	-3	-2	1	-4
Site C	-53	-16	-31	-101	3	71	190	264	-57	8	34	-14	10	48	126	185
Site D	-4	-4	-2	-10	-6	-4	-2	-11	-3	-4	-1	-8	0	-1	-1	-2
Site E	2	0	-3	-1	0	0	-6	-6	2	1	-3	0	0	0	-9	-9
Site N	-18	-10	-22	-49	-5	-3	-7	-15	-21	-11	-26	-59	1	0	-1	-1
Clust. 1	**-109**	**-65**	**-58**	**-232**	**-68**	**46**	**228**	**206**	**-101**	**-28**	**32**	**-97**	**22**	**60**	**159**	**241**
Site F	55	41	44	140	48	93	221	361	67	72	120	259	64	77	151	292
Site G	-4	-12	46	29	10	148	450	608	20	56	224	300	54	101	273	428
Site H	-3	15	43	55	23	106	280	408	6	54	147	206	10	64	172	245
Site I	2	-2	11	12	1	24	79	104	8	10	41	59	12	18	50	81
Site K	-3	-4	-1	-8	-5	-4	-2	-11	-2	-4	-1	-7	1	-1	0	-1
Clust. 2	**48**	**38**	**143**	**228**	**76**	**367**	**1,028**	**1,471**	**99**	**189**	**530**	**818**	**141**	**259**	**645**	**1,045**
Site L	-15	0	7	-8	8	61	166	236	-11	23	67	79	12	41	106	159
Site M	2	4	11	18	6	26	70	103	5	15	37	57	6	18	44	68
Site DD	1	1	0	2	1	0	0	1	1	1	0	2	1	1	0	2
Site EE	1	0	0	1	0	0	0	0	1	0	0	1	1	0	0	1
Clust. 3	**-11**	**5**	**18**	**12**	**15**	**88**	**237**	**340**	**-4**	**39**	**105**	**139**	**20**	**60**	**150**	**229**
Site J	-2	5	19	22	6	46	128	181	4	24	67	95	8	31	80	119
Sites O and P	-17	-11	13	-15	-11	16	76	81	-11	1	43	33	-4	12	50	58
Site Q	2	9	21	32	13	52	135	201	7	28	71	106	8	32	83	123
Site R	-12	-9	2	-19	-12	-8	6	-14	-11	-9	2	-18	-3	-2	12	7
Site S	9	13	26	48	22	68	168	258	16	38	90	144	12	41	97	150
Site T	0	-3	1	-3	-3	-4	0	-6	2	-3	1	1	2	0	1	3
Sites U and V	-3	4	41	42	6	109	325	440	14	54	164	232	40	85	209	335
Site W	0	-2	1	-2	-2	-2	0	-4	2	-2	1	1	2	0	1	3
Clust. 4	**-22**	**5**	**124**	**107**	**20**	**277**	**840**	**1,137**	**23**	**131**	**440**	**594**	**66**	**199**	**533**	**798**
Site X	2	1	0	3	0	0	0	1	2	1	0	3	2	1	0	3
Site Y	-5	-5	0	-10	-4	-4	0	-8	-4	-4	0	-8	-3	-2	0	-6
Site Z	30	21	65	116	24	93	259	376	45	60	164	269	26	60	159	245
Sites AA, BB and CC	-24	2	53	32	-21	132	395	506	-17	59	206	248	8	88	242	337
Clust. 5	**3**	**20**	**118**	**141**	**-1**	**222**	**654**	**875**	**26**	**116**	**370**	**512**	**32**	**147**	**400**	**580**
Total	**-91**	**3**	**345**	**256**	**42**	**1,000**	**2,986**	**4,029**	**43**	**447**	**1,477**	**1,967**	**281**	**725**	**1,888**	**2,892**

Note: All pedestrian trips rounded to the nearest one (1) trip.

Based on these findings, further quantitative analyses of pedestrian operations on selected corners, crosswalks, and sidewalks in the vicinity of Clusters 2, 4, and 5 (i.e., Projected Development Sites F, G, H, I, J, K, O, P, Q, R, S, T, U, V, Q, X, Y, Z, AA, BB, and CC) are warranted.

Selection of Study Intersections

An additional quantitative screening analysis was conducted to identify study intersections for the pedestrian level-of-service analyses. This screening analysis consisted of an assignment of pedestrian trips onto the study area roadway network to identify intersections where the concentration of pedestrians on any one element (i.e., a crosswalk, corner, or sidewalk) would likely exceed 200 peak hour trips. For purposes of selecting the pedestrian study intersections and elements, a preliminary pedestrian trip distribution was performed for Clusters 2, 4, and 5. The following assumptions were used in the pedestrian trip distribution:

- **Subway** – For pedestrians in Cluster 2, it was projected that 10 percent would travel to/from the "G" line and 90 percent would travel to/from the "J", "M" and "Z" lines (given the higher service frequency and greater service area for the latter subway lines). For pedestrians in Cluster 4, it was assumed that 10 percent would travel to/from the "G" line and 90 percent to/from the "J", "M" and "Z" lines, except for sites R, S, T and W that were all assigned to the J/M/Z station at Myrtle Avenue. For pedestrians in Cluster 5, it was assumed that 100 percent would travel to/from the "J" and/or "Z" lines via the stations along Broadway at Gates Avenue and Kosciusko Street.

- **Bus** – Bus riders were projected to travel to/from the bus stop nearest to each development site.

- **Walk** – The pedestrian trips generated to and from each projected development site were assumed to travel within a ¼-mile radius of each site. The assignment of walk trips was balanced to the north, south, east and west of each site (i.e., 25 percent to/from north of each site, 25 percent to/from the south, 25 percent to/from the east, and 25 percent to/from the west).

Based on the above assumptions, pedestrian trips from Clusters 2, 4 and 5 were assigned to and from each development site in order to identify those elements that would be expected to experience the greatest incremental pedestrian volumes between the No-Action and With-Action conditions in the midday peak hour (this peak hour had the highest pedestrian volumes under both the No-Action and With-Action conditions). Pedestrian trips were assigned separately by mode (i.e., subway, bus, and walk-only) and then aggregated to determine the combined pedestrian volumes at each study location.

The results of this analysis indicated that the following intersections were projected to experience pedestrian volumes meeting or exceeding the screening threshold due to the pedestrian volumes generated by Clusters 2, 4, and 5.

- Myrtle Avenue/Marcy Avenue

- Myrtle Avenue/Tompkins Avenue
- Myrtle Avenue/Throop Avenue
- Myrtle Avenue/Marcus Garvey Boulevard/Sumner Avenue
- Myrtle Avenue/Lewis Avenue
- Broadway/Ellery Street
- Broadway/Park Avenue
- Broadway/Myrtle Avenue
- Broadway/Greene Avenue
- Broadway/Lexington Avenue
- Broadway/Ralph Avenue

Figure M-2 illustrates the location of these intersections within the project study area:

LOS pedestrian analyses were conducted for selected corners, crosswalks, and sidewalks at these study intersections that were projected to accommodate more than 200 new incremental pedestrian trips as a result of the Proposed Action. These elements are illustrated in **Figures M-3 through M-5**. The LOS analyses focused on the weekday midday and PM peak hours under existing conditions, year 2022 future No-Action conditions, and year 2022 future With-Action conditions.

Existing Conditions

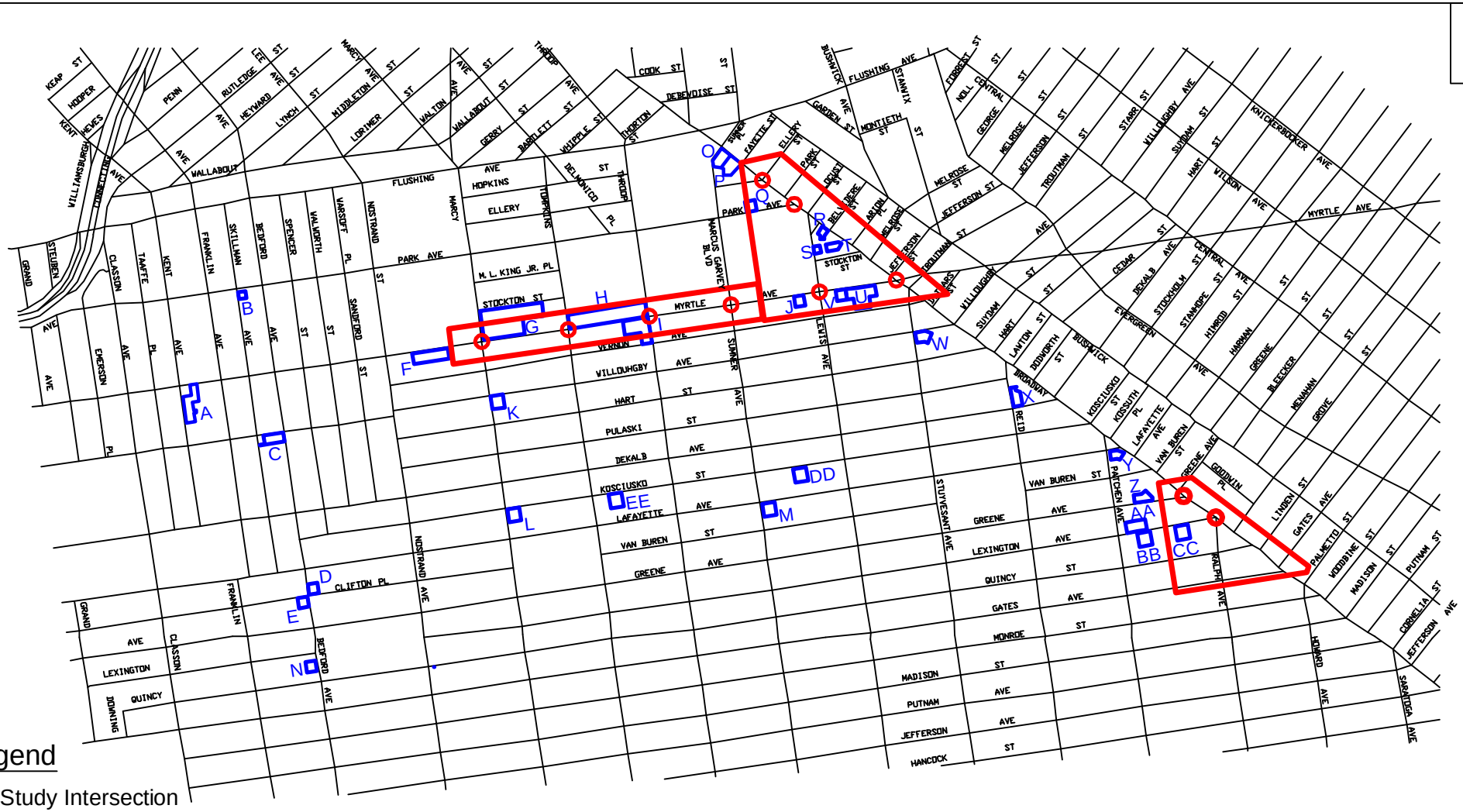
Analysis Methodology

Crosswalk and corner LOS analyses quantify the comfort level for pedestrians when they are using the crosswalk or when they are waiting on the corner to cross the street. The LOS is calculated using the physical and operational parameters at the intersection including the pedestrian flow rate, the effective length and width (i.e., area) of the crosswalk, the area of the corner, conflicting traffic volumes that turn through the crosswalk, and the signal timing at the intersection. Crosswalk and corner operations were analyzed using the methodologies described in the *2000 Highway Capacity Manual (HCM)*. The crosswalk and corner LOS methodologies are based on pedestrian density, as expressed in units of "square feet of space per pedestrian" (feet^2/ped), during the peak 15-minute period of the peak hour. The LOS ranges for crosswalks and corners are as shown below in **Table M-3**.

Table M-3 – LOS Criteria for Corners and Crosswalks

LOS	Square Feet of Space per Pedestrian (Feet^2/Ped)
A	> 60
B	> 40 and ≤60
C	> 24 and ≤40
D	> 15 and ≤24
E	> 8 and ≤15
F	≤ 8

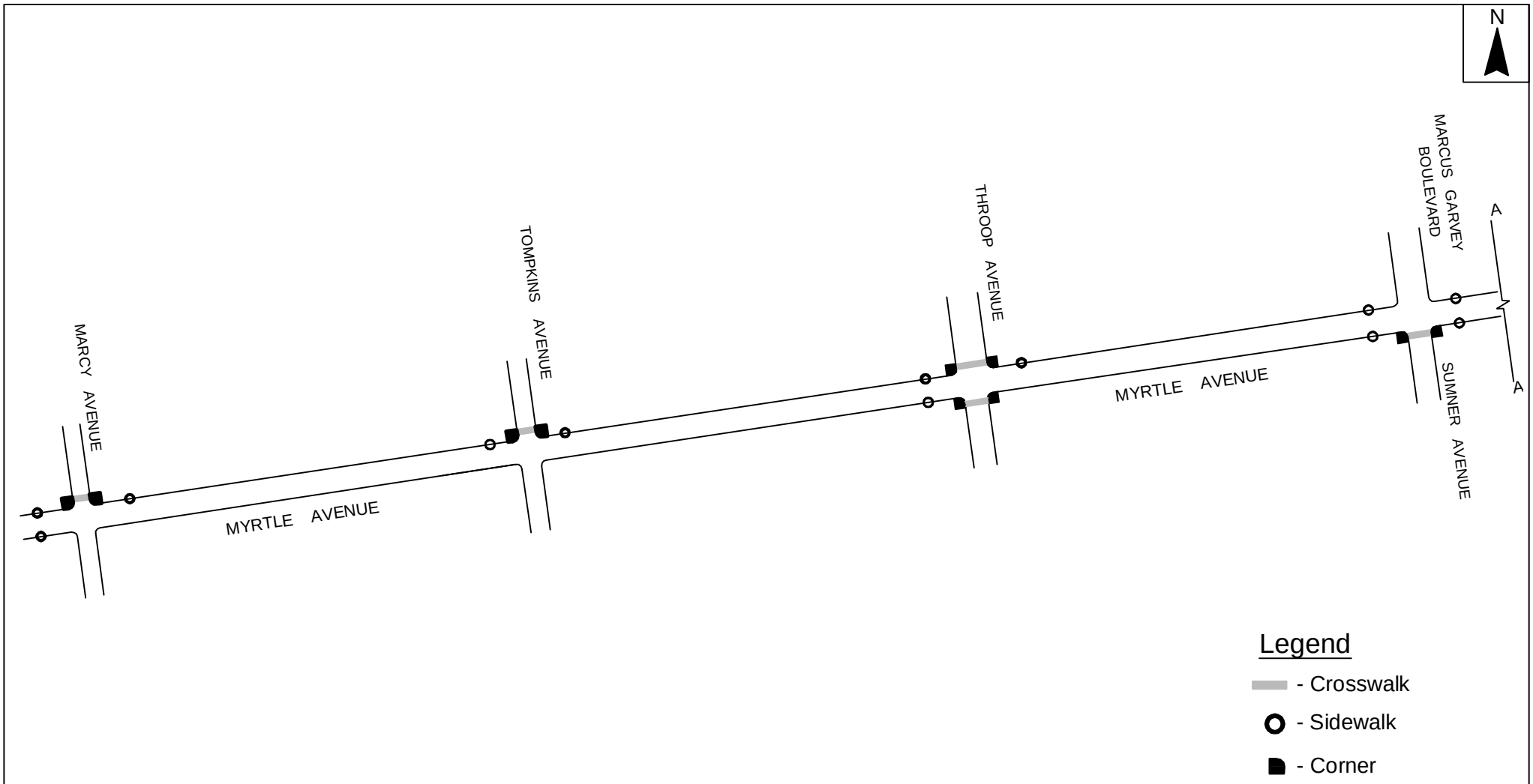
Source: *2012 CEQR Technical Manual, Table 16-10.*



AECOM

Bedford-Stuyvesant North Rezoning
Brooklyn, New York

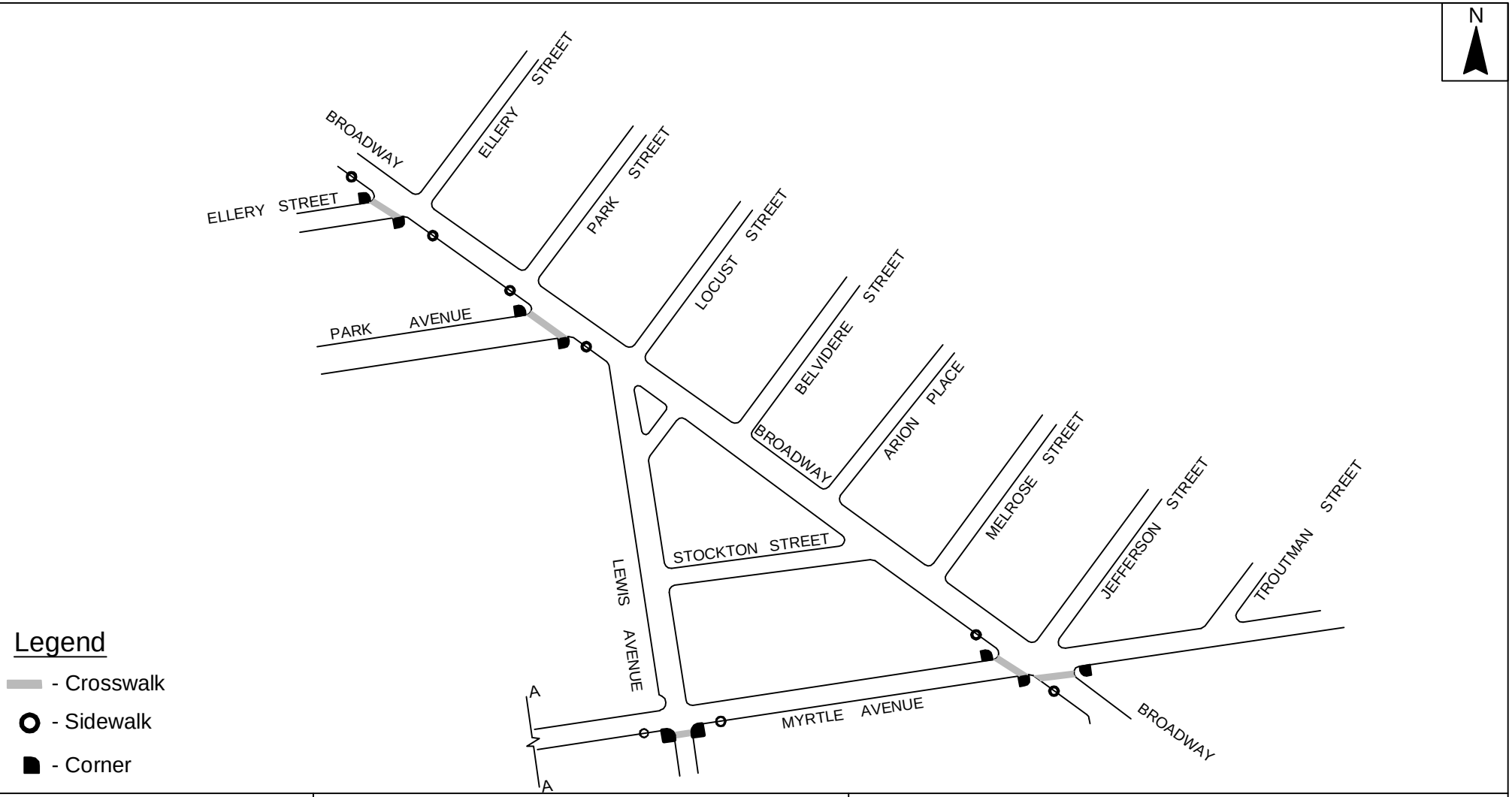
Pedestrian Study Intersections
Figure M-2



AECOM

Bedford-Stuyvesant North Rezoning
Brooklyn, New York

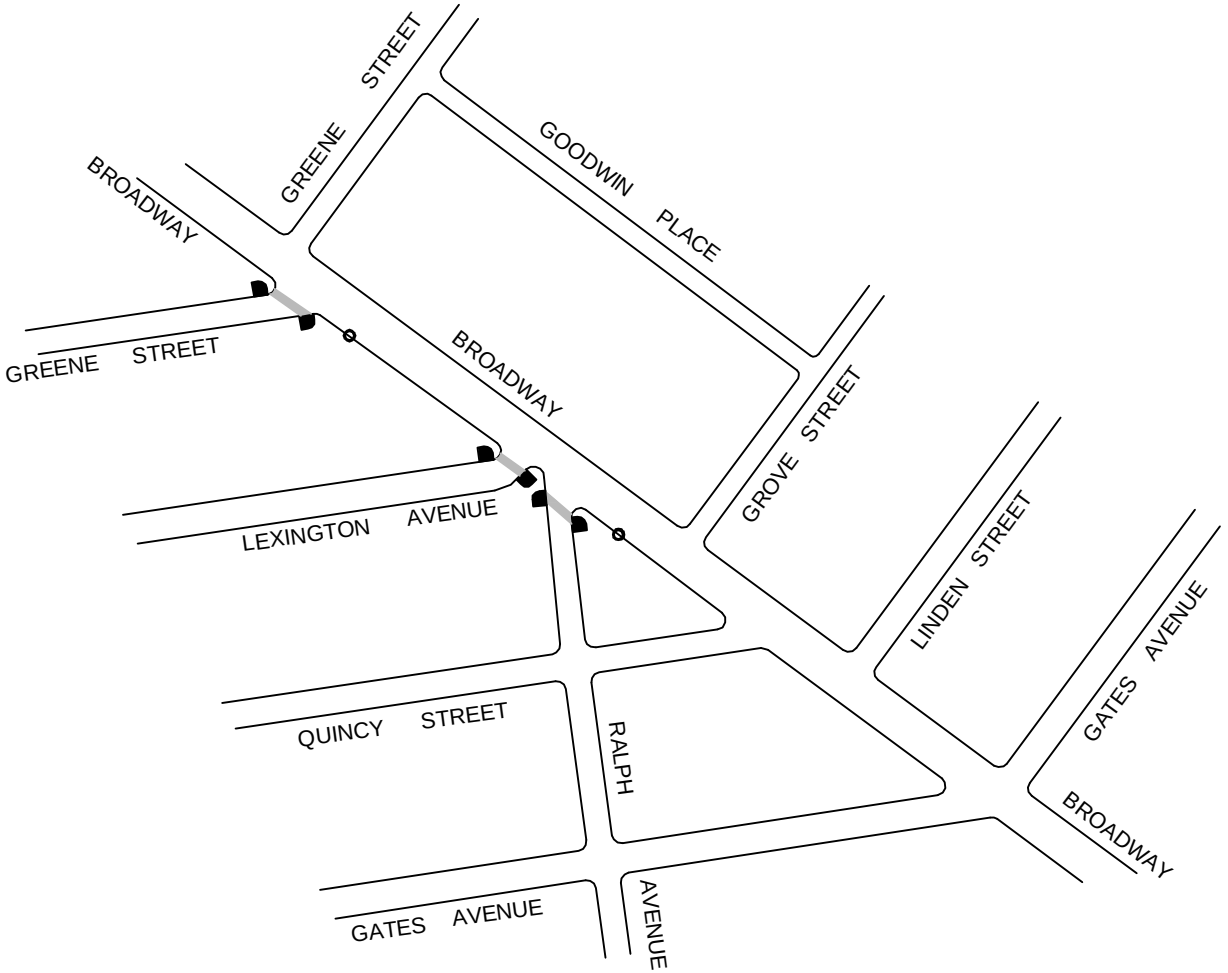
Pedestrian Study Elements
Figure M-3



AECOM

Bedford-Stuyvesant North Rezoning
Brooklyn, New York

Pedestrian Study Elements
Figure M-4



AECOM

Bedford-Stuyvesant North Rezoning
Brooklyn, New York

Pedestrian Study Elements
Figure M-5

The LOS methodology for sidewalks is based on the flow rate of pedestrians along the sidewalk as expressed in units of "pedestrians per minute per foot of width" (or "p/min/ft"). The LOS ranges for sidewalks, under non-platoon flow conditions, are as shown below in **Table M-4**. Based on field observations, pedestrian operations in the study area are generally characterized as operating under non-platoon flow conditions.

Table M-4 – LOS Criteria for Sidewalks: Non-Platoon Flow Conditions

LOS	Pedestrian Flow Rate Per Minute Per Foot of Width (ped/min/ft)
A	≤ 5
B	> 5 and ≤7
C	> 7 and ≤10
D	> 10 and ≤15
E	> 15 and ≤23
F	> 23

Source: *2012 CEQR Technical Manual, Table 16-9.*

Data Collection and Field Inventory

A comprehensive field data collection effort was undertaken at the study intersections to obtain the necessary data required for the pedestrian LOS analyses. Pedestrian volume data, and conflicting traffic volume data, were collected during the following peak periods:

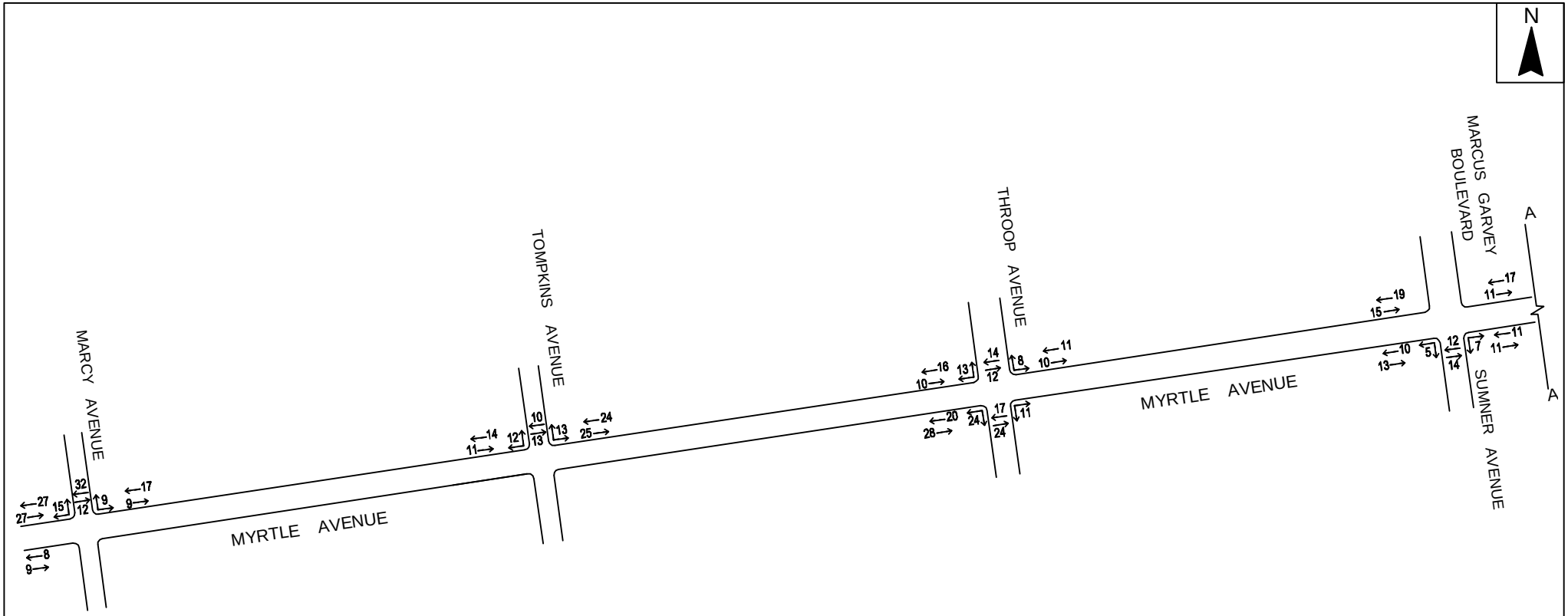
- Weekday midday peak period (12:00 PM to 2:00 PM), and
- Weekday PM peak period (4:00 PM to 6:00 PM).

The counts were performed over the course of two typical weekdays in late February and early March 2012. The data collection effort included counts of pedestrians using sidewalks, crosswalks, and corners, as well as counts of conflicting vehicle traffic volumes turning across crosswalks. **Figures M-6, M-7,** and **M-8** show the peak 15-minute pedestrian volumes for each pedestrian element in the study area during the weekday midday peak hour under existing conditions. Similarly, **Figures M-9, M-10,** and **M-11** show the peak 15-minute pedestrian volumes for each pedestrian element in the study area during the weekday PM peak hour under existing conditions.

Physical characteristics of all pedestrian elements at each study intersection were inventoried in the field. This inventory specifically included:

- Crosswalk locations, widths, and lengths;
- Sidewalk locations and widths;
- Curb return radii; and
- Locations and dimensions of street appurtenances along the sidewalks and on corners (which constitute obstacles to the unimpeded flow of pedestrians).

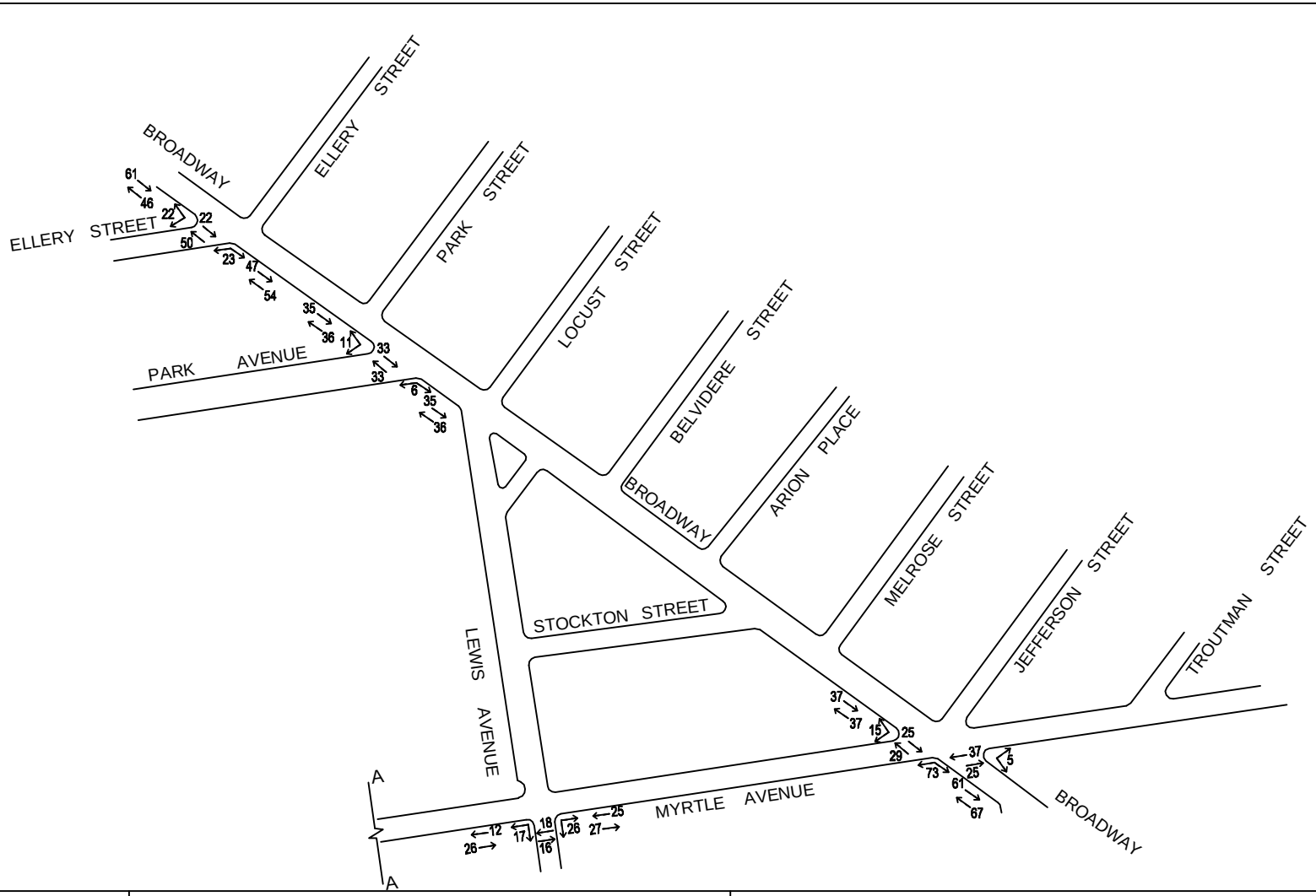
In addition, official traffic signal timings were also obtained for the study intersections from NYCDOT.



AECOM

Bedford-Stuyvesant North Rezoning
Brooklyn, New York

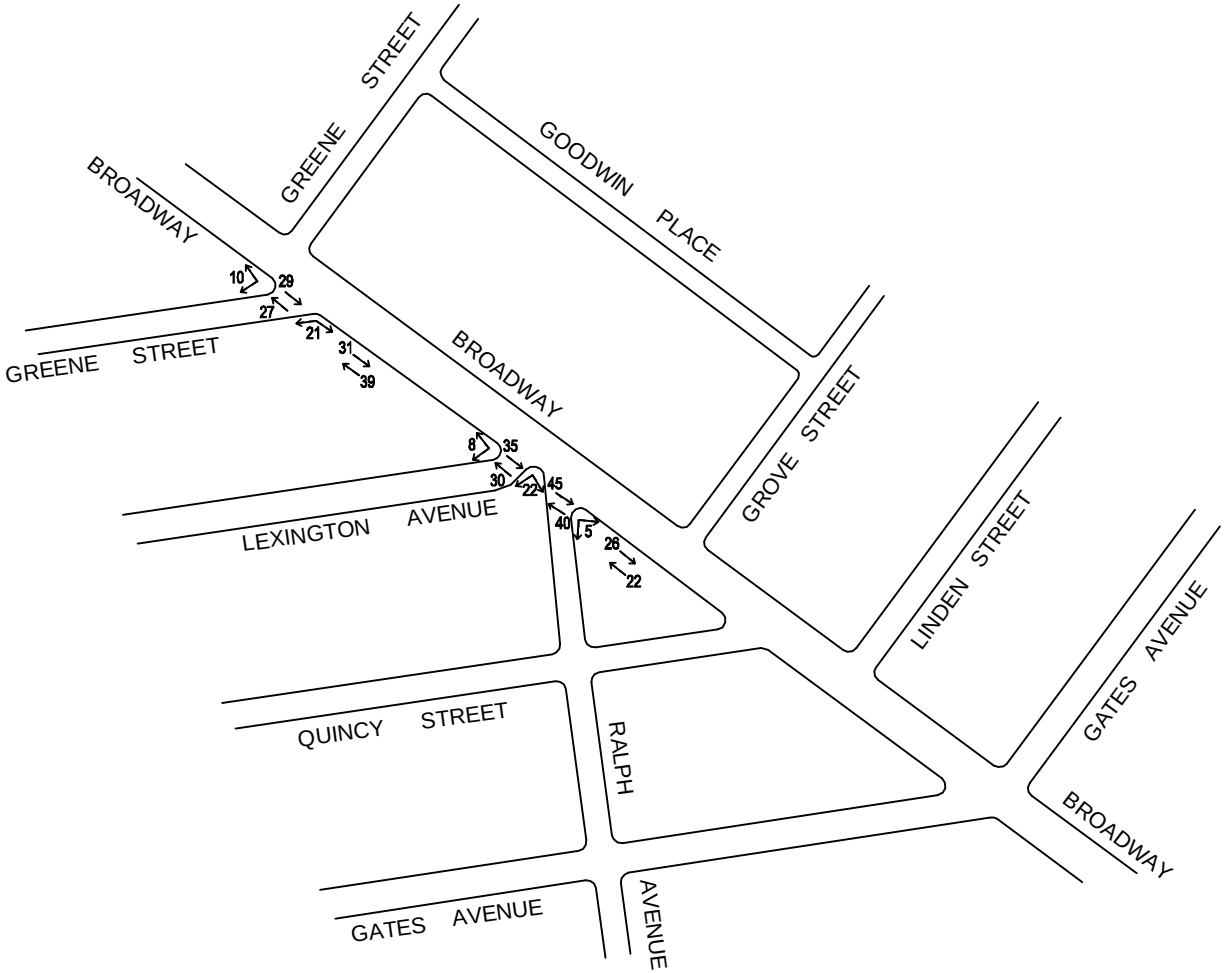
2012 Existing Pedestrian Volumes
Weekday Midday Peak 15-Minute Period
Figure M-6



AECOM

Bedford-Stuyvesant North Rezoning
Brooklyn, New York

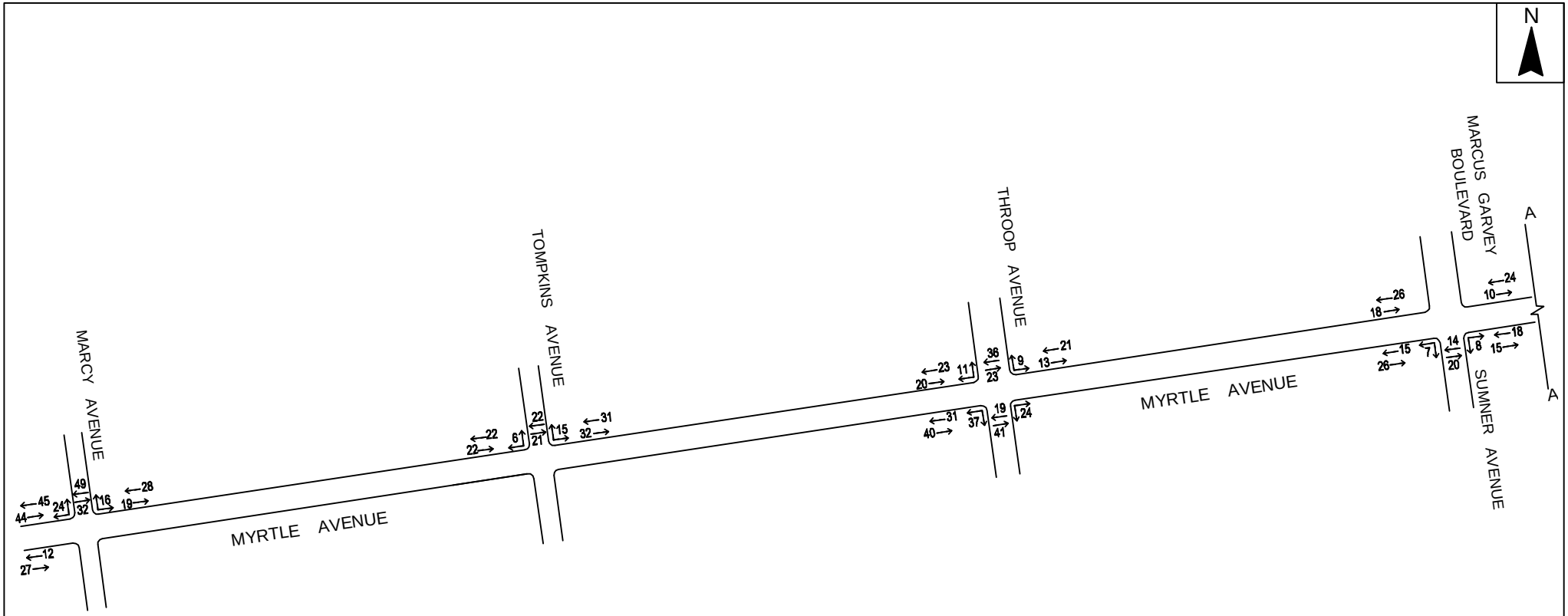
2012 Existing Pedestrian Volumes
Weekday Midday Peak 15-Minute Period
Figure M-7



AECOM

Bedford-Stuyvesant North Rezoning
Brooklyn, New York

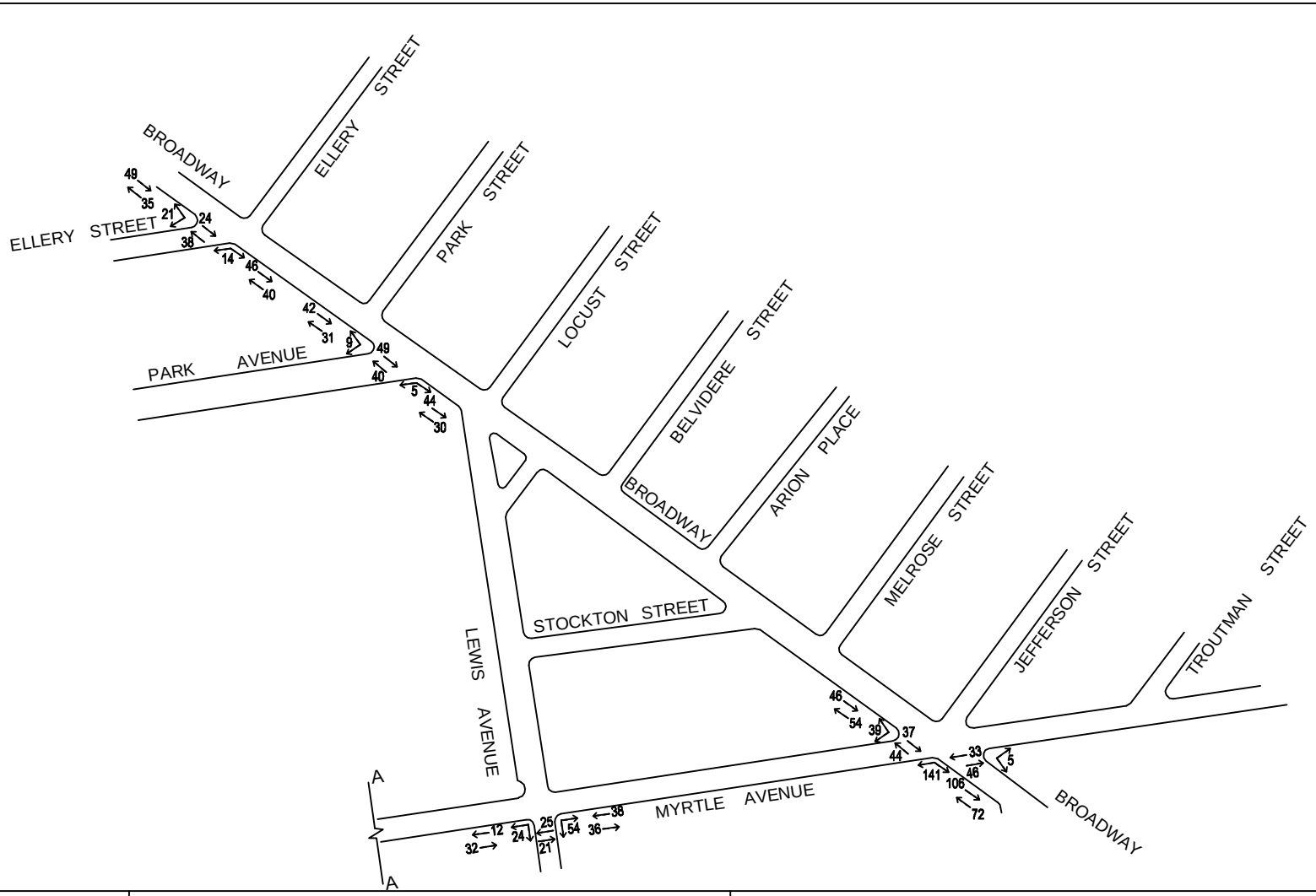
2012 Existing Pedestrian Volumes
Weekday Midday Peak 15-Minute Period
Figure M-8



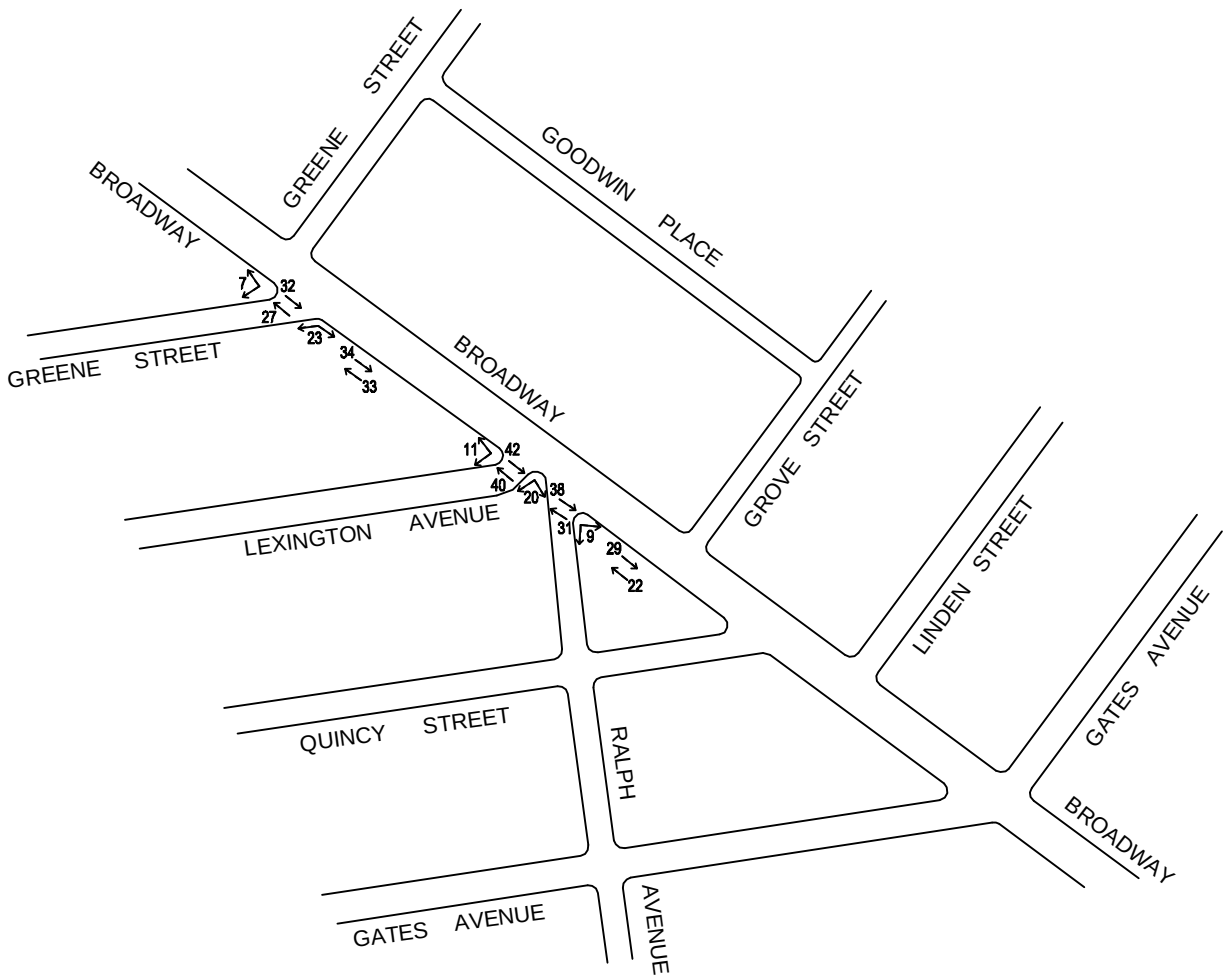
AECOM

Bedford-Stuyvesant North Rezoning
Brooklyn, New York

2012 Existing Pedestrian Volumes
Weekday PM Peak 15-Minute Period
Figure M-9



AECOM	Bedford-Stuyvesant North Rezoning Brooklyn, New York	2012 Existing Pedestrian Volumes Weekday PM Peak 15-Minute Period Figure M-10



AECOM

Bedford-Stuyvesant North Rezoning
Brooklyn, New York

2012 Existing Pedestrian Volumes
Weekday PM Peak 15-Minute Period
Figure M-11

Existing Levels-of-Service

The pedestrian LOS analyses for existing conditions were based on the pedestrian volume observed during the peak 15-minute period of each peak hour (i.e., the weekday midday and weekday PM peak hours). More specifically, in accordance with *CEQR Technical Manual* guidelines, the peak 15-minute pedestrian volume observed at each independent pedestrian element (i.e., sidewalk, crosswalk, or corner) was used for analysis purposes. **Tables M-5, M-6** and **M-7** summarize the results of the existing conditions pedestrian LOS analyses for crosswalks, corners, and sidewalks, respectively.

Table M-5 – Year 2012 Existing Condition Pedestrian Crosswalk Analyses

Intersection	Cross-walk	Crosswalk Length (feet)	Crosswalk Width (feet)	Weekday Midday		Weekday PM	
				Feet^2/Ped	LOS	Feet^2/Ped	LOS
Myrtle Ave. / Marcy Ave.	North	39.7	10.2	195.8	A	111.2	A
Myrtle Ave. / Tompkins Ave.	North	32.1	15.1	597.7	A	337.7	A
Myrtle Ave. / Throop Ave.	North	45.4	15.8	521.5	A	245.7	A
	South	33.6	13.7	304.8	A	221.3	A
Myrtle Ave. / Marcus Garvey Blvd./ Sumner Ave.	South	39.8	17.5	585.5	A	458.2	A
Myrtle Ave. / Lewis Ave.	South	34.0	15.8	535.0	A	414.2	A
Broadway / Ellery St.	West	67.7	15.2	509.3	A	609.2	A
Broadway / Park Ave.	West	77.4	15.2	545.7	A	418.4	A
Broadway / Myrtle Ave.	South	67.4	19.3	185.0	A	168.7	A
	West	57.8	16.4	350.8	A	251.2	A
Broadway / Greene Ave.	West	70.0	12.4	257.8	A	266.8	A
Broadway / Lexington Ave.	West	35.4	12.9	159.1	A	174.2	A
Broadway / Ralph Ave.	South	55.2	16.8	295.3	A	295.4	A

As shown in **Table M-5**, all study crosswalks currently operate at an acceptable LOS "A" during both analysis peak hours.

Table M-6 – Year 2012 Existing Condition Pedestrian Corner Analyses

Intersection	Corner	Weekday Midday		Weekday PM	
		Feet^2/Ped	LOS	Feet^2/Ped	LOS
Myrtle Ave. / Marcy Ave.	Northwest	925.9	A	491.9	A
	Northeast	470.9	A	282.8	A
Myrtle Ave. / Tompkins Ave.	Northwest	448.0	A	389.0	A
	Northeast	1,766.7	A	920.6	A
Myrtle Ave. / Throop Ave.	Northwest	682.4	A	348.8	A
	Northeast	1,008.3	A	465.8	A
	Southwest	536.9	A	317.4	A
	Southeast	614.3	A	335.2	A
Myrtle Ave. / Marcus Garvey Blvd./ Sumner Ave.	Southwest	587.6	A	425.2	A
	Southeast	571.0	A	438.9	A
Myrtle Ave. / Lewis Ave.	Southwest	608.0	A	484.9	A
	Southeast	775.3	A	480.4	A
Broadway / Ellery St.	Northwest	460.6	A	400.1	A
	Southwest	427.4	A	486.3	A
Broadway / Park Ave.	Northwest	372.5	A	222.7	A
	Southwest	591.3	A	405.5	A
Broadway / Myrtle Ave.	Northwest	394.2	A	233.5	A
	Southwest	356.5	A	220.5	A
	Southeast	503.3	A	393.0	A
Broadway / Greene Ave.	Northwest	680.3	A	561.1	A
	Southwest	577.5	A	486.2	A
Broadway / Lexington Ave.	Northwest	491.8	A	453.8	A
	Southwest	1,991.5	A	1,857.1	A
Broadway / Ralph Ave.	Southwest	608.1	A	525.5	A
	Southeast	677.7	A	644.0	A

As shown in **Table M-6**, all study corners currently operate at an acceptable LOS "A" during both analysis peak hours.

Table M-7 – Year 2012 Existing Condition Pedestrian Sidewalk Analyses

Intersection	Corner	Sidewalk	Weekday Midday		Weekday PM	
			Ped Flow Rate (ped/min/ft)	LOS	Ped Flow Rate (ped/min/ft)	LOS
Myrtle Ave. / Marcy Ave.	NE	E/W	0.2	A	0.4	A
	NW	E/W	0.4	A	0.7	A
	SW	E/W	0.1	A	0.3	A
Myrtle Ave. / Tompkins Ave.	NE	E/W	0.3	A	0.4	A
	NW	E/W	0.3	A	0.6	A
Myrtle Ave. / Throop Ave.	NE	E/W	0.2	A	0.3	A
	NW	E/W	0.1	A	0.2	A
	SW	E/W	0.3	A	0.5	A
Myrtle Ave. / Marcus Garvey Blvd./Sumner Ave.	NE	E/W	0.2	A	0.2	A
	NW	E/W	0.2	A	0.3	A
	SE	E/W	0.1	A	0.1	A
	SW	E/W	0.4	A	0.6	A
Myrtle Ave. / Lewis Ave.	SE	E/W	0.3	A	0.4	A
	SW	E/W	0.4	A	0.4	A
Broadway / Ellery St.	NW	N/S	0.8	A	0.6	A
	SW	N/S	0.7	A	0.6	A
Broadway / Park Ave.	NW	N/S	0.5	A	0.5	A
	SW	N/S	0.4	A	0.4	A
Broadway / Myrtle Ave.	NW	N/S	0.5	A	0.7	A
	SW	N/S	1.1	A	1.5	A
Broadway / Greene Ave	SW	N/S	0.6	A	0.6	A
Broadway / Ralph Ave.	SE	E/W	0.3	A	0.3	A

Notes:
E/W = East-West sidewalk
N/S = North-South sidewalk

As shown in **Table M-7**, all study sidewalks currently operate at an acceptable LOS "A" during both peak hours.

Year 2022 No-Action Conditions

Projected Pedestrian Volumes: No-Action Condition

The future No-Action condition pedestrian analysis assumes increases in pedestrian activity within the study area associated with the following:

- An increase in background pedestrian growth throughout the study area through the projected horizon year of the Proposed Action (i.e., 2022);

- Future development of other planned development projects not associated with the proposed rezoning within the vicinity of Clusters 2, 4, and 5; and

- Future development of the projected development sites in Clusters 2, 4, and 5 in accordance with the *existing* zoning.

The NYC Department of City Planning identified 14 other planned development projects not associated with the proposed rezoning that are planned to be in place in the year of the Proposed Action (i.e., 2022). **Table M-8** lists each project, the address, proposed land uses, and the findings of a screening assessment. The screening assessment was conducted to estimate the potential pedestrian trip generation characteristics associated with each of these planned development projects and to determine if there was a need to prepare detailed pedestrian trip assignments for each project.

As shown in **Table M-8**, each of the projects is planned to accommodate exclusively residential housing, with the exception of the project at 366 Stockton Street, which accommodates a community facility component as well as residential housing. It should be noted that the Marcy/Willoughby project involve land use actions on multiple sites.

Of the 14 planned development projects listed in **Table M-8**, ten projects have fewer than ten residential units. Based on the relatively small size of these ten projects, the preparation of detailed pedestrian assignments is not warranted. The remaining four projects listed in **Table M-8** were mapped to identify their locations relative to the pedestrian study area intersections. In addition, a trip generation analysis was also conducted to estimate the number of pedestrian trips projected to be generated by each project. **Table M-9** summarizes the results of the trip generation analysis for these four projects.

As shown in **Table M-9**, the pedestrian trip generation results indicate that each of the four projects is projected to generate a relatively low number of pedestrian trips during the weekday midday and PM peak hours. In addition, as indicated in **Table M-8**, each of these four projects are either located 0.25 mile or more from the pedestrian study intersections or are scattered among multiple independent sites. Based on the locations of these four projects—as well as the estimated number of pedestrian trips projected to be generated by each project at the study area intersections—it was determined that increases in future pedestrian volumes attributable to these projects could be accounted for using the background growth factor applied to the existing pedestrian volumes, rather than through the preparation of specific pedestrian trip assignments.

Table M-8 – Other Planned Development Projects and Screening Summary

No.	Project Name	Project Address	Planned Building SF	Planned Land Use	Planned Dwelling Units	Screening Assessment Results
1	None	867-875 Dekalb Ave.	52,000	Residential	52	Screens out - no more than 36 total pedestrian trips during either peak hour and site is located more than 0.25 mile from the pedestrian study area.
2	None	896 Greene Ave.	2,816	Residential	2	Screens out - less than 10 residential units.
3	None	145 Skillman St.	5,500	Residential	4	Screens out - less than 10 residential units.
4	None	220 Walworth St.	3,999	Residential	3	Screens out - less than 10 residential units.
5	None	530 Lafayette Ave.	5,500	Residential	8	Screens out - less than 10 residential units.
6	None	126 Hart St.	2,729	Residential	2	Screens out - less than 10 residential units.
7	None	158 Franklin Ave.	6,279	Residential	4	Screens out - less than 10 residential units.
8	None	23 Verona Pl.	4,830	Residential	4	Screens out - less than 10 residential units.
9	None	596 Quincy St.	2,900	Residential	4	Screens out - less than 10 residential units.
10	None	366 Stockton St.	10,172	Community Facility/ Residential	11	Screens out - no more than 13 pedestrian trips during any peak hour.
11	None	221 Skillman St.	4,125	Residential	3	Screens out - less than 10 residential units.
12	None	733 Lafayette Ave.	5,407	Residential	8	Screens out - less than 10 residential units.
13	Marcy/ Willoughby	821 Willoughby Ave. 267 Throop Ave. 890 Myrtle Ave.	-	Residential	23	Screens out - no more than 14 pedestrian trips during either peak hour, and trips are scattered among 3 separate sites throughout the study area.
14	Vernon Avenue	119-125 Vernon Ave.	-	Residential	16	Screens out - no more than 9 pedestrian trips during either peak hour.

Table M-9 – Trip Generation Summary for Other Planned Development Sites

No.	Project Name	Planned Land Use	Planned Size	Peak Hour Time Period					
				Weekday Midday			Weekday PM		
				Subway	Bus	Walk	Subway	Bus	Walk
1	None	Residential	52 units	9	5	2	21	11	4
10	None	Community Facility	2,660 sf	3	2	1	3	2	1
		Residential	11 units	2	1	1	4	2	1
		All Uses	-	5	3	2	7	4	2
13	Marcy/ Willoughby	Residential	23 units	4	2	1	9	4	1
14	Vernon Avenue	Residential	16 units	3	1	0	7	1	1

The year 2022 future No-Action pedestrian volumes were calculated by applying a 3.75 percent background growth rate (as per the *CEQR Technical Manual*) to the existing pedestrian volumes over ten years (i.e., 2012 to 2022), and adding the pedestrian volumes associated with the projected development sites in Clusters 2, 4, and 5 under the future No-Action condition. The pedestrian trips generated to and from the projected development sites in Clusters 2, 4, and 5 (i.e., Projected Development Sites F, G, H, I, J, K, O, P, Q, R, S, T, U, V, Q, X, Y, Z, AA, BB, and CC), were then assigned to the study area sidewalks, crosswalks, and corners on a site-by-site basis and by individual mode (i.e., subway, bus, and walk). The following assumptions were used in these assignments:

- **Subway** – For pedestrians in Cluster 2, it was projected that 10 percent would travel to/from the "G" line and 90 percent would travel to/from the "J", "M" and "Z" lines (given the higher service frequency and greater service area for the latter subway lines). For pedestrians in Cluster 4, it was assumed that 10 percent would travel to/from the "G" line and 90 percent to/from the "J", "M" and "Z" lines, except for sites R, S, T and W that were all assigned to the J/M/Z station at Myrtle Avenue. For pedestrians in Cluster 5, it was assumed that 100 percent would travel to/from the "J" and/or "Z" lines via the stations along Broadway at Gates Avenue and Kosciusko Street.

- **Bus** – Bus riders were projected to travel to/from the bus stop nearest to each development site.

- **Walk** – The pedestrian trips generated to and from each projected development site were assumed to travel within a ¼-mile radius of each site. The assignment of walk trips was balanced to the north, south, east and west of each site (i.e., 25 percent to/from north of each site, 25 percent to/from the south, 25 percent to/from the east, and 25 percent to/from the west).

The directional distribution used for all pedestrian trip assignments varies by land use and by peak hour, as shown in **Table M-10**.

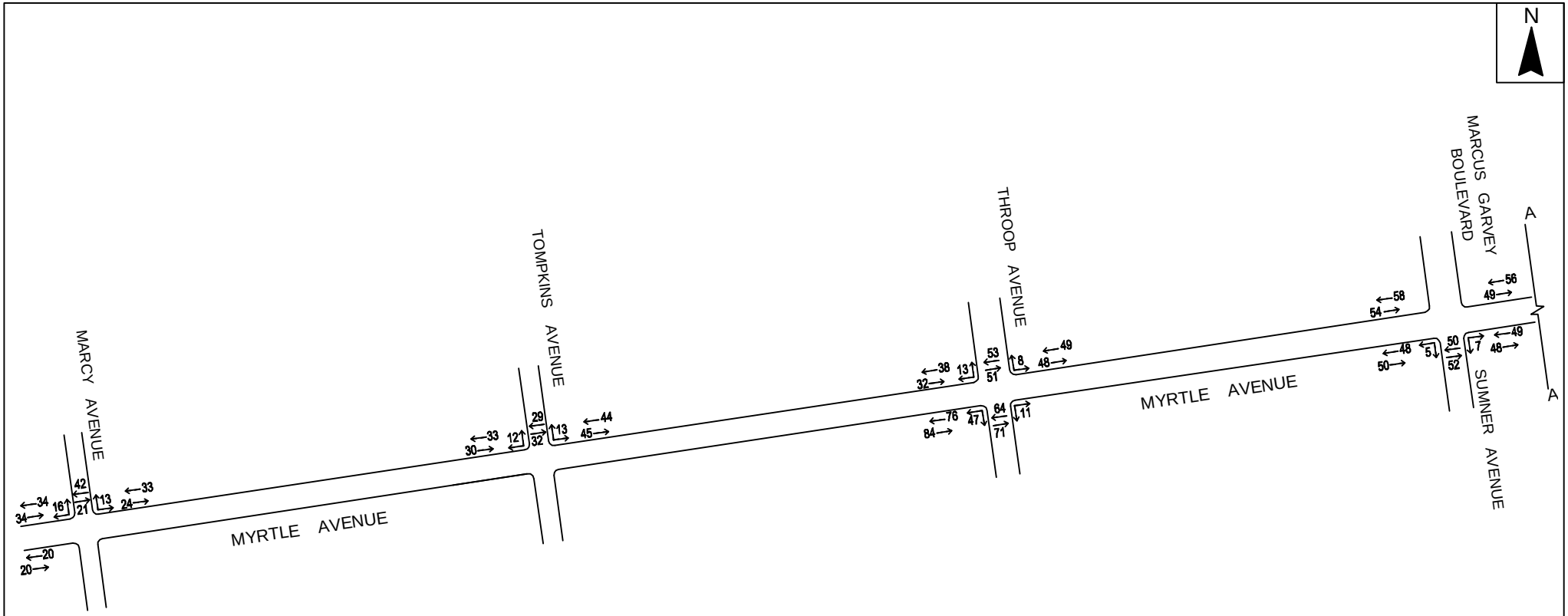
Table M-10 – Directional Distributions for Pedestrian Trips, by Land Use and Peak Hour

Peak Hour	Land Use							
	Residential		Office		Retail		Community Facility	
	In	Out	In	Out	In	Out	In	Out
Weekday Midday	50%	50%	50%	50%	50%	50%	50%	50%
Weekday PM	100%	0%	0%	100%	50%	50%	50%	50%

Figures M-12, M-13, and **M-14** show the peak 15-minute pedestrian volumes for each pedestrian element in the study area during the weekday midday peak hour under year 2022 future No-Action conditions. Similarly, **Figures M-15, M-16,** and **M-17** show the peak 15-minute pedestrian volumes for each pedestrian element in the study area during the weekday PM peak hour under year 2022 future No-Action conditions.

Year 2022 No-Action Levels-of-Service

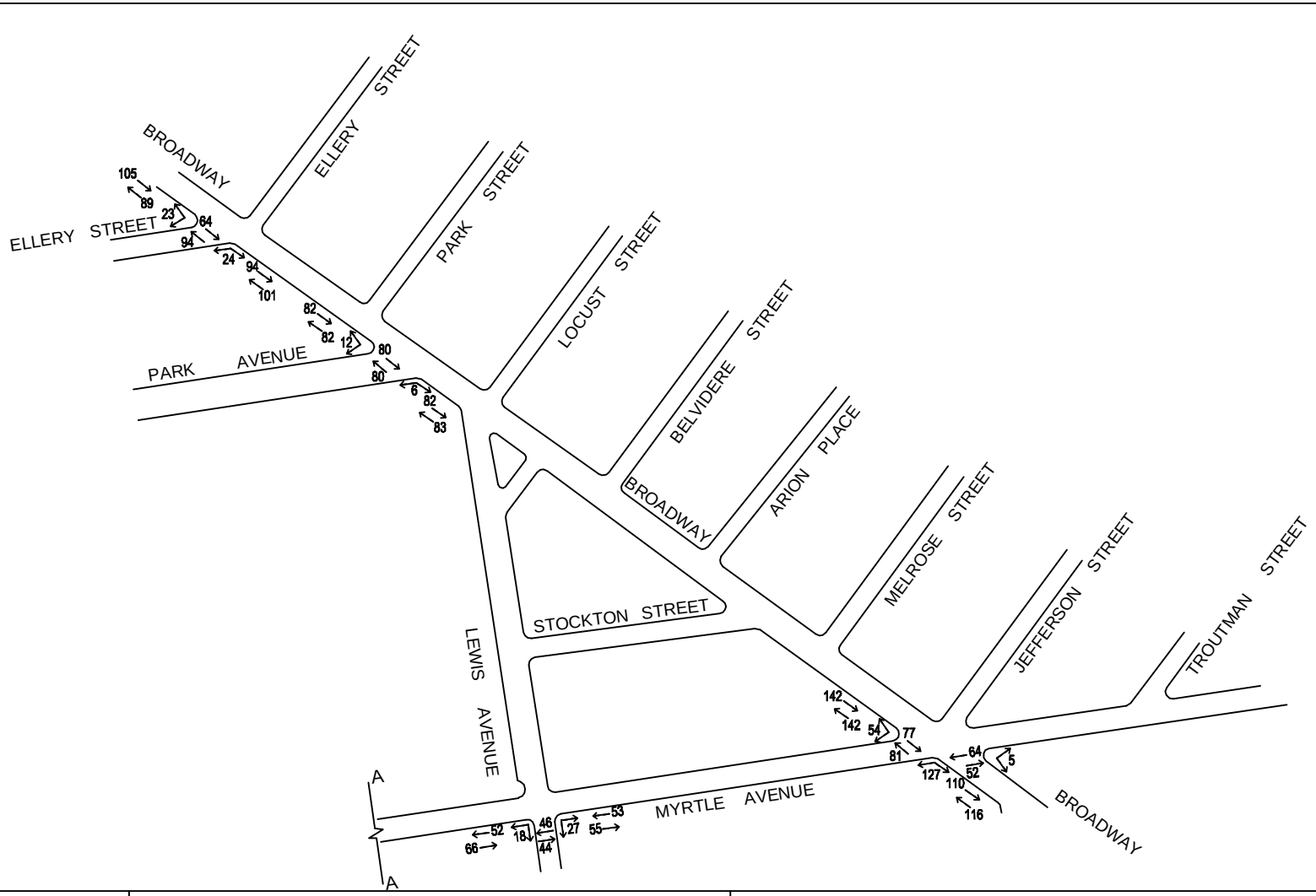
Based on the resulting volumes, pedestrian levels-of-service were recalculated for all crosswalks, corners, and sidewalks under year 2022 No-Action conditions, and are shown in **Tables M-11, M-12** and **M-13**, respectively.



AECOM

Bedford-Stuyvesant North Rezoning
Brooklyn, New York

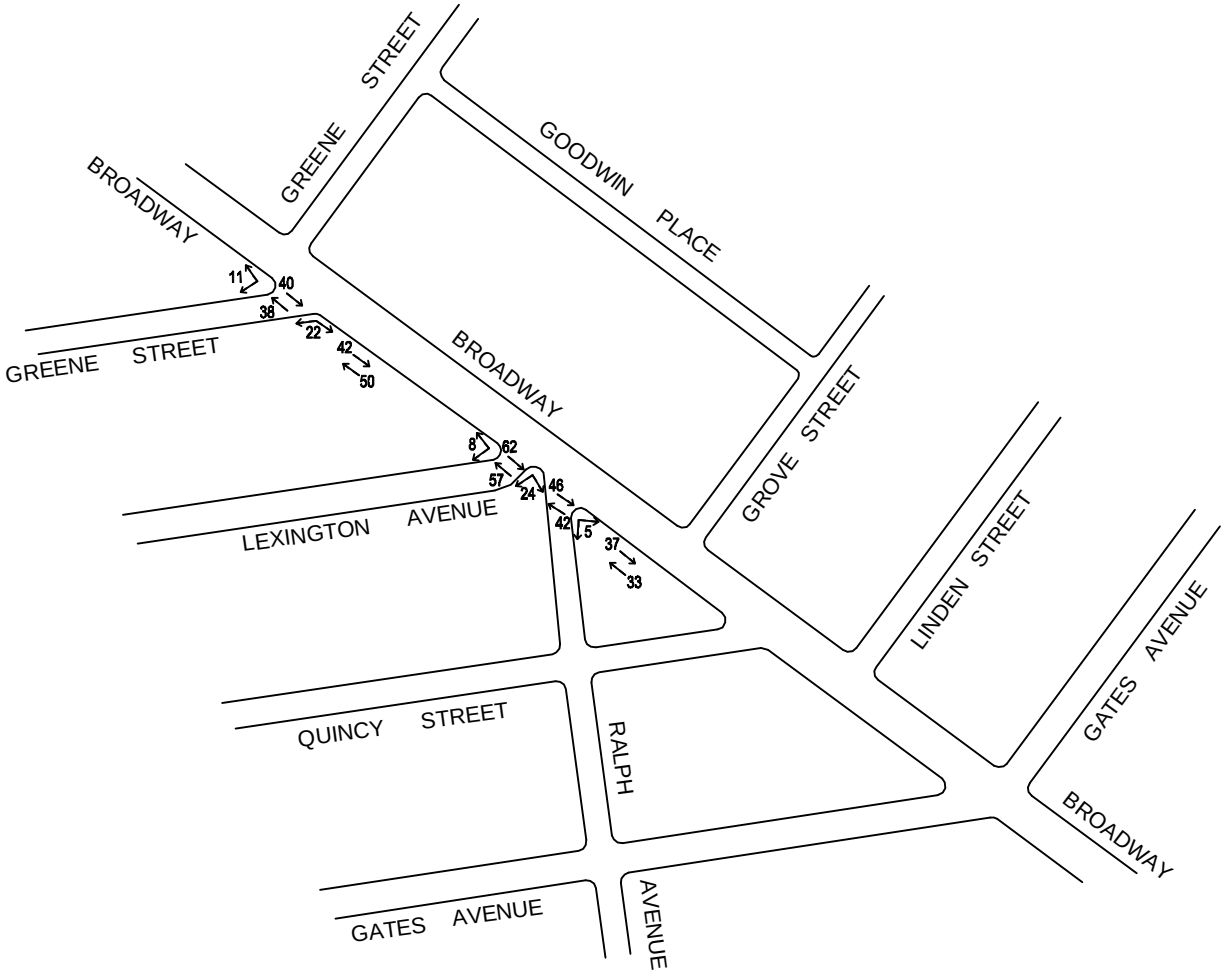
2022 No-Action Pedestrian Volumes
Weekday Midday Peak 15-Minute Period
Figure M-12



AECOM

Bedford-Stuyvesant North Rezoning
Brooklyn, New York

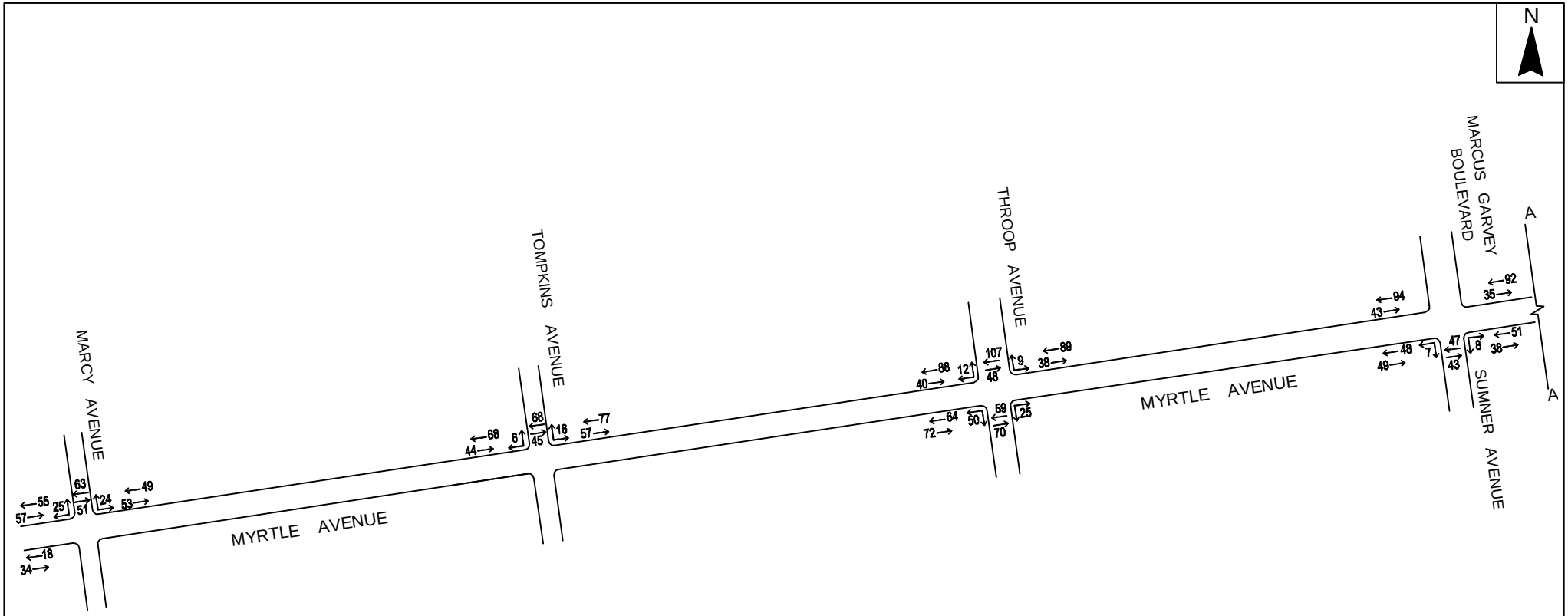
2022 No-Action Pedestrian Volumes
Weekday Midday Peak 15-Minute Period
Figure M-13



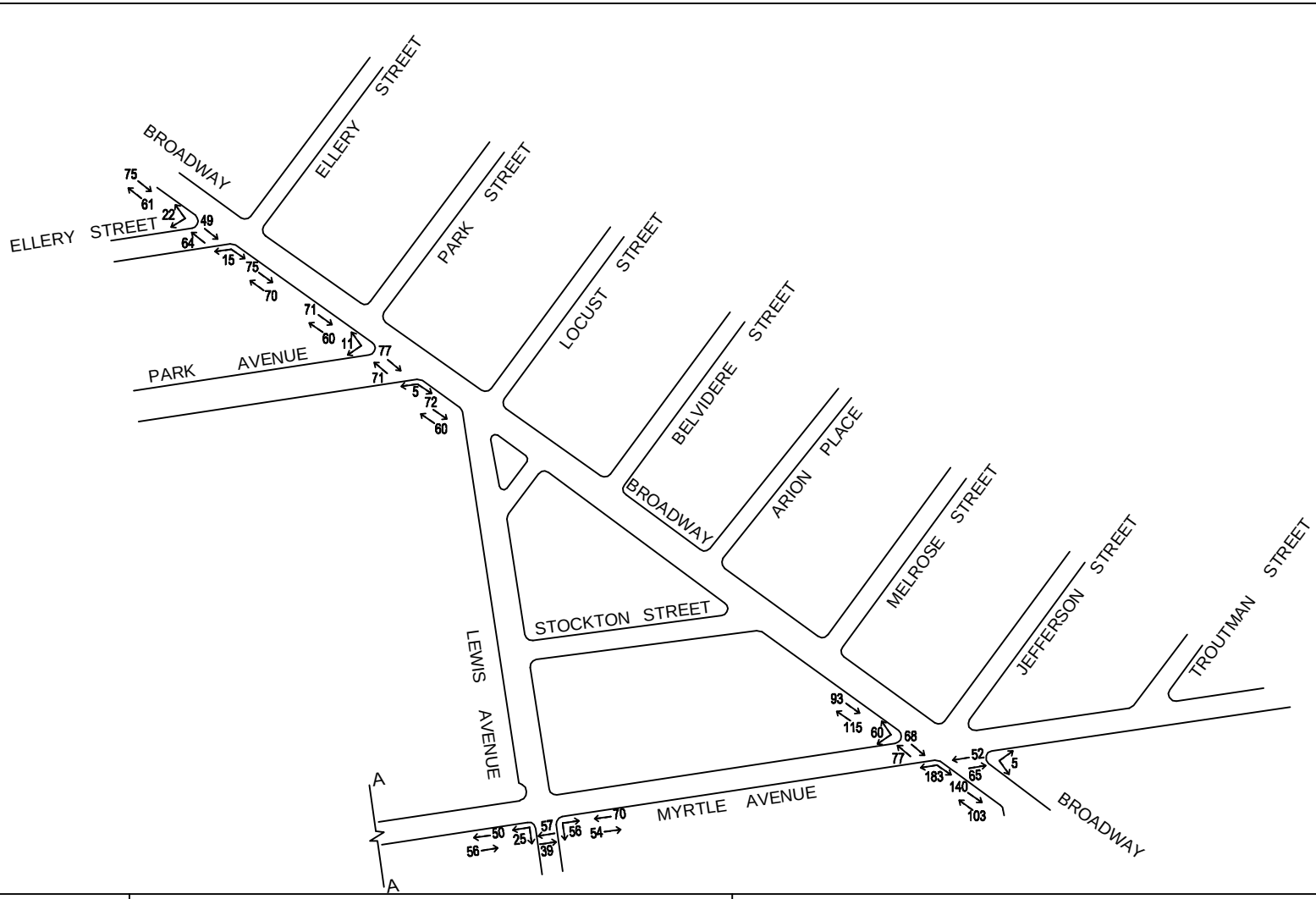
AECOM

Bedford-Stuyvesant North Rezoning
Brooklyn, New York

2022 No-Action Pedestrian Volumes
Weekday Midday Peak 15-Minute Period
Figure M-14



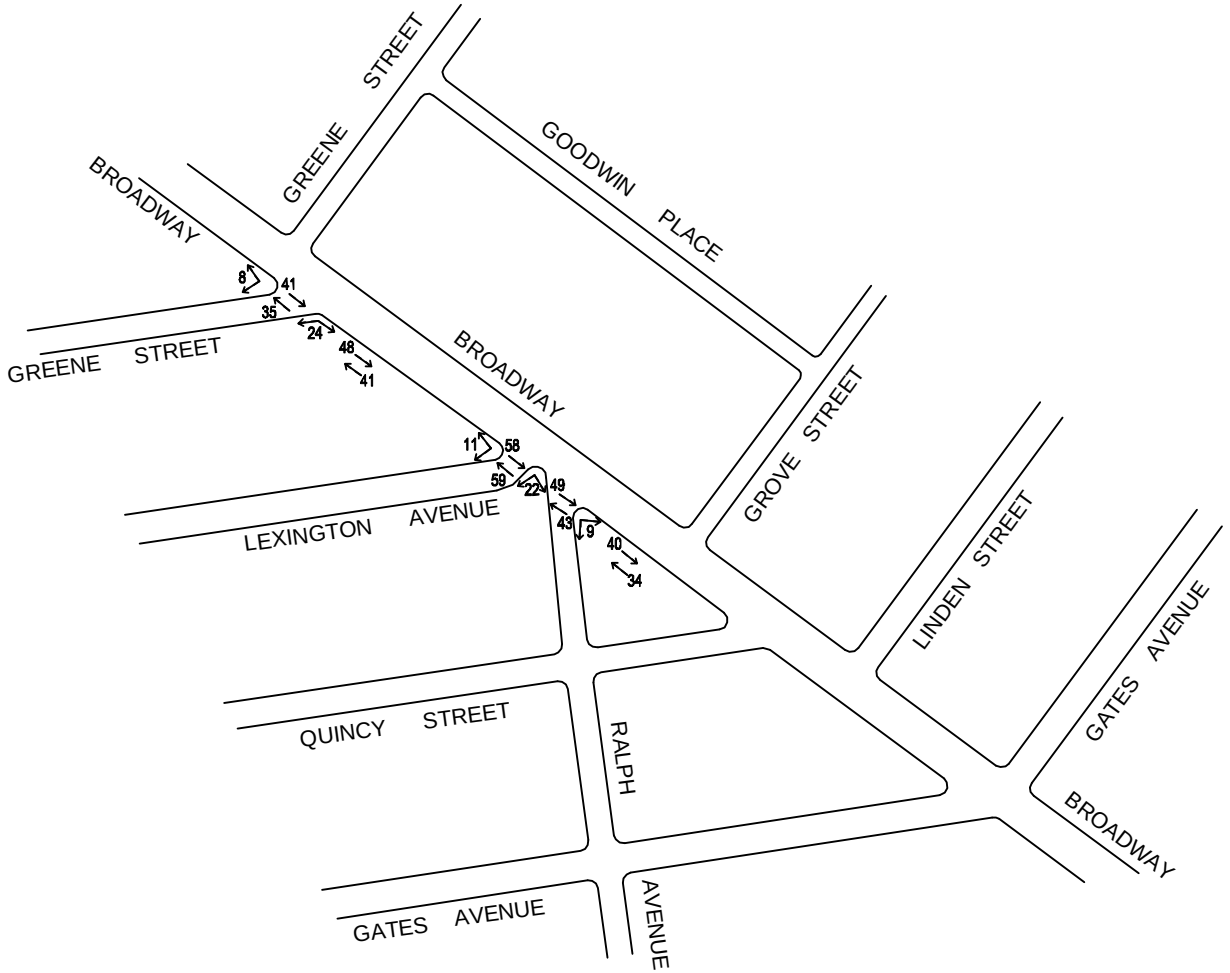
AECOM	Bedford-Stuyvesant North Rezoning Brooklyn, New York	2022 No-Action Pedestrian Volumes Weekday PM Peak 15-Minute Period Figure M-15



AECOM

Bedford-Stuyvesant North Rezoning
Brooklyn, New York

2022 No-Action Pedestrian Volumes
Weekday PM Peak 15-Minute Period
Figure M-16



AECOM

Bedford-Stuyvesant North Rezoning
Brooklyn, New York

2022 No-Action Pedestrian Volumes
Weekday PM Peak 15-Minute Period
Figure M-17

Table M-11 – Year 2022 No-Action Condition Pedestrian Crosswalk Analyses

Intersection	Cross-walk	Crosswalk Length (feet)	Crosswalk Width (feet)	Weekday Midday		Weekday PM	
				Feet^2/Ped	LOS	Feet^2/Ped	LOS
Myrtle Ave. / Marcy Ave.	North	39.7	10.2	134.8	A	76.8	A
Myrtle Ave. / Tompkins Ave.	North	32.1	15.1	220.1	A	125.2	A
Myrtle Ave. / Throop Ave.	North	45.4	15.8	127.4	A	91.8	A
	South	33.6	13.7	89.0	A	99.2	A
Myrtle Ave. / Marcus Garvey Blvd./ Sumner Ave.	South	39.8	17.5	146.7	A	167.9	A
Myrtle Ave. / Lewis Ave.	South	34.0	15.8	199.1	A	195.8	A
Broadway / Ellery St.	West	67.7	15.2	232.2	A	333.3	A
Broadway / Park Ave.	West	77.4	15.2	225.7	A	252.1	A
Broadway / Myrtle Ave.	South	67.4	19.3	97.4	A	112.3	A
	West	57.8	16.4	117.3	A	138.3	A
Broadway / Greene Ave.	West	70.0	12.4	185.9	A	208.4	A
Broadway / Lexington Ave.	West	35.4	12.9	112.4	A	120.1	A
Broadway / Ralph Ave.	South	55.2	16.8	217.1	A	219.8	A

As shown in **Table M-11**, under year 2022 No-Action conditions, all study crosswalks are projected to continue to operate acceptably at LOS "A" during both analysis peak hours.

Table M-12 – Year 2022 No-Action Condition Pedestrian Corner Analyses

Intersection	Corner	Weekday Midday		Weekday PM	
		Feet^2/Ped	LOS	Feet^2/Ped	LOS
Myrtle Ave. / Marcy Ave.	Northwest	776.4	A	415.5	A
	Northeast	367.6	A	217.3	A
Myrtle Ave. / Tompkins Ave.	Northwest	328.9	A	249.8	A
	Northeast	1,315.4	A	543.1	A
Myrtle Ave. / Throop Ave.	Northwest	303.3	A	192.7	A
	Northeast	400.7	A	243.4	A
	Southwest	230.1	A	202.1	A
	Southeast	257.7	A	212.1	A
Myrtle Ave. / Marcus Garvey Blvd./ Sumner Ave.	Southwest	271.8	A	258.1	A
	Southeast	284.8	A	274.3	A
Myrtle Ave. / Lewis Ave.	Southwest	359.7	A	324.9	A
	Southeast	457.1	A	343.6	A
Broadway / Ellery St.	Northwest	247.6	A	269.8	A
	Southwest	234.9	A	310.5	A
Broadway / Park Ave.	Northwest	179.1	A	149.4	A
	Southwest	267.5	A	258.6	A
Broadway / Myrtle Ave.	Northwest	210.4	A	175.2	A
	Southwest	165.1	A	147.0	A
	Southeast	344.8	A	310.6	A
Broadway / Greene Ave.	Northwest	528.7	A	471.0	A
	Southwest	464.8	A	417.4	A
Broadway / Lexington Ave.	Northwest	369.2	A	342.2	A
	Southwest	1,550.6	A	1,451,3	A
Broadway / Ralph Ave.	Southwest	491.0	A	433.0	A
	Southeast	540.7	A	518.0	A

As shown in **Table M-12**, under year 2022 No-Action conditions, all study corners are projected to continue to operate acceptably at LOS "A" during both analysis peak hours.

Table M-13 – Year 2022 No-Action Condition Pedestrian Sidewalk Analyses

Intersection	Corner	Sidewalk	Weekday Midday		Weekday PM	
			Ped Flow Rate (ped/min/ft)	LOS	Ped Flow Rate (ped/min/ft)	LOS
Myrtle Ave. / Marcy Ave.	NE	E/W	0.5	A	0.8	A
	NW	E/W	0.5	A	0.9	A
	SW	E/W	0.3	A	0.4	A
Myrtle Ave. / Tompkins Ave.	NE	E/W	0.5	A	0.8	A
	NW	E/W	0.9	A	1.6	A
Myrtle Ave. / Throop Ave.	NE	E/W	1.0	A	1.2	A
	NW	E/W	0.4	A	0.7	A
	SW	E/W	1.1	A	0.9	A
Myrtle Ave. / Marcus Garvey Blvd./Sumner Ave.	NE	E/W	0.6	A	0.7	A
	NW	E/W	0.6	A	0.8	A
	SE	E/W	0.4	A	0.4	A
	SW	E/W	1.5	A	1.5	A
Myrtle Ave. / Lewis Ave.	SE	E/W	0.6	A	0.7	A
	SW	E/W	1.1	A	1.0	A
Broadway / Ellery St.	NW	N/S	1.4	A	1.0	A
	SW	N/S	1.4	A	1.0	A
Broadway / Park Ave.	NW	N/S	1.2	A	1.0	A
	SW	N/S	0.8	A	0.7	A
Broadway / Myrtle Ave.	NW	N/S	1.9	A	1.4	A
	SW	N/S	2.0	A	2.1	A
Broadway / Greene Ave	SW	N/S	0.9	A	0.8	A
Broadway / Ralph Ave.	SE	E/W	0.4	A	0.4	A

Notes:
E/W = East-West sidewalk
N/S = North-South sidewalk

As shown in **Table M-13**, under year 2022 No-Action conditions, all study sidewalks are projected to continue to operate acceptably at LOS "A" during both analysis peak hours.

As shown in **Tables M-11, M-12,** and **M-13**, all crosswalks, corners, and sidewalks are projected to continue to operate at an acceptable LOS "A" during the weekday midday and PM peak hours under the No-Action condition.

Year 2022 With-Action Conditions

Projected Pedestrian Volumes: With-Action Condition

The future With-Action condition pedestrian analysis assumes a net change in pedestrian activity within the study area associated with future development of the projected development sites in Clusters 2, 4, and 5 in accordance with the *proposed* zoning. The With-Action pedestrian trip increments generated to and from the projected development sites in Clusters 2, 4 and 5 (i.e., Sites F, G, H, I, J, K, O, P, Q, R, S, T, U, V, Q, X, Y, Z, AA, BB, and CC), were assigned to the sidewalks, crosswalks, and corners on a site-by-site basis and by individual mode (i.e., subway, bus, and walk) using the following assumptions:

- **Subway** – For pedestrians in Cluster 2, it was projected that 10 percent would travel to/from the "G" line and 90 percent would travel to/from the "J", "M" and "Z" lines (given the higher service frequency and greater service area for the latter subway lines). For pedestrians in Cluster 4, it was assumed that 10 percent would travel to/from the "G" line and 90 percent to/from the "J", "M" and "Z" lines, except for sites R, S, T and W that were all assigned to the J/M/Z station at Myrtle Avenue. For pedestrians in Cluster 5, it was assumed that 100 percent would travel to/from the "J" and/or "Z" lines via the stations along Broadway at Gates Avenue and Kosciusko Street.

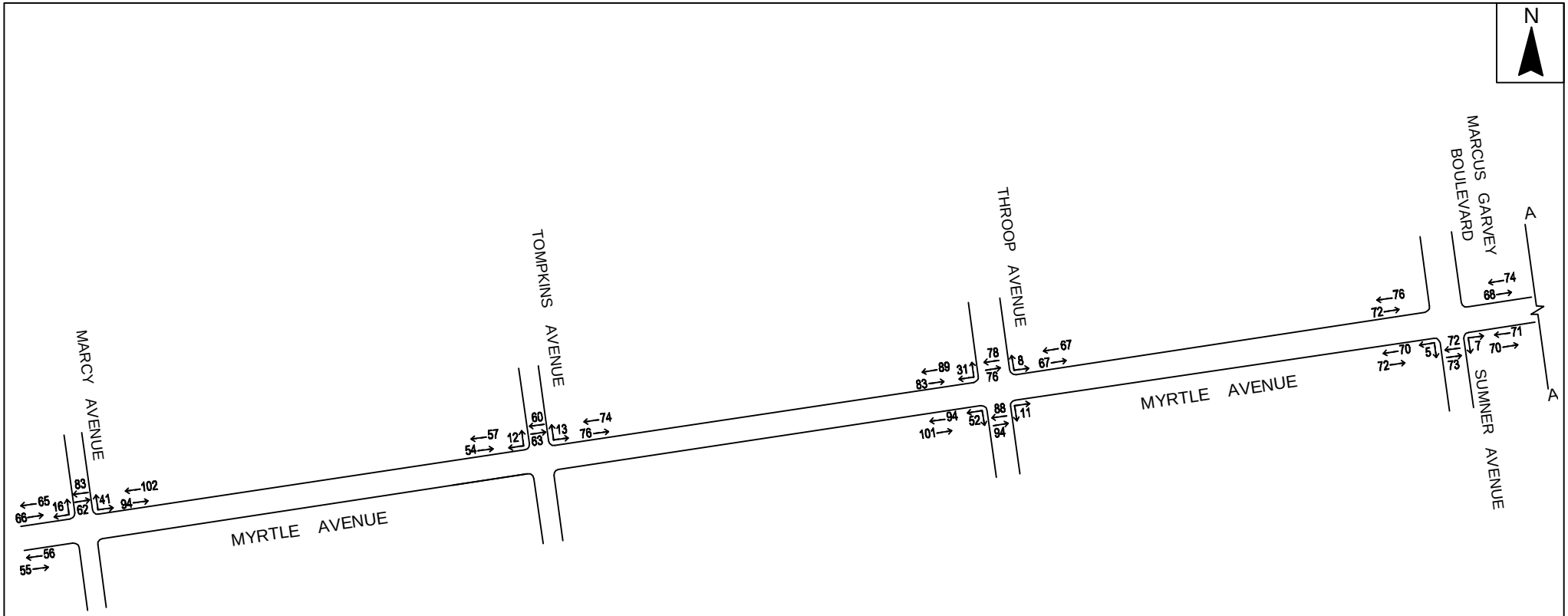
- **Bus** – Bus riders were projected to travel to/from the bus stop nearest to each development site.

- **Walk** – The pedestrian trips generated to and from each projected development site were assumed to travel within a ¼-mile radius of each site. The assignment of walk trips was balanced to the north, south, east and west of each site (i.e., 25 percent to/from north of each site, 25 percent to/from the south, 25 percent to/from the east, and 25 percent to/from the west).

The year 2022 With-Action pedestrian volumes were then calculated by adding the projected incremental pedestrian volume assignments associated with the With-Action condition to the projected year 2022 No-Action pedestrian volumes described previously. **Figures M-18, M-19,** and **M-20** show the peak 15-minute pedestrian volumes for each pedestrian element in the study area during the weekday midday peak hour under year 2022 future With-Action conditions. Similarly, **Figures M-21, M-22,** and **M-23** show the peak 15-minute pedestrian volumes for each pedestrian element in the study area during the weekday PM peak hour under year 2022 future With-Action conditions.

Year 2022 With-Action Levels-of-Service

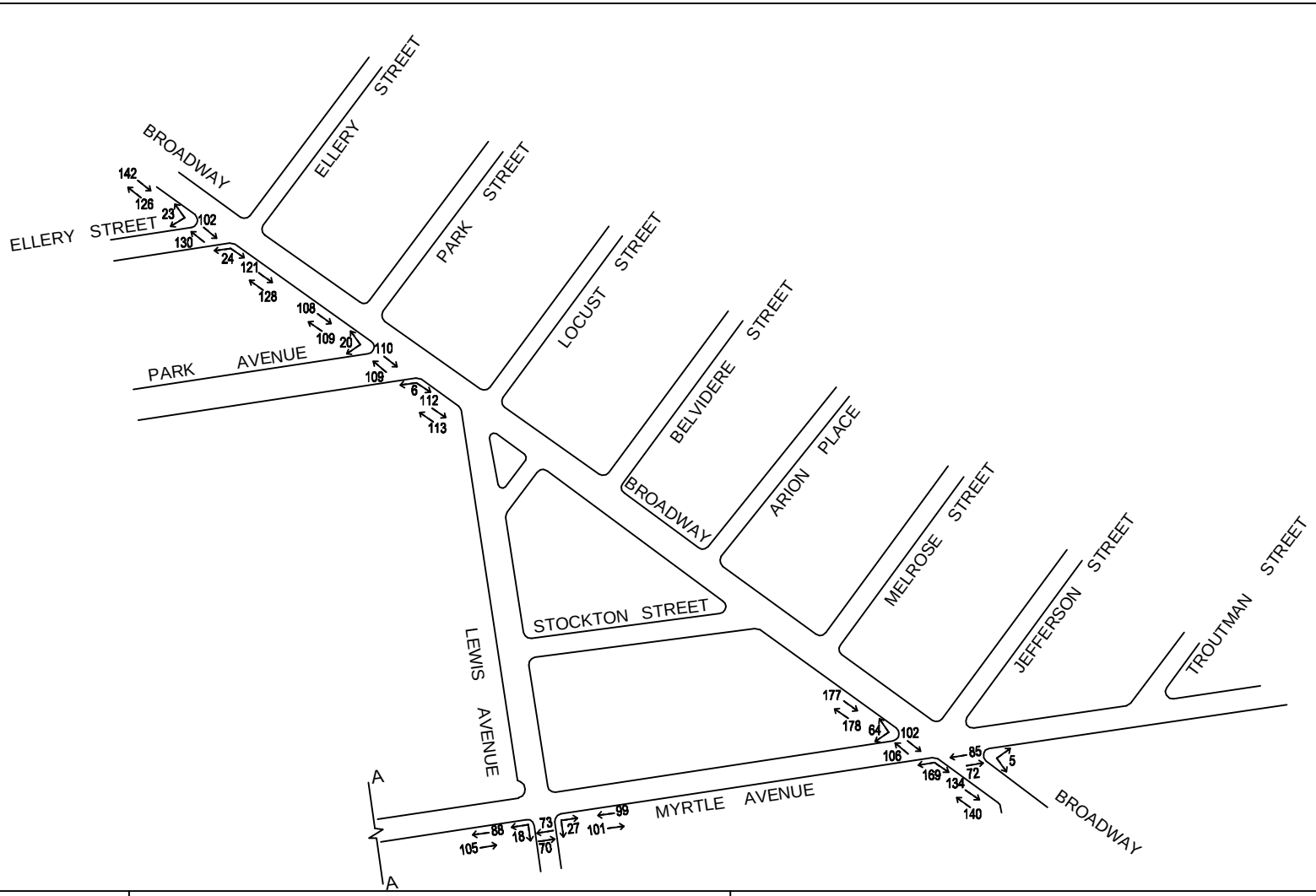
Based on the resulting year 2022 With-Action pedestrian volumes, pedestrian levels-of-service were recalculated for all crosswalks, corners, and sidewalks under the With-Action condition, and are shown in **Tables M-14, M-15,** and **M-16**, respectively.



AECOM

Bedford-Stuyvesant North Rezoning
Brooklyn, New York

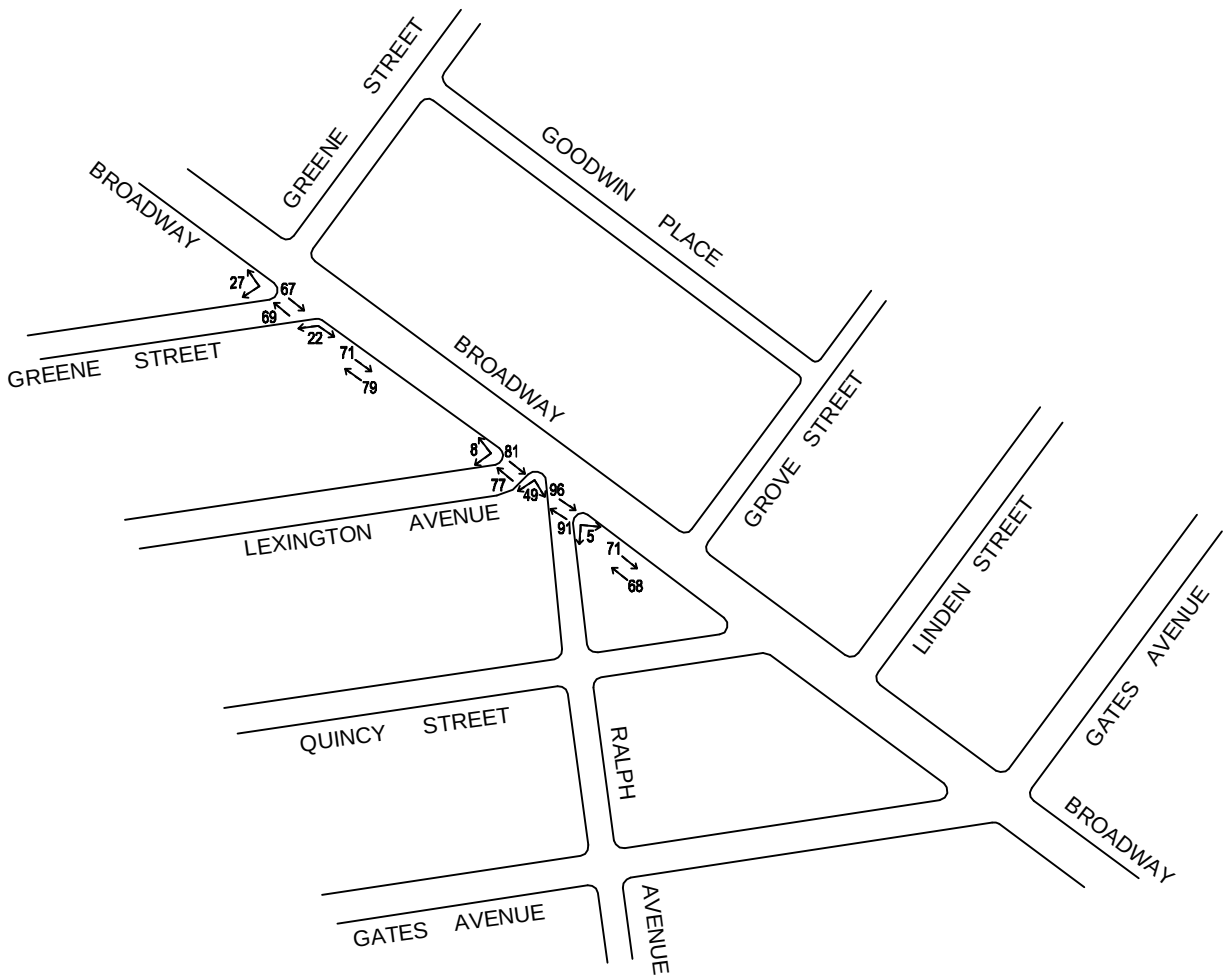
2022 With-Action Pedestrian Volumes
Weekday Midday Peak 15-Minute Period
Figure M-18



AECOM

Bedford-Stuyvesant North Rezoning
Brooklyn, New York

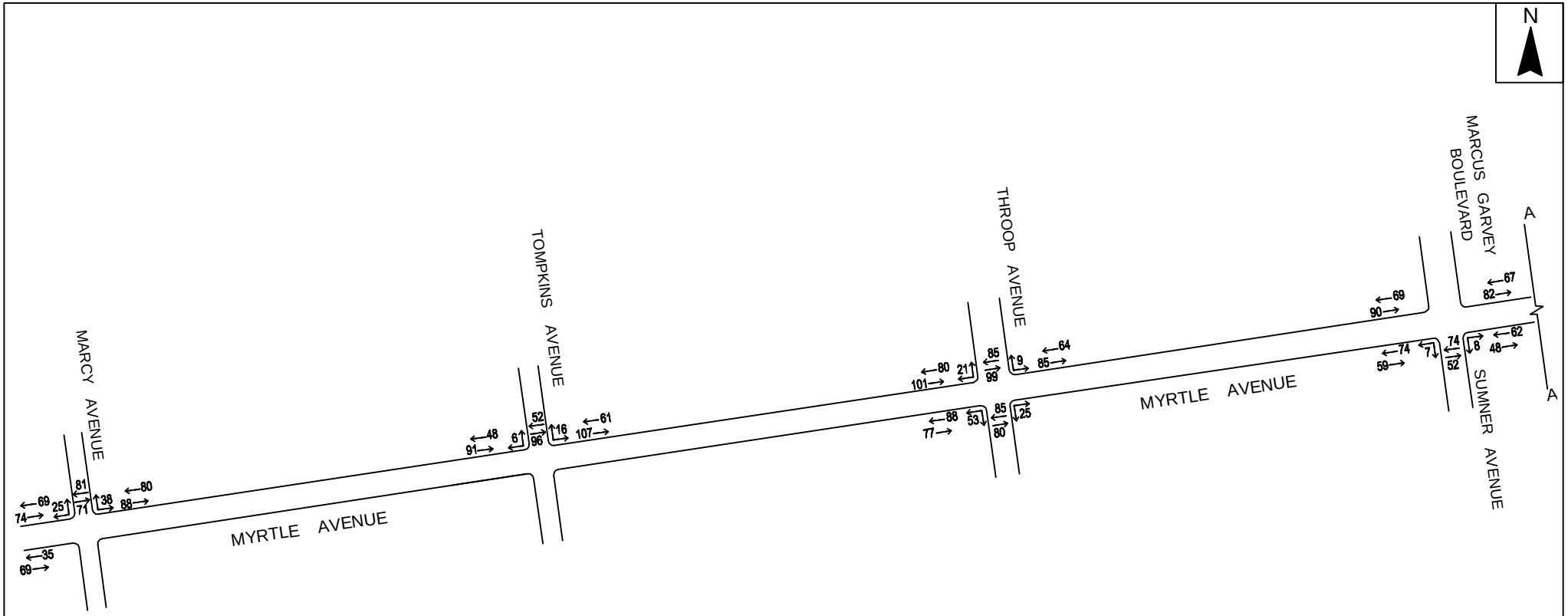
2022 With-Action Pedestrian Volumes
Weekday Midday Peak 15-Minute Period
Figure M-19



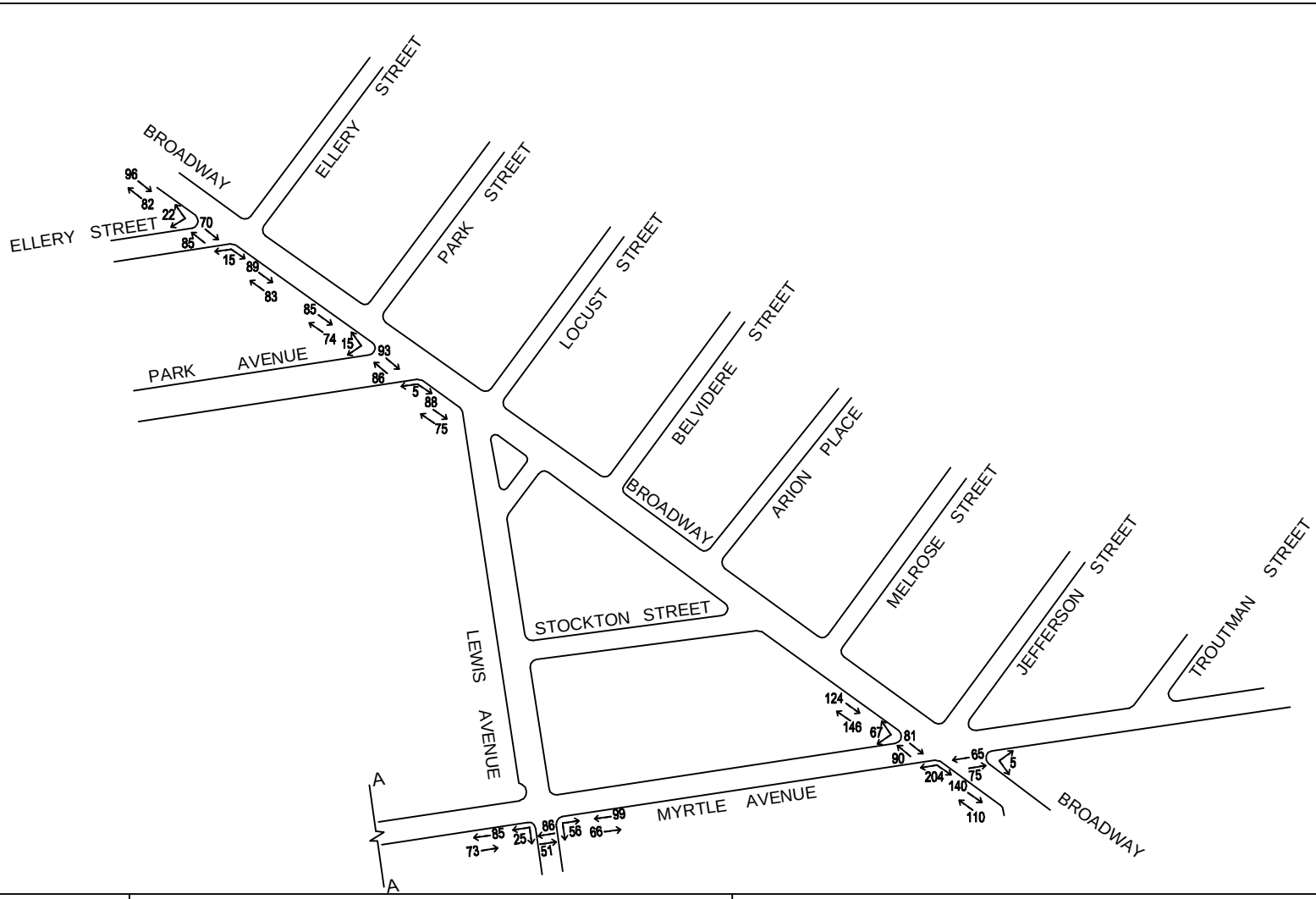
AECOM

Bedford-Stuyvesant North Rezoning
Brooklyn, New York

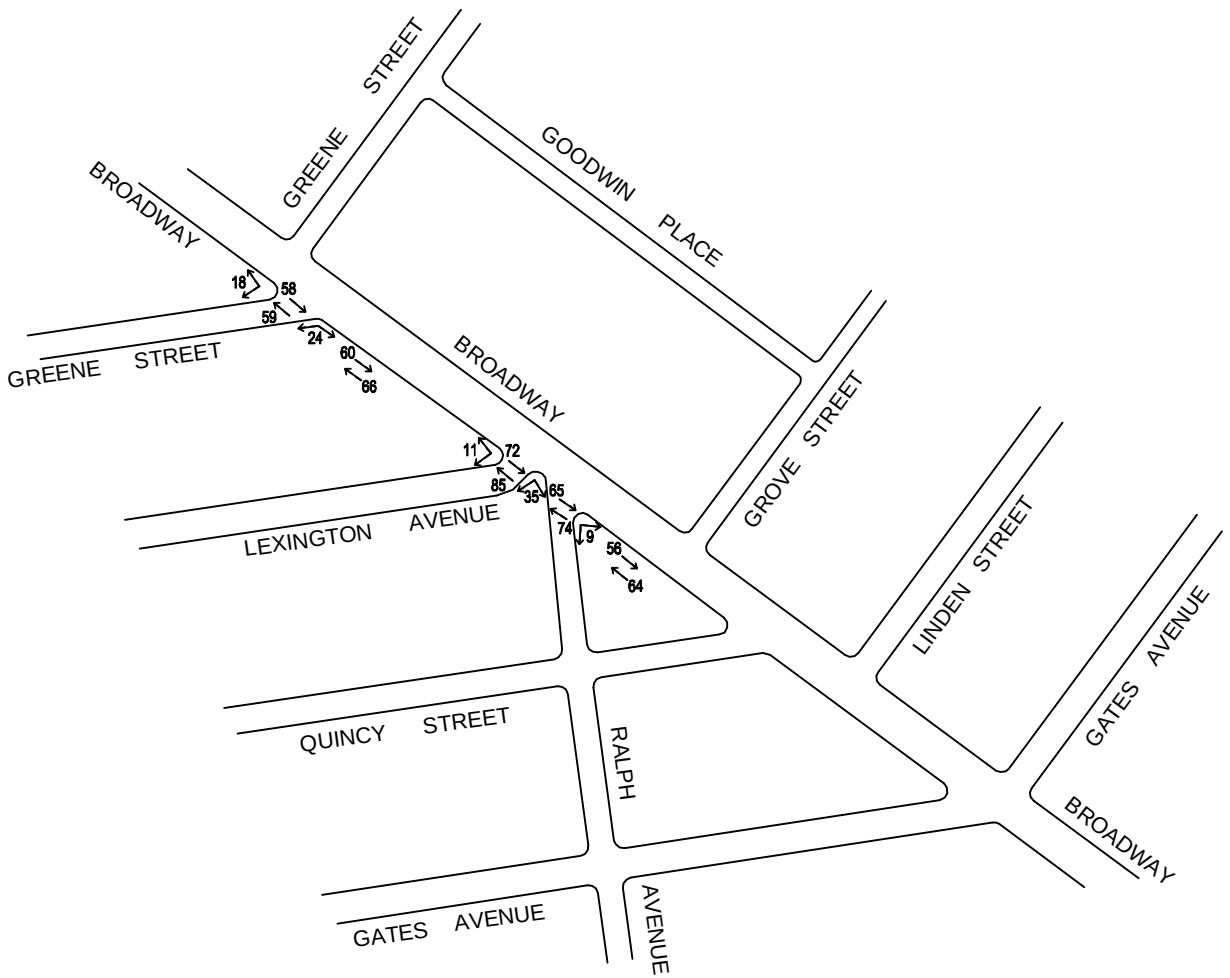
2022 With-Action Pedestrian Volumes
Weekday Midday Peak 15-Minute Period
Figure M-20



AECOM	Bedford-Stuyvesant North Rezoning Brooklyn, New York	2022 With-Action Pedestrian Volumes Weekday PM Peak 15-Minute Period Figure M-21



AECOM	Bedford-Stuyvesant North Rezoning Brooklyn, New York	2022 With-Action Pedestrian Volumes Weekday PM Peak 15-Minute Period Figure M-22



AECOM

Bedford-Stuyvesant North Rezoning
Brooklyn, New York

2022 With-Action Pedestrian Volumes
Weekday PM Peak 15-Minute Period
Figure M-23

Table M-14 – Year 2022 With-Action Condition Pedestrian Crosswalk Analyses

Intersection	Cross-walk	Crosswalk Length (feet)	Crosswalk Width (feet)	Weekday Midday		Weekday PM	
				Feet^2/Ped	LOS	Feet^2/Ped	LOS
Myrtle Ave. / Marcy Ave.	North	39.7	10.2	56.5	B	56.5	B
Myrtle Ave. / Tompkins Ave.	North	32.1	15.1	107.5	A	91.7	A
Myrtle Ave. / Throop Ave.	North	45.4	15.8	85.0	A	74.8	A
	South	33.6	13.7	65.4	A	75.1	A
Myrtle Ave. / Marcus Garvey Blvd./ Sumner Ave.	South	39.8	17.5	101.9	A	118.3	A
Myrtle Ave. / Lewis Ave.	South	34.0	15.8	122.9	A	134.0	A
Broadway / Ellery St.	West	67.7	15.2	157.9	A	244.4	A
Broadway / Park Ave.	West	77.4	15.2	164.2	A	208.3	A
Broadway / Myrtle Ave.	South	67.4	19.3	71.2	A	93.5	A
	West	57.8	16.4	89.0	A	116.8	A
Broadway / Greene Ave.	West	70.0	12.4	104.7	A	132.9	A
Broadway / Lexington Ave.	West	35.4	12.9	69.9	A	88.4	A
Broadway / Ralph Ave.	South	55.2	16.8	120.7	A	144.1	A

As shown in **Table M-14**, under year 2022 With-Action conditions, all study crosswalks are projected to continue to operate acceptably at LOS "A" during both analysis peak hours, except for the north crosswalk at the Myrtle Avenue / Marcy Avenue intersection which is projected to operate acceptably at LOS "B" during the weekday midday and weekday PM peak hours.

Table M-15 – Year 2022 With-Action Condition Pedestrian Corner Analyses

Intersection	Corner	Weekday Midday		Weekday PM	
		Feet^2/Ped	LOS	Feet^2/Ped	LOS
Myrtle Ave. / Marcy Ave.	Northwest	480.8	A	360.2	A
	Northeast	185.0	A	169.7	A
Myrtle Ave. / Tompkins Ave.	Northwest	235.8	A	210.6	A
	Northeast	718.7	A	457.1	A
Myrtle Ave. / Throop Ave.	Northwest	205.3	A	161.3	A
	Northeast	289.1	A	215.9	A
	Southwest	184.2	A	172.4	A
	Southeast	200.6	A	176.9	A
Myrtle Ave. / Marcus Garvey Blvd./ Sumner Ave.	Southwest	208.0	A	208.2	A
	Southeast	221.9	A	222.2	A
Myrtle Ave. / Lewis Ave.	Southwest	260.2	A	256.7	A
	Southeast	330.3	A	280.2	A
Broadway / Ellery St.	Northwest	173.0	A	212.3	A
	Southwest	165.7	A	238.6	A
Broadway / Park Ave.	Northwest	126.7	A	124.1	A
	Southwest	193.9	A	215.3	A
Broadway / Myrtle Ave.	Northwest	176.7	A	160.9	A
	Southwest	123.0	A	126.4	A
	Southeast	279.4	A	277.8	A
Broadway / Greene Ave.	Northwest	304.1	A	322.3	A
	Southwest	309.1	A	314.3	A
Broadway / Lexington Ave.	Northwest	246.1	A	268.6	A
	Southwest	987.0	A	1,111.5	A
Broadway / Ralph Ave.	Southwest	287.4	A	309.2	A
	Southeast	342.7	A	375.6	A

As shown in **Table M-15**, under year 2022 With-Action conditions, all study corners are projected to continue to operate at an acceptable LOS "A" during both analysis peak hours.

Table M-16 – Year 2022 With-Action Condition Pedestrian Sidewalk Analyses

Intersection	Corner	Sidewalk	Weekday Midday		Weekday PM	
			Ped Flow Rate (ped/min/ft)	LOS	Ped Flow Rate (ped/min/ft)	LOS
Myrtle Ave. / Marcy Ave.	NE	E/W	1.6	A	1.4	A
	NW	E/W	1.0	A	1.1	A
	SW	E/W	0.8	A	0.7	A
Myrtle Ave. / Tompkins Ave.	NE	E/W	0.8	A	1.0	A
	NW	E/W	1.5	A	1.9	A
Myrtle Ave. / Throop Ave.	NE	E/W	1.3	A	1.5	A
	NW	E/W	1.0	A	1.0	A
	SW	E/W	1.3	A	1.1	A
Myrtle Ave. / Marcus Garvey Blvd./Sumner Ave.	NE	E/W	0.8	A	0.8	A
	NW	E/W	0.9	A	0.9	A
	SE	E/W	0.6	A	0.5	A
	SW	E/W	2.2	A	2.1	A
Myrtle Ave. / Lewis Ave.	SE	E/W	1.1	A	0.9	A
	SW	E/W	1.8	A	1.5	A
Broadway / Ellery St.	NW	N/S	1.9	A	1.3	A
	SW	N/S	1.8	A	1.2	A
Broadway / Park Ave.	NW	N/S	1.6	A	1.2	A
	SW	N/S	1.2	A	0.8	A
Broadway / Myrtle Ave.	NW	N/S	2.3	A	1.8	A
	SW	N/S	2.4	A	2.2	A
Broadway / Greene Ave	SW	N/S	1.4	A	1.2	A
Broadway / Ralph Ave.	SE	E/W	0.7	A	0.6	A

Notes:
E/W = East-West sidewalk
N/S = North-South sidewalk

As shown in **Table M-16**, under year 2022 No-Action conditions, all study sidewalks are projected to continue to operate at LOS "A" during both analysis peak hours.

Assessment of Potential Pedestrian Impacts

The assessment of potential pedestrian impacts is based in part on whether the pedestrian element being analyzed is part of a Central Business District (CBD) and, for sidewalks, whether the pedestrian flow is platooned or not. This area of Bedford-Stuyvesant is considered a non-CBD location and, based on field observations, generally characterized as operating under non-platoon flow conditions, given that there are no major pedestrian generators in the area.

For crosswalks and corners in non-CBD locations: According to the guidelines established in the *CEQR Technical Manual*, average pedestrian space under the With-Action condition deteriorating within an acceptable level-of-service (LOS "C" or better) is generally not considered a significant impact. If the pedestrian space under the With-Action condition deteriorates to LOS "D" or worse, then the determination of whether the impact is considered significant is based on a sliding scale that varies with the No-Action pedestrian space.

For sidewalks with non-platoon flow in non-CBD locations: According to the guidelines established in the *CEQR Technical Manual*, pedestrian flow rates under With-Action condition deteriorating within an acceptable level-of-service (LOS "C" or better) should generally not be considered a significant impact. If the pedestrian flow rate under the With-Action condition deteriorates to LOS "D" or worse, then the determination of whether the impact is considered significant is based on a sliding scale that varies with the No-Action pedestrian flow rates.

As shown in **Tables M-14 through M-16**, under the proposed future With-Action condition, all of the pedestrian elements operate better than mid-LOS "D" (as defined in the paragraphs above for corners, crosswalks, and sidewalks). Therefore, no significant adverse pedestrian impacts are projected to occur at the study intersections during the weekday midday and weekday PM peak hours according to the *CEQR* criteria.

TRANSIT

The subway transit mode was screened out for detailed analysis, while the bus transit analysis was not screened out and a detailed analysis was conducted. The following sections describe the methodologies utilized to support these analyses.

Overview

Public transportation service in the Bedford-Stuyvesant neighborhood is provided by the New York City Transit (NYCT), an agency within the Metropolitan Transportation Authority (MTA). NYCT operates local and limited bus service, as well as subway service within the study area. The study area is well-served by bus and subway services with ten bus routes serving the study area and four subway routes. The four subway routes serving the study area are the G train, the J train, the M train, and the Z train. The ten bus routes that serve the study are the B15, B38, B43, B44, B46, B47, B48, B52, B54, and B57. The following is a description of each of these transit services.

Subway Routes

G Train

The G train operates along the Brooklyn/Queens crosstown line. On this line's southern end, the G train operates along the Culver line along with the F Train. The G provides local service only. This subway operates between Court Square in Long Island City, Queens and Church Avenue in Kensington, Brooklyn. Service on the G train operates every 6 to 8 minutes during the weekday peak periods, every 8 to 10 minutes during the weekday middays, and every 10 minutes on weekends.

The G train operates beneath Marcy Avenue and Lafayette Avenue within the study area. The G train serves four stations within the study area: Flushing Avenue, Myrtle-Willoughby Avenues,

Bedford-Nostrand Avenues, and Classon Avenue. It is also the only full-length subway route in the NYCT system that does not serve Manhattan.

J/Z Trains

The J and Z trains operate along the Broadway/Jamaica Avenue lines through Brooklyn and Queens, and along the Nassau Street line in Lower Manhattan. These routes operate between Parsons/Archer in Jamaica, Queens and Whitehall Street in Manhattan. Both the J and Z trains operate along the same route. The Z train is a weekday-peak-hour-only schedule variation of the J train that allows for faster service along the Broadway/Jamaica Avenue line by allowing both the J and Z trains to provide a skip-stop station stopping pattern. The J and Z combined operate every 5 minutes during weekday peak periods, every 10 minutes during weekday and Saturday midday periods, and every 12 minutes on Sundays.

The J and Z operate along an elevated structure above Broadway within the study area. The J and Z make four stops within the study area at Gates Avenue, Kosciuszko Street, Myrtle Avenue, and Flushing Avenue.

M Train

The M train operates along the Broadway/Jamaica Avenue line in Brooklyn, the Myrtle Avenue line in Brooklyn and Queens, the Sixth Avenue line in Manhattan, and the Queens Boulevard line in Queens. The M train operates between Metropolitan Avenue in Middle Village, Queens and 71st Street/Continental Avenue in Forest Hills, Queens on weekdays, while on weekends it operates as a shuttle between Metropolitan Avenue in Middle Village, Queens and the Myrtle Avenue station. On late nights and weekends, the M train operates as a shuttle between Metropolitan Avenue in Queens and the Myrtle Avenue J station within the study area. The M train operates every 7 to 10 minutes during the weekday peak periods and every 10 minutes at all other times.

The M train provides local service throughout its route. The M train operates along an elevated structure above Broadway within the study area west of Myrtle Avenue. At Myrtle Avenue, the M train branches onto an elevated structure above Myrtle Avenue and leaves the study area. The M train makes two stops within the study area: at Myrtle Avenue and at Flushing Avenue.

Subway Trip Generation Screening

Table M-17 shows the projected net new incremental subway trips during each of the four analysis peak hours. As shown in **Table M-17**, each of the five clusters is projected to generate fewer than 200 net new incremental subway trips during each of the four analysis peak hours. During the Saturday midday peak hour, the *combined* total number of trips from all five clusters exceeds the 200-trip threshold. However, because the background subway ridership during the Saturday midday peak hour is considerably lower than ridership during weekday peak hours, and the additional demand is expected to be accommodated adequately among multiple subway lines in the study area, no further subway analysis is warranted in accordance with the *CEQR Technical Manual* guidelines.

Table M-17 – Projected Subway-Trip Increments
(With-Action Vehicle-Trips minus No-Action Vehicle-Trips)

Cluster	Peak Hour Time Period			
	Weekday AM	Weekday Midday	Weekday PM	Saturday Midday
1	-109	-68	-101	22
2	48	76	99	141
3	-11	15	-4	20
4	-22	20	23	66
5	3	-1	26	32
TOTAL =	**-91**	**42**	**43**	**281**

Note: All subway trips rounded to the nearest one (1) trip.

Bus Routes

Route B15

The B15 provides local bus service between the Bedford-Stuyvesant neighborhood and the John F. Kennedy (JFK) International Airport. This route operates primarily along Conduit Boulevard, New Lots Avenue, and East 98th Street. This route serves the Bedford-Stuyvesant, Crown Heights, East Flatbush, Brownsville, Ocean Hill, East New York, and Spring Creek neighborhoods in Brooklyn, and the Howard Beach and Ozone Park neighborhoods in Queens. The B15 provides service to JFK Airport and the Brooklyn General Mail facility.

Within the study area this route operates along Lewis Avenue in the northbound direction and Marcus Garvey Boulevard in the southbound direction. The terminal for this route is located near the Myrtle Avenue subway station along the Broadway line. Bus stops are located approximately every two blocks within the study area.

Service along this route is available 24 hours a day, on all days of the week. Service operates roughly every 10 to 15 minutes during peak commute periods and approximately every 7 to 10 minutes during off-peak periods. During overnight periods service operates every 45 minutes.

Route B38

The route B38 provides local and limited-stop bus service between downtown Brooklyn and Ridgewood, Queens. This route operates primarily along DeKalb Avenue and Lafayette Avenue through Brooklyn and the study area. This route provides service to downtown Brooklyn, Fort Greene, Bedford-Stuyvesant, Bushwick, and Ridgewood in Queens. Bus stops are located approximately every two blocks within the study area. Limited-stop buses stop at only select bus stops. The limited-stop bus stops within the study area are at Classon Avenue, Bedford Avenue, Nostrand Avenue, Marcus Garvey Boulevard, Lewis Avenue, and Broadway along both Laffayette Avenue and DeKalb Avenue.

Local bus service on the B38 is available 24 hours a day, seven days a week, while limited-stop bus service is provided during weekday peak periods and midday periods. Weekday peak and midday service operates approximately every 7 to 10 minutes. On Saturdays, daytime service operates approximately every 12 minutes, with 15-minute service provided on Sundays. Overnight service operates once per hour.

Route B43

Route B43 provides local bus service between the Greenpoint and Prospect-Lefferts Gardens neighborhoods. This route operates primarily along the Brooklyn Avenue/Tompkins Avenue and Kingston Avenue/Throop Avenue corridors. This route serves the following Brooklyn neighborhoods: Prospect-Lefferts Gardens, Crown Heights, Bedford-Stuyvesant, Williamsburg, and Greenpoint. Bus stops are located approximately every two blocks within the study area.

Service along this route operates 24 hours a day, seven days a week. Ten-minute service is provided during peak commuting times on weekdays, with 15-minute service provided on weekday during the midday period. Fifteen-minute service is provided during the day on Saturday and 20-minute service is provided on Sunday. Overnight service operates every 45 minutes.

Route B44

Route B44 provides local and limited-stop bus service primarily along the Nostrand Avenue corridor. This route operates between Williamsburg and Sheepshead Bay, and serves the following neighborhoods: Williamsburg, Bedford-Stuyvesant, Crown Heights, Flatbush, Midwood, and Sheepshead Bay. This route is planned to have Select Bus Service (SBS) Bus Rapid Transit service in the future. This will convert the limited-stop bus route to a bus rapid transit service with additional capacity provided by articulated buses. Bus stops are roughly every two blocks. The B44 limited stops only at select bus stops within the study area along Nostrand and Bedford Avenues. The stops are located at Gates Avenue, Dekalb Avenue (southbound only), Lafayette Avenue (northbound only), Myrtle Avenue, and Flushing Avenue. The future SBS service that will replace the limited stop bus service will not stop at the Myrtle Avenue stop.

Local bus service on the B44 operates 24 hours a day, seven days a week. Limited-stop bus service operates seven days a week, between 6:00 am and 9:30 pm on weekdays and Saturdays, and between 8:30 am and 8:30 pm on Sundays. During most time periods, the local B44 operates approximately every 10 minutes. During overnight periods, 60-minute service is provided on the B44. During times that limited-stop bus service is in operation, the limited-stop service provides service every 6 to 15 minutes.

Route B46

Route B46 provides both local and limited-stop bus service along the Utica Avenue and Malcolm X Boulevard corridors in Brooklyn. This route operates between the Marine Park and Williamsburg neighborhoods. Other neighborhoods served by this route include Williamsburg,

Bushwick, Bedford-Stuyvesant, Crown Heights, East Flatbush, Flatlands, and Marine Park. Bus stops are located approximately every two blocks within the study area. The B46 limited-stop bus route serves all the local bus stops along Broadway, and select stops along Malcolm X Boulevard. The Malcolm X Boulevard stops within the study area include DeKalb Avenue and Gates Avenue in the northbound direction and Quincy Street in the southbound direction.

Local bus service on the B46 operates 24 hours a day, seven days a week. Limited-stop bus service operates seven days a week, between 6:00 am and 10:30 pm on weekdays and Saturdays, and between 9:00 am and 11:00 pm on Sundays. During most time periods the local B46 operates approximately every 9 minutes. During overnight periods 60-minute service is provided on the B46. During times that limited-stop bus service is in operation, the limited stop service provides service every 5 to 10 minutes.

Route B47

Route B47 provides local bus service between the Bedford-Stuyvesant and Marine Park neighborhoods in Brooklyn. This route primarily operates along the Ralph Avenue corridor. Within the study area, this route operates along Broadway. The B47 connects the following neighborhoods: Bedford-Stuyvesant, Ocean Hill, Brownsville, East Flatbush, Georgetown, Mill Basin, and Marine Park. Bus stops are located approximately every two blocks within the study area.

This route operates 24 hours a day, seven days a week. On weekdays, this route has a frequency of between 8 and 11 minutes all day. On Saturdays, this route operates every 9 minutes during the day. On Sundays, this route has a frequency of every 15 minutes. Overnight frequency on all nights is every 60 minutes.

Route B48

Route B48 provides local bus service between Bedford-Stuyvesant and the Greenpoint neighborhoods in Brooklyn. This route primarily operates along Lorimer Street, Chelsea Avenue, and Franklin Avenue, and connects Bedford-Stuyvesant to Clinton Hill, Williamsburg, and Greenpoint. Bus stops are located approximately every two blocks within the study area.

Service on the B48 operates 24 hours a day, seven days a week. During weekday peak periods, this route operates every 10 to 15 minutes. During off-peak periods, as well as on weekends, this route operates every 20 minutes. Overnight service operates every 45 minutes.

Route B52

Route B52 provides local bus service between downtown Brooklyn and Ridgewood in Queens. This route operates primarily along Gates Avenue, Greene Avenue, and Fulton Street, and connects the following neighborhoods: downtown Brooklyn, Fort Greene, Bedford-Stuyvesant, Bushwick, and Ridgewood. Bus stops are located approximately every two blocks within the study area.

Service along Route B52 operates 24 hours day, seven days a week. During weekday peak periods, service on the B52 has a frequency of every 6 minutes. During weekday off-peak hours and on Saturdays this route has a frequency of every 8 minutes. Sunday service is provided every 10 to 12 minutes. 60-minute service is provided during overnight periods on all days.

Route B54

Route B54 provides local bus service between downtown Brooklyn and Ridgewood in Queens. This route operates along the Myrtle Avenue corridor and serves the following neighborhoods: downtown Brooklyn, Fort Greene, Clinton Hill, Bedford-Stuyvesant, Bushwick, and Clinton Hill. Bus stops are located approximately every two blocks within the study area.

This route operates 24 hours a day, seven days a week. During weekday peak periods, this route provides service every 8 minutes, with 10-minute service during weekday midday periods. On weekends, this route operates approximately every 12 minutes for most of the day. Overnight service on all nights has a frequency of 60 minutes.

Route B57

Route B57 provides service along the Flushing Avenue corridor. This route operates between Maspeth in Queens and Carroll Gardens in Brooklyn. This route serves Maspeth and Ridgewood in Queens and the Brooklyn neighborhoods of Bushwick, Williamsburg, Bedford-Stuyvesant, Fort Greene, Downtown Brooklyn, Cobble Hill, Gowanus, and Carroll Gardens. Bus stops are located approximately every two blocks within the study area.

Seven day a week service is provided on this route, with service between 4:30 am and 1:00 am on all days. During weekday peak periods, the frequency of the B57 is every 15 minutes. During off-peak periods and on weekends this route operates every 20 minutes.

Bus Trip Generation Screening

Table M-18 shows the projected net new incremental bus trips during each of the four analysis peak hours. As shown in **Table M-18**, all five clusters generate fewer than 200 bus trips during the weekday AM peak hour. Therefore, further analysis of bus capacity during the weekday AM peak hour can be eliminated. Of the remaining three peak hours, only Clusters 2, 4 and 5 are projected to generate more than 200 bus trips: Cluster 2 during the weekday midday and Saturday midday peak hours, and Clusters 4 and 5 during the weekday midday peak hour. Therefore, additional bus capacity analysis is warranted in accordance with the *CEQR Technical Manual* guidelines.

As shown in **Table M-18**, although more bus trips are generated during the weekday midday peak hour (1,000 trips) and the Saturday midday peak hour (725 trips) than during the weekday PM peak hour (447 trips), the weekday PM peak hour represents the most critical time period because background bus ridership demand is the highest. Therefore, a detailed bus capacity analysis was conducted for the weekday PM peak hour. It should be noted that, in accordance

with *CEQR* guidelines, the bus capacity analysis accounts for bus trips associated with *all five clusters combined*.

Table M-18 – Projected Bus-Trip Increments
(With-Action Vehicle-Trips minus No-Action Vehicle-Trips)

Cluster	Peak Hour Time Period			
	Weekday AM	Weekday Midday	Weekday PM	Saturday Midday
1	-65	46	-28	60
2	38	367	189	259
3	5	88	39	60
4	5	277	131	199
5	20	222	116	147
TOTAL =	**3**	**1,000**	**447**	**725**

Note: All bus trips rounded to the nearest one (1) trip.

Bus Capacity - Existing Conditions Analysis

Existing available bus capacity was determined by analyzing ride-check data provided by New York City Transit. This data provides the total boardings, alightings, total load, and number of trips for each bus stop for the routes that serve the study area. This information is divided into five periods that cover the entire day:

1) Midnight to 6:00 am (6 hours),
2) 6:00 am to 10:00 am (4 hours),
3) 10:00 am to 3:00 pm (5 hours),
4) 3:00 pm to 7:00 pm (4 hours), and
5) 7:00 pm to midnight (5 hours).

Based on the ride-check data, the maximum load point within the study area was identified. The available capacity was determined based on the maximum load point.

To determine available bus capacity, the data by time period was converted into peak hour data. The methodology used to convert time period data into peak hour data assumes that approximately 43 percent of PM peak period ridership occurs in the peak hour, and 37 percent of scheduled bus trips occur in the peak hour. This accounts for the ramp up and ramp down of service between peak hour and the base period.

The following tables present a comparison of bus capacity to bus ridership demand for the weekday PM peak hour. **Table M-19** presents the bus capacity, ridership demand, and the resulting capacity remaining at the maximum load point within the study area, under existing conditions.

Table M-19 – Existing Bus Ridership Demand and Capacity

Route	Direction	Weekday PM Peak Hour		
		Existing Demand (riders)	Existing Capacity (riders)	Existing Capacity Remaining (riders)
B15	SB	431	608	177
B15	NB	133	628	495
B38	EB	476	527	51
B38	WB	549	1,033	484
B43	NB	270	506	236
B43	SB	298	446	148
B44	NB	411	2,104	1,693
B44	SB	843	2,199	1,357
B46	NB	255	1,013	758
B46	SB	474	1,033	559
B47	NB	151	446	294
B47	SB	299	446	147
B48	NB	24	243	219
B48	SB	54	263	209
B52	EB	585	587	3
B52	WB	385	506	122
B54	EB	508	527	19
B54	WB	323	506	183
B57	EB	202	263	61
B57	WB	135	263	128
Total		**6,805**	**14,145**	**7,340**

As shown in **Table M-19**, the existing bus ridership demand is accommodated adequately by the available bus capacity within the study area during the weekday PM peak hour under existing conditions.

Year 2022 Future Baseline Ridership and Capacity Projections

The future year 2022 baseline bus ridership demand was projected by applying a 3.75 percent growth rate (as per the *CEQR Technical Manual*) to the existing bus ridership demand to account for increasing bus ridership growth over time. The year 2022 future baseline capacity is the same as the existing conditions capacity: it assumes no changes to bus service within the study area between 2012 and 2022. **Table M-20** shows the projected baseline ridership demand in the year 2022, as well as the projected future year 2022 baseline capacity and the capacity projected to remain in the year 2022 under future baseline conditions.

Table M-20 – Projected Future Baseline Bus Ridership Demand and Capacity

Route	Direction	Weekday PM Peak Hour		
		Year 2022 Future Baseline Demand (riders)*	Year 2022 Future Baseline Capacity (riders)	Year 2022 Future Baseline Capacity Remaining (riders)
B15	SB	447	608	160
B15	NB	138	628	490
B38	EB	493	527	33
B38	WB	570	1,033	463
B43	NB	281	506	226
B43	SB	309	446	137
B44	NB	426	2,104	1,678
B44	SB	874	2,199	1,325
B46	NB	264	1,013	748
B46	SB	492	1,033	541
B47	NB	157	446	288
B47	SB	310	446	135
B48	NB	25	243	218
B48	SB	56	263	207
B52	EB	606	587	-19
B52	WB	399	506	107
B54	EB	527	527	0
B54	WB	335	506	171
B57	EB	210	263	54
B57	WB	140	263	123
Total		**7,060**	**14,145**	**7,085**

As shown in **Table M-20**, if today's scheduled bus frequency continues to operate in 2022, the future bus ridership demand in the year 2022 is projected to be accommodated adequately by the available bus capacity within the study area during the weekday PM peak hour under future year 2022 baseline conditions, with one exception:

- The eastbound direction of the **B52** bus during the weekday PM peak hour. One (1) additional bus trip per hour would be required to accommodate the demand.

Year 2022 Future No-Action Conditions Analysis

To arrive at the projected bus ridership demand under year 2022 future No-Action conditions, the total numbers of bus trips generated by all of the projected development sites under the No-Action condition were added to the respective future baseline year 2022 bus ridership demand projections. **Table M-21** provides a summary of these calculations and compares the projected future year 2022 No-Action condition bus ridership demand to the projected future year 2022 baseline bus capacity.

Table M-21 – Projected No-Action Condition Bus Ridership Demand and Capacity

Route	Direction	Weekday PM Peak Hour				
		Year 2022 Future Baseline Demand (riders)*	Projected No-Action Condition Demand (riders)	Year 2022 Total Future No-Action Condition Demand (riders)	Year 2022 Future Baseline Capacity (riders)	Year 2022 Future No-Action Capacity Remaining (riders)
B15	SB	447	18	465	608	142
B15	NB	138	33	171	628	457
B38	EB	493	49	542	527	-16
B38	WB	570	31	601	1,033	432
B43	NB	281	65	346	506	161
B43	SB	309	0	309	446	137
B44	NB	426	99	525	2,104	1,579
B44	SB	874	91	965	2,199	1,234
B46	NB	264	235	499	1,013	513
B46	SB	492	208	700	1,033	333
B47	NB	157	40	197	446	248
B47	SB	310	46	356	446	89
B48	NB	25	49	74	243	169
B48	SB	56	49	105	263	158
B52	EB	606	0	606	587	-19
B52	WB	399	0	399	506	107
B54	EB	527	110	637	527	-110
B54	WB	335	63	398	506	108
B57	EB	210	0	210	263	54
B57	WB	140	0	140	263	123
Total		**7,060**	**1,186**	**8,246**	**14,145**	**5,899**

* Includes 3.75 percent growth applied to existing ridership demand, as per *CEQR Technical Manual*.
NB = Northbound; SB = Southbound; EB = Eastbound; WB = Westbound.

As shown in **Table M-21**, if today's scheduled bus frequency continues to operate in 2022, the projected future bus ridership demand under the year 2022 No-Action condition is projected to be accommodated adequately by the available bus capacity within the study area during the weekday PM peak hour, with three exceptions. The following individual bus routes would have capacity issues if today's scheduled bus frequency continues to operate in 2022:

- The eastbound direction of the **B38** during the weekday PM peak hour. One (1) additional bus trip per hour would be required to accommodate the demand.
- The eastbound direction on the **B52** during the weekday PM peak hour. One (1) additional bus trip per hour would be required to accommodate the demand.
- The eastbound direction of the **B54** during the weekday PM peak hour. Three (3) additional bus trips per hour would be required to accommodate the demand.

Therefore, under the No-Action condition, the following individual bus routes would need to be monitored and their operations modified to accommodate the projected demands during the weekday PM peak hour:

- The eastbound direction of the **B38**.
- The eastbound direction on the **B52**.
- The eastbound direction of the **B54**.

Year 2022 Future With-Action Conditions Analysis

To arrive at the projected bus ridership demand under year 2022 future With-Action conditions, the total numbers of bus trips generated by all of the projected development sites under the With-Action condition were added to the respective future baseline year 2022 bus ridership demand projections. **Table M-22** provides a summary of these calculations and compares the projected future year 2022 With-Action condition bus ridership demand to the projected future year 2022 baseline bus capacity. The proposed Action assumes implementation of the individual No-Action bus route modifications described previously.

Assuming the implementation of the No-Action bus schedule modifications, the projected future bus ridership demand under the year 2022 With-Action condition is projected to continue to be accommodated adequately by the available bus capacity within the study area during the weekday PM peak hour. Regardless of whether or not the proposed rezoning effort is implemented, the following individual bus routes would need to be monitored and their operations modified to accommodate the projected demands during the weekday PM peak hour:

- The eastbound direction of the **B38**.
- The eastbound direction on the **B52**.
- The eastbound direction of the **B54**.

Table M-22 – Projected With-Action Condition Bus Ridership Demand and Capacity

Route	Direction	Weekday PM Peak Hour							
		Year 2022 Future Baseline Demand (riders)*	Projected No-Action Condition Demand (riders)	Year 2022 Total Future No-Action Condition Demand (riders)	Year 2022 Future Baseline Capacity (riders)	Year 2022 Future No-Action Capacity Remaining (riders)	Projected With-Action Condition Demand Increment (riders)	Year 2022 Total Future With-Action Condition Demand (riders)	Year 2022 Future With-Action Capacity Remaining (riders)
B15	SB	447	18	465	608	142	20	485	122
B15	NB	138	33	171	628	457	11	182	446
B38	EB	493	49	542	527	-16	18	560	-34
B38	WB	570	31	601	1,033	432	12	613	420
B43	NB	281	65	346	506	161	58	404	103
B43	SB	309	0	309	446	137	0	309	137
B44	NB	426	99	525	2,104	1,579	28	553	1,551
B44	SB	874	91	965	2,199	1,234	32	997	1,202
B46	NB	264	235	499	1,013	513	38	537	475
B46	SB	492	208	700	1,033	333	42	742	291
B47	NB	157	40	197	446	248	58	255	190
B47	SB	310	46	356	446	89	55	411	34
B48	NB	25	49	74	243	169	-7	67	176
B48	SB	56	49	105	263	158	-9	96	167
B52	EB	606	0	606	587	-19	0	606	-19
B52	WB	399	0	399	506	107	0	399	107
B54	EB	527	110	637	527	-110	43	680	-153
B54	WB	335	63	398	506	108	39	437	69
B57	EB	210	0	210	263	54	0	210	54
B57	WB	140	0	140	263	123	0	140	123
Total		**7,060**	**1,186**	**8,246**	**14,145**	**5,899**	**438**	**8,684**	**5,461**

* Includes 3.75 percent growth applied to existing ridership demand, as per *CEQR Technical Manual*.
NB = Northbound; SB = Southbound; EB = Eastbound; WB = Westbound.

It is important to note that, from a system perspective, the total ridership generated by the proposed Action can be adequately accommodated by the existing capacity of the bus system. As shown in **Table M-22**, considerable excess ridership capacity remains from a system perspective. In addition, the analysis described above assumes that the existing bus capacity remains unchanged over a long-term planning horizon (i.e., 10 years). However, it is important to recognize that NYCT consistently monitors ridership on all bus routes and adjusts service as-needed to meet the ridership needs of individual bus routes. Therefore, it is expected that, over the next 10 years, if the proposed rezoning occurs, NYCT would adjust the frequency of bus service to respond to changing demand such that the individual routes noted above would not operate over-capacity.

Conclusion

Based on the results of the analyses described above, the Proposed Action would not result in any significant adverse bus transit impacts. Bus services within the study area have peak hour capacity available to accommodate the projected bus ridership demand that development within the study area would generate under the With-Action condition.

Safety

The *CEQR Technical Manual* defines a "high crash location" as any location with 48 or more total reportable and non-reportable crashes, or five or more pedestrian/bicyclist injury crashes in any consecutive 12 months of the most recent three-year period for which data is available. Crash data compiled by the NYCDOT for the most recent available three-year period (i.e., 2008 to 2010) was reviewed to identify the crash history at all study intersections. The data is summarized in **Tables M-23** and **M-24** and includes both reportable and non-reportable crashes. **Table M-23** summarizes the total crashes at both intersections, as well as the number of pedestrian, bicyclist, and fatal crashes. **Table M-24** summarizes the numbers of pedestrian crashes, by year, at the study intersections.

Table M-23 – Summary of NYCDOT Crash Data by Year (2008 to 2010)

Intersection	Total Crashes	Pedestrian Crashes	Bicyclist Crashes	Fatal Crashes
Myrtle Ave. / Marcy Ave.	16	1	0	0
Myrtle Ave. / Tompkins Ave.	25	9	2	0
Myrtle Ave. / Throop Ave.	11	3	3	0
Myrtle Ave. / Marcus Garvey Blvd. / Sumner Ave.	15	7	2	0
Myrtle Ave. / Lewis Ave.	13	3	1	0
Broadway / Ellery St.	5	1	1	0
Broadway / Park Ave.	9	4	0	0
Broadway / Myrtle Ave.	24	5	2	0
Broadway / Greene Ave.	10	2	1	0
Broadway / Lexington Ave. / Ralph Ave.	3	1	0	0
Totals =	**131**	**36**	**12**	**0**

Source: New York State Department of Motor Vehicles and New York City Department of Transportation (2008-2010).

As shown in **Table M-23**, the NYCDOT data indicates that there were no fatal crashes at the study intersections during the three-year period between 2008 and 2010. There were also no more than total 25 crashes at any one intersection during the three-year period. Therefore, the total numbers of crashes at each study intersection are well below the 48-crash *CEQR* threshold for a "high-crash location." A detailed review of the crash data was also conducted to determine the number of pedestrian and bicyclist crashes per year. **Table M-24** summarizes, by year, the total number of pedestrian and bicyclist crashes at the study intersections between 2008 and 2010.

Table M-24 – Summary of NYCDOT Pedestrian and Bicyclist Crash Data by Year (2008 to 2010)

Intersection	Total Pedestrian/ Bicyclist Crashes	2008 Pedestrian/ Bicyclist Crashes	2009 Pedestrian/ Bicyclist Crashes	2010 Pedestrian/ Bicyclist Crashes
Myrtle Ave. / Marcy Ave.	1	0	1	0
Myrtle Ave. / Tompkins Ave.	11	6	0	5
Myrtle Ave. / Throop Ave.	6	2	3	1
Myrtle Ave. / Marcus Garvey Blvd. / Sumner Ave.	9	5	3	1
Myrtle Ave. / Lewis Ave.	4	3	1	0
Broadway / Ellery St.	2	0	1	1
Broadway / Park Ave.	4	0	3	1
Broadway / Myrtle Ave.	7	2	2	3
Broadway / Greene Ave.	3	1	2	0
Broadway / Lexington Ave. / Ralph Ave.	1	1	0	0
Totals =	**48**	**20**	**16**	**12**

Source: New York State Department of Motor Vehicles and New York City Department of Transportation (2008-2010).

As shown in **Table M-24**, there were a total of 48 pedestrian and bicyclist crashes from 2008 to 2010. The numbers of these crashes decreased over time: from 20 in 2008, to 16 in 2009, to 12 in 2010. Over the three-year period, there were a total of 11 pedestrian and bicyclist crashes at the Myrtle Avenue/Tompkins Avenue intersection and a total of nine pedestrian and bicyclist crashes at the Myrtle Avenue/Marcus Garvey Boulevard/Sumner Avenue intersection. All other intersections had seven or fewer total pedestrian and bicyclist crashes over the three-year period, and no more than three pedestrian and bicyclist crashes in any one year.

Of the 11 pedestrian and bicyclist crashes occurring at the Myrtle Avenue/Tompkins Avenue intersection over the three-year study period, six crashes occurred in 2008 and five crashes occurred in 2010. (There were no pedestrian and bicyclist crashes at the Myrtle Avenue/Tompkins Avenue intersection in 2009.) Based on the crash detail reports, of the six crashes occurring in 2008, four crashes involved pedestrians and two crashes involved bicyclists. Of the four pedestrian crashes, two resulted in "non-incapacitating injuries"[1] and two resulted in "possible injuries."[2] Two of the four pedestrian crashes involved the pedestrian crossing at a location with no signal or crosswalk, one involved crossing against the traffic signal, and one was unknown. Both bicyclist crashes resulted in "possible injuries." One of the bicyclist crashes involved the cyclist crossing at the intersection against the traffic signal, and the other involved the cyclist at the intersection moving with traffic.

All five of the crashes occurring in 2010 at the Myrtle Avenue/Tompkins Avenue intersection that were categorized as "pedestrian/bicyclist" were pedestrian-related. Four of the five crashes

[1] A "non-incapacitating injury" is defined by NYCDOT as: "Any visible injuries, including bruises, abrasions, etc."
[2] A "possible injury" is defined by NYCDOT as: "No visible signs of injury, but complaint of pain or momentary unconsciousness."

involved "possible injuries" and the fifth crash involved an "incapacitating injury."[3] Two of the five crashes involved the pedestrian crossing against the traffic signal, one involved a pedestrian crossing with the traffic signal, one involved a pedestrian walking along the roadway (not at the intersection) against traffic, and one was unknown. Based on the numbers and severity of these pedestrian/bicyclist crashes in 2008 and 2010, the study intersection of Myrtle Avenue/Tompkins Avenue was above the *CEQR* threshold for a "high-crash location" in 2008 and in 2010.

Of the nine pedestrian and bicyclist crashes occurring at the Myrtle Avenue/Marcus Garvey Boulevard/Sumner Avenue intersection over the three-year study period, five crashes occurred in 2008, three crashes occurred in 2009, and one crash occurred in 2010. Based on the crash detail reports, of the five pedestrian/bicyclist crashes occurring in 2008, three crashes involved pedestrians and two crashes involved bicyclists. All five crashes involved "possible injuries." One of the pedestrian crashes involved a pedestrian crossing at a location away from the intersection with no signal or crosswalk. The second pedestrian crash involved a pedestrian at an unknown location outside the roadway, and the third pedestrian crash involved a pedestrian crossing with the traffic signal. Of the two bicyclist crashes, one involved a bicyclist crossing with the signal at the intersection, and the second involved a bicyclist making an unknown action at a location away from the intersection. Based on the number and severity of the pedestrian/bicyclist crashes in 2008, the study intersection of Myrtle Avenue/Marcus Garvey Boulevard/Sumner Avenue was above the *CEQR* threshold for a "high-crash location" in 2008.

Based on the findings noted above, the study intersections of Myrtle Avenue/Tompkins Avenue and Myrtle Avenue/Marcus Garvey Boulevard/Sumner Avenue are classified as a high-crash locations as defined in the *CEQR Technical Manual*. However, it is worth noting that of the 16 pedestrian/bicyclist crashes occurring at these two intersections from 2008 through 2010, eight involved the pedestrian or bicyclist either: A) crossing against the traffic signal, B) crossing at a location where no signal or crosswalk exists, or C) traveling against the flow of traffic. Only one of these 16 crashes involved an incapacitating injury, and this particular crash involved a pedestrian crossing against the traffic signal at night.

Striped crosswalks are provided across all legs of both intersections. The study crosswalk locations are projected to continue to operate at an acceptable LOS "A" during the weekday midday and PM peak hours under the With-Action condition. In addition, the traffic signal timings currently provide adequate time for pedestrians to cross all legs of both intersections and are not recommended to change as part of the Proposed Action. Overhead street lighting is also provided at both intersections.

While increases in the volumes of motor vehicle traffic have the potential to increase the frequency of pedestrian and bicyclist crashes, it is worth noting that there are projected to be decreases in the volumes of motor vehicle traffic at the Myrtle Avenue/Tompkins Avenue and Myrtle Avenue/Marcus Garvey Boulevard/Sumner Avenue intersections under the proposed With-Action condition, hence fewer vehicles conflicting with pedestrian movements. **Table M-25** summarizes the changes in peak hour motor vehicle traffic volumes at both intersections under the With-Action condition, relative to the No-Action condition.

[3] An "incapacitating injury" is defined by NYCDOT as: "Any injury, other than a fatal injury, which prevents the injured person from walking/driving. The injured person needs to be carried from the scene."

Table M-25 – Projected Changes in Motor Vehicle Traffic Volumes

Intersection	Change in Total Peak Hour Traffic Volume (With-Action volume minus No-Action volume)
Weekday AM Peak Hour Volumes	
Myrtle Avenue / Tompkins Avenue	-105
Myrtle Avenue / Marcus Garvey Boulevard / Sumner Avenue	-96
Weekday Midday Peak Hour Volumes	
Myrtle Avenue / Tompkins Avenue	-87
Myrtle Avenue / Marcus Garvey Boulevard / Sumner Avenue	-83
Weekday PM Peak Hour Volumes	
Myrtle Avenue / Tompkins Avenue	-54
Myrtle Avenue / Marcus Garvey Boulevard / Sumner Avenue	-52
Saturday Midday Peak Hour Volumes	
Myrtle Avenue / Tompkins Avenue	7
Myrtle Avenue / Marcus Garvey Boulevard / Sumner Avenue	4

As shown in **Table M-25**, the study intersections of Myrtle Avenue/Tompkins Avenue and Myrtle Avenue/Marcus Garvey Boulevard/Sumner Avenue are both projected to experience decreases in motor vehicle traffic volume during the weekday AM, weekday midday, and weekday PM peak hours under the With-Action condition. During the Saturday midday peak hour, both intersections are projected to experience marginal increases (four to seven more vehicles per hour) in the motor vehicle traffic volume under the With-Action condition.

Based on the findings described above, the Proposed Action is expected to result in decreased vehicular traffic volumes during the weekday AM, midday, and PM peak hours, thereby reducing pedestrian exposure to vehicular conflicts and lowering the propensity for crashes. During the Saturday midday peak hour, the vehicular traffic volumes under the Proposed Action are expected to remain virtually unchanged.

Conclusion

Based on the foregoing assessment of traffic, parking, pedestrian, and transit elements, the proposed Bedford-Stuyvesant North Rezoning Action is not projected to have any significant transportation-related impacts.

N. AIR QUALITY

The Proposed Rezoning Action will affect residential and commercial developments in the northern portion of Bedford-Stuyvesant in Brooklyn. It will also alter traffic conditions and land uses in the study area. Air quality, which is a general term used to describe pollutant levels in the atmosphere, will be affected by these changes. The key issues that were addressed in the air quality analysis of the potential impacts of the proposed project are:

- The potential for changes in vehicular travel associated with proposed development activities to result in significant mobile source (vehicular related) air quality impacts;
- The potential impact from the exhaust of the parking garages associated with the proposed developments;
- The potential for emissions from the heating, ventilation and air conditioning (HVAC) systems of the proposed development buildings to significantly impact existing and future land uses (project-on-existing or project-on-future impacts);
- The potential for emissions from the HVAC systems of the proposed development buildings to significantly impact other proposed development buildings (project-on-project impacts);
- The potential combined impacts from HVAC emissions of proposed building clusters (i.e., proposed development buildings of approximately the same height that are located in close proximity to one another) to significantly impact existing land uses and other proposed development sites;
- The potential for emission sources of existing commercial, institutional, or residential developments within 400 feet of the proposed developments to significantly impact the proposed developments, and
- The potential for significant air quality impacts on the proposed buildings from air toxic emissions generated by nearby existing industrial sources.

Air quality analyses were conducted, following the procedures outlined in the 2012 *New York City Environmental Quality Review (CEQR) Technical Manual*, to determine whether the Proposed Action under the RWCDS would result in exceedances of ambient air quality standards or health-related guideline values. The methodologies and procedures utilized in these analyses are described below.

PRINCIPAL CONCLUSIONS

The result of the analyses conducted is that the Proposed Action would not have any significant air quality impacts. This is based on the following findings:

- Emissions from project-related vehicle trips would not cause a significant air quality impact;
- Emissions from the exhaust of the largest proposed parking garage would not cause a significant air quality impact;

- Emissions from the HVAC systems of the projected and potential developments would not significantly impact other projected/potential development sites or existing or future sensitive land uses with the specified "E"-designations applied (see **Appendix D)**;
- Emissions from "large" existing emission sources would not significantly impact the projected/potential development sites; and
- Air toxic emissions generated by nearby existing industrial sources would not significantly impact the projected/potential development sites.

POLLUTANTS OF CONCERN

CRITERIA POLLUTANTS

The following air pollutants, known as criteria pollutants, have been identified by the U.S. Environmental Protection Agency (EPA) as being of concern nationwide: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone, particulate matter (PM_{10} and $PM_{2.5}$), sulfur dioxide (SO_2), and lead. National Ambient Air Quality Standards (NAAQS) are concentrations set for each of the criteria pollutants specified by the EPA that have been developed to protect human health and welfare. New York has adopted the NAAQS as state ambient air quality standards. These standards, together with their health-related averaging periods, are presented in **Table N-1**.

In addition, EPA recently promulgated a new 1-hour standards for SO_2 and NO_2 and revoked 24-hour and annual standards for SO_2. However, according to page 17-7 of the 2012 CEQR TM, at this time and for the purposes of CEQR, it is premature to conduct a quantitative assessment of a project's potential SO_2 and NO_2 emissions' effect on the new 1-hour primary standard. Therefore, a quantitative discussion/analysis of a project's SO_2 and NO_2 emissions in terms of the new 1-hour standard is not appropriate.

CO and $PM_{2.5}$ were considered for the mobile source analysis of this Proposed Action while NO_2 and $PM_{2.5}$ were considered for determining the potential impacts of project-related HVAC emissions -- NO_2 for natural gas burning facilities and $PM_{2.5}$ for fuel oil burning facilities.

Fuel oil Number 2, with a sulfur content of 0.2% (2,000 parts per million [ppm]), was the pollutant of concern for fuel oil burning facilities in analyses previously conducted for the rezoning actions under CEQR. However, recently adopted New York State and New York City regulations require that, starting July 1, 2012, all Number 2 heating oil that would be sold for use in residential, commercial or institutional HVAC systems within the State shall not have a sulfur content greater than 15 parts per million (15 ppm). As such, the HVAC analysis for this rezoning action assumes that all of the proposed developments burning fuel oil would use low sulfur oil.

SO_2 emissions from burning low sulfur (15 ppm) fuel oil would be 133 times lower than those from burning fuel oil Number 2 with a 0.2 % sulfur content (2,000/15=133). Potential SO_2 impacts from low sulfur burning facilities, therefore, would no longer likely be considered significant. As a result, $PM_{2.5}$ replaced SO_2 as the criteria pollutant of concern for the fuel oil burning HVAC facilities in this analysis.

TABLE N-1

Applicable National and State Ambient Air Quality Standards

Pollutant	Averaging Period	National and NY State Standards	
		Primary	Secondary
Ozone (O3)	8 Hour (3)	0.075 ppm (147 µg/m3)	Same as Primary Standard
Carbon Monoxide (1)	8 Hour	9 ppm (10 mg/m3)	Same as Primary Standard
	1 Hour	35 ppm (40 mg/m3)	Same as Primary Standard
Nitrogen Dioxide (NO_2)	Annual Average	0.053 ppm (100 µg/m^3)	Same as Primary Standard
	1 Hour Average (2)	0.10 ppm (188 µg/m^3)	-
Sulfur Dioxide (5)	1 Hour (6)	0.075 ppm (197 µg/m^3)	-
	Maximum 3-hour average (1)		0.5 ppm (1,300 µg/m3)
Suspended Particulate Matter (PM_{10})	24 Hour	150 µg/m3	Same as Primary Standard
Suspended Fine Particulate Matter ($PM_{2.5}$)	24 Hour	35 µg/m3	Same as Primary Standard
	Annual Arithmetic Mean	15 µg/m3	Same as Primary Standard
Rolling 3-Month Average	Calendar Quarter	0.15 µg/m3	Same as Primary Standard

Notes:

ppm – parts per million

µg/m3 – micrograms per cubic meter

NA – not applicable

All annual periods refer to calendar year.

(1) Not to be exceeded more than once a year.

(2) 3-year average of the annual 98th percentile daily maximum 1-hour average concentration. Effective April 12, 2010.

(3) 3-year average of the annual fourth highest daily maximum 8-hour average concentration.

(4) Not to be exceeded by the annual 98th percentile when averaged over 3 years.

(5) EPA revoked the 24-hour and annual primary standards, replacing them with a 1-hour average standard. Effective August 23, 2010.

(6) 3-year average of the annual 99th percentile daily maximum 1-hour average concentration.

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

AIR TOXIC POLLUTANTS

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

IMPACTS NEAR CONGESTED INTERSECTIONS

The increased traffic associated with the RWCDS projected development sites as well as the diversion of traffic has the potential to affect local air quality levels. Emissions generated by the increased traffic at congested intersections have the potential to significantly increase air quality levels at nearby sensitive land uses. The primary air quality issue related to the Proposed Action that was addressed in the EAS is whether the traffic associated with the RWCDS during peak traffic periods caused or exacerbated a violation of the 8-hour ambient air quality standard for carbon monoxide (CO) or exceed the NYCDEP de minimis criteria near any of these locations. A determination was made as to whether the number of project-generated vehicles exceeds the NYCDEP Interim $PM_{2.5}$ Guidance criteria.

Based on the anticipated trip generation for all projected development sites, total project-related auto and truck trips would be less than the applicable CEQR mobile source screening thresholds for the area of Brooklyn in which the proposed action is located (i.e., for CO 170 or more auto trips and for $PM_{2.5}$ 12 or more heavy duty diesel vehicles [HDDV] for paved roads with average daily traffic fewer than 5,000 vehicles, 19 or more HDDV for collector roads and 23 or more HDDV for principal and minor arterials, expressways and limited access roadways).

Therefore, based on the 2012 *CEQR Technical Manual* guidance, the number of vehicles generated by the Proposed Action is less than the CEQR CO and $PM_{2.5}$ screening thresholds. As such, a detailed microscale analysis of mobile sources of air quality is not required for CO or $PM_{2.5}$, and no significant adverse mobile source air quality impacts are anticipated.

Garage Analysis

An air quality analysis was conducted, following guidelines provided in the 2012 *CEQR Technical Manual* for a mechanically ventilated, enclosed garage, to estimate the potential impacts of the proposed 128-spaces below-grade public parking garage, which is the largest parking facility associated with the Proposed Action. Because the garage will be used almost exclusively by gasoline-powered automobiles and not diesel-fueled trucks, carbon monoxide (CO) was the only pollutant considered for this analysis. Potential PM_{10} and $PM_{2.5}$ impact was not considered because the concentrations of these pollutants was not be materially affected by the operation of this facility.

CO concentrations were estimated near the exhaust vents of the garage at receptors located at 5 and 50 feet from the exhaust vents. Contributions from emissions generated by street traffic

were added to project-generated impacts and appropriate background levels to estimate the total concentration.

Maximum hourly CO emission rates within the garage were calculated for the time period with the maximum number of departing autos in an hour, since departing autos are assumed to be ”old” and arriving cars are assumed to be ”hot” (“cold” autos emit CO at considerably higher rates than “hot” autos). Maximum hourly CO emission rates over a consecutive 8-hour period were computed for the 8-hour time period that averages the largest number of departing autos per hour. Maximum 8-hour average CO emission rates were determined based on the ins/outs for the 8-hour time period and the mean traveling distance within the garages. The analysis assumed that all departing autos were idle for one minute before traveling to the exits of the garage, and all arriving and departing autos traveled at 5 mph within the garages. One vent was assumed for this analysis.

A maximum total 8-hour CO concentration of 3.7 ppm was estimated at a receptor located 5 feet from the vent by adding the estimated garage impact and the background concentration; a maximum total 8-hour CO concentration of 2.7 ppm was estimated at the receptor located 50 feet from the vent by adding the estimated garage and street traffic impacts, and the background concentration. The maximum total estimated 8-hour CO concentrations are therefore below the 8-hour CO NAAQS of 9.0 ppm.

In addition for estimating CO concentrations at the ground-level receptors, the impacts on elevated receptors were also considered. This analysis was conducted using EPA SCREEN3 model. Elevated receptors were located at the nearby buildings at the same level as stack (vent) on the roof of the garage (12 feet). The SCREEN-estimated 1-hour CO concentration was converted to 8-hour concentration and the total 8-hour CO concentration, together with CO background value, was compared to the 8-hour CO NAAQS of 9 ppm.

The result of this analysis is that emissions from the proposed garage would not cause significant adverse air quality impacts at both ground-level and elevated receptors.

Stationary Source Analyses

Stationary source analyses were conducted to estimate the potential for emissions from the HVAC systems of the proposed development buildings to significantly impact existing and future land uses (project-on-existing or project-on-future impacts).

A total of 64 development sites in the rezoning area were identified under the RWCDS, with 31 projected sites and 33 potential sites. In addition to individual buildings being located on a single lot, five sites would have multiple (2 or 3) buildings of different sizes and heights located on the same lot, as follows:

- Site C on Block 1928 Lot 34 is divided into three sites, two with building floor areas of 27,830 square feet and a height of 80 feet, and one with building floor area of 13,100 square feet and a height of 50 feet.
- Lot 5, on Site O (Block 1578), is divided into two equal sites each with building floor area of 34,845 square feet and a height of 100 feet.
- Lot 11, on Site T (Block 1584), is divided into two equal sites, each with building floor area of 48,583 square feet and a height of 100 feet.

- Lot 23, on Site W (Block 1593), is divided into two equal sites each with building floor area of 34,196 square feet and a height of 100 feet.
- Lot 35, on Site Z (Block 1618), is divided into two equal sites each with building floor area of 33,677 square feet and a height of 80 feet.

Buildings on these five sites are either adjacent to or located less than 30 feet from each other, and therefore were all subject to detailed dispersion analyses, where each building was considered as an individual site with the potential to impact other site on the same lot. Based on the same floor areas for buildings on Sites O, T, W, and Z, it was assumed that each building on its respective lot would occupy ½ of the lot while each building on Site C would occupy 1/3 of the lot. Because no lot line exists for such site configuration, the minimum distance between each stack and the nearest taller (or equal height) building was assumed to be 10 feet.

Data to conduct this analysis were obtained as follows:

- The size (gross floor area and height) and location (block and lot number) for each projected and potential development site under the proposed action RWCDS were provided by the NYCDCP; and

- The size and location of each existing building were determined using the existing building footprints in the vicinity of the Project Site and New York City Open Accessible Space Information System Cooperative (OASIS) data base and GIS shape files.

All development sites under the RWCDS considered in the analyses are presented in **Table N-2**, ”Projected Developments and Level of Analysis Required” and **Table N-3** ”Potential Developments and Level of Analysis Required.” Distances to the nearest buildings of similar heights that may be impacted by the HVAC emissions of the proposed development buildings and the level of analysis required for each building are also presented on these tables.

TABLE N-2

Projected Developments and Level of Analysis Required

Site	Block	Lot	Total Floor Area	Building Height	Distance to Nearest Building of Similar or Greater Height	Level of Analysis Required
			sq. feet	feet	Feet	
A	1912	3	292,647	80	> 30 ft (from Site 1)	Screening
B	1900	67	46,377	80	> 30 ft (from Site 2)	Screening
					<30 ft (from B on Lots 68, 69, 70)	Detailed
		68, 69, 70	69,566	80	> 30 ft (from Site 2)	Screening
					<30 ft (from B on Lot 67)	Detailed
C (C1)	1928	Lot 34	27,830	80	<30 ft (from C2 and C3)	Detailed
C (C2)	1928	Lot 34	27,830	80	<30ft (from C3)	Detailed
C (C3)	1928	Lot 34	13,100	50	<30ft (from C2)	Detailed
D	1788	2, 4, 5	38,640	80	> 30 ft (from Site E and 7)	Screening
E	1954	22	34,500	80	> 30 ft (from Site D and 7)	Screening
F	1754	24-35	168,000	100	> 30 ft (from G on Lot 1 and Lots 53B,	Screening
G	1747	7,10,19-24, 51,	139,500	70	> 30 ft (from Site 8)	Screening
					< 30 ft (from G on Lots 53B, 62, 64, 67, and	Detailed
		53B, 62, 64, 67	190,785	100	> 30 ft (from Site F)	Screening
					< 30 ft (from G on Lot 1)	Detailed
		1	61,600	100	> 30 ft (from Site F)	Screening
					< 30 ft (from G on Lots 53B, 62, 64, 67)	Detailed
H	1740	1	114,780	120	Taller than nearby buildings within 400 feet	Passed Screening Analysis
I	1756	33, 37	129,000	115	> 30 ft (from Site H on lot 1)	Screening
		42	29,500	70	<30 ft (from I on Lots 33 and 37)	Detailed
J	1585	31, 32, 33	42,000	100	> 30 ft (from Site 11)	Screening
K	1759	2, 3, 4	30,894	80	> 30 ft (from Site 12)	Screening
L	1785	1,3,5	46,000	80	>30 ft (from Site 13)	Screening

Table N-2 (continued)

Site	Block	Lot	Total Floor Area	Building Height	Distance to Nearest Building of Similar or Greater Height	Level of Analysis Required
			sq. feet	feet	Feet	
M	1609	5	34,599	70	Taller than nearby buildings within 400 feet	Passed Screening
N	1971	28	25,654	80	>30 ft (from Site E)	Screening
O (O1 and O2)	1578	5	34,845	100	<30 ft (from Site O2)	Detailed
			34,845	100	<30 ft (from Site O1 and P)	Detailed
P	1578	14	47,288	100	<30 ft (from Site P and 14)	Detailed
Q	1579	50, 51, 53	35,880	80	> 30 ft (from Site 14 and 15)	Screening
R	1582	15	57,951	100	> 30 ft (from Site T1 and T2)	Screening
S	1584	1,4	45,540	80	> 30 ft (from Site T1 and R)	Screening
					<30 ft (from Site 16 and T1)	Detailed
T (T1 and T2)	1584	11	48,583	100	> 30 ft (T1 from Site R)	Screening
					<30 ft (from Site T2)	Detailed
			48,583	100	> 30 ft (T2 from Site R)	Screening
					<30 ft (from Site T1)	Detailed
U	1586	12	49,801	80	<30 ft (from U2 on lot 14 and V)	Detailed
					>30 ft (from U Site 16)	Screening
U	1586	14	49,801	80	<30 ft (from U on lot 12, U on Lots 24,27 and U on Lots	Detailed
					>30 ft (from Site 16)	Screening
U	1586	24, 27	49,801	80	<30 ft (from U on lot 14 and U on lots 51, 52, 53, 56)	Detailed
		51, 52, 53, 56	29,200	50	<30 ft (from U2 on lot 14 and U on lots 24, 27)	Detailed
					>30 ft (from Site 17)	Screening
V	1586	8,10,11	38,500	80	<30 ft (from Site U on Lot 12)	Detailed
					>30 ft (from Site U on Lots 51, 52, 53, 56, and Site 16)	Screening
W (W1)	1593	23	34,196	100	<30 ft (from W1)	Detailed
W (W2)			34,196		<30 ft (from W2)	Detailed
X	1600	1, 28	43,691	100	<30 ft (from Site 21)	Detailed

Y	1613	9	38,608	100	>30 ft (from Site 22 and 23)	Screening

Table N-2 (Continued)

Site	Block	Lot	Total Floor Area	Building Height	Distance to Nearest Building of Similar or Greater Height	Level of Analysis Required
			sq. feet	feet	Feet	
Z (Z1)	1618	35	33,677	80	<30 ft (from Z2)	Detailed
					>30 ft (from Site 25)	Screening
Z (Z2)	1618	35	33,677	80	<30 ft (from Z1 and 24)	Detailed
					>30 ft (from Site 25)	Screening
AA	1623	70, 73	52,074	70	>30 ft (from Site 25 and BB)	Screening
BB	1628	21, 22, 23	23,400	70	>30 ft (from Site AA and CC)	Screening
CC	1628	30	30,000	70	<30 ft (from Site 28)	Detailed
					>30 ft (from Site BB, 26 and 27)	Screening
DD	1605	23, 24	6,668	50	<30 ft (from DD on Lots 25, 26)	Detailed
					>30 ft (from Site M)	Screening
		25, 26	6,668	50	<30 ft (from DD on Lots 23, 24)	Detailed
					>30 ft (from Site M)	Screening
EE	1791	17	5,758	50	<30 ft (from EE on Lots 18, 19)	Detailed
EE	1791	18, 19	5,758	50	<30 ft (from EE on Lot 17)	Detailed
					>30 ft (from Site 33)	Screening

Source: PB, 2012

Table N-3

Potential Developments and Level of Analysis Required

Site	Block	Lot	Total Floor Area	Building Height	Distance to Nearest Building of Similar or Greater Height	Level of Analysis Required
			sq. feet	feet	Feet	
1	1910	23,24,25	30,498	80	>30 ft (from Site A)	Screening
2	1914	22	25,723	80	>30 ft (from Site B)	Screening
3	1926	1, 77, 78, 79, 80	33,424	80	<30 ft (from Site 4)	Detailed
4	1926	74, 75, 76	31,050	80	<30 ft (from Site 3)	Detailed
5	1778	9	24,955	80	>30 ft (from Site 6)	Screening
6	1783	8, 9	25,392	80	>30 ft (from Site 5)	Screening
7	1950	30, 31, 33	38,088	80	>30 ft (from Site D)	Screening
8	1747	34	35,633	100	>30 ft (from Site H and 9)	Screening
9	1756	23, 24, 25	33,600	100	>30 ft (from Site H, I on Lots 33,37, and Site 8)	Screening
10	1757	27, 33, 34, 35,	140,000	100	>30 ft (from Site 11)	Screening
11	1580	1	165,670	110	>30 ft (from Site J)	Screening
12	1759	7	23,000	80	>30 ft (from Site K and F)	Screening
13	1771	5, 7, 8	46,000	80	>30 ft (from Site K)	Screening
14	1578	17	28,106	100	>30 ft (from Site 15)	Screening
					<30 ft (from Site P)	Detailed
15	1579	22, 25	32,586	100	>30 ft (from Site P)	Screening
16	1584	39, 50, 51	123,000	80	>30 ft (from Site U, V, 18 and 19)	Screening
					<30 ft (from Site S and Sites T1 and T2)	Detailed
17	1586	31	23,943	100	>30 ft (from Site U on Lots 24, 27)	Screening
18	1586	6	23,000	80	>30 ft (from Site 16)	Screening
					<30 ft (from Sites V and 19)	Detailed
19	1586	3	29,900	80	>30 ft (from Site J)	Screening
					<30 ft (from Site 18)	Detailed
20	1618	40	40,000	80	>30 ft (from Site 25)	Screening
					<30 ft (from Site Z1)	Detailed

Site	Block	Lot	Total Floor Area	Building Height	Distance to Nearest Building of Similar or Greater Height	Level of Analysis Required
			sq. feet	feet	Feet	
21	1600	13, 14, 15	23,262	100	<30 ft (from Site X)	Detailed
22	1608	27, 34	124,393	100	>30 ft (from Site Y)	Screening
23	1613	16, 17, 23	24,987	100	>30 ft (from Site Y and 24)	Screening
24	1618	22	32,456	100	>30 ft (from Site 23 and 25)	Screening
25	1623	25	32,000	80	>30 ft (from Site Z, Sites 20 and 24)	Screening
26	1623	41, 42, 53	29,616	100	>30 ft (from Site 28)	Screening
27	1623	57	18,000	70	>30 ft (from Sites CC, 25, 26, and 28)	Screening
28	1628	34, 38, 42	78,000	100	>30 ft (from Site 26)	Screening
29	1479	8, 11	36,800	100	>30 ft (from Site 28 and 30)	Screening
30	1480	16, 17	21,544	100	>30 ft (from Site 29)	Screening
31	1480	23, 55, 56	114,236	80	>30 ft (from Site 29)	Screening
					<30 ft (from Site 30 and 32)	Detailed
32	1480	34, 36, 38, 40, 41, 42	82,716	100	Taller than nearby buildings within 400 feet	Passed Screening
33	1791	42, 43, 44, 45, 47, 48,	35,860	55	>30 ft (from Site EE2)	Screening

Source: PB, 2012

METHODOLOGY

Emissions from the HVAC systems of the proposed developments may affect existing land uses or other development buildings. The impacts of these emissions will be a function of fuel type, stack height, building floor area (total square footage), and location of emission source relative to a receptor site. Total floor area is considered an indicator of fuel usage rate.

As recommended by the 2012 *CEQR Technical Manual*, the potential impact of the project emissions should be conducted using a two-step approach: impacts should be initially analyzed using *CEQR* screening procedures followed by detailed dispersion analyses for those development sites that fail the screening analysis.

$PM_{2.5}$ ANALYSIS (FOR LOW SULFUR FUEL OIL BURNING FACILITIES)

Because many of the sites are closer than 30 feet to each other, the nomograph screen, Figure 17-3 in the CEQR TM, does not apply. Therefore, a detailed analysis, therefore, was conducted to estimate the potential $PM_{2.5}$ impacts from these facilities.

This analysis was conducted for one representative development building (Site G) using a conservative $PM_{2.5}$ emission factor of 1.55 pounds per 1,000 gallons of fuel oil (from EPA's Compilation of Emission Factors [AP-42] for fuel oil Number 2). An emission factor specific to low sulfur fuel oil is not currently available.

The potential $PM_{2.5}$ impact of the emissions from this development building on an adjacent building was estimated, and the result applied to the other development buildings.

NO_2 SCREENING ANALYSIS (FOR NATURAL GAS FACILITIES)

Building Grouping

The 2012 *CEQR* screening methodology is recommended to estimate the potential impacts of HVAC system emissions from a single building that is at least 30 feet from the nearest building of similar or greater height. A detailed dispersion analysis is required for buildings that are less than 30 feet from a taller building. However, when a building-on-building analysis involves multiple buildings, situations may occur where one (or more) of the buildings is located less than 30 feet from a nearby building but more than 30 feet from another nearby building. In these cases, each building's impact on each nearby building was estimated individually—using either the screening level or detailed analysis, as appropriate. As such, each RWCDS building was placed in one or both of the following groups:

- Group 1 Development Sites – projected and potential sites that are more than 30 feet from a taller building. The *CEQR* screening methodology was initially used to estimate the potential impacts of these buildings (and detailed dispersion analyses were conducted only for buildings that failed the screening analysis).
- Group 2 Development Sites – projected and potential sites that are closer than 30 feet from a taller building. Detailed dispersion analyses with EPA AERMOD model was conducted to estimate the potential impacts of these building HVAC's systems.

Building-on-Building Impact Analysis

A screening analysis for NO_2 was conducted for the Group 1 development sites, using 2012 *CEQR Technical Manual* nomographs, to determine whether the HVAC emissions of any of the projected and potential developments would have the potential to significantly affect air quality levels at any of the other nearby projected and potential development sites (i.e., project-on-project impacts).

Each development site was evaluated and all nearby developments of similar or greater height were considered as potential sensitive receptor sites. If more than one taller building is located near a shorter building, the potential impacts from the HVAC emissions of the shorter building on the closest taller building were considered. If the distance from development to the nearest development of similar or greater height is less than the threshold distance provided in the CEQR nomographs, the potential exists for significant air quality impacts, and a detailed dispersion modeling analysis was conducted. Otherwise, the development site passes the screening, and no further analysis is required.

The total floor area of each development site was used as input for the screening analysis. It was conservatively assumed that the HVAC system of each development site utilized a single stack with a height 3 feet above roof height. If a development site did not pass this screening procedure, detailed atmospheric dispersion analyses, using the USEPA's AERMOD model, were conducted.

Figure 17-7 (NO_2 Boiler Screen, Residential Development, Natural Gas) of the *Air Quality Appendix of the 2012 CEQR Technical Manual* was used to determine potential for significant annual NO_2 impacts.

The following CEQR procedures were conducted:

- The estimated total size of each building was plotted on the nomograph Figure 17-7 against the distance to a potentially affected nearby taller building.
- The threshold distance at which a potentially significant impact is likely to occur was estimated and compared to the actual distance between the shorter building and the nearest taller building.
- If the distance between buildings was greater than the threshold distance indicated on the nomograph, no potentially significant impact is anticipated, and no detailed was conducted.
- If the distance was less than the threshold distance indicated on the nomograph, a potentially significant impact is possible, and a detailed dispersion modeling analysis was conducted.

If the HVAC emissions of a building can affect several nearby taller buildings, only the highest impacts on the nearest building were considered. These highest values, based on the screening analysis, are presented in **Tables N-4** and **N-5**. If a building passed this screening analysis, the impacts on the other surrounding buildings (located further from the building being considered) are also assumed to pass the screening analysis.

Results

More than a hundred of different combinations of Group 1 and 2 buildings that can be affected were identified. Sixty three (63) Group 1 development sites required a screening analysis with

natural gas while thirty nine (39) Group 2 developments sites required detailed analysis for both NO_2 and SO_2. In addition, twenty four (24) of developments can affect multiple taller existing or future planned buildings and required, as the first step, screening analyses.

The results of the screening NO_2 analysis for building-on-building impacts of Group 1 developments (as well as the critical distance parameters used in these analyses), which are presented in **Tables N-4** and **N-5** below, are as follows:

- Sixty one (61) Group 1 developments passed the screening analysis for building-on-building impacts using natural gas (**Table N-4**);
- Two Group 1 developments (Sites 16 and 28) did not pass the screening analysis for building-on-building impacts using natural gas (**Table N-5**) and therefore, further detailed analysis is required to evaluate the potential impacts of these developments.

TABLE N-4
Group 1 Developments That Passed CEQR Screening Analysis for Building-on-Building Impacts with Natural Gas

Development Site Number	Building Area (ft^2)	Building Height (feet)	CEQR Threshold Distance for Natural Gas (feet)	Measured Distance to Nearest Taller Building (feet)	Source and Receptor Sites	CEQR Screening-Level Results for Natural Gas
A	292,647	80	135	400	A on 1	Pass
B (Lot 67)	46,377	80	55	72	B on 2	Pass
B (Lots 68, 69, 70)	69,566	80	65	72	B on 2	Pass
D	38,640	80	60	80	D on 7	Pass
				112	D on E	Pass
E	34,500	80	48	187	E on 7	Pass
				112	E on D	Pass
F	168,000	100	90	256	F on G (Lot 53B, 62, 64, 67)	Pass
				367	F on G (Lot 1)	Pass
G (Lot 1)	61,600	100	60	367	G on F	Pass
G (Lots 53b, 62, 64, 67)	190,785	100	105	256	G on F	Pass
G (Lots 7, 10, 19-25,	139,500	70	85	90	G on 8	Pass
I (Lots 33, 37)	129,000	115	83	298	I on H on Lot 1	Pass
J	42,000	100	48	324	J on 11	Pass
K	30,894	80	45	49	K on 12	Pass
L	46,000	80	55	400	L on 13	Pass
N	25,654	80	40	400	N on E	Pass
Q	35,880	80	48	167	Q on 14	Pass
				115	Q on 15	Pass
R	57,951	100	55	96	R on T1 (Lot 11)	Pass
			55	175	R on T2 (Lot 11)	Pass
S	45,540	80	55	80	S on T1 (Lot 11)	Pass
				98	S on R	Pass
T	48,583	100	52	96	T1 on R	Pass

					T2 on R	Pass

Table N-4 (continued)

Development Site Number	Building Area (ft^2)	Building Height (feet)	CEQR Threshold Distance for Natural Gas (feet)	Measured Distance to Nearest Taller Building (feet)	Source and Receptor Sites	CEQR Screening-Level Results for Natural Gas
U (Lot 12)	49,801	80	55	67	U on 16	Pass
U (Lot 14)	49,801	80	55	67	U on 16	Pass
U (Lot 51, 52, 53, 56)	29,200	80	45	128	U on 17	Pass
V	38,500	80	50	108	V on U (Lot 51, 52, 53,	Pass
				67	V on 16	Pass
Y	38,608	100	47	92	Y on 22	Pass
				51	Y on 23	Pass
Z	33,677	80	47	62	Z on 25	Pass
				267	Z on 26	Pass
AA	52.074	70	55	65	AA on 25	Pass
				70	AA on BB	Pass
BB	23,400	70	37	70	BB on AA	Pass
				144	BB on CC	Pass
CC	30,000	70	45	144	CC on BB	Pass
				67	CC on 26	Pass
				64	CC on 27	Pass
DD (Lot 23, 24)	6,668	50	30	311	DD on M	Pass
DD (Lot 25, 26)	6,668	50	30	393	DD on M	Pass
EE (on Lot 18, 19)	5,758	50	30	360	EE on 33	Pass
1	30,498	80	45	400	1 on A	Pass
2	25,723	80	35	72	2 on B	Pass
5	24,955	80	35	216	5 on 6	Pass
6	25,392	80	35	216	6 on 5	Pass
7	38,088	80	50	80	7 on D	Pass

Table N-4 (continued)

Development Site Number	Building Area (ft^2)	Building Height (feet)	CEQR Threshold Distance for Natural Gas (feet)	Measured Distance to Nearest Taller Building (feet)	Source and Receptor Sites	CEQR Screening-Level Results for Natural Gas
8	35,633	100	45	239	8 on H	Pass
				400	8 on 9	Pass
9	33,600	100	45	134	9 on H	Pass
				174	9 on I (Lot 33, 37)	Pass
10	140,000	100	85	288	10 on 11	Pass
11	165,670	110	90	324	11 on J	Pass
12	23,000	80	35	49	12 on K	Pass
				295	12 on F	Pass
13	46,000	80	55	351	13 on K	Pass
14	28,106	100	37	167	14 on 15	Pass
15	32,586	100	45	242	15 on P	Pass
17	23,943	100	35	52	17 on U (Lots 24, 27)	Pass
18	23,000	80	33	66	18 on 16	Pass
19	29,900	80	45	157	19 on J	Pass
20	40,000	80	50	92	20 on 25	Pass
22	124,393	100	80	92	22 on Y	Pass
23	24,987	100	35	51	23 on Y	Pass
				229	23 on 24	Pass
24	32,456	100	45	229	24 on 23	Pass
				65	24 on 25	Pass
25	32,000	80	45	62	25 on Z	Pass
				92	25 on 20	Pass
				65	25 on 24	Pass
26	29,616	100	42	62	26 on 28	Pass
27	18,000	70	30	55	27 on 25	Pass
				58	27 on 26	Pass
				82	27 on 28	Pass
				64	27 on CC	Pass

Table N-4 (Continued)

Development Site Number	Building Area (ft^2)	Building Height (feet)	CEQR Threshold Distance for Natural Gas (feet)	Measured Distance to Nearest Taller Building (feet)	Source and Receptor Sites	CEQR Screening-Level Results for Natural Gas
29	36,800	100	47	295	29 on 28	Pass
				164	29 on 30	Pass
30	21,544	100	32	164	30 on 29	Pass
31	114,236	80	80	219	31 on 29	Pass
33	35,860	55	45	347	33 on EE (on Lots 18,	Pass

Source: PB 2012

TABLE N-5
Group 1 Developments that did not Pass CEQR Screening NO_2 Analysis for Building-on-Building Impacts

Development Site Number	Building Area (ft^2)	Building Height (feet)	CEQR Threshold Distance for Natural Gas (feet)	Measured Distance to Nearest Taller Building (feet)	Source and Receptor Sites	CEQR Screening-Level Results for Natural Gas
16	123,000	80	81	68	On Site U, V, 18 and	Fail
28	78,000	100	72	71	28 on 26	Fail

Impacts on Existing Land Uses

The same screening analysis was conducted, using CEQR procedures, to determine the potential impacts of the HVAC emissions of any of the development sites on existing land uses and future No-Build planned developments.

A survey of existing land uses within 400 feet of the proposed development sites were conducted using the New York City OASIS mapping network system together with GIS shape files to identify residential land uses and other sensitive receptor sites. Field work was conducted to complement the OASIS findings. The areas surrounding each of the development sites were examined to determine whether buildings the same height or taller than the proposed developments exist near these sites. The screening procedure was applied to these sites (provided that the buildings are at least 30 feet apart) to determine whether their heating systems have the potential to significant impact nearby existing or future planned buildings.

The following are the results of the screening NO_2 analyses used to estimate the potential impacts on existing land uses:

- A total of twenty development sites were identified as being located near existing buildings that are the same height or taller;

- As shown in **Table N-6**, seventeen development sites passed the NO_2 screening analysis on nearby taller existing buildings because the distances between these developments and nearby buildings are greater than the estimated threshold distance.

- Three developments (Sites H, J, and 10) did not pass the screening analysis for NO_2 (**Table N-7**) and therefore were evaluated using detailed dispersion analyses. The results of this analysis are presented **Table N-10**.

The result of the screening analysis is that potential air quality impacts of the HVAC emissions from several projected and potential developments on existing land uses may occur and, therefore, detailed dispersion analyses are required for these sites.

TABLE N-6
Impacts on Existing Land Uses from the Group 1 Developments That Passed the CEQR Screening Analysis for NO_2

Site ID	Block: Lot	Building Height (feet)	Building Floor Area (ft^2)	Block & Lot of Nearby Taller Existing Building	Number of Stories of Existing Building	Distance from Development Site to Existing Building (feet)	CEQR Threshold Distance for Natural Gas (feet)	Potential NO_2 Impact
A	1912: 3	80	292,647	1913:7501	8	164	137	No
				1913:7504				
				1913:7505				
				1913:7506				
C	1928:34	50	13,100	1913:7512	8	258	30	No
				1927:7501	9	274	30	No
	1928:34	80	27,830	1913:7512	8	233	40	No
				1914:36	9	241	40	No
G	1747:7, 10, 20-24, 51, 53a	70	139,500	1740:1	16	326	85	No
I	1756:33, 37	115	129,000	1740:1	16	99	83	No
				1740:1	16	159	85	No
Q	1579:50, 51, 53	80	35,880	1723:1	9	226	48	No
				1749:15	12	247	48	No
W	1593:23	100	34,196	1595:24	15	361	45	No
DD	1605:23,24, 25,	50	6,668	1601:24	15	67	30	No

Table N-6 (Continued)

Site ID	Block: Lot	Building Height (feet)	Building Floor Area (ft^2)	Block & Lot of Nearby Taller Existing Building	Number of Stories of Existing Building	Distance from Development Site to Existing Building (feet)	CEQR Threshold Distance for Natural Gas (feet)	Potential NO_2 Impact
1	1910:23, 24,	80	30,498	1905:120	16	395	45	No
2	1914:22	80	25,723	1913:7510	8	115	35	No
				1914:36	9	179	35	No
3	1926:1, 77, 78, 79, 80	80	33,424	1925:7501	9	66	45	No
				1938:1	20	75	45	No
4	1926:74, 75, 76	80	31,050	1925:7501	9	133	40	No
				1938:1	20	78	40	No
5	1778:9	80	24,955	1778:31	12	196	35	No
				1763:7502	9	365	35	No
				1941:7501	8	332	35	No
6	1783:8, 9	80	25,392	1778:31	12	169	35	No
				1941:7501	8	331	35	No
8	1747:34	100	35,633	1740:1	16	90	45	No
9	1756:23, 24,	100	33,600	1740:1	16	111	45	No
11	1580:1	110	165,670	1585:1	24	85	90	No
33	1791:42- 45, 47, 48,51-54	55	35,860	1786:38	6	187	45	No

Source: PB 2012

Table N-7

Impacts on Existing Land Uses from the Group 1 Developments that did not Pass the CEQR Screening Analysis for NO_2

Site ID	Block: Lot	Building Height (feet)	Building Floor Area (ft^2)	Block & Lot of Nearby Taller Existing Building	Number of Stories of Existing Building	Distance from Development Site to Existing Building (feet)	CEQR Threshold Distance for Natural Gas (feet)	Potential NO_2 Impact
H	1740:1	120	114,780	1740:1	16	52	80	Yes
J	1585:31, 32, 33	100	42,000	1585:1	24	31	48	Yes
10	1757:27, 33, 34, 134, 35	100	140,000	1749:15	12	76	80	Yes
				1585:1	24	73	80	Yes

DETAILED ANALYSIS OF PROJECTED AND POTENTIAL DEVELOPMENTS

Detailed dispersion analyses, using latest version of the EPA AERMOD model (EPA version 12060), were conducted to estimate the potential impacts of:

- Developments using natural gas that did not pass the NO_2 screening analysis for building-on-building impacts. impacts on existing buildings, or developments for which the screening analysis was not applicable; and
- $PM_{2.5}$ emissions from low sulfur fuel oil burning facilities.

Dispersion Model

AERMOD is a steady-state plume model that is applicable to rural and urban areas, flat and complex terrain, surface and elevated releases, and multiple sources (including point, area, and volume sources). It can be used to calculate pollutant concentrations from one or more points (e.g., exhaust stacks) based on hourly meteorological data, and has the capability of calculating pollutant concentrations in a cavity region and at locations when the plume from the exhaust stack is affected by the aerodynamic wakes and eddies (downwash) produced by nearby structures.

Regulatory default options of the AERMOD model were used. Following CEQR guidelines, analyses were conducted assuming stack tip downwash, urban dispersion and surface roughness length, with and without building downwash, and the elimination of calms. The AERMOD downwash algorithm was used to estimate the potential effects of the multiple building structures on plume dispersion.

Emission sources for the dispersion analysis were located using geographical information system (GIS) software (shapefiles) and the Universal Transverse Mercator coordinate system with appropriate projection information (Datum NAD83, UTM Zone 18).

Pollutant Emission Rates

Emission factors were obtained from EPA's "Compilation of Air Pollutant Emission Factors". Emission rates were estimated as follows:

- A fuel consumption rate for each development was estimated using fuel factors presented in the 2012 *CEQR Air Quality Appendix.*
- These fuel factors (0.38 gallons per square feet for No. 2 fuel oil and 52.8 cubic feet per square feet for natural gas for New York City) were multiplied by the square footage of each site to estimate the total gallons (or cubic feet) of fuel consumed by that building annually.
- It was assumed that all fuel is consumed in a 100 day (2,400 hour) heating season.
- Average annual peak period pollutant emission rates were estimated, as recommended in the *CEQR Technical Manual*, by dividing the total amount of pollution estimated to be emitted in a year by 8,760 hours.

Stack Parameters

Stack heights, building sizes (square footages and heights) were obtained from the RWCDS. it was conservatively assumed that emissions from each building were released through a single

stack located at least 10 feet from the nearest taller building (as per 2012 CEQR Technical Manual recommendations and New York City Building Code requirements).

Stack parameters (diameter, exit velocity, and temperature) were developed using the NYCDEP "Combustion Applications" database and the rated heat input (in million BTUs [MMBtus] per hour) of the heating systems. Boiler heat inputs for natural gas that were estimated based on gas heating value of 1,030 Btu/cu feet were all lower than 5 MMBtu/hour. Therefore, stack 0.5-foot diameter and 3.9 m/sec exit velocity were used.

Stack heights were assumed to be 3 feet above the building roof. All stack exit temperatures were assumed to be 300°F (423°K).

Meteorological Data

Analyses were conducted using the latest available five consecutive years of meteorological data (2006-2010). Surface data were obtained from La Guardia Airport and upper air data were obtained from Brookhaven station, New York. These meteorological data provide hour-by-hour wind speeds and directions, stability states, and temperature inversion elevations over the 5-year period. Data were developed using the EPA AERMET processor. The land use around the site was classified as urban using defined categories to determine surface parameters used by the AERMET program. The land characteristics were determined using USEPA AERMET processor as the following:

Surface roughness length = 1 for urban annual average;

The surface roughness length is related to the height of obstacles to the wind flow and is, in principle, the height at which the mean horizontal wind speed is zero. Values range from less than 0.001 m (over a calm water surface) to 1 m or more (over a forest or urban area).

Albedo parameter = 0.2075 for urban annual average;

The albedo is the fraction of total incident solar radiation reflected by the surface back to space without absorption. Typical values range from 0.1 (for thick deciduous forests) to 0.90 (for fresh snow).

Bowen ratio =1.625 for urban average with average soil conditions.

The daytime Bowen ratio, an indicator of surface moisture, is the ratio of the sensible heat flux to the latent heat flux. It is used for determining planetary boundary layer parameters for convective conditions. While the diurnal variation of the Bowen ratio may be significant, the Bowen ratio usually attains a fairly constant value during the day. Midday values of the Bowen ratio range from 0.1 (over water) to 10.0 (over desert).

Receptor Locations

Source-receptor configurations (stack diameters, plume rise and dispersion, and stack proximity to the receptors) were considered in selecting receptor sites. In order to ensure that maximum impacts were estimated, multiple receptor sites were considered on the facades of the nearby buildings near each exhaust stack near the level of the plume centerline. The exact elevations of the receptors above the stack height were determined considering plume rise of the exhaust stack.

For the analysis of existing land uses, receptors were placed on the nearby existing buildings at the levels of the stacks of the projected and potential development sites (i.e., where the greatest impacts are likely to occur). If a stack on a proposed development was taller than a nearby existing building, receptors were placed at the top floor of the existing building.

Background Concentrations

Applicable background pollutant concentrations (i.e., pollutant level from other sources in study area) were obtained from monitoring data collected by the NYSDEC in 2009, the latest year of compiled data (NYCDEP Memo, dated May 21, 2010). Because Brooklyn has no monitoring stations that collect data for NO_2, data from a Queens College 2/PS219 monitor were used. This monitor was selected because the land uses and building heights near Queens College are most representative of the study area for this action.

An NO_2 background concentrations of 47 ug/m^3 was added to the NO_2 modeling results, and the total pollutant concentrations were compared with the appropriate annual NO_2 NAAQS of 100 ug/m^3.

Monitored $PM_{2.5}$ concentrations in Brooklyn already exceed the NAAQS. As such, estimated $PM_{2.5}$ impacts were compared to the CEQR significance thresholds to determine whether estimated project impacts are significant.

BUILDING-ON-BUILDING IMPACTS OF GROUP 2 DEVELOPMENTS

NO_2 Impacts with Natural Gas

Detailed dispersion analyses were conducted for both Group 2 development sites and Group 1 sites that did not pass the CEQR screening analysis with natural gas. This analysis was conducted using a 75 percent NOx to NO_2 conversion rate based on the NYCDEP's recommendation. The conversion factor is applied because most the nitrogen oxides emitted from heating systems is in the form of NO, which then converts to NO_2 (i.e., the pollutant of concern) in the atmosphere.

Building-on-Building NO_2 Impacts of Group 1 Developments That Did Not Pass the CEQR Screening Analysis

The two development sites -- Site 16 (as it impacts Sites U), and Site 28 (as it impacts Site 26) -- that did not pass the CEQR screening analysis for building-on-building impacts were re-evaluated with detailed analyses. Results are that both sites passed at the 10 feet threshold distance and no further analysis is required (Table N-8).

Impacts on Existing Land Uses of Group 1 Developments That Did Not Pass the CEQR Screening Analysis

Projected Development Site H (as it impacts the 16-story existing building on Block 1740, Lot 1), Potential Development Site 10 (as it impacts the 12-story existing building on Block 1749, Lot 15 and the 24-story existing building on Block 1585, Lot 1) and Projected Development Site J (as it impacts the 24-story existing building on Block 1585, Lot 1) did not pass the CEQR screening analysis for impacts on existing land uses and were re-evaluated using dispersion analyses. As shown in **Table N-9**, the results of the detailed dispersion analysis for these buildings are that no exceedances of annual NO_2 NAAQS are predicted.

Building-on-Building NO_2 Impacts of Group 2 Developments

The New York City Building Code (Building Code) requires that a rooftop stack be at least 10 feet away from a taller building (highest obstacle). As such, the HVAC stack on each projected and potential development located closer than 30 feet or immediately adjacent to another projected or potential development site were initially placed 10 feet from the lot line to account for conditions that may occur should a taller abutting building be built, and potential impacts were estimated using detailed dispersion analyses. If exceedances of the NAAQS were predicted, setback distances were increased until the threshold distance at which no exceedances of the NAAQS were predicted.

Four development sites that did not pass screening CEQR analysis were the subject to detailed dispersion analysis. These are Site G on Block 1747, Lots 7, 10,19-24, 51, and53a and G on Lots 53b, 62, 64, and 67; Site 16 on Block 1584, Lots 39 50, and 51:with its impact on Site S and T ,; and Site 31 on Block 1480, Lots 23, 55, and 56. The result of the detailed analysis, which is provided in **Table N-10**, is that these sites require stack setback distances beyond the Building Code minimum in order to pass the analysis.

$PM_{2.5}$ Impacts with Low Sulfur Fuel Oil

The result of the analysis that was conducted for the representative development site (Site G) is that a setback distance of approximately 100 feet would be required for the impact to be less than the CEQR $PM_{2.5}$ significance threshold of 5 ug/m3 (see *CEQR Technical Manual*, Page 17-44, Project Impact Criteria), which is applicable in an area where the background concentration exceeds the NAAQS. As this distance is just about the full width of the Site G lot (which is approximately 102 feet), the use of fuel oil at this development site would most likely be precluded.

Based on this result, it was determined that all of the development buildings would either fail a detailed dispersion analysis and/or require stack setback distances much greater than those required by the Building Code in order to demonstrate compliance with air quality standards. As such, an "E" designation will be placed on each development site to preclude the use of fuel oil in the HVAC systems.

TABLE N-8
Group 1 Developments That Passed the
Screening NO_2 Dispersion Analysis for Building-on-Building Impacts

Site ID	Total Floor Area	Building Height	Annual NO_2 Emission Rate	Estimated Annual NO_2 Impacts*	Total Estimated Annual NO_2 Conc.**	Annual NO_2 NAAQS
	sq. feet	Feet	g/sec	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$
16	123,000	100	0.00934	2	49	100
28	78,000	100	0.00592	2	49	

** Total estimated annual NO_2 concentrations include a background value of 47 ug/m3

TABLE N-9
Group 1 Developments That Passed the
Detailed NO_2 Dispersion Analysis for Impacts on Existing Land Uses

Site ID	Total Floor Area	Building Height	Annual NO_2 Emission Rate	Estimated Annual NO_2 Impacts*	Total Estimated Annual NO_2 Conc.**	Annual NO_2 NAAQS
	sq. feet	Feet	g/sec	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$
H	114,780	120	0.00872	3	50	100
10	140,000	100	0.01063	2	49	
J	42,000	100	0.00319	3	50	

** Total estimated annual NO_2 concentrations include a background value of 47 ug/m3

TABLE N-10

Group 2 Developments that Passed Detailed Dispersion NO_2 Analysis for Building-on-Building Impacts with Stack Setback Beyond the Building Code Minimum

Site ID	Total Floor Area	Building Height	Source and Receptor Sites	Stack Setback Distances from Nearest Taller	Annual NO_2 Emission Rate	Estimated Annual NO_2 Impact*	Total Estimated Annual NO_2 Conc.**	Annual NO_2 NAAQS
	sq. feet	feet			g/sec	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$
G on Lots 7, 10, 19-24, 51, 53a	139,500	70	G on Lots 53b, 62, 64,	13	0.01059	46	93	
G on Lots 53B, 62, 64, 67	190,785	100	G on Lot 1	15	0.01449	50	94	100
16 (with impact on S and T)	123,000	80	16 on S	12	0.00934	47	94	
			16 on T	12				
31	114,236	80	31 on 30	12	0.00868	47	94	

** Total estimated annual NO_2 concentrations include a background value of 47 ug/m3

Required Set-Back Distance for Natural Gas Facilities

Based on the results of these analyses, "E" designations would be required to ensure that there would be no significant air quality impacts on other development sites or on existing buildings. "E" designation would specify that natural gas should be used exclusively for all development sites. in addition, four sites require "E"-designations that would specify, in addition to use of natural gas, a minimum distance between the stack on the building roof and the edge of an adjacent site.

The result of these analyses is that with adequate distance between HVAC exhaust stack and nearby taller buildings, and the use of natural gas, the potential impacts from the heating systems of the projected and potential development sites would not cause violations of the NAAQS and would therefore have no significant adverse air quality impacts.

Required Setback Distances

To preclude the potential for significant adverse air quality impacts, stack setback distances shown on Table N-11 would be required for these development sites. The "E" designations for these sites as well as for all of the other development sites, which are presented at the end of this Chapter, would also specify the exclusive use of natural gas.

TABLE N-11
Minimum Stack Setback Requirements for Development Sites

Site ID	Block	Lot	Setback Requirements
G	1747	53b, 62, 64, and	15 feet from Development Site G on Lot 1
G	1747	7, 10, 19, 20, 21, 22, 23, 24, 51, and 53a	13 feet from Development Site G on Lots 53b. 62, 64, and 67
16	1584	39, 50, and 51	12 feet from Development Site S and T
31	1480	23, 55, and 56	12 feet from Development Site 30

Source: PB, 2012

The HVAC analysis was performed to determine whether the Proposed Action would result in any potential significant adverse air quality impacts. The analysis determined that all sites would require "E" designations that would specify the type of fuel to be used (natural gas) together with the boiler stack setback. The proposed "E" designations for the development sites under RWCDS with respect to HVAC systems are presented at the end of this chapter. With these "E" designations, the potential impacts from the heating systems of the projected and potential development sites would not exceed the applicable NAAQS and, therefore, would not have potential significant adverse environmental impacts on air quality.

CONCLUSION

The result of this analysis is that with the specified "E" designations, the potential NO_2 impacts with natural gas in the HVAC systems of the development sites and specified stack setback requirements, the Proposed Action would not cause significant adverse air quality impacts.

NO_2 CLUSTER ANALYSIS

The proposed action could result in projected and potential development sites with the same building heights (or approximately the same heights) that are located in close proximity to one another. Therefore, in addition to estimating the potential impacts of the HVAC emissions of these development sites individually, emissions from these development sites were also considered as "clusters" of emission sources. As a practical rule, clusters should be selected based on the sizes of the buildings that comprise the cluster, proximity of the cluster buildings to each other, and the difference in stack heights no more than 10 to 15 feet with no street in between.

As the potential impacts of these development sites clusters could not be evaluated using 2012 *CEQR Technical Manual* screening procedure, the impacts of the HVAC systems emissions of these clusters were estimated using detailed dispersion analysis. This analysis was performed in the same manner described for the Group 2 developments, except that this analysis was conducted using a single representative stack located in the approximate geographic center of each cluster as the emission source. NO_2 from burning natural gas in heating systems was considered as the critical pollutant for determining whether the potential impacts of the cluster emissions would be significant.

The following emission clusters were identified based on the heights, sizes, and locations (with no streets in between) of these buildings:

- Cluster #1: Projected Development G (Block 1747, Lots 1, 7, 10, 19-24, 51, 53A, 53B, 62, 64, and 67) and Potential Development 8 (Block 1747, Lot 34), with a total area of 427,518 square feet and a representative stack height of 100 feet.

- Cluster #2: Projected Development U (Block 1586, Lots 12, 14, 24, 27, 51, 52, 53, and 56), Projected Development V (Block 1586, Lots 8, 10, 11), Potential Development 18 (Block 1586, Lot 6), Potential Development 19 (Block 1586, Lot 3) with a total area of 270,003 square feet and a representative stack height of 80 feet.

The potential impacts of the HVAC emissions of these clusters on other nearby development sites, including existing buildings, were evaluated. The result of this analysis is that the annual NO_2 impacts of combined emissions from these clusters would not cause an exceedances of the annual NO_2 NAAQS of 100 ug/m^3 at any nearby development site, or existing or future land use (**Table N-12**).

TABLE N-12
Results of Detailed NO_2 Dispersion Analysis for Clusters

Cluster ID	Total Floor Area (sq. feet.)	Total Cluster Annual NO_2 Emission Rate (g/sec)	Max Estimated Cluster Impacts ($\mu g/m^3$)	Total Estimated Annual NO_2 Conc.* ($\mu g/m^3$)	Annual NO_2 NAAQS ($\mu g/m^3$)
Cluster 1	427,518	0.03247	3	50	100
Cluster 2	270,003	0.02050			

*****Total estimated annual NO_2 concentration includes a NO_2 background value of 47 $\mu g/m^3$

IMPACTS FROM LARGE EXISTING EMISSION SOURCES

Following *CEQR Technical Manual* guidance, a survey of land uses was conducted to determine whether there are any existing large sources of emissions (e.g., power plant, co-generation facilities) located within 1,000 feet of the proposed development sites. As a result of this survey, no large emission sources or commercial, institutional or residential facilities that may impact the proposed development were identified and, therefore, no further analysis is required.

Based on these results, potential impacts from large emission sources on proposed developments are not considered to be significant and further analysis is not required.

HEALTH RISK ASSESSMENT OF TOXIC AIR EMISSIONS FROM EXISTING INDUSTRIAL SOURCES

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

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

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

DATA SOURCES

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

- The rezoning area boundary was used to identify the extent of the study area for determining the toxic air quality impacts associated with the Proposed Action.
- A study area was developed that includes all air toxic emission sources located within 400 feet of all of the affected development sites.
- A search was performed to identify NYSDEC Title V permits and permits listed in the EPA Envirofacts database in this study area.
- The OASIS mapping and data analysis application was used to identify existing residential and/or industrial uses within the study area and develop buildings parameters for the existing emission sources;
- Air permits for active permitted industrial facilities within the study area that are included in the NYCDEP Clean Air Tracking System database or permit applications were acquired and reviewed to obtain the information necessary to conduct the toxic air analysis.

  The data on these permits or permit applications, which include facility source type and locations, stack parameters, pollutant type and its emission rates, etc., are considered the most current and served as the primary basis of data for this analysis.
- Field observations were conducted to identify and validate the existence of the permitted facilities and determine if there are any non-permitted facilities currently operating within the study area.
- Emission rates and stack parameters for the non-permitted emission sources were developed based on prototypical facility types and emission data contained in NYSDEC's database.

Health Risk Assessment Methodology

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

The EPA developed cancer risk inhalation guideline values based on compound-specific inhalation unit risk factors *(*URFs*)* for carcinogenic pollutants, chronic non-cancer (annual) and short-term acute (1-hour) inhalation guideline values that are defined as *RfCs* (reference dose concentrations) and AIECs (acute inhalation exposure concentrations), respectively, were used in the analysis. These data were obtained from EPA IRIS (Integrated Risk Information System) database and/or EPA Prioritized Chronic Dose-Response Values and Acute Dose-Response Values for Screening Risk Assessment.

In order to evaluate short-term and annual impacts of non-carcinogenic and carcinogenic toxic air pollutants, the NYSDEC, following EPA guidelines, has also established short-term guideline concentrations (SGCs) and annual guideline concentrations (AGCs) for exposure limits that were also used in the analysis when EPA data were not available. AGCs for the carcinogenic pollutants is based on cancer risk threshold of one per million. These are allowable guideline concentrations that are considered acceptable concentrations below which there should be no adverse effects on the health of the public. This value could be increased to ten-in-one million, as per New York State Department of Environmental Conservation's Guidelines for the Control of Toxic Ambient Air Contaminants (DAR-1) with NYCDEP concurrence, if the emissions from the facility or facilities causing this increase are controlled using Best Available Control Technology (BACT).

Once the risk of each carcinogenic compound is estimated, they are summed together. If the total incremental cancer risk is estimated to be less than or equal to one in one million (1.0 E-06), the risk due to all carcinogenic pollutant releases is considered to be insignificant. Once the chronic non-cancer hazard quotient (HQ) of each compound is established, they are summed together to arrive at the total hazard index (HI). HQ's are also estimated for the carcinogenic pollutants where they have an appropriate guideline values (*RfC's*). If the HI is less than or equal to one, then the non-carcinogenic risk is considered to be insignificant. Similar to this, once the acute hazard quotient (AHQ) of each compound is established, they are summed together to arrive at the total acute hazard index (AHI). If the AHI is less than or equal to one, then the acute non-carcinogenic risk is considered to be insignificant.

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

Carcinogens

Individual lifetime cancer risk through direct inhalation of carcinogen is estimated using the following equation (HHRAP, Table B-5-1 and C-2-1):

Cancer Risk (CR) = EC x URF and EC = C_a x EF x ED/AT x 365 days/year

Where:

EC = annual exposure concentrations of compound, µg/m^3
C_a = annual ambient air concentration of specific pollutant (estimated by the dispersion model), µg/m^3
URF = compound-specific inhalation unit risk factor in (µg/m^3)$^{-1}$
EF = exposure frequency, days/year (EPA recommends to use 350)
ED = exposure duration, year (EPA recommends value of 30 for adult resident)
AT = averaging time, year (EPA assumes 70 years of lifetime exposure)

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

Non-Carcinogens

Chronic non-cancer hazard quotients (HQ) through inhalation are estimated using the following equation (HHRAP, Table B-5-1 and C-2-2):

HQ = EC x 0.001/RfC and EC = C_a x EF x ED/AT x 365 days/year

Where:

EC = exposure concentrations of compound, µg/m^3
C_a = total ambient air concentration of specific pollutant (estimated by the dispersion model), µg/m^3
RfC = reference dose concentration, established by the EPA, mg/m^3
EF = exposure frequency, days/year (EPA recommends to use 350)
ED = exposure duration, year (EPA recommends value of 30 for adult resident)
AT = averaging time, year (EPA recommends value of 30 for non-carcinogens)
0.001 = units conversion factor, mg/µg

Acute hazard quotients through inhalation (AHQ) are estimated using the following equation (HHRAP, Table C-2-3):

AHQ = C_{acute} x 0.001/AIEC

Where:

C_{acute} = 1-hour air concentration, (estimated by the dispersion model), µg/m^3
AIEC = 1-hour acute inhalation exposure guideline value, mg/m^3

0.001 = units conversion factor, mg/µg

Once the chronic non-cancer (HQ) or acute hazard quotients (AHQ) of each compound are established, they are summed together to arrive at the total chronic non-cancer (HI) or acute hazard index (AHI). If the total chronic non-cancer or acute hazard indexes are less than or equal to one, then the non-cancer or acute risk is not considered to be significant.

DISPERSION ANALYSES

A dispersion modeling analysis of toxic pollutants that may affect the proposed developments was conducted using the same version of the EPA AERMOD 7.6 dispersion model (EPA version 12060) that was used in the HVAC analysis. The exposure concentrations produced from the AERMOD model were then used to estimate cancer risk thru inhalation and chronic non-cancer and acute hazard indexes for each pollutant utilizing guideline values.

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

A receptor grid that includes both elevated and ground level receptors was developed where ground level elevated receptors were placed on the affected development sites located near each emission source at multiple elevations depending on the location and height of the emission sources. Preliminary tests were conducted for each source-receptor configuration, with receptors placed at multiple elevations on the faces of the nearby proposed buildings, to evaluate the locations and elevations where the highest impacts would occur.

The highest resulting concentration values found at any receptors were used in the health risk assessment. Five consecutive years of meteorological data from the LaGuardia Airport were used.

EMISSION DATA AND STACK PARAMETERS

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

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

INDUSTRIAL FACILITIES AND AIR TOXIC EMISSIONS EVALUATED

Facilities

Twenty eight (27) permits were identified from the NYCDEP database for facilities located within 400 feet of the development sites - seven (7) for dry cleaning facilities, seven (7) for manufacturing facilities, six (6) for spray booth facilities, three (3) for woodworking facilities, three (3) for laundry facilities, and one (1) for emergency generator,

Based on field survey it was concluded that:

- Two of seven dry cleaning facilities (Permits PA066698 and PA061098) are no longer operating or ceased their operations;
- Four out of seven manufacturing facilities (Permits PA006493, PA006953, PA034472, and PA035072) are no longer operating and the site is currently occupied by residential buildings;
- One facility (Permit PB035711) for a manufacturing facility located on the same block and lot as the projected site C;
- Three spray booth facilities (PA043276, PA022896, and PA011174) are no longer operating or ceased their operations;
- One woodworking facility (Permit PA021076) is no longer operating and the site is currently occupied by residential building;
- Two of three laundry facilities (Permits PA005677 and PA057488) are no longer operating or ceased their operations, and
- One laundry facility (Permit PA042372) is located at the same block and lot as projected site G.

Based on results of the field survey, the permitted facilities that were no longer operating were eliminated from further consideration. In addition, emergency generator was removed from consideration due to the temporary nature of its operations.

The field survey was also identified ten (10) non-permitted facilities that are currently operating within 400 feet from development sites – three dry cleaning facilities (Los Primos Dry Cleaner & Tailor, L & M Cleaners, and Speed French Cleaners), and seven (7) auto body repair shops with one of them located on the same block as projected Site E.

As a result, a total of twelve (12) permitted facilities (five dry cleaners, two manufacturing facilities, three spray booths, and two woodworking facilities) and nine non-permitted facilities (three dry cleaners and six auto body shops) were included in the analysis.

Pollutants and Emission Rates

Multiple pollutants are released from the identified facilities, two of which are carcinogens -- tetrachloroethylene (PERC) from the dry cleaners, and one is potential carcinogen - dioctyl phthalate. However, no cancer risk factor is currently available for dioctyl phthalate which is undergoing some research study. Pollutant emission rates for this analysis were estimated as follows:

Spray Booth Operations

- It was conservatively assumed that all non-permitted auto body repair shops will be equipped with spray booth. Because no data are available for spray booth operations at these facilities regarding type and quantity of paint used, type and duration of application, and/or control efficiency of the equipment, the prototypical composition of VOC emissions for auto spray paint booths operations was assumed based on representative data from prototypical facilities listed in the NYCDEC DAR-1 database. As a conservative measure, the highest emission rates for the typical pollutants emitted from spray booth found in the database were used. This results in a worst-case analysis of the potential emissions of the individual pollutants. All emissions of solids were assumed to be PM10. Based on this information, seven pollutants typically associated with spray booth operations (i.e., acetone, butyl and ethyl acetates, isobutyl acetate, toluene, xylene, methyl ethyl ketone, and particulates) were evaluated.

Dry Cleaning Facilities

- All dry cleaning facilities are currently equipped with 4th generation emission control systems -- with built-in carbon absorber and refrigeration units, as required by the New York State's PERC Dry Cleaning Facilities Regulation (Part 232). These facilities are considered dry-to-dry type non-vented refrigerated totally enclosed systems with, presumably, no emissions. However, according to the permits for these facilities, the efficiency of these control systems is listed as 98 percent, which indicates that 2 percent of the PERC may still be released into the atmosphere from doors, windows, roof vents, and other openings throughout the facility - as fugitive emissions. Therefore, for the conservative purpose of this analysis, 98 percent control efficiency was applied to estimate PERC emissions from these dry cleaning facilities and the remaining two (2) percent were treated as fugitive emissions that were modeled as volume sources. Lateral and vertical dispersion parameters of the volume sources were developed based on the configuration and dimensions of a typical dry cleaning facility with natural ventilation.
- PERC emission rates for five permitted dry cleaners were obtained from the permit information while PERC emission rates for three non-permitted dry cleaner facilities were assumed to be equal to the highest PERC rate found among the permitted facilities.

A detailed dispersion modeling analysis was conducted to estimate the potential impact of the air toxic emissions of the identified facilities on the projected and potential development sites.

RESULTS OF THE CANCER RISK AND HAZARD INDEX EVALUATION

Table N-13 provide permit information for the existing permitted and non-permitted industrial sources considered in the analysis, including type and location of each facility, its permit number, emission point(s), contaminant name, CAS registry number, and hourly and annual emission rates for each pollutant.

Table N-14 provides estimated annual (long-term) exposure concentrations, cancer risks for each pollutant and total incremental cancer risk (CR), and chronic non-cancer quotients for each pollutant and total non-cancer hazard index (HI). Chronic non-cancer quotients (HQ) are also estimated for the carcinogenic pollutants where they have an appropriate guideline values (e.g., *RfC*). The pollutant concentrations shown in table are the maximum values estimated at any of receptor locations. The full set of exposure concentrations, cancer risk values at each receptor locations and source group, and non-cancer chronic and acute quotients for each pollutant are provided in the backup documentation for this analysis. Also provided are the assumptions, parameters, and equations used in estimating these values.

As shown on **Table N-14**, the total individual cancer risk and the total cancer risk caused by the identified facilities (0.02 in-million) are below the conservative one-in-million threshold established by EPA. Therefore, the cancer risk increase under the Proposed Action is not considered to be significant.

As also shown in Table N-14, the total chronic non-cancer quotients (HQ) and total hazard index (HI) caused by both the carcinogenic and non-carcinogenic pollutants emitted from all of sources combined is estimated to be 0.02. This value is below the level (of 1) that is considered by the EPA to be significant.

Table N-15 provides estimated 1-hour (short-term) exposure concentrations and acute hazard quotients (AHQ) for each pollutant and the total acute hazard index (AHI). As shown in this table, the total acute hazard index caused by all the pollutants emitted from all of sources combined is estimated to be 0.04. This value is below the level (of 1) that is considered by the EPA to be significant.

SUMMARY OF RESULTS

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

Table N-13
Existing Active Industrial Source Permit Information

Facility Name	Facility Location			Permit Information							
	Block	Lot	Address	Permit	Facility Type	Pollutant	CAS No.	Hourly Rate		Annual Rate	
								lbs/hour	g/sec	lbs/year	g/sec
Acosta's Cleaners	1927	65	509 De Kalb Ave	PB058203	Dry Cleaning	PERC	00127-18-4	9.2E-03	1.2E-03	1.1E+01	1.6E-04
Atlantis Launder	1750	11	873 Bedford	PB045105	Dry Cleaning	PERC	00127-18-4	1.5E-02	1.9E-03	1.9E+01	2.7E-04
Nanz Custom Hardward Inc.	3135	36	21 Belivedere St	PB045101	Manufacturing	Sodium Hydroxide	01310-73-2	1.0E-03	1.3E-04	1.6E+00	2.3E-05
						Sulfuric Acid Mist	07664-93-9	1.0E-03	1.3E-04	1.6E+00	2.3E-05
Rodriguez Dry Cleaners	1618	8	19 Patchen Ave	PB053201	Dry Cleaning	PERC	00127-18-4	8.2E-04	1.0E-04	1.4E+01	2.0E-04
Embassy Packaging	1782	1	335 Throop	PA045389	Manufacturing	Particulates	NY075-00-0	1.0E-03	1.3E-04	1.6E+00	2.3E-05
Eddie Cleaners	1588	1	103 Marcus	PA042696	Dry Cleaning	PERC	00127-18-4	5.0E-03	6.3E-04	7.5E+00	1.1E-04
South Oxford Properties	1954	19	222 Clifton Pl	PB007312	Woodworking	Particulates	NY075-00-0	1.0E-03	1.3E-04	1.6E-01	2.3E-06
Merit Cleaners	1925	62	455 De Kalb Ave	PA068498	Dry Cleaning	PERC	00127-18-4	6.0E-03	7.6E-04	9.0E+00	1.3E-04

Table N-13 (Continued)

Facility Name	Facility Location			Permit Information							
	Block	Lot	Address	Permit	Facility Type	Pollutant	CAS No.	Hourly Rate		Annual Rate	
								lbs/hour	g/sec	lbs/year	g/sec
Encore Retail System Inc.	1897	9	123 Taaffe Pl	PA047298	Spray Booth	Particulates	NY075-00-0	1.0E-03	1.3E-04	1.6E+00	2.3E-05
						BA	00123-86-4	2.6E-01	3.3E-02	4.2E+02	6.0E-03
						EGM	00111-45-5	3.0E-02	3.8E-03	4.8E+01	6.9E-04
						MEK	00078-93-3	6.3E-01	7.9E-02	1.0E+03	1.4E-02
						MIK	00108-10-1	5.0E-01	6.3E-02	8.0E+02	1.2E-02
						Xylenes	01330-20-7	2.2E-01	2.8E-02	1.8E+02	2.5E-03
						Acetone	00067-64-1	5.8E-01	7.3E-02	9.3E+02	1.3E-02
						Isobutyl Alcohol	00067-63-0	2.6E-01	3.3E-02	4.2E+02	6.0E-03
						Methanol	00067-56-1	3.0E-02	3.8E-03	4.8E+01	6.9E-04
						Dioctyl Phthalate	00117-81-7	1.2E-01	1.5E-02	1.9E+02	2.8E-03
						Toluene	00108-88-3	2.1E-01	2.6E-02	3.4E+02	4.8E-03
						EA	00141-78-6	1.2E-01	1.5E-02	1.9E+02	2.8E-03

Table N-13 (Continued)

Facility Name	Facility Location			Permit Information							
	Block	Lot	Address	Permit	Facility Type	Pollutant	CAS No.	Hourly Rate		Annual Rate	
								lbs/hour	g/sec	lbs/year	g/sec
Encore Retail System Inc.	1897	9	123 Taaffe Pl	PA047198	Spray Booth	Particulates	NY075-00-0	1.0E-03	1.3E-04	1.6E+00	2.3E-05
						BA	00123-86-4	2.6E-01	3.3E-02	4.2E+02	6.0E-02
						EGM	00111-45-5	3.0E-02	3.8E-03	4.8E+01	6.9E-04
						MEK	00078-93-3	6.3E-01	7.9E-02	1.0E+03	1.4E-02
						MIK	00108-10-1	5.0E-01	6.3E-02	8.0E+02	1.2E-02
						Xylenes	01330-20-7	2.2E-01	2.8E-02	1.8E+02	2.5E-02
						Acetone	00067-64-1	5.8E-01	7.3E-02	9.3E+02	1.3E-02
						Isobutyl Alcohol	00067-63-0	2.6E-01	3.3E-02	4.2E+02	6.0E-02
						Methanol	00067-56-1	3.0E-02	3.8E-03	4.8E+01	6.9E-04
						Dioctyl Phthalate	00117-81-7	1.2E-01	1.5E-02	1.9E+02	2.8E-02
						Toluene	00108-88-3	2.1E-01	2.6E-02	3.4E+02	4.8E-02
						EA	00141-78-6	1.2E-01	1.5E-02	1.9E+02	2.8E-02
Kern / Rockenfield Inc.	1895	55	178 Classon	PB030410	Spray Booth	Particulates	NY075-00-0	8.0E-03	1.0E-03	6.5E+00	9.3E-05
Kern / Rockenfield Inc.	1895	55	178 Classon Ave	PB029910	Woodworking	Particulates	NY075-00-0	1.0E-03	1.3E-04	1.6E-01	2.3E-06

Table N-13 (Continued)

Facility Name	Facility Location			Permit Information							
	Block	Lot	Address	Permit	Facility Type	Pollutant	CAS No.	Hourly Rate		Annual Rate	
								lbs/hour	g/sec	lbs/year	g/sec
Non-Permitted Facilities											
Errol's Auto Collision	1913	49	345 Willoughby Ave	No PMT	Auto Body Shop	Acetone	00067-64-1	6.0E-02	7.6E-03	7.5E+01	1.1E-03
						MEK	00078-93-3	6.0E-02	7.6E-03	7.5E+01	1.1E-03
						Toluene	00108-88-3	8.4E-02	1.1E-02	1.1E+02	1.5E-03
						IBAC	00110-19-0	2.0E-02	2.5E-03	7.5E+00	1.1E-04
						BA	00123-86-4	4.5E-01	5.7E-02	5.6E+02	8.1E-03
						EA	00141-78-6	6.0E-02	7.6E-03	7.5E+01	1.1E-03
						Xylenes	01330-20-7	9.0E-03	1.1E-03	1.1E+01	1.6E-04
						Particulates	NY075-00-0	1.0E-03	1.3E-04	2.2E+01	3.1E-04
Eurol's Auto Repair	1928	33	177 Skillman St	No PMT	Auto Body Shop	Acetone	00067-64-1	6.0E-02	7.6E-03	7.5E+01	1.1E-03
						MEK	00078-93-3	6.0E-02	7.6E-03	7.5E+01	1.1E-03
						Toluene	00108-88-3	8.4E-02	1.1E-02	1.1E+02	1.5E-03
						IBAC	00110-19-0	2.0E-02	2.5E-03	7.5E+00	1.1E-04
						BA	00123-86-4	4.5E-01	5.7E-02	5.6E+02	8.1E-03
						EA	00141-	6.0E-02	7.6E-	7.5E+01	1.1E-

Table N-13 (Continued)

Facility Name	Facility Location			Permit Information							
	Block	Lot	Address	Permit	Facility Type	Pollutant	CAS No.	Hourly Rate		Annual Rate	
								lbs/hour	g/sec	lbs/year	g/sec
							78-6		03		03
						Xylenes	01330-20-7	9.0E-03	1.1E-03	1.1E+01	1.6E-04
						Particulates	NY075-00-0	1.0E-03	1.3E-04	2.2E+01	3.1E-04
CNT Auto Repair	1750	9	883 Bedford Ave	No PMT	Auto Body Shop	Acetone	00067-	6.0E-02	7.6E-	7.5E+01	1.1E-
						MEK	00078-	6.0E-02	7.6E-	7.5E+01	1.1E-
						Toluene	00108-	8.4E-02	1.1E-	1.1E+02	1.5E-
						IBAC	00110-	2.0E-02	2.5E-	7.5E+00	1.1E-
						BA	00123-	4.5E-01	5.7E-	5.6E+02	8.1E-
						EA	00141-	6.0E-02	7.6E-	7.5E+01	1.1E-
						Xylenes	01330-	9.0E-03	1.1E-	1.1E+01	1.6E-
Myrtle Auto & Transmission Inc.	1757	23	984 Myrtle Ave	No PMT	Auto Body Shop	Acetone	00067-64-1	6.0E-02	7.6E-03	7.5E+01	1.1E-03
						MEK	00078-93-3	6.0E-02	7.6E-03	7.5E+01	1.1E-03
						Toluene	00108-88-3	8.4E-02	1.1E-02	1.1E+02	1.5E-03
						IBAC	00110-19-0	2.0E-02	2.5E-03	7.5E+00	1.1E-04
						BA	00123-86-4	4.5E-01	5.7E-02	5.6E+02	8.1E-03
						EA	00141-78-6	6.0E-02	7.6E-03	7.5E+01	1.1E-03
						Xylenes	01330-20-7	9.0E-03	1.1E-03	1.1E+01	1.6E-04
						Particulates	NY075-00-0	1.0E-03	1.3E-04	2.2E+01	3.1E-04

Table N-13 (Continued)

Facility Name	Facility Location			Permit Information							
	Block	Lot	Address	Permit	Facility Type	Pollutant	CAS No.	Hourly Rate		Annual Rate	
								lbs/hour	g/sec	lbs/year	g/sec
Fig's Auto Repair	1582	9	1 Lewis Ave	No PMT	Auto Body Shop	Acetone	00067-64-1	6.0E-02	7.6E-03	7.5E+01	1.1E-03
						MEK	00078-93-3	6.0E-02	7.6E-03	7.5E+01	1.1E-03
						Toluene	00108-88-3	8.4E-02	1.1E-02	1.1E+02	1.5E-03
						IBAC	00110-19-0	2.0E-02	2.5E-03	7.5E+00	1.1E-04
						BA	00123-86-4	4.5E-01	5.7E-02	5.6E+02	8.1E-03
						EA	00141-78-6	6.0E-02	7.6E-03	7.5E+01	1.1E-03
						Xylenes	01330-20-7	9.0E-03	1.1E-03	1.1E+01	1.6E-04
						Particulates	NY075-00-0	1.0E-03	1.3E-04	2.2E+01	3.1E-04
Los Primos Dry Cleaner & Tailor	3150	3	917 Broadway	No PMT	Dry Cleaning	PERC	00127-18-4	1.7E-02	2.1E-03	2.1E+01	3.1E-04
Morllo's Auto Repair	1600	8	1082 Broadway	No PMT	Auto Body Shop	Acetone	00067-64-1	6.0E-02	7.6E-03	7.5E+01	1.1E-03
						MEK	00078-93-3	6.0E-02	7.6E-03	7.5E+01	1.1E-03
						Toluene	00108-88-3	8.4E-02	1.1E-02	1.1E+02	1.5E-03
						IBAC	00110-19-0	2.0E-02	2.5E-03	7.5E+00	1.1E-04
						BA	00123-86-4	4.5E-01	5.7E-02	5.6E+02	8.1E-03

Table N-13 (Continued)

Facility Name	Facility Location			Permit Information							
	Block	Lot	Address	Permit	Facility Type	Pollutant	CAS No.	Hourly Rate		Annual Rate	
								lbs/hour	g/sec	lbs/year	g/sec
						EA	00141-78-6	6.0E-02	7.6E-03	7.5E+01	1.1E-03
						Xylenes	01330-20-7	9.0E-03	1.1E-03	1.1E+01	1.6E-04
						Particulates	NY075-00-0	1.0E-03	1.3E-04	2.2E+01	3.1E-04
L & M Cleaners	1623	35	1056 Greene Ave	No PMT	Dry Cleaning	PERC	00127-18-4	1.7E-02	2.1E-03	2.1E+01	3.1E-04
Speed French Cleaners	1479	21	1356 Broadway	No PMT	Dry Cleaning	PERC	00127-18-4	1.7E-02	2.1E-03	2.1E+01	3.1E-04

Notes:
PERC= Tetrachloroethylene
MEK= Methyl Ethyl Ketone
MIK = Methyl Isobutyl Ketone
IBAC = Isobutyl Acetate
EGM = Ethylene Glycol Mono
BA = Butyl Acetate
EA = Ethyl Acetate

TABLE N-14
Cancer Risk (CR) and Chronic Non-Cancer Quotients (HQ) and Total Hazard Index (HI) of the Toxic Pollutants

CAS No.	Chemical Name	Max Estimated Conc. ($\mu g/m^3$)	URF [1]	Estimated Cancer Risk (CR) per million	RfC [2]	Source	Hazard Quotients (HQ)
108-10-	Methyl Isobutyl	2.2E-01			3	DAR-1	7.1E-05
108-88-	Toluene	1.1E+00			5	EPA [3, 4]	2.1E-04
110-19-	Isobutyl Acetate	6.2E-04			17	DAR-1	3.5E-08
111-45-	EGM	1.3E-02			0.23	DAR-1	5.2E-05
123-86-	Butyl Acetate	4.7E-02			17	DAR-1	2.6E-06
127-18-	PERC	1.8E-01	2.6E-07	1.9E-08	0.04	EPA [3, 4]	4.4E-03
1330-	Xylenes	4.9E-02			0.1	EPA [3, 4]	4.7E-04
141-78-	Ethyl Acetate	6.2E-03			3.4	DAR-1	1.8E-06
67-56-1	Methanol	1.3E-02			4	DAR-1	3.2E-06
67-63-0	Isopropyl Alcohol	1.2E-01			7	DAR-1	1.6E-05
67-64-1	Acetone	7.8E-01			30	DAR-1	2.5E-05
75-00-0	Particular Matter	2.2E-01			0.015	DAR-1	1.4E-02
7664-	Sulfuric Acid Mist	4.7E-04			0.001	DAR-1	4.5E-04
78-93-3	Methyl Ethyl	7.8E-01			5	DAR-1	1.5E-04
Total Estimated Cancer Risk (per million)				**0.02**			
Cancer Risk Threshold (per million)				**1.0**			
Total Estimated Non-Cancer Hazard Index (HI)							**0.02**
Non-Cancer Hazard Index Threshold							**1**

Source PB, 2012

Notes:

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

TABLE N-15
Acute Quotients (AHQ) and Total Hazard Index (AHI) of the Toxic Pollutants

CAS No.	Chemical Name	Max Estimated Concentrations ($\mu g/m^3$)	AIEC (1)	Source	Acute Hazard Quotients (AHQ)
108-10-1	Methyl Isobutyl Ketone	2.1E+01	310	EPA (2)	7.0E-05
108-88-3	Toluene	2.0E+02	37	EPA (2)	5.3E-03
111-45-5	EGM	1.2E+00	0.42	DAR-1 (3)	2.9E-03
123-86-4	Butyl Acetate	8.4E+00	95	DAR-1 (3)	8.9E-05
127-18-4	PERC	7.0E+00	20	EPA (2)	3.5E-04
1310-73-2	Sodium Hydroxide	5.6E-02	0.2	DAR-1 (3)	2.8E-04
1330-20-7	Xylenes	9.3E+00	22	EPA (2)	4.2E-04
67-56-1	Methanol	1.3E+00	33	DAR-1 (3)	3.8E-05
67-63-0	Isopropyl Alcohol	1.1E+01	98	DAR-1 (3)	1.1E-04
67-64-1	Acetone	1.4E+02	180	DAR-1 (3)	7.8E-04
75-00-0	Particular Matter	2.8E+00	0.16	DAR-1(3)	1.8E-02
7664-93-9	Sulfuric Acid Mist	5.6E-02	0.12	DAR-1 (3)	4.7E-04
78-93-3	Methyl Ethyl Ketone	1.4E+02	13	DAR-1 (3)	1.1E-02
Total Estimated Acute Hazard Index (AHI)					**0.04**
Total Acute Hazard Index Threshold					**1**

Source: PB, 2012

Notes:

1. AIEC = Acute Inhalation Exposure Concentrations, mg/m^3
2. EPA = Acute Dose-Response Values for Screening Risk Assessment
3. DAR-1 = NYSDEC Policy DAR-1 "Guidelines for the Control of Toxic Ambient Air Contaminants"

O. GREENHOUSE GAS EMISSIONS

INTRODUCTION

As discussed in the 2012 *City Environmental Quality Review (CEQR) Technical Manual*, increased concentrations of greenhouse gases (GHGs) are changing the global climate, resulting in wide-ranging effects on the environment, including rising sea levels, increases in temperature, and changes in precipitation levels. Although this is occurring on a global scale, the environmental effects of climate change are also likely to be felt at the local level. Through the *PlaNYC* 2011 Update, the City has established sustainability initiatives and goals for both greatly reducing GHG emissions and adapting to climate change in the City. The goal to reduce citywide GHG emissions to 30 percent below 2005 levels by 2030 was codified by Local Law 22 of 2008, known as the New York City Climate Protection Act (the "GHG reduction goal"). This goal was developed for the purpose of planning for an increase in population of almost one million residents while achieving significant greenhouse gas reductions. Seeking to expand its goal, the City is undertaking a study to determine potential strategies to reduce its GHG emissions by more than 80% by 2050.

Although the contribution of a proposed project's GHG emissions to global GHG emissions is likely to be considered insignificant when measured against the scale and magnitude of global climate change, certain projects' contribution of GHG emissions still should be analyzed to determine their consistency with the City's citywide GHG reduction goal, which is currently the most appropriate standard by which to analyze a project under CEQR. The *CEQR Technical Manual* recommends that any project resulting in 350,000 square feet of development or more and other energy-intense projects quantify project-related GHG emissions and assess the project's consistency with the citywide GHG reduction goal.

The Proposed Actions, which are expected to facilitate the construction of new multi-unit residential buildings and commercial and mixed-use buildings, as well as the conversion and/or enlargement of several existing buildings, would result in the increased development of over 650,000 gross square feet (gsf), a GHG consistency assessment has been conducted. As such, GHG emissions that would be generated as a result of the Proposed Actions—and measures that would be implemented to limit those emissions—are presented in this chapter, along with an assessment of the Proposed Actions's consistency with the citywide GHG reduction goal.

Principal Conclusion

Following the methodology provided in the *CEQR Technical Manual*, it is estimated that the Proposed Actions would annually result in approximately 3,300 metric tons of GHG emissions from its operations and 150 metric tons reduction of GHG emissions from mobile sources—for an annual total of approximately 3,150 metric tons of GHG emissions or about 0.001% of New York City's 2011 annual total of 54.3 million metric tons.

Pollutants of Concern

Some GHGs, such as carbon dioxide (CO_2), occur naturally and are emitted into the atmosphere through natural processes and human activities. The principal GHGs emitted as a result of human activities are described below.

Carbon Dioxide (CO_2)

CO_2 enters the atmosphere via the combustion of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and also as a result of other chemical reactions (e.g., manufacture of cement). CO_2 is also removed from the atmosphere (or "sequestered") when it is absorbed by plants as part of the biological carbon cycle.

Methane (CH_4)

CH_4 is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices, as well as by the decay of organic waste in municipal solid waste landfills.

Nitrous Oxide (N_2O)

N_2O is emitted during agricultural and industrial activities, as well as during the combustion of fossil fuels and solid waste.

Fluorinated Gases

Hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride are powerful synthetic greenhouse gases that are emitted from a variety of industrial processes. Fluorinated gases are sometimes used as substitutes for ozone-depleting substances (e.g., chlorofluorocarbons [CFCs], hydrochlorofluorocarbons [HCFCs], and halons). These gases are typically emitted in smaller quantities. However, because they are potent greenhouse gases, they are sometimes referred to as High Global Warming Potential gases (High GWP gases).

The *CEQR Technical Manual* lists six GHGs that could potentially be included in the scope of an EIS: CO_2, nitrous oxide (N_2O), methane, Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), and Sulfur Hexafluoride (SF_6). This analysis focused on CO_2, N_2O, and methane as there are no significant direct or indirect sources of HFCs, PFCs, or SF_6 associated with the Proposed Actions.

GHGs differ in their ability to trap heat. To compare emissions of GHGs, compilers use a weighting factor called a Global Warming Potential (GWP), where the heat-trapping ability of 1 metric ton (1,000 kilograms) of CO_2 is taken as the standard, and emissions are expressed in terms of CO_2 equivalents (CO_2e), but can also be expressed in terms of carbon equivalents. The GWPs for the main GHGs are presented in **Table O-1**.

Table O-1
Global Warming Potential for Primary Greenhouse Gases

Greenhouse Gas	Common sources	Global Warming Potential
CO_2 - Carbon Dioxide	Fossil fuel combustion, forest clearing, cement production	1
CH_4 - Methane	Landfills, production and distribution of natural gas and petroleum, anaerobic digestion, rice cultivation, fossil fuel combustion	21
N_2O - Nitrous Oxide	Fossil fuel combustion, fertilizers, nylon production, manure	310
HFCs - Hydrofluorocarbons	Refrigeration gases, aluminum smelting, semiconductor manufacturing	140-11,700*
PFCs - Perfluorocarbons	Aluminum production, semiconductor manufacturing	6,500-9,200*
SF_6 - Sulfur Hexafluoride	Electrical transmissions and distribution systems, circuit breakers, magnesium production	23,900

Notes: Since the Second Assessment Report (SAR) was published in 1995, the IPCC has published updated GWP values in its Third Assessment Report (TAR) and Fourth Assessment Report (AR4) that reflect new information on atmospheric lifetimes of greenhouse gases and an improved calculation of the radiative forcing of CO_2. However, GWP values from the SAR are still used by international convention to maintain consistency in GHG reporting, including by the United States when reporting under the United Nations Framework Convention on Climate Change.

* The GWPs of HFCs and PFCs vary depending on the specific compound emitted. A full list of these GWPs is available in Table ES-1 of the U.S. Environmental Protection Agency's *Inventory of Greenhouse Gas Emissions and Sinks: 1990-2008*, available at: http://epa.gov/climatechange/emissions/usinventoryreport.html.

METHODOLOGY

In accordance with the *CEQR Technical Manual*, the GHG consistency assessment focuses on projects that would result in development of 350,000 square feet or greater. The Proposed Actions are projected to result in an increase of over 650,000 gross square feet (gsf) of residential, commercial and mixed used development at 31 development sites located over 140 blocks.

A project's GHG emissions can generally be assessed in two steps: the first would be to estimate the GHG emissions of the Proposed Actions and the second would be to examine the action in terms of the qualitative goals for reducing GHG emissions consistent with PlaNYC goals. The *CEQR Technical Manual* recommends that the project's emissions be estimated with respect to the following main emissions sources: on-site operational emissions (direct and indirect); mobile source emissions (direct and indirect); and, when applicable, construction emissions and emissions from solid waste management.

Operational emissions and mobile source emissions were considered for this analysis. As the construction schedule for most of the affected buildings is not expected to take longer than two years, a quantitative construction emissions analysis, according to the *CEQR Technical Manual*, is not required. Similarly, because the project is not expected to fundamentally change the City's solid waste management system, no estimate of emissions from solid waste management is required.

GHG Emissions

Operational Emissions

According to the *CEQR Technical Manual*, for projects such as a proposed rezoning action, where the action would result in construction on sites that are not under the control of an applicant and where details such as the specific fuel type to be used are unknown, annual GHG emissions should be estimated based on a project's built floor area. Table 18-3 of the *CEQR Technical Manual* provides the carbon intensities of New York City building types, which were used to calculate annual operations emissions of the Proposed Actions developments.

Table O-2 displays the estimated GHG emissions associated with the operation emissions of the Proposed Actions. As shown, operational GHG emissions are estimated to be approximately 3,300metric tons of carbon dioxide equivalents. This represents less than 0.001 percent of the City's overall GHG emissions in 2011, which, according to the PlaNYC document Inventory of New York City Greenhouse Gas Emissions (September 2011), is approximately 54.3 million metric tons.

Table O-2
Operational Emissions

Building Type	Carbon Dioxide Equivalent (CO_2e) kilogram (kg) / square foot / year	Floor Area (square ft)	CO_2e (metric tons/year)
Commercial	9.43	151,800	1,431
Industrial	23.18	0	0
Institutional	11.42	-291,775	-3,332
Large Residential	6.59	773,219	5,096
Small Residential	4.52	14,655	66
TOTAL			**3,261**

Mobile Source Emissions

The number of annual weekday motorized vehicle trips by mode (cars, taxis, trucks) that would be generated by the proposed project was calculated using the transportation planning assumptions developed for the analysis. The assumptions used in the calculation include average daily weekday person trips and delivery trips by proposed use, the percentage of vehicle trips by mode, and the average vehicle occupancy. Travel distances shown in Table 18-4 of the *CEQR Technical Manual* were used in the calculations of annual vehicle miles traveled by cars and trucks. An average one-way truck trip was assumed to be 38 miles, as per the *CEQR Technical Manual*. Table 18-6 of the *CEQR Technical Manual* was used to determine the percentage of vehicle miles traveled by road type and the mobile GHG emissions calculator was used to obtain an estimate of car, taxi, and truck GHG emissions attributable to the Proposed Actions.

As shown **Table O-3,** annual mobile source emissions related to the proposed project would result in approximately 137 metric tons reductions of carbon dioxide equivalents.

Table O-3
Mobile Source Emissions

Carbon Dioxide Equivalent (CO_2e) Emissions (metric tons/year)				
Road type	**Passenger Vehicles**	**Taxis**	**Trucks**	**TOTAL**
Local	92	-148	23	-34
Arterial	154	-256	39	-63
Interstate/Expressway	103	-169	25	-40
TOTAL	**346**	**-574**	**88**	**-137**

Construction Phase Emissions

As per *CEQR Technical Manual* guidance, emissions associated with construction of the Proposed Actions have not been estimated explicitly for the proposed project, but other similar analyses have shown that construction emissions (both direct and emissions embedded in the production of materials, including on-site construction equipment, delivery trucks, and upstream emissions from the production of steel, rebar, aluminum, and cement used for construction) would be equivalent to the total emissions from the operation of the buildings over approximately 3 to 10 years.

Emissions from Solid Waste Management

The Proposed Actions would not change the City's solid waste management system. Therefore, as per *CEQR Technical Manual* guidance, GHG emissions from solid waste generation, transportation, treatment, and disposal were not quantified.

PROJECTED GHG EMISSIONS FROM THE PROPOSED ACTIONS

The detailed operational and mobile source emissions estimates are presented in **Table O-2** and **Table O-3**, respectively. The total projected GHG emissions from the proposed project are shown in **Table O-4** below. The estimated total of 3,150 metric tons of GHG emissions is about 0.001% of New York City's 2011 annual total of 54.3 million metric tons.

Table O-4
Total Emissions

Emissions Source	CO2e Emissions (metric tons)
Operations	3,300
Mobile Sources	-150
TOTAL	**3,150**

Consistency With The GHG Reduction Goal

According to the *CEQR Technical Manual*, the assessment of consistency with the City GHG reduction goal should answer the following question: Is the project consistent with the goal of reducing GHG emissions, specifically the attainment of the City's established GHG reduction

goal of reducing citywide GHG emissions by 30 percent below 2005 levels by 2030. Four major goals are cited in the *Manual*, as follows:

- Pursue transit-oriented development;
- Generate clean, renewable power through replacement of inefficient power plants with state-of-the-art technology and expanding the use of clean distributed generation; (not applicable in the case of this Proposed Actions);
- Construct new resource- and energy-efficient buildings (including the use of sustainable construction materials and practices) and improve the efficiency of existing buildings (applies only to new construction for this Proposed Actions); and
- Encourage sustainable transportation through improving public transit, improving the efficiency of private vehicles, and decreasing the carbon intensity of fuels.

The Proposed Actions show consistency with these goals in that:

- The project are is convenient to public transit and neighborhood services;
- The project utilizes exiting urban infrastructure; and
- By revitalizing an underutilized residential/commercial area, the project would provide affordable housing opportunities for New Yorkers and enhance the quality of life for residents and the community.

The *CEQR Technical Manual* also includes a specific listing of sustainability and efficiency measures to consider in the assessment of consistency with the GHG Reduction Goals. This assessment is summarized below.

- *Provide access to public transportation.* The location of the Proposed Actions affords convenient access to public transportation including multiple bus routes and subway lines.
- *Select brownfields or greyfields for redevelopment to minimize vegetation/forest loss.* Although the development sites are not brownfields, all are developed lots in an urban setting, and their development does not involve vegetation or forest loss.
- *Incorporate mixed-use design to promote short commutes for employment and shopping.* The Proposed Actions include local retail districts to serve needs of the residents and the community thereby reducing the need for vehicular transportation
- *Provide permanent protection for open space on the project site.* All zoning districts that are proposed as a part of the Proposed Actions are contextual districts in which the Quality Housing Program is required. Per the regulations of the Quality Housing Program, adequate open space would be provided for every new multifamily residential building.
- *Design project to support alternative transportation (walking and bicycling).* The Proposed Actions area is located within convenient walking or biking distance of public transit; shopping and other neighborhood services; and many roads in the area have bike lanes.
- *Design water efficient landscaping*. It is anticipated that on-site plantings would be native species and drought resistant.

- *Use energy efficient boilers*. It is anticipated that many of the boilers for space heating and domestic hot water would be natural gas fired hot water semi-condensing or condensing type.
- *Develop or support multi-use paths to and through site*. The Proposed Actions area is integrated into the urban fabric to provide pedestrian / bike access to transit, shopping and neighborhood services.
- *Size parking capacity to meet, but not exceed, parking required by zoning*. Parking is sized to meet zoning requirements.
- *Provide bicycle storage*. Bicycle storage is provided in accordance with zoning requirements.
- During construction, the Proposed Actions would comply with the NYC Air Pollution Control Code, which includes use of ultra-low sulfur diesel (ULSD) fuel and best available technology (BAT).

CONCLUSIONS

The Proposed Actions would result in an estimated 3,150 metric tons of carbon dioxide equivalents per year or about 0.001% of New York City's 2011 annual total of 54.3 million metric tons.

According to Table 8 of the *of New York City Greenhouse Gas Emissions*, the total for buildings (the table does not provide a breakdown by type of building) was 38.3 million metric tons. The figure for on-road transportation was 8.4 million metric tons, of which passenger cars contributed 6.8 and trucks 1.6 million metric tons. As compared to these values, the contribution of the Proposed Actions' GHG emissions to GHG emissions citywide is insignificant; in fact it is approximately 0.001 percent of the total (and 0.03 percent of building-related emissions). Further, the buildings associated with the Proposed Actions, as dense and mixed-use developments, advance New York City's GHG reduction goals as stated in *PlaNYC*. In addition, the developments could be subject to changes in the New York City Building Code that are currently being considered to require greater energy efficiency and to further the goals of *PlaNYC*. These could include energy efficiency requirements, specifications regarding cement, and other issues influencing GHG emissions.

The Proposed Actions are, therefore, consistent with the City's citywide GHG and climate change goals. In conclusion, there would be no significant adverse GHG emission or climate change impacts.

P. NOISE

INTRODUCTION

Noise pollution in an urban area comes from many sources. Some sources are activities essential to the health, safety and welfare of the city's inhabitants, such as noise from emergency vehicle sirens, sanitation trucks, construction and maintenance equipment. Other sources, such as train and traffic noise, are essential by products of maintaining the viability of the city as a place for people to live and do business. Although all these noise-producing activities are necessary, the noise they generate is largely undesirable and detracts from the quality of life of the human environment. Furthermore, there is increasing evidence that excessive noise is a threat to the general public health.

This chapter assesses the potential for the proposed Bedford Stuyvesant Rezoning action to result in significant adverse noise impacts. In accordance with the City Environmental Quality Review (CEQR) process, ambient noise levels adjacent to the proposed rezoning action were measured at representative locations within the study area. Projected traffic trip generation as a result of the rezoning action was projected to be below the level which would result in the need to complete a detail traffic study. Consequently, the future exterior noise exposure levels were established based on the ambient noise monitoring program. Furthermore, building window/wall attenuation requirements for maintaining interior noise levels within CEQR limits were established based on the peak hour ambient noise measurements.

The noise analysis concludes that the traffic generated by the proposed rezoning action would not have the potential to produce significant noise level increases at any sensitive receptors near the study area. With the incorporation of the attenuation levels specified below under "Noise Attenuation Measures," noise levels within the proposed buildings would comply with all applicable requirements. Although measured noise levels within the most of the study area were generally within the CEQR "marginally unacceptable" limits, noise exposure along portions of Broadway would be within the "clearly unacceptable range for a small cluster of proposed development buildings. In general, noise levels were highest along Broadway due to NYC Transit train pass-bys generated by the elevated J, M and Z subway lines. The details of the ambient noise monitoring survey including the one-third octave band analysis, and the building attenuation requirements are provided in Appendix E.

Principal Conclusions

The analysis concludes that the traffic generated by the Proposed Actions would not have the potential to produce significant increases to noise levels at any sensitive receptors within the project study area. Existing and future With-Action noise levels are projected to show essentially no change. Proposed ground level development sites located nearest the J, L and Z subway lines along Broadway are exposed to existing noise levels in the "clearly unacceptable" range due to a combination of train and traffic noise and these exposures will remain unchanged under build conditions. Noise attenuation requirements above the elevated train along Broadway were reduced by 3 dBA, in consultation with the New York City Department of Environmental Protection (DEP), to account for the noise reduction further from the traffic source. Noise

exposure at these sites will remain in the "marginally unacceptable" range. Other development sites located farther away from the main traffic corridors (Myrtle Ave and Broadway) will see noise exposure levels within the "marginally acceptable" category. Window-wall attenuation requirements associated with each of these varying noise exposure levels at each of the representative noise measurement sites are provided in this chapter and are described in detail in Appendix E for all proposed and potential development sites. Furthermore, the noise monitoring survey findings and noise PCE calculations are provided in Appendix E.

Acoustical Fundamentals

Noise is considered unwanted sound. 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 (cps). One cycle per second is known as 1 Hertz ("Hz"). People can hear sound over a relatively limited range of frequencies, generally between 20 Hz and 20,000 Hz. Furthermore, the human ear does not perceive all frequencies equally well. High frequencies (e.g., a whistle) are more easily discernible 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 hearing range. 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 P-1, the threshold of human hearing is defined as 0 dBA; very 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.

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.

Combinations of different sources are added logarithmically due to the dBA scale's nature. For example, two noise sources-a vacuum cleaner operating at approximately 72 dBA and a telephone ringing at approximately 58 dBA - do not combine to create a noise level of 130 dBA (the equivalent of a jet airplane or air raid siren as show in Table P-1). In fact, the noise produced by the telephone ringing would be largely masked by the noise of the vacuum cleaner, and the combination of these two noise sources would yield a total noise level of 72.2 dBA.

Table P-1: Common Noise Levels

Sound Source	dBA
Military jet, air raid siren	130
Amplified rock music	110
Jet takeoff at 500 meters	100
Train horn at 30 meters	90
Busy city street, loud shout	80
Highway traffic at 15 meters, train	70
Predominantly industrial area	60
Background noise in an office	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.
Source: *Cowan, James P.* Handbook of Environmental Acoustics. *Van Nostrand Reinhold, New York, 1994. Egan, M. David, Architectural Acoustics. McGraw-Hill Book Company, 1988.*

Community Response to Changes in Noise Levels

As indicated in Table P-2, the average ability of an individual to perceive changes in noise levels is well documented. Generally, changes in noise levels less than 3 dBA are barely perceptible to most listeners, whereas 10 dBA changes are normally perceived as doublings (or halving) of noise levels. These guidelines permit direct estimation of an individual's probable perception of changes in noise levels.

It is also possible to characterize the effects of noise on people by studying the aggregate response of people in communities. The rating method used for this purpose is based on a statistical analysis of the fluctuations in noise levels in a community, and integrates the fluctuating sound energy over a known period of time, most typically during 1 hour or 24 hours. Various government and research institutions have proposed criteria that attempt to relate changes in noise levels to community response. Table P-3 outlines one commonly applied criterion for estimating this response is incorporated into the community response scale proposed by the International Standards Organization (ISO) of the United Nations. This scale relates changes in noise level to the degree of community response and permits direct estimation of the probable response of a community to a predicted change in noise level.

Table P-2 Average Ability to Perceive Changes in Noise Levels

Change (dBA)	Human Perception of Sound
2-3	Barely perceptible
5	Readily noticeable
10	A doubling or halving of the loudness of sound
20	A dramatic change

Source: Bolt Beranek and Neuman, Inc., Fundamentals and Abatement of Highway Traffic Noise, Report No. PB-222-703. Prepared for Federal Highway Administration, June 1973.

Table P-3 Average Ability to Perceive Changes in Noise Levels

Change (dBA)	Category	Description
0	None	No observed reaction
5	Little	Sporadic complaints
10	Medium	Widespread complaints
15	Strong	Threats of community action
20	Very strong	Vigorous community action

Source: International Standards Organization, Noise Assessment with Respect to Community Responses, ISO/TC 43 (New York: United Nations, November 1969).

Effects of Distance on Sound

Sound varies with distance. For example, highway traffic 50 feet away from a person listening to the traffic noise (considered a receptor) typically produces sound levels of approximately 70 dBA. The same highway noise would be measured as 66 dBA at a distance of 100 feet, assuming "soft" ground conditions. Soft ground conditions are those surfaces consisting of grass or short vegetation and hard surfaces are typically those comprised of concrete pavements. Soft ground surfaces absorb more of the sound as you move further away from the noise source. The decrease of sound with distance is known as "drop-off" rate. The outdoor drop-off rate for line sources, such as traffic, is a decrease of approximately 4.5 dBA (for soft ground) for every doubling of distance between the noise source and receiver. Whereas the drop-off rate for line sources under hard ground conditions is 3 dBA for every doubling of distance. Sound sources not moving are referred to as stationary noise sources. Assuming soft ground, for point sources, such as amplified rock music, the outdoor drop-off rate is a decrease of approximately 7.5 dBA for every doubling of distance between the noise source and receiver (for hard ground the outdoor drop-off rate is 6 dBA for point sources).

Sound Level Descriptors

Because the sound pressure level unit of dBA describes a noise level at just one moment and very few noises are constant, other ways of describing noise that fluctuates over extended periods have been developed. One way is to describe the fluctuating sound heard over a specific time period as if it had been a steady, unchanging sound. For this condition, a descriptor called the "equivalent sound level," L_{eq}, can be computed. L_{eq} is the constant sound level that, in a given situation and time period (e.g., 1 hour, denoted by $L_{eq(1)}$, or 24 hours, denoted by $L_{eq(24)}$, conveys the same sound energy as the actual time-varying sound. Statistical sound level descriptors such as L_1, L_{10}, L_{50}, L_{90}, and L_x are used to indicate noise levels that are exceeded 1, 10, 50, 90 and x percent of the time, respectively. Discrete event peak levels are given as L_1 levels.

The relationship between L_{eq} and exceedance percentile noise levels is worth noting. Because L_{eq} is defined as sound energy rather than straight numerical statistical terms, it is not simply related to the levels of exceedance. If the noise fluctuates very little, L_{eq} will approximate L_{50} or the median level. If the generated noise fluctuates broadly, the L_{eq} will be approximately equal to the L_{10} value. If extreme fluctuations are present, the $L_{eq(1)}$ will exceed the L_{90} or the background level by 10 or more decibels. Thus the relationship between $L_{eq(1)}$ and the percentile levels of

exceedance will depend on the character of the generated noise. In community noise measurements, it has been observed in general that the L_{eq} is generally between L_{10} and L_{50}.

Noise Standards and Criteria

New York CEQR Noise Standards

The January 2012 *CEQR Technical Manual* contains noise exposure guidelines for use in New York City environmental impact review, and required attenuation values to achieve acceptable interior noise levels. These values are shown in Tables P-4 and P-5. Noise exposure is classified into four categories: "acceptable," "marginally acceptable," "marginally unacceptable," and "clearly unacceptable." The CEQR Technical Manual criteria are based on maintaining an interior noise level for the worst-case hour L_{10} or less than or equal to 45 A-weighted decibels (dBA).

Table P-4:
Noise Exposure Guidelines for Use in City Environmental Impact Review[1]

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

Notes:

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

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

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

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

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

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

Table P-5:
Required Attenuation Values To Achieve Acceptable Interior Noise Levels

	Marginally Unacceptable				Clearly Unacceptable
Noise Levels With Proposed Actions	$70<L_{10}\leq73$	$73<L_{10}\leq76$	$76<L_{10}\leq78$	$78<L_{10}\leq80$	$80<L_{10}$
Attenuation[A]	(I) 28 dB(A)	(II) 31 dB(A)	(III) 33 dB(A)	(IV) 35 dB(A)	$36 + (L_{10} - 80)$[B] dB(A)

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

[B] Required attenuation values increase by 1 dB(A) increments for L_{10} values greater than 80 dBA.

Source: New York City Department of Environmental Protection

Noise Prediction Methodology

A noise screening analysis was completed at each of the representative noise monitoring locations using the Passenger Car Equivalent (PCE) methodology as described in Chapter 19 of the 2012 *CEQR Technical Manual* for estimating future noise levels from mobile source noise. Using this technique, peak hour existing, future No-Action and With-Action traffic volumes are converted into Noise PCE values. Incremental changes in future noise levels are computed based on the logarithmic ratio of Noise PCE values. These incremental noise level changes are calculated between existing and No-Action traffic scenarios and between No-Action and With-Action traffic scenarios. The projected incremental noise level changes are then added to the measured existing noise levels to approximate future No-Action and With-Action noise levels. The Noise PCE calculation assumes that one medium-duty truck generates the noise equivalent of 13 cars, and one heavy-duty truck is assumed to generate the noise equivalent of 47 cars, and one bus is assumed to generate the noise equivalent of 18 cars.

If a doubling of Noise PCE levels is found to occur from the noise screening analysis then a significant noise impact from the project is found to occur and a refinement in the noise analysis is completed using the Federal Highway Traffic Model (TNM 2.5). For the Bedford Stuyvesant Rezoning Project, no doubling of Noise PCE levels was found to occur based on the results of the screening evaluation. Since the Proposed Actions would not generate sufficient new traffic to cause a significant noise impact no TNM mobile source noise analysis is required.

EXISTING NOISE LEVELS

Selection of Noise Receptor Locations

A total of six (6) receptor sites within the study area were selected for evaluation of noise attenuation requirements. These locations are described below and depicted in Figures P-1 and P-2. The existing land use adjacent to each site is provided in Table P-6. Representative noise monitoring locations were chosen based on the following criteria:

1. Locations where the highest noise levels are likely to occur based upon the consideration of existing land use patterns (e.g., locations near rail lines, near major commercial roadways;
2. Near potential development sites;
3. To provide a comprehensive geographic coverage throughout the study area to get an accurate depiction of the overall ambient noise environment.

The noise measurement locations were collected at the following locations:

- Site 1: Myrtle Avenue between Nostrand and Marcy Avenues
- Site 2:Northwest corner of Myrtle Avenue and Lewis Avenue
- Site 3:Southwest corner of Broadway and Myrtle Avenues
- Site 4:Southeast corner of Patchen and Lexington Avenues
- Site 5:West corner of Broadway and Lexington Avenue

Table P-6:
Noise Receptor Locations

Site	Location	Existing Use
1	Vacant Lot between 774 Myrtle Ave and 810 Myrtle Ave	Vacant Lot
2	Sumner Houses, NW Corner of Myrtle Ave and Lewis Ave	Residential
3	943B Broadway (SW corner adjacent to Myrtle Avenue)	Commercial
4	61 Patchen Ave (SE corner of Patchen & Lexington Ave)	Residential
5	West Corner of Broadway and Lexington Avenue	Mixed Use

Noise Monitoring

At each receptor site existing noise levels were measured and recorded for each of the three noise analysis time periods by using laboratory certified sound sampling equipment. Existing noise levels at each receptor site were collected for 20-minute duration sampling time during the three weekday peak periods-AM (7:00 - 9:00 AM), midday (MD) (12:00- 2:00PM) and PM (4:00-6:00PM).

Noise Monitoring Equipment

Ambient noise measurements were performed using one Brüel & Kjær (B&K) Sound Level Meter (SLM) Model Type 2260 (serial #2001710) outfitted with a B&K Type 4189 ½-inch microphone (serial # 2021255). The SLM was calibrated before and after noise measurement using a Brüel & Kjær Type 4231 sound-level meter calibrator (serial # 2170008). The Brüel & Kjær SLM Model 2260 is a Type 1 precision sound recording instrument satisfies ANSI Standard S1.4-1983 (R2006) requirements for measurement and sampling accuracy. The SLM has laboratory calibration date of June 25, 2010 which is valid through June 25, 2011.

The SLM assembly was mounted at a height of 5 feet above the ground surface on a tripod and placed at least six feet away from any large sound-reflecting surface to avoid major interference with sound propagation. All noise measurements were recorded on the A-scale (dBA). The data were digitally recorded and stored by the SLM at the end of the measurement period in units of dBA. Measured noise descriptors included: Leq, L_1, L_{10}, L_{50}, L_{90} and associated one-third octave band spectrum 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.

Existing Noise Levels at Receptor Locations

The noise measurement locations are depicted on Figures P-1 and P-2. A summary of the measured noise levels is provided in Table 14-7. At all monitoring sites, vehicular traffic was the dominant noise source. Measured noise levels are moderate to relatively high and reflect the level of vehicular activity on the adjacent streets and to noise exposure from the elevated J, M

and Z subway trains tracks which run along Broadway. In terms of the CEQR noise exposure criteria (Table P-4), the existing peak L_{10} noise levels at Site 4 would be in the "Marginally Acceptable" category, Sites 1, 2, 5 and 6 would be in the "Marginally Unacceptable" category and Site 3 would be in the "Clearly Unacceptable" category.

Table P-7
Existing Noise Levels (dBA)

Site	Measurement Location	Time	L_{eq}	L_1	L_{10}	L_{50}	L_{90}
1	Vacant Lot between 774 Myrtle Ave and 810 Myrtle Ave	AM	68.0	78.8	70.8	62.8	53.3
		MD	68.4	78.4	71.2	64.5	55.1
		PM	69.7	78.9	69.6	62.2	56.2
2	Sumner Houses, NW Corner of Myrtle Ave and Lewis Ave	AM	69.7	78.7	72.8	67.1	61.0
		MD	70.7	81.5	73.0	67.2	61.1
		PM	68.7	78.7	70.9	65.6	59.2
3	943B Broadway, SW corner adjacent to Myrtle Avenue	AM	80.8	89.6	84.6	77.6	72.9
		MD	79.0	87.4	82.8	76.0	71.4
		PM	80.4	88.5	83.5	76.8	71.9
4	61 Patchen Avenue, SE corner of Patchen & Lexington Ave	AM	63.5	73.3	66.2	60.6	55.6
		MD	65.4	76.6	67.7	59.9	53.9
		PM	65.6	74.9	68.2	61.7	55.6
5	West Corner of Broadway and Lexington Avenue	AM	81.1	95.2	79.8	70.7	64.6
		MD	77.9	90.2	79.3	73.4	67.1
		PM	81.3	95.4	79.1	68.7	62.6

Note: Field measurements performed by Parsons Brinckerhoff on March 20, 21 and 22, 2012.

Figure P-1
Noise Receptor Locations

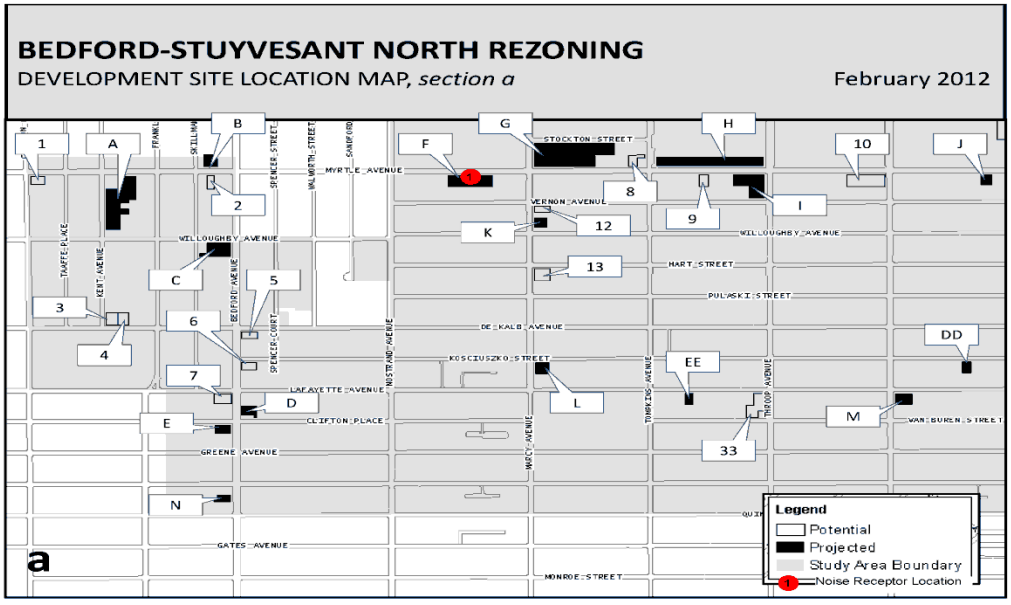
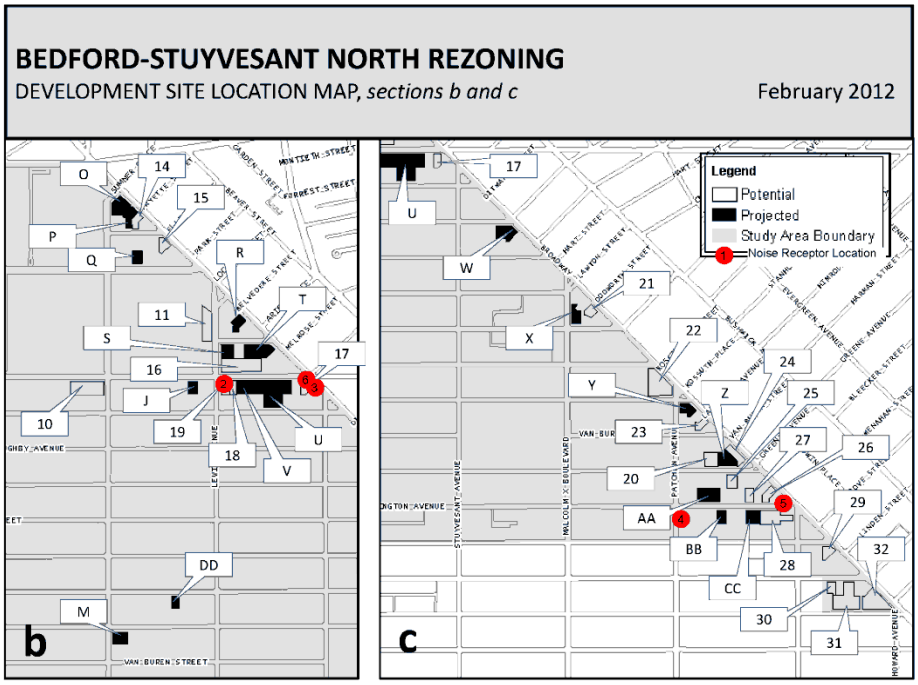


Figure P-2
Noise Receptor Locations



FUTURE WITHOUT THE PROPOSED ACTIONS

Using the Noise PCE methodology previously described future noise levels without the Proposed Actions (No Build conditions) were calculated for the three analysis periods in the year 2022 at representative noise sensitive receptor locations identified within the West Harlem Rezoning study area. Table P-8 provides a summary of the calculated noise levels.

In the future without the Proposed Actions, noise levels at and adjacent to the project area would be generally comparable to those in the existing conditions. Throughout the project study area peak hour noise levels are projected to increase by 0.4 dBA. Increases of this magnitude would not be perceptible and based on the CEQR criteria would be considered insignificant.

Table P-8
2022 No Build Noise Levels

Receptor	Location	Date	Time	2012 Existing Noise Levels (dBA)		2022 No Build Noise Levels dBA		
				L_{eq}	L_{10}	L_{eq}	L_{10}	Change
1	Vacant Lot between 774 Myrtle Ave and 810 Myrtle Ave	Weekday	AM	68.0	70.8	68.4	71.3	0.4
			MD	68.4	71.2	68.8	71.6	0.4
			PM	69.7	69.6	70.1	70.0	0.4
2	Sumner Houses, NW Corner of Myrtle Ave and Lewis Ave	Weekday	AM	69.7	72.8	70.1	73.2	0.4
			MD	70.7	73.0	71.1	73.4	0.4
			PM	68.7	70.9	69.1	71.3	0.4
3	943B Broadway, SW corner adjacent to Myrtle Avenue	Weekday	AM	80.8	84.6	81.2	85.0	0.4
			MD	79.0	82.8	79.4	83.3	0.4
			PM	80.4	83.5	80.8	83.9	0.4
4	61 Patchen Avenue, SE corner of Patchen & Lexington Ave	Weekday	AM	63.5	66.2	63.9	66.6	0.4
			MD	65.4	67.7	65.8	68.1	0.4
			PM	65.6	68.2	66.0	68.6	0.4
5	West Corner of Broadway and Lexington Avenue	Weekday	AM	81.1	79.8	81.5	80.3	0.4
			MD	77.9	79.3	78.3	79.8	0.4
			PM	81.3	79.1	81.7	79.5	0.4

.FUTURE WITH THE PROPOSED ACTIONS

Using the Noise PCE methodology previously described future noise levels with the Proposed Actions (Build conditions) were calculated for the three analysis periods in the year 2022 at representative noise sensitive receptor locations identified within the West Harlem Rezoning study area. Table P-9 provides a summary of the calculated noise levels.

In the future with the Proposed Actions, noise levels at and adjacent to the project area show no increase in noise level and would be generally be the same as those projected under the future no action conditions. The largest change in noise level is projected to occur at receptor 2, the Sumner Houses, located at the NW Corner of Myrtle Ave and Lewis Ave where peak hour AM noise levels are projected to decrease by 0.2 dBA. Peak hour noise levels at other representative locations within the project study area show either no change or similar but smaller decreases in noise levels. These miniscule noise level changes would not be perceptible and based on the CEQR criteria would be considered insignificant. The details of the Noise PCE screening at each of the representative noise monitoring locations and at all projected and potential development sites is provided in Appendix E.

In terms the CEQR noise exposure criteria, noise levels are projected to show very little change from the future no build to build condition. Noise levels at each of the 6 receptor sites would result in no change in exterior noise exposure category. Noise levels at receptor 4 would remain “marginally acceptable”

category, receptors 1 and 2 would remain in the "marginally unacceptable" category, and exterior noise at receptor 3 and 5 would remain in the "clearly unacceptable" level category. Noise levels at receptor 6 located at the train platform level directly above receptor 3 are generally about 5 dBA lower than those measured at receptor 3.

In order to account for the reduction in noise levels at higher floors that are further from the traffic noise source along Broadway, a 3 dBA reduction was applied to the attenuation requirements. This reduction was developed in consultation with the Department of Environmental Protection (DEP).

Table P-9
2022 Build Noise Levels

Receptor	Location	Date	Time	2012 Existing Noise Levels (dBA)		2022 Build Noise Levels dBA		
				L_{eq}	L_{10}	L_{eq}	L_{10}	Change
1	Vacant Lot between 774 Myrtle Ave and 810 Myrtle Ave	Weekday	AM	68.4	71.3	68.3	71.1	-0.1
			MD	68.8	71.6	68.7	71.6	-0.1
			PM	70.1	70.0	70.1	69.9	-0.1
2	Sumner Houses, NW Corner of Myrtle Ave and Lewis Ave	Weekday	AM	70.1	73.2	70.0	73.1	-0.1
			MD	71.1	73.4	71.0	73.3	-0.2
			PM	69.1	71.3	69.0	71.2	-0.1
3	943B Broadway, SW corner adjacent to Myrtle Avenue	Weekday	AM	81.2	85.0	81.2	84.9	0.0
			MD	79.4	83.3	79.4	83.2	-0.1
			PM	80.8	83.9	80.8	83.8	0.0
4	61 Patchen Avenue, SE corner of Patchen & Lexington Ave	Weekday	AM	63.9	66.6	63.9	66.6	0.0
			MD	65.8	68.1	65.8	68.0	0.0
			PM	66.0	68.6	66.0	68.6	0.0
5	West Corner of Broadway and Lexington Avenue	Weekday	AM	81.5	80.3	81.4	80.2	-0.1
			MD	78.3	79.8	78.2	79.7	-0.1
			PM	81.7	79.5	81.7	79.4	-0.1

Noise Attenuation Measures

As shown in Table P-5, the *January 2012 CEQR Technical Manual* has set noise attenuation quantities for buildings based on exterior L_{10} noise levels. Recommended noise attenuation values for buildings are designed to maintain interior noise levels of 45 dBA or lower for residential uses and 50 dBA or lower for retail and office uses. Table P-5 describes the window/wall attenuation requirements necessary to meet the NYC CEQR noise levels in the interior space of buildings for exterior L_{10} noise exposure levels.

The attenuation of a composite structure is a function of the attenuation provided by each of its component parts and how much of the area is made up of each part. Normally, a building façade is composed of the wall, glazing, and any vents and louvers for the HVAC systems in various ratios of building surface area. The design for all buildings proposed to be located on the E-designated projected or potential development sites would be designed to provide a composite Outdoor-Indoor Transmission Class (OITC) rating greater than or equal to the attenuation requirements listed in Tables E-1 and E-2 listed in Appendix E. The OITC classification is defined by the American Society of Testing and Materials (ASTM E1332-90, Re-approved 2003) and provides a single-number rating that is used for designing a building façade including walls, doors, glazing and the combination thereof. The OITC rating is designed to evaluate building elements by their ability to reduce noise the overall loudness of ground and air transportation noise. Proposed development with an OITC rating of 30 or greater would require incorporating the following minimum building design elements to achieve these rating levels:

- To achieve a composite OITC rating of 30, a building façade would likely include well sealed insulating glass, as well as alternate means of ventilation such as well sealed through-the-wall air conditioning, package-terminal air conditioners (PTACs), or central air conditioning.

- To achieve a composite OITC rating of 35, a build façade would likely include a well sealed laminated insulating glass, as well as alternate means of ventilation such as central air conditioning.

- To achieve a composite OITC rating of 40, a build façade would likely include special design features, such as specially designed windows (i.e., windows with small sizes, windows with large air gaps, windows with thicker glazing, windows with several layers of laminate, etc.) and alternate means of ventilation such as central air conditioning.

By using these design guidelines and adhering to the E-designations described in Appendix E, the proposed buildings will be designed to provide sufficient attenuation to achieve the CEQR interior noise level guidelines of 45 dBA L_{10} for residential uses and 50 dBA L_{10} for commercial uses.

Within the Bedford Stuyvesant rezoning study area, the estimated minimum building window/wall attenuation requirements at each of the 6 representative monitoring locations is provided in Table P-10. Future Build L_{10} noise levels below 70 dBA are considered within the "Marginally Acceptable" range. The required noise attenuation was also determined for each of the projected and potential development sites. These minimum attenuation values are shown in Tables E-1 and E-2 in Appendix E. To implement these attenuation requirements, an E-designation for noise would be applied to the sites listed in these tables specifying the appropriate minimum amount of window/wall attenuation required for each proposed projected and proposed development site buildings.

Table P-10
Building Attenuation Requirements for Projected Development Sites

Receptor Site #	Location	Associated Nearest Development Sites	Maximum Build Condition[1] L_{10}	Minimum Attenuation Required[2] (dBA)
1	Vacant Lot between 774 Myrtle Ave and 810 Myrtle Ave	F	71.6	28
2	Sumner Houses, NW Corner of Myrtle Ave and Lewis Ave	19	73.3	31
3	943B Broadway, SW corner adjacent to Myrtle Avenue	17	84.9	41 (below elevated train)
			73.3	38 (above elevated train)
4	61 Patchen Avenue, SE corner of Patchen & Lexington Ave	AA	68.6	25
5	West Corner of Broadway and Lexington Avenue	28	80.2	37 (below elevated train)
		28	78.5	34 (above elevated train)

Mechanical Equipment

It is assumed that building mechanical systems, including emergency generators associated with the proposed development projects, would be designed with enclosures where necessary to meet all applicable noise regulations (i.e., Subchapter 5, §24-227 of the New York City Noise Control Code and the New York City Department of Buildings Code) and to avoid producing noise levels that would result in a significant increase in ambient noise levels. Therefore the proposed rezoning developments would not result in any significant increase in ambient noise levels.

Q. PUBLIC HEALTH

The Proposed Actions would not result in significant adverse impacts to public health.

According to the *CEQR Technical Manual*, public health is the organized effort of society to protect and improve the health and well-being of the population through monitoring; assessment and surveillance; health promotion; prevention of disease, injury, disorder, disability and premature death; and reducing inequalities in health status. The goal of CEQR, with respect to public health, is to determine whether adverse impacts on public health may occur as a result of a proposed project, and if so, to identify measures to mitigate such effects.

The *CEQR Technical Manual* states that a public health analysis is not necessary for most proposed projects. Where no significant unmitigated adverse impact is found in other CEQR analysis areas, such as air quality, water quality, hazardous materials or noise, no public health analysis is warranted. If, however, an unmitigated significant adverse impact is identified in other CEQR said analysis areas, a public health assessment may be warranted for that specific technical area. In addition, in unusual circumstances, a project may also have potential public health consequences that may not be related to the issues already addressed in other technical analysis areas in CEQR reviews, and the lead agency may determine that a public health assessment is warranted.

As described in the preceding chapters of this EAS, the Proposed Actions would not result in unmitigated significant adverse impacts in technical areas such as air quality, water quality, hazardous materials, or noise. Further, the Proposed Actions would not introduce any unusual circumstances that have potential public health consequences related to other issues.

As presented in **Chapter N**, "Air Quality", the result of the air quality screenings and detailed analyses conducted show that the Proposed Actions would not have any significant air quality impacts. Regarding mobile sources, emissions from project-related vehicle trips would not cause a significant air quality impact, nor would emissions from the exhaust of the largest proposed parking garage. Regarding stationary sources, emissions from the heating, ventilation and air conditioning systems (HVAC) of the projected and potential developments would not significantly impact other projected and/or potential development sites or existing or future sensitive land uses, and emissions from "large" existing emission sources would not significantly impact the projected and/or potential development sites. No significant adverse impacts from all development sites under RWCDS are predicted with natural gas in HVAC systems of the proposed developments, and no stack setbacks are required. The result of these analyses show that the potential impacts with use of natural gas and ultra-low sulfur fuel oil in HVAC systems of the projected and potential development sites would not cause any annual or 24-hour violations and would therefore have no significant adverse air quality impacts. No stack setback or (E) designation related to air quality for any of development site under the Proposed Actions is required. Additionally, air toxic emissions generated by nearby existing industrial sources would not significantly impact the projected and/or potential development sites.

Furthermore, in addition to estimating the potential impacts of the HVAC emissions of development sites individually, emissions from these sites were also considered as "clusters" of emission sources. The results of the cluster analyses show that the combined emissions from clusters would not cause any annual exceedances at any nearby development sites, or existing or future land uses. Additionally, the results of the carcinogenic analyses show that no exceedances of federal, state or local guideline thresholds values, for both carcinogenic and non-carcinogenic toxic pollutants, are predicted under the Proposed Actions.

As presented in **Chapter I**, "Hazardous Materials", the Proposed Actions would not result in significant adverse impacts due to hazardous materials with the incorporation of (E) designations on the projected and potential development sites. An (E) designation would be incorporated into the Proposed Actions applicable for 30 of the 31 projected development sites and each of the 33 potential development sites. An (E) designation is not necessary for the projected development site on Block 1609, Lot 5 (Projected Development Site M), as the assessment determined little or no likelihood of contamination and therefore, no significant impacts from hazardous materials.

The (E) designation would require that, prior to redevelopment, the property owner conduct a Phase I Environmental Site Assessment (ESA) in accordance with the American Society of Testing Materials (ASTM) E1527-05, a soil and groundwater testing protocol, and remediation where appropriate, to the satisfaction of the New York City Office of Environmental Remediation (OER) before issuance of construction-related New York City Department of Buildings (DOB) permits (pursuant to Section 11-15 of the *Zoning Resolution*—Environmental Requirements). The E-designation also requires mandatory construction-related health and safety plans, which must also be approved by OER. The applicable text for the (E) designations is provided in **Chapter I**.

Such designation would eliminate the potential for significant adverse impacts from hazardous materials due to implementation of the Proposed Actions. Regardless of the Proposed Actions, the conditions in the future would be the same for the development of the sites qualifying for an (E) designation. Within the proposed rezoning area, 64 potential and projected development sites may be contaminated as a result of historical and/or current land use activity, the presence of fuel storage tanks, or some other condition identified in the *CEQR Technical Manual*. As such, these locations would receive an (E) designation pursuant to the Proposed Actions. Thus, the Proposed Actions are not expected to result in any significant adverse impacts to hazardous materials.

As discussed in **Chapter P** "Noise", traffic generated by the Proposed Actions would not have the potential to produce significant noise level increases at any sensitive receptors near the study area. Regarding stationary sources, ambient noise levels adjacent to selected development sites within the rezoning area were measured at representative locations. Building window/wall attenuation requirements for maintaining interior noise levels within CEQR limits were established based on the peak hour ambient noise measurements. With the incorporation of the specified attenuation levels (see **Chapter P**, "Noise"), noise levels within the proposed buildings would comply with all applicable requirements. It is also assumed that building mechanical systems, including emergency generators associated with the proposed development projects, would be designed with enclosures where necessary to meet all applicable noise regulations (i.e.,

Subchapter 5, §24-227 of the New York City Noise Control Code and the New York City Department of Buildings Code) and to avoid producing noise levels that would result in a significant increase in ambient noise levels. Therefore the development from the proposed rezoning on the projected and potential development sites would not result in any significant increase in ambient noise levels.

Therefore, a detailed public health assessment is not warranted and significant adverse impacts to public health are not expected to occur.

R. NEIGHBORHOOD CHARACTER

INTRODUCTION

The Proposed Actions would not result in significant adverse impacts to the neighborhood character of the proposed rezoning areas.

As defined in the *CEQR Technical Manual*, neighborhood character is considered to be an amalgam of the various elements that give a neighborhood its distinct personality. These elements include land use, socioeconomic conditions, historic and cultural resources, urban design and visual resources, transportation, noise, open space and shadows, as well as any other physical or social characteristics that help to define a community. Not all these elements affect neighborhood character in all cases; a neighborhood usually draws its distinctive character from a few defining features.

According to the *CEQR Technical Manual*, an assessment of neighborhood character is generally needed when the action would exceed preliminary thresholds in any one of the following technical areas noted below. An assessment is also appropriate when the action would have moderate effects on several of the aforementioned areas. A significant impact identified in one of these technical areas is not automatically equivalent to a significant impact on neighborhood character; rather, it serves as an indication that neighborhood character should be examined.

The technical areas that define neighborhood character include:

- Land Use, Zoning, and Public Policy;
- Socioeconomic Conditions;
- Open Space;
- Historic and Cultural Resources;
- Urban Design and Visual Resources;
- Shadows;
- Transportation; or
- Noise.

If a project has the potential to result in any significant adverse impacts on any of the above technical areas, a preliminary assessment of neighborhood character may be appropriate. In addition, depending on the project, a combination of moderate changes in several of these technical areas may potentially have a significant effect on neighborhood character. As stated in the *CEQR Technical Manual*, a "moderate" effect is generally defined as an effect considered reasonably close to the significant adverse impact threshold for a particular technical analysis area.

When considered together, there are elements that may have the potential to significantly affect neighborhood character. Moderate effects on several elements may affect defining features of a neighborhood and, in turn, a pedestrian's overall experience. If it is determined that two or more categories may have potential 'moderate effects' on the environment, CEQR states that the following question should be answered:

- Would the proposed project result in a combination of moderate effects to several elements that cumulatively may affect neighborhood character?

If a project would result in only slight effects in several analysis categories, then further analysis is generally not needed. However, in order to be conservative, a preliminary neighborhood character assessment was performed.

METHODOLOGY

A preliminary assessment determines whether changes expected in other technical areas may affect a contributing element of neighborhood character. The assessment should answer the following two questions:

1. What are the defining features of the neighborhood?
2. Does the project have the potential to affect the defining features of the neighborhood, either through the potential for a significant adverse impact or a combination of moderate effects in relevant technical areas?

This chapter reviews the defining features of the neighborhood and examines the Proposed Action's potential to affect the neighborhood character of the project sites and the 400-foot surrounding study area. The study area is generally coterminous with the study area used for the analysis in **Chapter A,** "Land Use, Zoning and Public Policy". The impact analysis of neighborhood character that follows below focuses on changes to the technical areas listed above that exceeded CEQR preliminary screening thresholds and were assessed in this EAS.

The assessment begins with a review of existing conditions and the neighborhood of the study area. The information is drawn from the preceding sections of this EAS, but is presented in a more integrated way. While the other sections present all relevant details about particular aspects of the environmental setting, the discussion for neighborhood character focuses on a limited number of important features that gives the neighborhood its own sense of place and that distinguish them from other parts of the city.

Following existing conditions is a concise discussion of the changes anticipated on the project sites and within the study area by the 2022 analysis year under the Future No-Action Scenario. A brief overview of the Proposed Actions is then presented, along with an analysis of whether any anticipated significant adverse impacts and moderate adverse effects, regarding the relevant technical CEQR assessment categories for neighborhood character, would adversely affect any of the defining features.

EXISTING CONDITIONS

The Bedford-Stuyvesant neighborhood is characterized by a variety of residential, commercial, and industrial building types. East-west midblocks are generally comprised of two- to four- story brownstones and rowhouses, which have front stoops and street parking. Medium-density five- to eight-story apartment buildings are generally located on the north-south avenues. Dekalb Avenue and Bedford Avenue are transit corridors, well-served by bus lines and near the G subway line, and include some high-density apartments with ground floor retail uses. Myrtle Avenue is the area's most significant east-west commercial street, with medium and high-density apartment buildings, including NYCHA developments, and ground floor retail activity. Broadway is a regional commercial corridor with a broad range of retail, commercial and community facility activity as well as residences. The elevated J, M, and Z train lines run along the 80-foot wide street. Five NYCHA housing developments, characterized by residential towers up to 24 stories tall, occupy 10 super blocks throughout the area.

The land use study area consists of 8,193 tax lots covering approximately 734 acres. Roughly 35 percent of these tax lots contain one- and two-family buildings, which account for nearly 18 percent of the land area. Multifamily walkup and elevator buildings account for 36 percent (33.9 percent and 1.97 percent respectively) of tax lots and cover approximately 37 percent of the land area. Surface parking lots represent less than 3 percent of the lots and land area, and are generally either accessory to businesses near Broadway, or to NYCHA residential developments. 7.9 percent of the lots in the area are vacant, representing 5.8 percent of the total land area.

In the study area, commercial uses are generally located along north-south corridors such as Nostrand Avenue, Bedford Avenue, and Malcolm X Boulevard, as well as Myrtle Avenue and Broadway. Commercial uses in stand-alone and mixed-use buildings occupy 4.85 percent of the lots or 9.15 percent of the land area. Institutional and community facility uses such as schools, medical services, and houses of worship are spread throughout the study area and comprise 2.5 percent of lots and 13.5 percent of the land area. Industrial and manufacturing uses are mainly found in the north-west portion of the study area, and represent 2.1 percent of lots and 4.7 percent of land area. Just over 3 percent of the land area is devoted to open space, representing less than 1 percent of the lots.

The area is predominately zoned R5 and R6 with C1-3 and C2-3 commercial overlays on Broadway, Myrtle and Flushing Avenues, and interspersed along the north/south avenues. Additionally, there are C8-2 and C4-3 commercial districts on Broadway. The majority of existing zoning districts have remained unchanged since 1961 when the current Zoning Resolution was adopted. The rezoning area does not include the manufacturing districts in the northwest portion of Community District 3.

FUTURE NO-ACTION SCENARIO

If the Proposed Actions are not implemented, the existing zoning controls would remain in place. It is expected that the rezoning area would experience some growth in commercial and residential uses. Under the Future No-Action Scenario, as-of-right development would be expected to occur on some of the 31 projected development sites. There is expected to be a total

of 1,198 dwelling units (DUs); approximately 170,399 square feet of commercial retail space, approximately 28,666 square feet of commercial office space, and approximately 380,826 square feet of community facility space.

The moderate change to neighborhood character would be similar to that under the Future With-Action Scenario, as detailed below, with increased community facility related uses under the Future No-Action Scenario, in absence of the Proposed Actions. New development would likely continue to occur on the projected and potential development sites, with slight variations in building form and heights per each site.

FUTURE WITH-ACTION SCENARIO

Redevelopment under the RWCDS

Attachment 2, "Reasonable Worst Case Development Scenario," identifies a reasonable worst-case development scenario (RWCDS) for 31 projected development sites by 2022. It is expected that under the Future With-Action Scenario, the projected development sites would have a total of 1,988 dwelling units (DUs), of which 428 DUs would be affordable housing units; 306,362 square feet of commercial retail space; 56,847 square feet of commercial office space; and 89,051 square feet of community facility space. This would represent a net incremental increase over the Future No-Action Scenario of 790 DUs, including 285 DUs of affordable housing; 135,964 square feet of retail commercial space; and 28,182 square feet of commercial office space; as well as a net incremental decrease of 291,775 square feet of community facility space.

Technical Areas

Land Use, Zoning, and Public Policy

According to the *CEQR Technical Manual*, development resulting from a Proposed Actions could alter neighborhood character if it introduces new land uses, conflicts with land use policy or other public plans for the area, changes land use character, or generates significant land use impacts.

Based on the moderate increase in residential dwelling units, the current land use patterns and composition of the study area, the Proposed Actions are not expected to have an adverse impact on the study area. The rezoning and incremental increase in dwelling units would not introduce new uses to the Bedford-Stuyvesant neighborhood, which are dominated by residential uses complemented by the commercial corridors of Bedford Avenue, Myrtle Avenue, and Broadway. Existing land use patterns in residential areas would be reinforced by the proposed zoning. The rowhouse character of the residential midblocks would not be susceptible to out-of-character development.

The Future With-Action condition also contains a greater amount of retail space relative to the Future No-Action condition. This modest increase is consistent with the intention of the

rezoning, which encourages mixed-use development along existing commercial corridors. The decrease in community facility is also consistent with the goal of preventing out of scale development, including community facility development. The incremental difference in office space is negligible between the two conditions.

The incremental retail and residential uses would support and blend with existing uses and would not introduce incompatible activities to the area. Rather, the Proposed Actions reinforce the existing character by protecting the scale of residential areas and strengthening commercial areas. In total, these incremental differences would not result in adverse changes in land use in the study area.

New zoning districts on approximately 140 full or partial blocks would be introduced as part of the proposed actions. The zoning map and text changes proposed would reinforce the character of Bedford-Stuyvesant residential blocks and ensure future development is consistent with the surrounding neighborhood's building pattern. In addition, the proposed zoning would create growth opportunities and affordable housing development through the Inclusionary Housing Program. Through the proposed actions, predictable and appropriate commercial development would be promoted on major corridors by establishing commercial zoning regulations that foster a lively streetscape that is pedestrian-friendly and meets the community's needs for access to retail and services.

The proposed rezoning would establish contextual zoning districts in appropriate areas of Bedford-Stuyvesant to reinforce the prevailing built fabric and character of the residential blocks. The proposal would also establish moderate increases in density on commercial corridors with access to mass transit. Accordingly, the proposed actions would result in changes that would be compatible with and supportive of land use trends, zoning, and public policy. In effect, the proposed actions would bear a positive effect on preserving neighborhood character while encouraging redevelopment of vacant and underutilized properties on wide streets. Consequently, no significant adverse impacts related to land use, zoning or public policy are anticipated.

Socioeconomic Conditions

According to CEQR, changes in socioeconomic conditions have the potential to affect neighborhood character when they result in substantial direct or indirect displacement or addition of population, employment, or businesses; or substantial differences in population or employment density.

The proposed actions would provide opportunities for new residential development, but is not expected to result in the direct displacement of existing residents or businesses. The proposed actions would also not affect real estate market conditions in a way that would result in indirect displacement of residents or businesses. As the Proposed Actions do not have the potential to result in direct or indirect residential or business impacts or impacts on specific industries, no significant impacts are anticipated and further analysis is not warranted.

Open Space

According to CEQR, when an action would potentially have a direct or indirect effect on open space that would adversely affect utilization of existing resources, there is a potential to affect neighborhood character.

The Proposed Actions would not result in any direct effects on any open space resources, as the project would not result in a physical loss of any public open spaces either by encroaching on open space resources or displacing open space resources.

The Proposed Actions would not change the use of any open space so that it no longer serves the same user population. As further demonstrated in **Chapter D**, "Open Space", under the Future With-Action Scenario, available open space resources would fall below the open space ratio guideline set forth in the *CEQR Technical Manual* of 2.5 acres of open space per 1,000 residents, as well as the citywide community district median of 1.5 acres per 1,000 residents. However, it is recognized that these goals are not feasible for many areas of the City. The open space ratios in all conditions indicate a shortfall in the amount of open space located within the open space study area. Some of the lack of open space resources can be offset by the open space resources found in the nearby regional area, including Prospect Park in Brooklyn, that attract users from a wide area of the City.

According to the *CEQR Technical Manual*, an open space impact may be considered significantly adverse when the decrease in open space ratio is five percent or more as a result of a proposed action. However, in areas that are extremely lacking in open space, a reduction as small as one percent may be considered significant. The Proposed Actions would result in a reduction of the open space ratio in the open space study area of approximately 0.85 percent. Furthermore, as described below and further demonstrated in **Chapter E**, "Shadows", net new incremental shadows created by the full build-out of the Proposed Actions on the projected and potential development sites in 2022 horizon year would not result in any significant adverse shadow impacts. Therefore, significant adverse impacts regarding open space resources are not expected, and further open space assessment is not warranted.

Historic and Cultural Resources

According to CEQR, when an action would result in substantial direct changes to a historic and cultural resource or substantial changes to public views of a resource, or when a historic and cultural resource analysis identifies a significant impact in this category, there is a potential to affect neighborhood character.

As further demonstrated in **Chapter F**, "Historic Resources", the Proposed Actions would generate development that could result in new in-ground disturbance and construction of a building type not currently permitted in the affected area, the Proposed Actions have the potential to affect archaeological and historic architectural resources. However, the Proposed Actions would not result in significant adverse impacts on historic resources.

The impact areas for potential archaeological resources affected by the Proposed Actions are considered to be the area where in-ground disturbance may occur. The New York City Landmarks Preservation Commission (LPC) reviewed the projected and potential development sites to determine the potential for effects to archaeological resources. LPC determined that one projected development site, Site DD at 404-410 Kosciuszko Street, has the potential to be archaeologically sensitive for prehistoric and historic archaeological resources. Upon further investigation, DCP determined that the site no longer had a potential to be archaeologically sensitive for prehistoric and historic archaeological resources, since the area of the lot developed on Projected Development Site DD would be the same under Future No-Action and Future With Action Scenario. None of the other projected or potential development sites were determined to be archaeologically sensitive. Therefore the proposed rezoning does not have the potential to result in significant adverse archaeological impacts.

In order to assess the potential impacts of the proposed rezoning on historic architectural resources, a study area was defined by drawing a 400-foot radius around the boundaries of the projected and potential development sites. There are 15 resources and one area of archeological sensitivity located in the historic resources study area. One resource is a designated New York City Landmark (NYCL), two resources are State and National Register (S/NR)-listed, five resources are both eligible New York City historic districts (NYCL-eligible) and S/NR-eligible, and seven resources are S/NR-eligible.

The Proposed Actions would not result in direct significant adverse impacts to historic architectural resources on projected or potential development sites. Although the East Brooklyn Savings Bank is located on Potential Development Site 5, and five eligible New York City historic districts have the potential to be impacted by projected and potential development sites, since it is assumed that these projected and potential development sites would be redeveloped in the Future No-Action Scenario, the redevelopment of these projected and potential development sites under the Proposed Actions would not result in significant adverse impacts.

Furthermore, it is anticipated that construction-related activities would not result in significant adverse impacts to historic architectural resources. The Christ Evangelical English Lutheran Church is located fewer than 90 feet from Potential Development Site 22, though as it is a S/NR-listed resource it would be protected by the New York City Department of Building's *TPPN 10/88* (see **Chapter S**, "Construction") , and is therefore not expected to be adversely affected by the proposed action. Additionally, while other historic resources are located within 90 feet of projected and/or potential development sites, but are not afforded protection under *TPPN 10/88*, these resources would be afforded protection under Building Code Section 27-166 (C26-112.4). Adjacent buildings are protected in accordance with the requirements of Building Construction Subchapter 7 and Building Code Subchapter 11 and 19 for all construction work. Therefore, construction effects related to the Proposed Actions would not lead to significant adverse impacts.

The proposed rezoning is also not expected to alter the visual context of the historic resources and no indirect impacts are anticipated as a result of the Proposed Actions. While shadows from the Proposed Actions would reach into the eastern side of the Christ Evangelical English Lutheran Church (Rugged Cross Baptist Church) in the early morning hours on the June 21st and

May 6th analysis dates, no new net incremental shadows would be cast within the resource on the windows along the eastern facade, as the resource and the windows are covered by existing and/or projected Future No-Action Scenario shadows on these dates.

While St. Peter's German Evangelical Lutheran Church and the Magnolia Grandiflora and Magnolia Tree Earth Center have the potential to receive net new incremental shadows from new buildings on the projected and potential development sites, detailed 3D analyses show that such net new shadows would not be significantly adverse. The shadows impact analysis for the St. Peter's German Evangelical Lutheran Church indicated that new net incremental shadows would reach the windows on the east façade of the church for approximately 18 minutes on the December 21st study date. However, these shadows would only cover the bottom half of the windows, and would leave the windows by 9:09 a.m.

While net new incremental shadows would fall within the boundaries of the Magnolia Grandiflora and Magnolia Tree Earth Center for approximately six minutes on the evening of the May 6th study date, covering approximately one to two percent of the resource during this duration (along the western lot line of the resource in the backyard and rear portion of the westernmost building), these shadows do not fall on the Magnolia Grandiflora or on character-defining features of the resource, as specified in the LPC designation report.

Therefore, as the Proposed Actions would not result in substantial direct changes to a historic and cultural resource, substantial changes to public views of a resource, or significant adverse impacts to any of the identified historic and cultural resources, neighborhood character related to historic resources would not be affected.

Urban Design and Visual Resources

According to the *CEQR Technical Manual*, in developed areas, urban design changes have the potential to affect neighborhood character by introducing substantially different building bulk, form, size, scale, or arrangement. Urban design changes may also affect block forms, street patterns, or street hierarchies, as well as streetscape elements such as street walls, landscaping, curb cuts, and loading docks. Visual resource changes could affect neighborhood character if they directly alter key visual features such as unique and important public view corridors and vistas, or block public visual access to such features.

The proposed actions are intended to reinforce the character of Bedford-Stuyvesant's residential blocks. The proposed zoning would ensure that future development is largely consistent in built form with the existing neighborhood context. The proposed rezoning would also target select areas where moderate increases to residential bulk would be introduced. These increases consist entirely of contextual zoning districts with height limits and would be generally limited to Myrtle Avenue, Bedford Avenue, and Broadway.

The moderate increases in residential bulk allowed by the proposed zoning would not be significant because the new districts would encourage development that is consistent with bulk available in the existing zoning districts in the area. The proposed zoning districts would impose height limits in these areas. The proposal would also update commercial overlays to bolster

opportunities for ground-floor retail uses, thereby enhancing the streetscape. Proposed regulations for Broadway and Myrtle Avenue would strengthen the active commercial character of these corridors and enhance the public realm by requiring uses and building features on the ground floor that engage the pedestrian. In addition, proposed regulations for Broadway would respond to the presence of the elevated train and further enhance the public realm by widening the sidewalk and defining a building form that maximizes light at street level.

Shadows

According to CEQR, when Shadows from a proposed project fall on a sunlight-sensitive resource and substantially reduce or completely eliminate direct sunlight exposure such that the public's use of the resource is significantly altered or the viability of vegetation or other resources is threatened, there is a potential to affect neighborhood character.

As further demonstrated in **Chapter E**, "Shadows", net new incremental shadows created by the full build-out of the Proposed Actions on the projected and potential development sites in 2022 horizon year would not result in any significant adverse shadow impacts. Incremental shadow cast on the open spaces within the area would generally not cover any of the resources during all three of the growing season study dates (March through October), but rather for limited durations on one or two of the analysis dates. The analyses show that ample time will remain for sunlight during the growing season. Incremental shadows shift over the period covering each specific resource and shadow coverage on these resources generally decrease from maximum coverage points. Only in a few instances does the total duration of net new incremental shadows cover a substantial amount of the open space or over multiple dates, such as the Marcy Playground. Yet the Proposed Actions would not result in a substantial reduction in sunlight available to any vegetative sunlight-sensitive features or any other resources to less than the minimum time necessary for its survival.

In the case of the Marcy Playground, the remaining sections of the playground would remain free of shadows on all four analysis dates, with the playground completely free of shadows in the afternoon periods during warm weather months. On the March 21st, May 6th and June 21st study dates, while net new incremental shadows enter the open space in the morning hours and last for durations varying from two to five hours, net incremental shadows cover no more than approximately five to ten percent of the open space during these durations, as shadows sweep clockwise over small sections of the resource's baseball field and basketball courts in the areas. On the December 21st study date, net new incremental shadows enter the open space at 8:51 a.m. and exit the open space at 2:53 p.m., for a duration of approximately six hours and two minutes. Net new incremental shadows sweep across the playground from the central section (improved with a baseball field) in the morning to the western section (improved with play areas and basketball courts) in the afternoon. Approximately no more than one-quarter to one-third of the resource is covered at any one time, as net incremental shadows sweep clockwise.

At the Banneker Playground, net new incremental shadows would fall within the open space on three of the four analysis dates. On the March 21st, May 6th and June 21st study dates, net new incremental shadows cover the open space in the early morning for durations of approximately one hour and 42 minutes to approximately two hours and 41 minutes. Net new incremental

shadows cover no more than approximately five to ten percent of the open space at any one time during this duration, as shadows sweep clockwise, covering the central to northeast corner of the playground, improved with open paved play areas and playground equipment. The playground equipment itself would only receive net incremental shadows for approximately a half-hour during these durations.

On the March 21st study date, net new incremental shadows enter the Clifton Place Memorial Park and Garden at 8:30 a.m. and exit the open space at 1:20 p.m., for a duration of approximately four hours and 50 minutes. However, net new incremental shadows cover no more than approximately 20 percent of the open space during this duration, covering the southwest to the southeast portions of the garden as shadows sweep clockwise.

On the March 21st study date, net new incremental shadows enter the Kosciusko Pool border at 7:36 a.m. and exit the open space at 9:10 a.m., for a duration of approximately one hour and 34 minutes. However, net new incremental shadows cover approximately five percent of the open space during this duration, and only cover the rooftop section of the structure and the adjacent paved areas within the east side of the resource . The pool itself would not receive any new net incremental shadows as a result of the Proposed Actions.

At the Taaffe Playground, net new incremental shadows enter the open space at 11:25 a.m. and exit the open space at 1:44 p.m. on the December 21st study date, for a duration of approximately two hours and 19 minutes. However, net new incremental shadows cover no more than approximately five percent of the open space during this duration as shadows sweep clockwise, covering a small portion of the paved handball court located within the southern section of the playground, near Myrtle Avenue.

For the three identified cultural and historic resource, the Proposed Actions would not result in a substantial reduction in sunlight available for the enjoyment or appreciation of any sunlight-sensitive features on these historic or cultural resources. The Proposed Actions would not result in the complete elimination of all direct sunlight on any of the sunlight-sensitive features on any of these resources.

While shadows from the Proposed Actions would reach into the eastern side of the Christ Evangelical English Lutheran Church (Rugged Cross Baptist Church) in the early morning hours on the June 21st and May 6th analysis dates, no new net incremental shadows would be cast within the resource on the windows along the eastern facade, as the resource and the windows are covered by existing and/or projected Future No-Action Scenario shadows on these dates.

The net incremental shadows cast on the east side windows of St. Peters German Evangelical Lutheran Church would occur in the early morning hours on the December 21st analysis date, with net new incremental shadows entering at 8:51 a.m. and exit the resource at 9:09 a.m., for a limited duration of approximately 18 minutes. Net new incremental shadows fall on the east side of the church and cover approximately the bottom half of the windows along that facade (facing Bedford Avenue) during this timeframe. Net incremental shadows do not fall on the top half of these windows, and the top half of the east side windows are shadow free at the 8:51 a.m., with the windows completely shadow free by 9:09 a.m.

At the Magnolia Grandiflora and Magnolia Tree Earth Center (located at 677-679 Lafayette Avenue), net new incremental shadows reach the cultural resource on the May 6th study date at 5:12 p.m. and exit the resource at 5:18 p.m., for a limited duration of approximately 6 minutes in the late afternoon/evening. Net new incremental shadows cover a very small area of approximately one to two percent of the resource during this duration, along the western lot line of the resource in the backyard and rear portion of the westernmost building. However, net incremental shadows do not fall on the Magnolia Tree itself, which is located in the front yard along the sidewalk.

Therefore, although net new incremental shadows from the Proposed Actions would fall on those identified sunlight-sensitive resources in the area, significant adverse impacts are not expected, and neighborhood character would not be affected. Net new incremental shadows would not substantially reduce or completely eliminate any direct sunlight exposure such that the public's use of any of the resources is significantly altered, nor would the Proposed Actions substantially reduce or completely eliminate the viability of vegetation on any of the resources.

Transportation

According to the *CEQR Technical Manual*, changes in traffic and pedestrian conditions can affect neighborhood character in a number of ways. For traffic to have an effect on neighborhood character, it must be a contributing element to the character of the neighborhood (either by its absence or its presence), and it must change substantially as a result of the action. According to the CEQR Technical Manual, such substantial traffic changes can include: changes in level of service (LOS) to C or below; change in traffic patterns; change in roadway classifications; change in vehicle mixes, substantial increase in traffic volumes on residential streets; or significant traffic impacts, as identified in the technical traffic analysis. Regarding pedestrians, when a proposed project would result in substantially different pedestrian activity and circulation, it has the potential to affect neighborhood character.

As discussed in **Chapter M**, "Transportation," the Proposed Actions will not result the potential for significant adverse traffic impacts during the analyzed worst case peak periods, and thus it is concluded that no significant adverse traffic impacts would occur during operational periods. The net changes in vehicular trip generation between the Future No-Action and the Future With-Action Scenarios, calculated for each site and then combined into clusters, shows that the Proposed Actions are projected to result in increments of fewer than 50 vehicle-trips, and in some cases, a net decrease in trips (negative trips), at each cluster during the weekday AM, weekday midday, weekday PM, and Saturday midday peak hours. Based on the trip generation, trip distribution, and traffic assignments prepared for the analysis peak hours, fewer than 50 vehicle trips (or negative trips, indicating a reduction in traffic) are projected to be generated through all intersections within the rezoning area as a result of development under the Proposed Action. Therefore, in accordance with *CEQR* guidelines, a more detailed traffic analysis is not needed.

As stated in the *CEQR Technical Manual*, a parking analysis is generally needed if a quantified traffic analysis is necessary, based on the initial screening analyses. Because a traffic analysis

has been determined to be not necessary for the proposed rezoning, the parking assessment is not warranted for the Proposed Actions, and significant adverse parking impacts are not expected.

The results of the quantitative pedestrian assessment show that under year 2022 Future With-Action conditions, all study crosswalks are projected to continue to operate acceptably at LOS "A" during both analysis peak hours, except for the north crosswalk at the Myrtle Avenue / Marcy Avenue intersection, which is projected to operate acceptably at LOS "B" during the weekday midday and weekday PM peak hours. Under year 2022 Future With-Action conditions, all study corners, as well as all study sidewalks, are also projected to continue to operate at an acceptable LOS "A" during both analysis peak hours. For crosswalks and corners (in non-CBD locations), as well as for sidewalks with non-platoon flow, according to the guidelines established in the *CEQR Technical Manual*, average pedestrian space and pedestrian flow rates under the With-Action condition deteriorating within an acceptable level-of-service (LOS "C" or better) is generally not considered a significant impact. If the pedestrian space or pedestrian flow rate under the With-Action condition deteriorates to LOS "D" or worse, then the determination of whether the impact is considered significant is based on a sliding scale that varies with the No-Action pedestrian space or pedestrian flow rates. Under the Future With-Action Scenario, all of the pedestrian elements operate better than mid-LOS "D". Therefore, no significant adverse pedestrian impacts are projected to occur at the study intersections during the weekday peak hours according to the *CEQR* criteria.

Public transportation service in the Bedford-Stuyvesant neighborhood is provided by the New York City Transit (NYCT), an agency within the Metropolitan Transportation Authority (MTA), which operates local and limited bus service, as well as subway service within the study area. The study area is well-served by bus and subway services, with ten bus routes and four subway routes serving the study area. Based on the results of the transit analyses, the Proposed Actions would not result in any significant adverse bus transit impacts. Bus services within the study area have peak hour capacity available to accommodate the projected bus ridership demand that development within the study area would generate under the With-Action condition.

Therefore, as noted above, the Proposed Actions would not result in significant changes in traffic and pedestrian conditions that would affect neighborhood character and result in a substantial effect. The Proposed Actions would not substantially change the traffic patterns or levels of service, and would not change in roadway classifications or vehicle mixes. The Proposed Actions would also not result in a substantially different pedestrian activity and/or circulation patterns that would have the potential to affect neighborhood character.

Noise

According to the *CEQR Technical Manual*, for an action to affect neighborhood character with respect to noise, it would need to result in a significant adverse noise impact and a change in acceptability categories.

The Proposed Actions would not result in any significant adverse noise impacts and would not result in a change of any CEQR acceptability categories. As demonstrated in **Chapter P**, "Noise", the traffic generated by the Proposed Actions would not have the potential to produce

significant increases to noise levels at any sensitive receptors within the project study area. Existing and future With-Action noise levels are projected to show essentially no change. Proposed ground level development sites located nearest the J, L and Z subway lines along Broadway are exposed to existing noise levels in the "clearly unacceptable" range due to a combination of train and traffic noise and these exposures will remain unchanged under build conditions. Noise levels at second floor and higher development sites are about 5 dBA lower and noise exposure at these sites will remain in the "marginally unacceptable" range. Other development sites located farther away from the main traffic corridors (Myrtle Ave and Broadway) will see noise exposure levels within the "marginally acceptable" category. Window-wall attenuation requirements associated with each of these varying noise exposure levels at each of the representative noise measurement sites are provided in this chapter and are described in detail in Appendix F for all proposed and potential development sites. Furthermore, the noise monitoring survey findings and noise PCE calculations are provided in Appendix F.

CONCLUSIONS

This comprehensive zoning study was undertaken at the request of Community Board 3 and local elected officials as a follow-up to the 2007 rezoning of Bedford-Stuyvesant South. Recent years have seen an increase in commercial and residential reinvestment in Bedford-Stuyvesant in general, with some recent development creating buildings that are out of character with the surrounding neighborhood context. In addition, there is an opportunity to facilitate the production of affordable housing and reinforce the retail character of commercial corridors in the area.

The proposed zoning map changes and text amendment would preserve neighborhood scale and character by mapping contextual zoning districts with height limits throughout the rezoning area, protect the residential character of lots adjacent to retail corridors, recognize and strengthen existing commercial retail areas, reinforce the north/south avenues as corridors for mid-rise mixed retail/residential buildings and apartment buildings, allow for residential growth along the Broadway retail and transit corridor, require active ground floor uses on Broadway, and provide opportunities and incentives for new affordable housing.

Of the relevant technical areas specified in the *CEQR Technical Manual* that comprise of neighborhood character, the Proposed Actions would not cause significant adverse impacts regarding land use, zoning, and public policy; socioeconomic conditions; open space; shadows; historic and cultural resources; urban design and visual resources; transportation; or noise. Moderate adverse effects that would affect such a defining feature, either singly or in combination, have also not been identified. The Proposed Actions would not have a significant adverse neighborhood character impact and would not result in a significant adverse impact to a defining feature of the neighborhood and no further analysis is necessary.

S. CONSTRUCTION

INTRODUCTION

Construction activities, although temporary in nature, can sometimes result in significant adverse impacts and have disruptive and noticeable effects on the area that surrounds a project site. As stated in the *CEQR Technical Manual*, a project's construction activities may affect a number of technical areas analyzed for the operational period, for example air quality, noise, and traffic; therefore, a construction assessment relies to a significant extent on the methodologies and resulting information gathered in the analysis of these technical analyses areas. The *CEQR Technical Manual* defines construction equipment as machinery used, at a specified site, for the fabrication, erection, modification, demolition, or removal of any structure or facility, including all related activities such as land clearing, site preparation, excavation, cleanup, and landscaping.

The determination of significance and need for related mitigation is generally based on the duration and magnitude of the potential construction impacts. Construction duration is often broken down into short-term (less than two years) and long-term (two or more years). Where the duration of construction is expected to be short-term, any impacts resulting from such short-term construction activities generally do not require detailed assessment. However, CEQR notes that there are instances where a potential impact may be of short duration, but nonetheless significant, because it raises specific issues of concern. In addition, there are technical areas, such as air quality, where the duration of construction alone is not a sufficient indicator of the need for a detailed assessment, and other factors should be considered. In such instances, a targeted assessment of the relevant technical area may be appropriate.

As shown in Attachment 2, a reasonable worst-case development scenario (RWCDS) was developed for the Proposed Actions that identified 31 projected development sites by 2022. As construction activity associated with the RWCDS would occur over a ten-year period, a preliminary assessment of potential construction impacts was prepared in accordance with the guidelines of the *2012 CEQR Technical Manual*, and is presented in this section.

It is expected that under the Future With-Action Scenario, the projected development sites would have a total of 1,988 dwelling units (DUs), of which 428 DUs would be affordable housing units; 306,362 square feet of commercial retail space; 56,847 square feet of commercial office space; and 89,051 square feet of community facility space. This would represent a net incremental increase over the Future No-Action Scenario of 790 DUs, including 285 DUs of affordable housing; 135,964 square feet of retail commercial space; and 28,182 square feet of commercial office space; as well as a net incremental decrease of 291,775 square feet of community facility space.

Building heights on the projected development sites are expected to vary due to height regulations of the proposed contextual zoning districts. Under the Future With-Action Scenario, maximum buildings heights would range from 50 to 120 feet tall, with several projected development buildings approximately 70 to 100 feet tall. The net incremental difference of building heights from the Future No-Action Scenario compared to the Future With-Action

Scenario also varies, with one of the project development sites (Site A) witnessing a net incremental decrease in allowable building heights of 62 feet. Overall, the net incremental difference of building heights ranges from increases of 10 to 100 feet, with several projected development sites witnessing incremental increases in building heights of 20 to 45 feet.

The Proposed Actions would result in the construction of new residential, commercial and community facility buildings on the projected and potential development sites. Construction on the 31 projected development sites is assumed to be phased over time and completed in the ten years following the adoption of the Proposed Actions. In addition, there are 33 potential development sites considered less likely to be developed over the ten-year analysis period, but which are considered potential sites for future development.

The RWCDS does not describe which of the projected and/or potential development sites would be developed first or assume a particular sequence of development. However, it is assumed that construction of all projected development sites would likely be completed by 2022.

According to the *CEQR Technical Manual*, construction duration is often broken down into short-term (less than two years) and long-term (two or more years). Where the duration of construction is expected to be short-term, any impacts resulting from such short-term construction generally do not require detailed assessment. As described below, it is estimated that most of the projected development sites entailing new construction would generally take 16 months to complete construction, and would therefore be considered short-term. However, because construction activity associated with the RCWDS would occur on multiple development sites within the same geographic area, such that there is the potential for several construction timelines to overlap, a preliminary assessment of potential construction impacts was prepared in accordance with the guidelines of the *CEQR Technical Manual*, and is presented in this chapter.

Governmental Coordination and Oversight

The governmental oversight of construction in New York City is extensive and involves a number of city, state, and federal agencies. **Table S-1** shows the main agencies involved in construction oversight and each agency's areas of responsibility. The primary responsibilities lie with New York City agencies. The New York City Department of Buildings (DOB) has the primary responsibility for ensuring that the construction meets the requirements of the Building Code and that buildings are structurally, electrically, and mechanically safe. In addition, DOB enforces safety regulations to protect both construction workers and the public. The areas of responsibility include installation and operation of construction equipment, such as cranes and lifts, sidewalk shed, and safety netting and scaffolding. The New York City Department of Environmental Protection (DEP) enforces the Noise Code, approves remedial action plans (RAPs) and Construction Health and Safety Plans (CHASPs), and regulates water disposal into the sewer system. The New York City Fire Department (FDNY) has primary oversight for compliance with the Fire Code and for the installation of tanks containing flammable materials. The New York City Department of Transportation (DOT) reviews and approves any traffic lane and sidewalk closures. New York City Transit (NYCT) is in charge of bus stop relocations, and any subsurface construction within 200 feet of a subway. The Landmarks Preservation

Commission (LPC) approves studies and testing to prevent loss of archaeological materials and to prevent damage to fragile historic structures.

The New York State Department of Environmental Conservation (NYSDEC) regulates discharge of water into rivers and streams, disposal of hazardous materials, and construction, operation, and removal of bulk petroleum and chemical storage tanks. The New York State Department of Labor (DOL) licenses asbestos workers. On the federal level, the US Environmental Protection Agency (EPA) has wide ranging authority over environmental matters, including air emissions, noise, hazardous materials, and the use of poisons. Much of the responsibility is delegated to the state level. The US Occupational Safety and Health Administration (OSHA) sets standards for work site safety and the construction equipment.

TABLE S-1
Construction Oversight in New York City

Agency	Area(s) of Responsibility
New York City	
Department of Buildings	Primary oversight for Building Code and site safety
Department of Environmental Protection	Noise, hazardous materials, dewatering
Fire Department	Compliance with Fire Code, tank operation
Department of Transportation	Traffic lane and sidewalk closures
New York City Transit	Bus stop relocation; any subsurface construction within 200 feet of a subway
Landmarks Preservation Commission	Archaeological and historic architectural protection
New York State	
Department of Labor	Asbestos workers
Department of Environmental Conservation	Dewatering, hazardous materials, tanks, Stormwater Pollution Prevention Plan, Industrial SPDES, if any discharge into the Hudson River
United States	
Environmental Protection Agency	Air emissions, noise, hazardous materials, toxic substances
Occupational Safety and Health Administration	Worker safety

Hours of Work

Construction activities for buildings in the city generally take place Monday through Friday, with exceptions that are discussed separately below. In accordance with city laws and regulations, construction work would generally begin at 7:00 AM on weekdays, with workers arriving to prepare work areas between 6:00 AM and 7:00 AM. Normally, work would end at 3:30 PM, but at times the workday could be extended to complete some specific tasks beyond normal work hours, such as completing the drilling of piles, finishing a concrete pour for a floor deck, or completing the bolting of a steel frame erected that day. The extended workday would generally last until about 6:00 PM and would not include all construction workers on-site, but just those involved in the specific task requiring additional work time.

Occasionally, Saturday or overtime hours may be required to complete some time-sensitive tasks. Weekend work requires a permit from the DOB and, in certain instances, approval of a noise mitigation plan from the DEP under the City's Noise Code. The New York City Noise Control Code, as amended December 2005 and effective July 1, 2007 limits construction (absent special circumstances as described below) to weekdays between the hours of 7:00 AM and 6:00 PM, and sets noise limits for certain specific pieces of construction equipment. Construction activities occurring after hours (weekdays between 6:00 PM and 7:00 AM and on weekends)

may be permitted only to accommodate: (i) emergency conditions; (ii) public safety; (iii) construction projects by or on behalf of city agencies; (iv) construction activities with minimal noise impacts; and (v) undue hardship resulting from unique site characteristics, unforeseen conditions, scheduling conflicts and/or financial considerations. In such cases, the numbers of workers and pieces of equipment in operation would be limited to those needed to complete the particular authorized task. Therefore, the level of activity for any weekend work would be less than a normal workday. The typical weekend workday would be on Saturday from 7:00 AM with worker arrival and site preparation to 5:00 PM for site cleanup.

Construction Sequencing

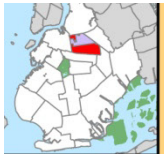
Construction activities generated by the Proposed Action would be gradual, taking place over a ten-year period. Because the projected development sites within the area to be rezoned are in private ownership, the timing of the development of those sites is unknown. The Proposed Action, which is an area-wide rezoning, is not intended to facilitate any specific development on any of the projected development sites. As such, the reasonable worst case development scenario presented in Attachment 1, "Project Description," does not describe which of the sites would be developed first or assume a particular sequence of development. However, it is conservatively assumed that construction of all projected development sites would be completed by the end of the 2022 analysis year. Market considerations would ultimately determine the demand for development.

An anticipated construction sequencing for use in the analysis of the Proposed Action was developed based on the above assumptions, and this is illustrated in **Figure S-1**. The figure shows the different phases of construction, as well as estimates of the numbers of construction workers and trucks associated with each phase. These are discussed in more detail below.

Typical Construction Activities

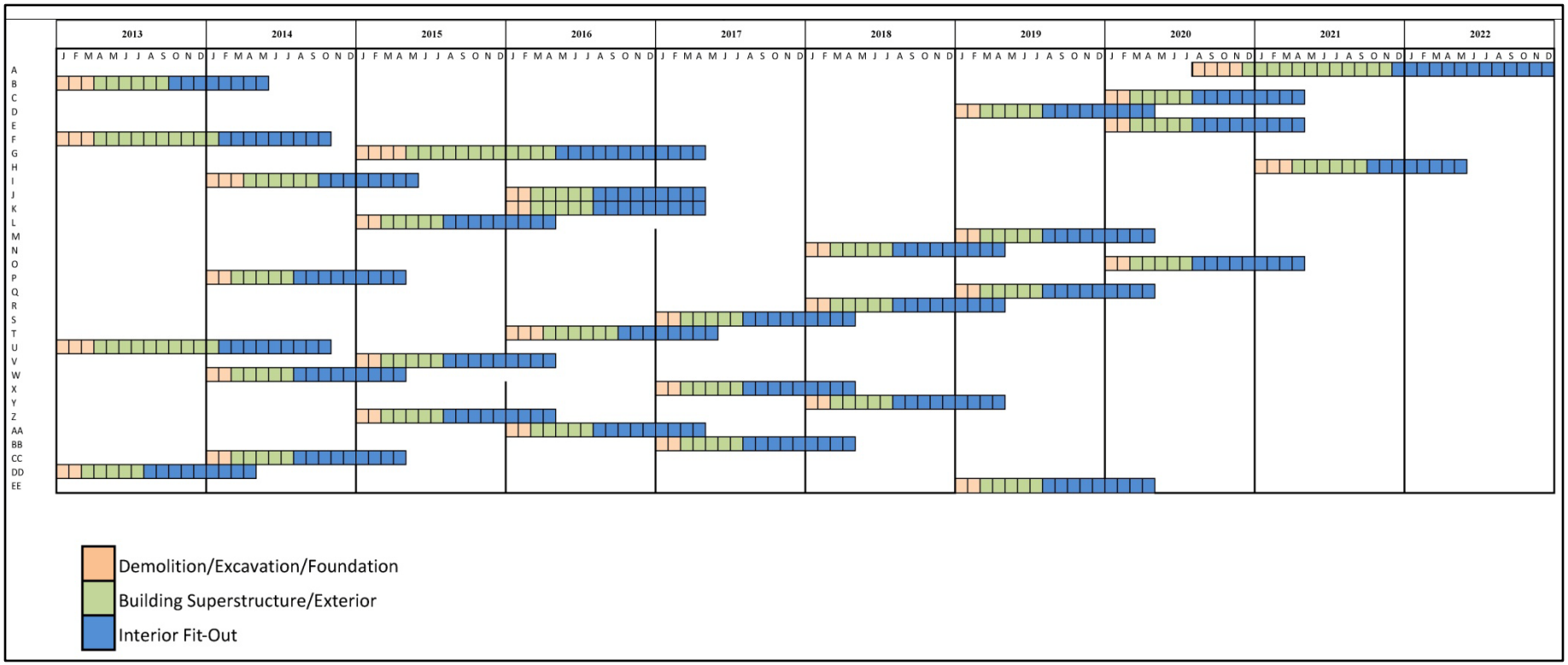
The following is a general outline of construction stages on the development sites over the typical 16-month period.

- Months 1-2: Site clearance, excavation, and foundation. The first six months of construction would entail site clearance (including demolition of existing buildings); digging, pile-driving, pile capping, and excavation for the foundation; dewatering (to the extent required), and reinforcing and pouring of the foundation. Typical equipment used for these activities would include excavators, backhoes, tractors, pile-drivers, hammers, and cranes. Trucks would arrive at the site with pre-mixed concrete and other building materials, and would remove any excavated material and construction debris.
- Months 3-7: Erection of the superstructure and underground parking foundation (if any). Once the foundations have been completed, the construction of the building's steel framework, parking ramp, and decking would take place. This process involves the installation of beams, columns and decking, and would require the use of cranes, derricks, hoists, and welding equipment, as warranted.
- Months 8-16: Façade and roof construction, mechanical installation, interior and finishing work. This would include the assembly of exterior walls and cladding;



Bedford-Stuyvesant North Rezoning

Assumed Construction Schedule for Assessment of Construction Impacts Figure S-1



installation of heating, ventilation and air conditioning (HVAC) equipment and ductwork; installation and checking of elevator, utility, and life safety systems; and work on interior walls and finishes. During these activities, hoists and cranes would continue to be used, and trucks would remain in use for material supply and construction waste removal. It should be noted that much of this work occurs when the building is fully enclosed, and therefore is not disruptive to the surrounding neighborhood.

Construction staging would most likely occur on the projected development sites themselves and may, in some cases, extend within portions of sidewalks and curb and travel lanes of public streets adjacent to the construction sites. During the course of construction, traffic lanes and sidewalks adjacent to projected development sites may have to be intermittently or temporarily closed or protected for varying periods of time to allow for certain construction activities. Any sidewalk or street closures would require the approval of the New York City Department of Transportation's Office of Construction Management and Coordination (DOT-OCMC), the entity that insures critical arteries are not interrupted, especially in peak travel periods. Builders would be required to plan and carry out noise and dust control measures during construction. Construction activities would be subject to compliance with the New York City Noise Code and by EPA noise emission standards for construction equipment. In addition, there would be requirements for street crossing and entrance barriers, protective scaffolding, and strict compliance with all applicable construction safety measures.

Estimate of Construction Workers

Based on the square footage of each of the 31 projected development sites that would entail demolition and new construction, and estimated construction costs, the person-years of construction employment was estimated for each site. This calculated number was then divided by the anticipated construction period, to estimate the average number of construction workers on site at any time per quarter. The resultant estimate of the number of workers per quarter for each site is summarized in **Table S-2** below.

TABLE S-2
Estimated Total Number of Construction Workers and Construction Trucks On-Site Per Day (31 Projected Development Sites With New Construction)

Year	**2013**				**2014**				**2015**				**2016**				**2017**			
Quarter	*1st*	*2nd*	*3rd*	*4th*	*1st*	*2nd*	*3rd*	*4th*	*1st*	*2nd*	*3rd*	*4th*	*1st*	*2nd*	*3rd*	*4th*	*1st*	*2nd*	*3rd*	*4th*
Workers	117	117	117	117	229	220	207	143	254	198	142	142	227	188	169	169	212	99	43	43
Trucks	37	45	44	40	50	45	36	13	59	62	52	48	69	48	30	18	29	19	6	3
Year	**2018**				**2019**				**2020**				**2021**				**2022**			
Quarter	*1st*	*2nd*	*3rd*	*4th*	*1st*	*2nd*	*3rd*	*4th*	*1st*	*2nd*	*3rd*	*4th*	*1st*	*2nd*	*3rd*	*4th*	*1st*	*2nd*	*3rd*	*4th*
Workers	89	60	46	46	92	61	46	46	111	81	106	127	168	124	102	102	102	88	61	61
Trucks	15	15	17	4	15	14	7	4	20	20	27	33	48	47	45	28	12	11	9	9

Estimate of Construction Period Trucks

Based on prior EIS documents for new construction projects in New York City that contain a similar mix of uses, an estimate of the number of daily construction trucks generated per 100,000 gsf of development was developed for each of the three general construction phases described above. It was estimated that in the first phase of construction, approximately nine trucks would

be generated per day per 100,000 gsf of development, 11 daily trucks per 100,000 gsf would be generated in the second phase, and three daily trucks per 100,000 gsf would be generated in the third phase. These ratios were then applied to each of the 31 projected development sites involving new construction and the resultant estimate of the number of daily trucks per quarter for each site (based on each site's total gsf) is summarized in **Table S-2**.

Determining Peak Year for Cumulative Construction and Operational Effects

According to the *CEQR Technical Manual*, if a project involves multiple development sites over varying construction timelines, a preliminary assessment must take into account whether the operational trips from completed portions of the project and construction trips associated with construction activities could overlap. For the purposes of establishing a reasonable worst case for the construction assessment, based on the conceptual construction schedule presented in **Figure S-1**, 2016 was selected as the construction peak year for assessment in this chapter. As shown in **Figure S-1**, in 2016, there would be eight sites that are already completed and operational (sites B, F, I, P, U, W, CC and DD), and eight sites that are under construction (G, J, K, L, T, V, Z and AA). Any prior year would not have sufficient operational sites for assessment purposes, whereas subsequent years would not have an adequate number of sites under construction.

PRELIMINARY ASSESSEMENT

In accordance with the guidelines of the *CEQR Technical Manual*, this preliminary assessment evaluates the effects associated with the Proposed Action's construction related activities including transportation, air quality, noise, historic and cultural resources, and hazardous materials.

Transportation

The Proposed Action would result in residential, commercial, and mixed-use development in newly constructed buildings on 31 projected development sites in the rezoning area over a nine-year period. These developments would replace No-Action uses on the development sites, including commercial and community facility uses. During construction periods, projected development sites would generate trips by workers traveling to/from the construction sites, as well as trips associated with the movement of materials and equipment. Given typical construction hours, worker trips would be concentrated in off-peak hours and would not represent a substantial increment during the area's peak travel periods.

Construction Traffic

As discussed above, average daily construction worker and truck activities were forecast for each of the projected development sites involving new construction (refer to **Figure S-1**). For a conservative reasonable worst-case analysis of potential construction traffic impacts, the peak levels of construction in each calendar quarter were used as the basis for estimating peak hour construction traffic volumes. The proposed construction schedule assumes peak construction activities and construction trips would peak in the first quarter of 2015. During the peak construction months in the first quarter of 2015, the daily averages of construction workers and truck traffic were estimated at 254 workers and 59 trucks per day. These represent peak days of

work, and many days during the construction period would have fewer construction workers and trucks on-site.

Although construction traffic would peak in 2015, as noted above, 2016 was selected as the reasonable worst case analysis year for assessing potential construction-related traffic impacts as it is during this year that overlapping travel demand from construction activities plus demand from completed portions of the project is expected to peak. As shown in **Table S-2** above, during peak construction months in 2016, the daily averages of construction workers and truck traffic were estimated at 227 workers and 69 trucks per day. While this level of construction travel demand is less than what would occur at peak times in 2015, as described in more detail later in this chapter, in 2016 construction travel demand would overlap with operational demand from an estimated eight projected development sites that would already have been completed (sites B, F, I, P, U, W, CC and DD).

Peak Construction Worker Travel Demand and Truck Trips in 2015

It is anticipated that construction workers' travel to and from projected development sites would be primarily by public transportation (approximately 70 percent), with a lesser percentage by private autos (approximately 28.9 percent) at an average occupancy of approximately 2.04 persons per auto.[1] It is also estimated that 80 percent of all workers would arrive and depart in the 60-minute period before and after each shift.

The construction schedule assumes that all site activities would take place during the typical construction shift of 7:00 AM to 3:30 PM. Construction truck trips would occur throughout the day (with higher numbers of trips during the early morning), and trucks would remain in the area for relatively short durations. Construction worker travel would typically take place during the hours before and after the work shift.

Table S-3 shows construction worker auto and construction truck trips during the 2015 peak construction period for the four development clusters where construction is expected to occur (Clusters 2, 3, 4 and 5). The estimated daily vehicle trips were distributed to various hours of the day based on typical work shift allocations and conventional arrival/departure patterns of construction workers and trucks. For construction workers, as noted above, the substantial majority (80 percent) of the arrival and departure trips are expected to take place during the hour before and after each shift. For construction trucks, deliveries would occur throughout the time period while the construction site is active. However, to avoid traffic congestion and ensure that materials are on-site for the start of each shift, construction truck deliveries would often peak during the hour before the regular day shift (25 percent of shift total), overlapping with construction worker arrival traffic. Based on these assumptions, the peak hour construction traffic was estimated for the entire construction period. The total vehicle trips per hour are shown in **Table S-3** along with passenger-car equivalent (PCE) values, which are based on one PCE per auto and two PCEs per truck. Each truck delivery therefore accounts for two truck trip-ends and four PCE trip-ends (in and out combined) during the same hour.

[1] Source: *Atlantic Yards Arena and Redevelopment Project FEIS* (2006); Appendix F; Exhibit F17a-1 showing data for a construction site in Times Square.

As shown in **Table S-3**, Cluster 3 (i.e., Site L) generates a peak of 7 PCEs during the 6 AM to 7 AM hour throughout the study area roadway network under 2015 construction conditions. In addition to the construction traffic increment, an operational traffic increment in 2015 of two auto trips during the 6 AM to 7 AM hour is expected in connection with completion of development Site DD which is expected to be completed by that time in Cluster 3. Consequently, the incremental vehicle trips associated with Cluster 3 under peak construction conditions (9 PCEs) does not reach the *CEQR Technical Manual* analysis threshold of 50 PCEs either in total or at any one intersection in proximity to Cluster 3 in any peak hour.

Cluster 4 (i.e., Sites P, V, and W) generates a peak of 14 PCEs during the 6 AM to 7 AM hour throughout the study area roadway network under 2015 construction conditions. In addition to the construction traffic increment, an operational traffic increment in 2015 of approximately 36 auto trips during the 6 AM to 7 AM hour is expected in connection with completion of development Site U which is expected to be completed by that time in Cluster 4. Consequently, the incremental vehicle trips (i.e., 50 PCEs) associated with Cluster 4 under peak construction conditions the operational vehicles would be disbursed among various roadways and parking facilities where construction vehicles destined for the site would not reach the *CEQR Technical Manual* analysis threshold of 50 PCEs at any one intersection in proximity to Cluster 4 in any peak hour.

Cluster 5 (i.e., Sites Z and CC) generates a peak of 12 PCEs during the 6 AM to 7 AM hour throughout the study area roadway network under 2015 construction conditions. There is no operational traffic increment in 2015 because no development sites are expected to be completed by that time in Cluster 5. Consequently, the incremental vehicle trips (i.e., 12 PCEs) associated with Cluster 5 under construction conditions would not reach the *CEQR Technical Manual* analysis threshold of 50 PCEs either in total or at any one intersection in proximity to Cluster 5 in any peak hour.

A detailed construction traffic analysis is therefore not warranted for Clusters 3, 4, or 5 in 2015, as no significant adverse construction traffic impacts would be expected to occur.

Table S-3 - 2015 Peak Construction Vehicle Trip Projections

CLUSTER 2 (Sites G and I)												
Hour of Day	Auto Trips			Truck Trips			Total Vehicle Trips			Total Vehicle Trips (PCEs)		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
6-7AM	16	0	16	10	10	20	26	10	36	36	20	56
7-8AM	4	0	4	4	4	8	8	4	12	12	8	20
8-9AM	0	0	0	4	4	8	4	4	8	8	8	16
9-10AM	0	0	0	4	4	8	4	4	8	8	8	16
10-11AM	0	0	0	4	4	8	4	4	8	8	8	16
11AM-12PM	0	0	0	4	4	8	4	4	8	8	8	16
12-1PM	0	0	0	4	4	8	4	4	8	8	8	16
1-2PM	0	0	0	4	4	8	4	4	8	8	8	16
2-3PM	0	0	0	2	2	4	2	2	4	4	4	8
3-4PM	0	16	16	0	0	0	0	16	16	0	16	16
4-5PM	0	2	2	0	0	0	0	2	2	0	2	2
5-6PM	0	2	2	0	0	0	0	2	2	0	2	2
TOTAL =	**20**	**20**	**40**	**40**	**40**	**80**	**60**	**60**	**120**	**100**	**100**	**200**
CLUSTER 3 (Site L)												
Hour of Day	Auto Trips			Truck Trips			Total Vehicle Trips			Total Vehicle Trips (PCEs)		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
6-7AM	2	0	2	1	1	3	3	1	5	5	3	7
7-8AM	0	0	0	1	1	1	1	1	2	2	1	3
8-9AM	0	0	0	1	1	1	1	1	1	1	1	2
9-10AM	0	0	0	1	1	1	1	1	1	1	1	2
10-11AM	0	0	0	1	1	1	1	1	1	1	1	2
11AM-12PM	0	0	0	1	1	1	1	1	1	1	1	2
12-1PM	0	0	0	1	1	1	1	1	1	1	1	2
1-2PM	0	0	0	1	1	1	1	1	1	1	1	2
2-3PM	0	0	0	0	0	1	0	0	1	1	1	1
3-4PM	0	2	2	0	0	0	0	2	2	0	2	2
4-5PM	0	0	0	0	0	0	0	0	0	0	0	0
5-6PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL =	**2**	**2**	**5**	**5**	**5**	**10**	**8**	**8**	**15**	**13**	**13**	**25**
CLUSTER 4 (Sites P, V and W)												
Hour of Day	Auto Trips			Truck Trips			Total Vehicle Trips			Total Vehicle Trips (PCEs)		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
6-7AM	7	0	7	2	2	4	9	2	10	10	4	14
7-8AM	2	0	2	1	1	2	2	1	3	3	2	5
8-9AM	0	0	0	1	1	2	1	1	2	2	2	3
9-10AM	0	0	0	1	1	2	1	1	2	2	2	3
10-11AM	0	0	0	1	1	2	1	1	2	2	2	3
11AM-12PM	0	0	0	1	1	2	1	1	2	2	2	3
12-1PM	0	0	0	1	1	2	1	1	2	2	2	3
1-2PM	0	0	0	1	1	2	1	1	2	2	2	3
2-3PM	0	0	0	0	0	1	0	0	1	1	1	2
3-4PM	0	7	7	0	0	0	0	7	7	0	7	7
4-5PM	0	1	1	0	0	0	0	1	1	0	1	1
5-6PM	0	1	1	0	0	0	0	1	1	0	1	1
TOTAL =	**8**	**8**	**17**	**8**	**8**	**15**	**16**	**16**	**32**	**24**	**24**	**47**
CLUSTER 5 (Sites Z and CC)												
Hour of Day	Auto Trips			Truck Trips			Total Vehicle Trips			Total Vehicle Trips (PCEs)		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
6-7AM	4	0	4	2	2	4	6	2	8	8	4	12
7-8AM	1	0	1	1	1	2	2	1	3	3	2	4
8-9AM	0	0	0	1	1	2	1	1	2	2	2	3
9-10AM	0	0	0	1	1	2	1	1	2	2	2	3
10-11AM	0	0	0	1	1	2	1	1	2	2	2	3
11AM-12PM	0	0	0	1	1	2	1	1	2	2	2	3
12-1PM	0	0	0	1	1	2	1	1	2	2	2	3
1-2PM	0	0	0	1	1	2	1	1	2	2	2	3
2-3PM	0	0	0	0	0	1	0	0	1	1	1	2
3-4PM	0	4	4	0	0	0	0	4	4	0	4	4
4-5PM	0	1	1	0	0	0	0	1	1	0	1	1
5-6PM	0	1	1	0	0	0	0	1	1	0	1	1
TOTAL =	**5**	**5**	**10**	**8**	**8**	**17**	**14**	**14**	**27**	**22**	**22**	**44**

Notes:

(1) Construction auto trips were based on a peak of 141 daily workers for Cluster 2, 17 daily workers for Cluster 3, 58 daily workers for Cluster 4, and 37 daily workers for Cluster 5. A 28.9 percent auto share was assumed for construction workers, at an average occupancy of approximately 2.04 persons per auto. It is assumed that 80 percent of construction worker arrival and departure trips would take place during the hour before and after each shift.

(2) Construction truck trips were based on a peak of 40 daily trucks for Cluster 2, 5 daily trucks for Cluster 3, 8 daily trucks for Cluster 4, and 8 daily trucks for Cluster 5. Twenty-five percent of daily trucks were conservatively assumed to arrive in the hour before the start of each shift, 5 percent in the last hour of the shift, and 10 percent in each of the remaining hours during the work day. For analysis purposes, each truck delivery was assumed to result in two truck trips (four PCE trips) during the same hour.

(3) PCEs calculated at 1.0 PCE per worker auto and 2.0 per construction truck.

(4) Numbers in table are rounded.

Cluster 2 (i.e., Sites G and I) generates the most construction traffic of the four clusters undergoing construction in 2015, with a peak of 56 PCEs during the 6 AM to 7 AM time period. Approximately 10 trucks and 20 autos are expected to arrive at the Cluster 2 construction sites during the 6 AM to 7 AM peak arrival hour for construction-related activity, while four trucks and no autos are expected to do likewise during the 8 AM to 9 AM peak commuter travel hour for the study area. In the afternoon, there would be no truck trips and approximately 16 auto trips (by departing construction workers) during the 3 PM to 4 PM peak departure hour for construction-related activity, while two construction-related auto trips would occur during the 5 PM to 6 PM peak travel hour for the study area.

As described above, the maximum number of passenger car equivalents, estimated at 56, would occur in the 6 AM to 7 AM period in Cluster 2. In addition to the construction traffic increment in Cluster 2, an operational traffic increment in 2015 of 34 trips during the 6 AM to 7 AM hour is expected in connection with completion of development Site F which is expected to be completed by 2015 in Cluster 2. The addition of construction and operational traffic brings the total trips in Cluster 2 to 90 PCEs under 2015 peak construction conditions.

However, it should be noted that construction activity in 2015 would displace No-Action travel demand from the two projected development sites within this Cluster – Sites G and I. It is estimated that in the No-Action condition, these two sites will generate a total of 202 auto trips (139 inbound and 63 outbound) in the 6 AM to 7 AM peak hour. With the displacement of these trips by construction activity, the net change in trips to and from Cluster 2 in 2015 would result in a net reduction of 112 PCEs (90 PCEs minus 202 PCEs) compared to the No-Action condition. Therefore, a detailed 2015 construction traffic analysis for Cluster 2 is not warranted. The potential cumulative effects of construction and operational traffic in 2016 are discussed below.

Cumulative Construction and Operational Traffic in 2016

Table S-4 shows construction truck and worker auto trips in 2016 when construction travel demand would overlap with operational demand from completed projected development sites at each of the four development clusters identified earlier (Clusters 2, 3, 4 and 5). Also shown are both total vehicle trips and total PCEs. Construction auto and truck trips in 2016 were estimated based on the same travel demand assumptions utilized for the 2015 forecast and discussed previously.

Table S-4 - 2016 Peak Construction Vehicle Trip Projections

CLUSTER 2 (Sites G and K)												
Hour of Day	Auto Trips			Truck Trips			Total Vehicle Trips			Total Vehicle Trips (PCEs)		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
6-7AM	11	0	11	12	12	23	23	12	34	34	23	57
7-8AM	3	0	3	5	5	9	7	5	12	12	9	21
8-9AM	0	0	0	5	5	9	5	5	9	9	9	19
9-10AM	0	0	0	5	5	9	5	5	9	9	9	19
10-11AM	0	0	0	5	5	9	5	5	9	9	9	19
11AM-12PM	0	0	0	5	5	9	5	5	9	9	9	19
12-1PM	0	0	0	5	5	9	5	5	9	9	9	19
1-2PM	0	0	0	5	5	9	5	5	9	9	9	19
2-3PM	0	0	0	2	2	5	2	2	5	5	5	9
3-4PM	0	11	11	0	0	0	0	11	11	0	11	11
4-5PM	0	1	1	0	0	0	0	1	1	0	1	1
5-6PM	0	1	1	0	0	0	0	1	1	0	1	1
TOTAL =	**14**	**14**	**27**	**47**	**47**	**93**	**60**	**60**	**120**	**107**	**107**	**213**
CLUSTER 3 (Site L)												
Hour of Day	Auto Trips			Truck Trips			Total Vehicle Trips			Total Vehicle Trips (PCEs)		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
6-7AM	2	0	2	0	0	1	2	0	3	3	1	3
7-8AM	0	0	0	0	0	0	1	0	1	1	0	1
8-9AM	0	0	0	0	0	0	0	0	0	0	0	1
9-10AM	0	0	0	0	0	0	0	0	0	0	0	1
10-11AM	0	0	0	0	0	0	0	0	0	0	0	1
11AM-12PM	0	0	0	0	0	0	0	0	0	0	0	1
12-1PM	0	0	0	0	0	0	0	0	0	0	0	1
1-2PM	0	0	0	0	0	0	0	0	0	0	0	1
2-3PM	0	0	0	0	0	0	0	0	0	0	0	0
3-4PM	0	2	2	0	0	0	0	2	2	0	2	2
4-5PM	0	0	0	0	0	0	0	0	0	0	0	0
5-6PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL =	**2**	**2**	**5**	**1**	**1**	**3**	**4**	**4**	**8**	**5**	**5**	**10**
CLUSTER 4 (Sites J, T and V)												
Hour of Day	Auto Trips			Truck Trips			Total Vehicle Trips			Total Vehicle Trips (PCEs)		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
6-7AM	8	0	8	4	4	8	12	4	16	16	8	24
7-8AM	2	0	2	2	2	3	4	2	5	5	3	9
8-9AM	0	0	0	2	2	3	2	2	3	3	3	7
9-10AM	0	0	0	2	2	3	2	2	3	3	3	7
10-11AM	0	0	0	2	2	3	2	2	3	3	3	7
11AM-12PM	0	0	0	2	2	3	2	2	3	3	3	7
12-1PM	0	0	0	2	2	3	2	2	3	3	3	7
1-2PM	0	0	0	2	2	3	2	2	3	3	3	7
2-3PM	0	0	0	1	1	2	1	1	2	2	2	3
3-4PM	0	8	8	0	0	0	0	8	8	0	8	8
4-5PM	0	1	1	0	0	0	0	1	1	0	1	1
5-6PM	0	1	1	0	0	0	0	1	1	0	1	1
TOTAL =	**10**	**10**	**19**	**17**	**17**	**33**	**26**	**26**	**52**	**43**	**43**	**85**
CLUSTER 5 (Sites Z and AA)												
Hour of Day	Auto Trips			Truck Trips			Total Vehicle Trips			Total Vehicle Trips (PCEs)		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
6-7AM	5	0	5	2	2	4	7	2	9	9	4	13
7-8AM	1	0	1	1	1	2	2	1	3	3	2	4
8-9AM	0	0	0	1	1	2	1	1	2	2	2	3
9-10AM	0	0	0	1	1	2	1	1	2	2	2	3
10-11AM	0	0	0	1	1	2	1	1	2	2	2	3
11AM-12PM	0	0	0	1	1	2	1	1	2	2	2	3
12-1PM	0	0	0	1	1	2	1	1	2	2	2	3
1-2PM	0	0	0	1	1	2	1	1	2	2	2	3
2-3PM	0	0	0	0	0	1	0	0	1	1	1	2
3-4PM	0	5	5	0	0	0	0	5	5	0	5	5
4-5PM	0	1	1	0	0	0	0	1	1	0	1	1
5-6PM	0	1	1	0	0	0	0	1	1	0	1	1
TOTAL =	**6**	**6**	**13**	**8**	**8**	**15**	**14**	**14**	**28**	**22**	**22**	**44**

Notes:

(1) Construction auto trips were based on a peak of 96 daily workers for Cluster 2, 17 daily workers for Cluster 3, 68 daily workers for Cluster 4, and 45 daily workers for Cluster 5. A 28.9 percent auto share was assumed for construction workers, at an average occupancy of approximately 2.04 persons per auto. It is assumed that 80 percent of construction worker arrival and departure trips would take place during the hour before and after each shift.

(2) Construction truck trips were based on a peak of 47 daily trucks for Cluster 2, 3 daily trucks for Cluster 3, 17 daily trucks for Cluster 4, and 8 daily trucks for Cluster 5. Twenty-five percent of daily trucks were conservatively assumed to arrive in the hour before the start of each shift, 5 percent in the last hour of the shift, and 10 percent in each of the remaining hours during the work day. For analysis purposes, each truck delivery was assumed to result in two truck trips (four PCE trips) during the same hour.

(3) PCEs calculated at 1.0 PCE per worker auto and 2.0 per construction truck.

(4) Numbers in table are rounded.

As shown in **Table S-4**, Cluster 3 (i.e., Site L) generates a peak of 3 PCEs during the 6 AM to 7 AM hour throughout the study area roadway network under 2016 construction conditions. In addition to the construction traffic increment, an operational traffic increment in 2015 of two trips during the 6 AM to 7 AM hour is expected in connection with completion of development Site DD which is expected to be completed by that time in Cluster 3. Consequently, the incremental vehicle trips (i.e., 5 PCEs) associated with Cluster 3 under combined construction and operations conditions does not reach the *CEQR Technical Manual* analysis threshold of 50 PCEs either in total or at any one intersection in proximity to Cluster 3 in any peak hour.

Cluster 4 (i.e., Sites J, T, and V) generates a peak of 24 PCEs during the 6 AM to 7 AM hour throughout the study area roadway network under 2016 construction conditions. In addition to the construction traffic increment, an operational traffic increment in 2016 of approximately 56 auto trips during the 6 AM to 7 AM hour is expected in connection with completion of development Sites U, P, and W which are expected to be completed by that time in Cluster 4. Consequently, the incremental vehicle trips (i.e., 80 PCEs) associated with Cluster 4 under peak construction conditions the operational vehicles would be disbursed among various roadways and parking facilities where construction vehicles destined for the site would not reach the *CEQR Technical Manual* analysis threshold of 50 PCEs at any one intersection in proximity to Cluster 4 in any peak hour.

Cluster 5 (i.e., Sites Z and AA) generates a peak of 13 PCEs during the 6 AM to 7 AM hour throughout the study area roadway network under 2016 construction conditions. In addition to the construction traffic increment, an operational traffic increment in 2016 of 24 auto trips during the 6 AM to 7 AM hour is expected in connection with completion of development Site CC which is expected to be completed by that time in Cluster 5. Consequently, the incremental vehicle trips (i.e., 37 PCEs) associated with Cluster 5 under combined construction and operations conditions would not reach the *CEQR Technical Manual* analysis threshold of 50 PCEs either in total or at any one intersection in proximity to Cluster 5 in any peak hour.

A detailed construction traffic analysis is therefore not warranted for Clusters 3, 4, or 5 in 2016, as no significant adverse construction traffic impacts would be expected to occur.

Cluster 2 (i.e., Sites G and K) generates the most construction traffic of the four clusters undergoing construction in 2016, with a peak of 57 PCEs during the 6 AM to 7 AM time period. Approximately 12 trucks and 11 autos are expected to arrive at the Cluster 2 construction sites during the 6 AM to 7 AM peak arrival hour for construction-related activity, while five trucks and no autos are expected to do likewise during the 8 AM to 9 AM peak commuter travel hour for the study area. In the afternoon, there would be no truck trips and approximately 11 auto trips (by departing construction workers) during the 3 PM to 4 PM peak departure hour for construction-related activity, while one construction-related auto trip would occur during the 5 PM to 6 PM peak travel hour for the study area.

As described above, the maximum number of passenger car equivalents, estimated at 57, would occur in the 6 AM to 7 AM period in Cluster 2. In addition to the construction traffic increment in Cluster 2, an operational traffic increment in 2016 of 76 trips during the 6 AM to 7 AM hour

is expected in connection with completion of development Sites F and I which are expected to be completed by 2016 in Cluster 2. The addition of construction and operational traffic brings the total trips in Cluster 2 to 133 PCEs under combined construction and operations conditions.

However, it should be noted that construction activity in 2016 would displace No-Action travel demand from the two projected development sites within this Cluster – Sites G and K. It is estimated that in the No-Action condition, these two sites will generate a total of 164 auto trips (117 inbound and 47 outbound) in the 6 AM to 7 AM peak hour. With the displacement of these trips by construction activity, the net change in trips to and from Cluster 2 in 2015 would result in a net reduction of 31 PCEs (133 PCEs minus 164 PCEs) compared to the No-Action condition. Therefore, a detailed 2016 construction traffic analysis for Cluster 2 is not warranted.

Street Lane and Sidewalk Closures

The Proposed Action includes 31 projected development sites dispersed over the rezoning area. These projected development sites are primarily clustered along the Myrtle Avenue, Broadway, Kosciuszko Street, and Bedford Avenue corridors and would generally have frontages along these streets. As discussed above, there could be various curb lane and/or sidewalk closures associated with construction activities at these sites. These activities would include the unloading of construction materials from trucks and the loading of trucks with construction debris. Truck movements would be spread throughout the day and would generally occur between the hours of 6:00 AM and 3:00 PM, depending on the stage of construction. Flaggers are expected to be present during construction to manage the access and movements of trucks. Little if any rerouting of traffic is anticipated, and moving lanes of traffic are expected to be available at all times along the affected streets. It is anticipated that some sidewalks immediately adjacent to the projected development sites under construction would also be closed to accommodate heavy loading areas for at least several months of the construction period for each site. Pedestrians would either walk on the opposite side of the street or in a sectioned-off portion of the street. Detailed Maintenance and Protection of Traffic (MPT) Plans for each site would be submitted for approval to NYCDOT's Office of Construction Mitigation and Coordination (OCMC) when construction plans and planning are finalized. Appropriate protective measures for ensuring pedestrian safety surrounding each of the projected development sites would be implemented under these plans.

Transit and Pedestrians Screening

In the peak construction year (2015), approximately 254 construction workers would travel to and from projected development sites each day. It is estimated that approximately 80 percent of all construction workers would arrive and depart in the peak hour before and after each shift. In addition, approximately 70.0 percent of construction workers are expected to travel to and from the rezoning area by public transit (55 percent subway and 15 percent bus) and 1.1 percent by walking. Therefore, construction worker travel demand is expected to generate a total of approximately 142 transit trips in each peak hour. Given that these transit trips would be distributed among multiple subway stations and bus routes in proximity to projected development sites throughout the rezoning area, the number of incremental trips at any one subway station (or station element) or any one bus route would be less than the 200-trip *CEQR*

Technical Manual analysis threshold for a subway station analysis or the 50-trip threshold for a bus analysis (per route per direction) in all peak hours, and significant adverse transit impacts are not anticipated in the 2015 peak construction year.

The maximum number of walk trips associated with the transit and pedestrian modes combined in the 2015 peak construction year is expected to total 145 in any one peak hour. There would also be some additional pedestrian demand (approximately 59 trips) en route to and from area off-street public parking facilities, due to the remainder of workers who would travel to and from projected development sites by vehicle during the peak hour. However, these trips would be widely dispersed among the sidewalks and crosswalks in proximity to each of the projected development sites under construction. Further, the eight sites under construction during the peak construction year (2015) are scattered throughout the rezoning area. Therefore, the total number of new trips at any one sidewalk or crosswalk or corner in any peak hour would not exceed the 200-trip *CEQR Technical Manual* pedestrian analysis threshold. In addition, based on the results of the pedestrian capacity analyses performed in the Transportation chapter, all of the critical pedestrian elements analyzed in the study area were found to operate acceptably during weekday peak hours under the Action condition. Therefore, significant adverse pedestrian impacts are not anticipated in the peak construction year of 2015.

As stated above, construction worker travel demand is expected to generate a total of approximately 142 transit trips in each peak hour, including both subway and bus modes. Given that the subway trips would be distributed among multiple subway stations in proximity to each cluster, the number of incremental trips at any one station (or station element) would be less than the 200-trip *CEQR Technical Manual* analysis threshold in all peak hours, and significant adverse subway station impacts are not anticipated in the peak construction year of 2015.

It is projected that approximately 15 percent of the construction workers expected to travel to and from the rezoning area by public transit would travel via bus. Therefore, construction workers are expected to generate a total of approximately 21 bus trips in each peak hour. Given that these bus trips would be distributed among multiple bus routes in proximity to each cluster, the number of incremental trips in one direction on any one route would be less than the 50-trip *CEQR Technical Manual* analysis threshold in both peak hours, and significant adverse bus impacts are not anticipated in the 2015 construction year.

During the 2016 peak construction period, it is projected that there would be fewer construction workers than those projected in 2015. As discussed above, 254 construction workers are projected for the 2015 construction year, in comparison to the 227 construction workers projected in 2016. Utilizing the same assumptions described above, with fewer construction workers in 2016, no significant adverse transit and pedestrian impacts are expected to occur in the 2016 construction year.

Air Quality

According to the *CEQR Technical Manual*, an assessment of air quality and noise for construction activities is likely not warranted if the project's construction activities:

1. Are considered short-term;

2. Are not located near sensitive receptors;
3. Do not involve construction of multiple buildings where there is a potential for on-site receptors on buildings to be completed before the final build-out; and
4. The pieces of diesel equipment that would operate in a single location at peak construction are limited in number.

If a project either does meet one or more of the criteria above or one of the above criteria is unknown at the time of review, a preliminary air quality or noise assessment is not automatically required. Instead, various factors should be considered, such as the types of construction equipment (gas, diesel, electric), the nature and extent of any commitment to use the Best Available Technology (BAT) for construction equipment, the physical relationship of the project site to nearby sensitive receptors, the type of construction activity, and the duration of any heavy construction activity. However, this project does not screen out of #2 and #4 above since all sites may be next to a sensitive receptor and the type of equipment cannot be anticipated. Therefore, this analysis considers other factors as recommended by the CEQR TM. These factors considered are (1) the duration of any heavy construction activity (2) the physical relationship of the project site to nearby sensitive receptors, (3) the type of construction activity, (4) the types of construction equipment (gas, diesel, electric), and (5) the nature and extent of possible use of Best Available Technology (BAT) for construction equipment.

1. The Duration of Any Heavy Construction Activity

The *CEQR Technical Manual* does not define "short-term" for air quality assessments, but it has generally been accepted that the term refers to a period of two years or less. While the horizon year for study is 2022, 10 years from current conditions, it is expected that any actual development that would occur on an individual projected development site would take less than two years to complete. Moreover, the heaviest construction activity generally occurs during the demolition, excavation, and foundation stage which generally takes two to four months depending on the size of the project. The majority of construction is spent on the building exterior and interior fitting.

2. The Physical Relationship of the Project Site to Nearby Sensitive Receptors

The development that would be induced by the proposed actions could potentially occur next to sensitive receptors. However, as noted above, the development would occur over a 10 year time frame and typically would induce projects that would be completed in less than two years. Moreover, while it is possible that building on multiple projected development sites within the rezoning area could be under construction at the same time, it is anticipated that such construction activities would likely occur on sites that are not adjacent to one another and would not have a cumulative effect on adjacent sensitive receptors. This analysis assumes that development sites with multiple buildings would be constructed at the same time because the assemblages are assumed to be under single ownership and would likely be developed as a single project. For these assemblages it is highly unlikely that new buildings would be occupied adjacent to ongoing construction, therefore there would be no overlap of construction adjacent to new sensitive receptors.

3. The Type of Construction Activity

The typical construction of a development site, as aforementioned and illustrated in the phasing schedule, consists of three general phases or types of construction. The first type of construction is demolition, excavation, foundation. The second type of construction is the building or outfitting of the superstructure or skeleton of the building. The last type of construction that typical takes place is the exterior and interior outfitting of the building.

Demolition of interiors, portions of buildings or entire buildings are regulated by the NYC Department of Buildings requiring abatement of asbestos prior to any intrusive construction activities including demolition. OSHA regulates construction activities to prevent excessive exposure of workers to contaminants in the building materials including lead in paint. New York State Solid Waste regulations control where demolition debris and contaminated materials associated with construction are handled and disposed. Adherence to these existing regulations would prevent impacts from development activities at any of the projected development sites in the proposed rezoning area.

4. Types of Construction Equipment

Depending on the phase of construction different types of construction equipment are necessary. The heaviest construction equipment would be used during the demolition phase. Depending on the phase of construction, a handful of large non-road diesel engines will operate throughout the site. Ultra-low sulfur diesel (ULSD) would be used exclusively for all diesel engines throughout the construction sites as mandated by NYC law.

5. The nature and extent of possible use of Best Available Technology (BAT) for construction equipment

Nonroad diesel engines with a power rating of 50 horsepower (hp) or greater and controlled truck fleets (i.e., truck fleets under long-term contract with the project) including but not limited to concrete mixing and pumping trucks, could utilize the best available tailpipe (BAT) technology for reducing DPM emissions. Diesel particle filters (DPFs) have been identified as being the tailpipe technology currently proven to have the highest reduction capability. Construction contracts could specify that all diesel nonroad engines rated at 50 hp or greater would utilize DPFs, either installed on the engine by the original equipment manufacturer (OEM) or a retrofit DPF verified by the EPA or the California Air Resources Board, and may include active DPFs,[2] if necessary; or other technology proven to reduce DPM by at least 90 percent. This measure would be expected to reduce site-wide tailpipe PM emissions by at least 90 percent.

Additionally, a construction program could use construction equipment rated Tier 3 or higher for all nonroad diesel engines with a power output of 50 hp or greater. Tier 3 NOx emissions

[2] There are two types of DPFs currently in use: passive and active. Most DPFs currently in use are the "passive" type, which means that the heat from the exhaust is used to regenerate (burn off) the PM to eliminate the buildup of PM in the filter. Some engines do not maintain temperatures high enough for passive regeneration. In such cases, "active" DPFs can be used (i.e., DPFs that are heated either by an electrical connection from the engine, by plugging in during periods of inactivity, or by removal of the filter for external regeneration).

range from 40 to 60 percent lower than Tier 1 emissions and are considerably lower than uncontrolled engines.

Strict fugitive dust control plans could also be a part of a possible construction program. For example, stabilized truck exit areas could be established for washing off the wheels of trucks that exit the construction site. Truck routes within a site could be either watered as needed or, in cases where such routes would remain in the same place for an extended duration, the routes could be stabilized, covered with gravel, or temporarily paved to avoid the re-suspension of dust. All trucks hauling loose material could be equipped with tight fitting tailgates and their loads securely covered prior to leaving the sites. In addition to regular cleaning by the City, streets adjacent to the sites could be cleaned as frequently as needed. Chutes could be used for material drops during demolition. An on-site vehicular speed limit of 5 mph could also be imposed. Water sprays could be used for all excavation, demolition, and transfer of spoils to ensure that materials are dampened as necessary to avoid the suspension of dust into the air. Loose materials could be watered, stabilized with a biodegradable suppressing agent, or covered.

Possible impacts on local air quality during construction induced by the Proposed Action include fugitive dust (particulate) emissions from land clearing operations and demolition, emissions from heavy-duty diesel-fueled construction equipment (e.g., cranes and bulldozers), and possible mobile source emissions generated by construction equipment vehicles travelling to and from each development site. It should be noted however that the Proposed Action is an area-wide rezoning where the applicant, DCP, does not control when and how these developments will be constructed. In addition, it is anticipated that much of the construction would be completed using standard and approved techniques that are common to the construction of apartment and mixed use buildings in developed sections of NYC (and that are required by the Buildings Department). It is also anticipated the construction of most of the RWCDS projected development sites will be less than two years (i.e., short-term construction). As such, unless the owners/developers of the individual properties provide construction plans and schedules, and/or commit to specific construction techniques (in addition to those required by the NYC Building Code) or site-specific restrictions to minimize potential local impacts, a quantitative detailed analysis would not be feasible. Therefore, a qualitative assessment is provided below.

Fugitive Dust Impacts

Fugitive dust emissions from land clearing operations can occur from excavation, hauling, dumping, spreading, grading, compaction, wind erosion, and traffic over unpaved areas. Actual quantities of emissions depend on the extent and nature of clearing operations, the type of equipment employed, the physical characteristics of underlying soil, the speed at which construction vehicles are operated, and the type of fugitive dust control methods employed. Much of the fugitive dust generated by construction activities generally consists of relatively large-size particles (greater than 100 microns in diameter), which are expected to settle within a short distance (within 20 to 30 feet) from the construction site and to not significantly impact nearby buildings or people. All appropriate fugitive dust control measures—including watering of exposed areas and dust covers for trucks—would be employed during construction of each

projected and potential development site. As a result, no significant air quality impacts from fugitive dust emissions would be anticipated during construction.

Diesel Emission Impacts

Emissions from the heavy-duty diesel-fueled construction equipment can also occur from excavation, hauling, dumping, spreading, grading, and compaction. Actual quantities of these emissions depend on the extent and nature of clearing operations, the type of equipment employed, the speed at which construction vehicles are operated, and the type of emission controlled methods employed. These emissions could impact exiting land uses as well as development sites that are already operational. For example, in the 2016 cumulative analysis year, development Sites B, F, I, P, U, W, CC and DD would be operational while Sites G, J, K, L, T, V, Z and AA would be under construction and Sites A, C, D, E, H, M, N, O, Q, R, S, X, Y, BB and EE are not yet under construction.

Construction of each projected and potential development site would be accomplished using all appropriate emission control measures, including the mandated use of ultra-low sulfur fuel oil and engine idling restrictions. In addition, these excavation, hauling, dumping, spreading, grading, and compaction activities would generally occur for less than six months at each construction site. As a result, no significant air quality impacts emissions would be anticipated from these emissions.

Mobile Source Impacts

Mobile source emissions typically result from the operation of construction equipment, trucks delivering materials and removing debris, workers' private vehicles, or occasional disruptions in traffic near the construction site. These emissions, however, would be released from vehicles traveling on multiple roadways throughout the rezoning area based on the construction schedule of each development site. In general, the development sites are spread out sufficiently within the study area so as not to cause significant air quality impacts. However, some of the developments that are located in close proximity to one another (i.e., in clusters) may be built during the same time frames and cumulative impacts may result.

For Cluster 2, for example, which is the biggest generator of construction traffic in the rezoning area in terms of number of trips generated, it is estimated (with Sites G and I assumed to be under construction in the peak construction year of 2015) that peak hour construction volumes would consist of 16 inbound auto trips and 20 truck trips (10 in and 10 out, as per **Table S-3** above) during the 6 AM to 7 AM peak hour for construction traffic. Myrtle Avenue in the vicinity of Cluster 2 is classified as an arterial road, and Marcy Avenue, Tompkins Avenue, and Throop Avenue are classified as collector roads, with all four roads accommodating more than 5,000 average daily vehicles. These vehicles, however, would be arriving at and departing from separate development sites, and would therefore not be concentrated at any single intersection – it is estimated that construction traffic for Cluster 2 during the peak construction year (2015) would be divided between three different intersections (Marcy Avenue/Myrtle Avenue, Tompkins Avenue/Myrtle Avenue, and Throop Avenue/Myrtle Avenue) – with no single intersection expected to experience more than 20 trucks and 10 autos in the peak construction

period (6 AM to 7 AM). As these values are less than the applicable *CEQR Technical Manual* threshold values based on the peak hour heavy duty diesel truck equivalent emissions (PM2.5) screening worksheet referenced on Page 17-11 of the *Manual*, no significant air quality construction impacts from mobile sources are anticipated, and a detailed mobile source analysis is not warranted.

Moreover, according to the *CEQR Technical Manual*, if the operational analysis indicates that the project would not result in significant mobile source impacts, and the vehicular trip generation from construction would be less than that of the proposed project, then a more detailed assessment is usually not necessary. As discussed in Chapter N, "Air Quality," the mobile source analysis conducted for the Proposed Action indicates that no significant mobile source air quality impacts are expected as a result of the Proposed Action. Moreover, as discussed above, the vehicular trip generation from construction, as well as the cumulative traffic in the 2016 worst-case scenario, would be significantly less than (less than 50%) that of the Proposed Action. Therefore, pursuant to CEQR guidelines, a detailed assessment of construction-related mobile source air quality is not warranted.

Noise

The *CEQR Technical Manual* states that construction noise (generated by pile driving, truck traffic, blasting, demolition, etc.) is generally analyzed only when it affects a sensitive receptor over a long period of time. Based upon experience, unless ambient noise levels are very low and/or construction source levels are very high, and there are no structures that provide shielding, it is unusual for construction sources to have significant impacts at distances beyond 1,500 feet in New York City. Therefore, further analysis should be performed if the proposed project would cause construction equipment to be operating within 1,500 feet of a receptor for a period of time exceeding two years. In some circumstances, however, even a shorter term construction phase may affect highly sensitive locations (such as schools, hospitals, *etc.*), warranting further quantitative analysis.

While the horizon year for study is 2022, 10 years from current conditions, it is expected that any actual development that would occur on an individual projected development site would take less than two years to complete, and thus any construction equipment that would be operating while construction of a projected development site occurred would do so for a limited period of time, under two years. Thus, while there may be short periods of time when noise is greater than the Noise Control Code, these regulations would be followed in such a matter that no significant adverse noise impacts would be expected to result from construction activities related to the Proposed Action

Noise and vibration from construction equipment operation and noise from construction workers' vehicles and delivery vehicles traveling to and from the construction sites can affect community noise levels. The level of impact of these noise sources depends on the noise characteristics of the equipment and activities involved the construction schedule, and the location of potentially sensitive noise receptors. Noise levels caused by construction activities can vary widely, depending on the phase of construction (e.g. demolition, land clearing and

excavation, foundation, erection of structure, construction of exterior walls) and the specific task being undertaken.

Construction noise associated with the proposed action is expected to be similar to noise generated by other residential construction projects in the city. Increased noise level caused by construction activities can be expected to be more significant during early excavation phases of construction and would be of relatively short duration. Estimated maximum noise level increases associated with construction delivery truck movements was identified to occur in 2016 during 6-7 AM. Within the project study area, noise level increases of less than one decibel were found to occur over the future 2016 no build condition with the highest representative increase of 0.6 dBA (No-Build L_{10}, 84.8; Build $L_{10,}$ 85.4) occurring adjacent to receptor 3 on 943B Broadway. Therefore, increases in noise levels caused by trucks and other construction vehicles would not be significant.

Construction noise is regulated by the New York City Noise Control Code and by Environmental Protection Agency noise emission standards for construction equipment. These local and federal requirements mandate that certain classifications of construction equipment and motor vehicles meet specified noise emissions standards; that, except under exceptional circumstances, construction activities be limited to weekdays between the hours of 7:00 a.m. and 6:00 p.m.; and that construction material be handled and transported in such a manner as not to create unnecessary noise. In addition, whenever possible, appropriate low noise emission level equipment and operational procedures can be utilized to minimize noise and its effect on adjacent uses.

Furthermore, as discussed in **Chapter P** "Noise", traffic generated by the Proposed Actions would not have the potential to produce significant noise level increases at any sensitive receptors near the study area. Ambient noise levels adjacent to selected development sites within the rezoning area were measured at representative locations. Building window/wall attenuation requirements for maintaining interior noise levels within CEQR limits were established based on the Passenger Car Equivalent (PCE) estimates of future trip generation under peak hour build conditions. Those findings indicate that future trip generation will be minor and therefore build peak hour noise levels will be essentially indistinguishable from peak hour noise levels measured today. With the incorporation of the specified attenuation levels, noise levels within the proposed buildings would comply with all applicable interior space requirements.

It is also assumed that building mechanical systems, including emergency generators associated with the proposed development projects, would be designed with enclosures where necessary to meet all applicable noise regulations (i.e., Subchapter 5, §24-227 of the New York City Noise Control Code and the New York City Department of Buildings Code) and to avoid producing noise levels that would result in a significant increase in ambient noise levels. Therefore the development from the proposed rezoning on the projected and potential development sites would not result in any significant increase in ambient noise levels.

Historic and Cultural Resources

The *CEQR Technical Manual* states that construction impacts may occur on historic and cultural resources if in-ground disturbances or vibrations associated with project construction could undermine the foundation or structural integrity of nearby resources. A construction assessment is not needed for historic and cultural resources unless the project involves construction activities within 400 feet of a historic resource. The *CEQR Technical Manual* further notes that both impacts on archaeological resources from construction and demolition of an architectural resource as a result of the project are assessed as part of the historic and cultural resources analysis.

As stated in **Chapter F**, "Historic Resources," National Register (NR)-listed and eligible resources are given a measure of protection from the effects of projects sponsored, assisted, or approved by federal agencies under Section 106 of the National Historic Preservation Act. Although preservation is not mandated, federal agencies must attempt to avoid adverse effects on such resources through a notice, review, and consultation process. State/National Register (S/NR)-listed and eligible resources are similarly protected against effects resulting from projects sponsored, assisted, or approved by State agencies under the State Historic Preservation Act. However, private owners of S/NR-listed and eligible resources using private funds can alter or demolish their properties without such a review process. Privately owned properties that are New York City Landmarks (NYCLs), in Landmark Preservation Commission (LPC)-designated historic districts, or pending designation as Landmarks by LPC are protected under the New York City Landmarks Law. The law requires LPC review and approval before any alteration or demolition occurs, regardless of whether the project is publicly or privately funded. Publicly owned resources are also subject to review by LPC before project implementation; however, the LPC's role in projects sponsored by other city or state agencies generally is advisory only.

The following six NYCL-eligible and/or S/NR-eligible resources are part of the projected and potential development sites:

- East Brooklyn Savings Bank (S/NR-eligible).
- Bedford-Stuyvesant East-Central Historic District (NYCL-eligible, S/NR-eligible).
- Bedford-Stuyvesant and Broadway Historic District (NYCL-eligible, S/NR-eligible).
- Traffic Court Historic District (NYCL-eligible, S/NR-eligible).
- Tompkins Park Historic District (NYCL-eligible, S/NR-eligible).
- St. Peter's Historic District (NYCL-eligible, S/NR-eligible).

The City has two procedures for avoidance of damage to historic structures from adjacent construction. All buildings are provided some protection from accidental damage through New York City Department of Buildings (DOB) controls that govern the protection of any adjacent properties from construction activities, under Building Code Section 27-166 (C26-112.4). For all construction work, Building Code section 27-166 (C26-112.4) serves to protect buildings by requiring that all lots, buildings, and service facilities adjacent to foundation and earthwork areas be protected and supported in accordance with the code requirements.

The second protective measure applies only to designated NYCL and S/NR listed historic buildings that are located within 90 linear feet of a proposed construction site. For these structures, the DOB's *Technical Policy and Procedure Notice (TPPN) #10/88* is applicable. The DOB's *TPPN 10/88* supplements the standard building protections afforded by the Building Code C26-112.4 by requiring, among other things, a monitoring program to reduce the likelihood of construction damage to adjacent LPC-designated or S/NR-listed resources (within 90 feet), and to detect at an early stage the beginnings of damage so that construction procedures can be changed. The 90-foot distance is recognized as being close enough to potentially experience adverse construction-related impacts from ground-borne construction-period vibrations, falling debris, and/or collapse.

As noted in **Chapter F**, "Historic Resources," the following 11 architectural resources are located within 90 feet of a projected and potential development site (including those six resources list above, located on project and potential sites):

- Christ Evangelical English Lutheran Church (S/NR-listed).
- Convent of the Sisters of Mercy (S/NR-eligible).
- Shannon's Garden Historic District (NYCL-eligible, S/NR-eligible).
- Cripplebush Road Historic District (NYCL-eligible, S/NR-eligible).
- East Brooklyn Savings Bank (S/NR-eligible).
- St. Peter's German Evangelical Lutheran Church (S/NR-eligible).
- Bedford-Stuyvesant East-Central Historic District (NYCL-eligible, S/NR-eligible).
- Bedford-Stuyvesant and Broadway Historic District (NYCL-eligible, S/NR-eligible).
- Traffic Court Historic District (NYCL-eligible, S/NR-eligible).
- Tompkins Park Historic District (NYCL-eligible, S/NR-eligible).
- St. Peter's Historic District (NYCL-eligible, S/NR-eligible).

The Christ Evangelical English Lutheran Church (S/NR-listed) is within 90 feet of potential development Site 22, and would therefore be protected under the measures of *TPPN 10/88*. Provided these measures are followed, the Proposed Actions would not result in significant adverse construction-related impacts at Christ Evangelical English Lutheran Church.

The other noted historic architectural resources, including those resources located on a projected or potential development site, are NYCL-eligible and/or S/NR-eligible, and are not protected under *TPPN 10/88*. While these resources are either on a projected or potential development site, or within 90 feet of a site, since the resources are not S/NR-listed or LPC-designated, they are not afforded special protections under DOB's *TPPN 10/88*. The resources would be still afforded limited protection under DOB regulations applicable to all buildings located adjacent to construction sites (C26-112.4). Additional protective measures afforded under DOB *TPPN 10/88* would only become applicable if the NYCL-eligible and S/NR-eligible resources become listed and/or designated in the future prior to the initiation of construction.

By following the protection measures under DOB Code Section 27-166 (C26-112.4) and DOB's *TPPN #10/88* for those applicable resources, demolition and/or construction work on the projected and potential development sites would not cause any significant adverse construction-related impacts to nearby historic and cultural resources.

Hazardous Materials

The *CEQR Technical Manual* states a construction assessment is not needed for hazardous materials unless the construction activities would disturb a site, or be located adjacent to a site containing hazardous materials, based on the conclusions of a CEQR hazardous materials analysis regarding the presence or absence of hazardous materials on a project site or sites. For any potential construction sites and areas along the routes of proposed utilities that have been found to have a potential to contain hazardous materials, the possible effects on construction workers and the surrounding community during construction should be assessed. Any impacts from in-ground disturbance that are identified should be identified for construction as well. The mitigation or other measures to avoid the impact, such as an (E) Designation or Restrictive Declaration, should also be disclosed. If the impact identified is fully mitigated, no further analysis of the effect from construction activities on hazardous materials is needed. If an unmitigated significant impact is identified, the unmitigated impact should be disclosed for construction as well.

A hazardous materials assessment was undertaken for the Proposed Actions, as presented in **Chapter I**, "Hazardous Materials", of this EAS. The Proposed Actions would not result in significant adverse impacts due to hazardous materials with the incorporation of (E) designations on the projected and potential development sites. An (E) designation would be incorporated into the Proposed Actions applicable for 30 of the 31 projected development sites and each of the 33 potential development sites. An (E) designation is not necessary for the projected development site on Block 1609, Lot 5 (Projected Development Site M), as the assessment determined little or no likelihood of contamination and therefore, no significant impacts from hazardous materials.

The (E) designation would require that, prior to redevelopment, the property owner conduct a Phase I Environmental Site Assessment (ESA) in accordance with the American Society of Testing Materials (ASTM) E1527-05, a soil and groundwater testing protocol, and remediation where appropriate, to the satisfaction of the New York City Office of Environmental Remediation (OER) before issuance of construction-related New York City Department of Buildings (DOB) permits (pursuant to Section 11-15 of the *Zoning Resolution*—Environmental Requirements). The E-designation also requires mandatory construction-related health and safety plans, which must also be approved by OER. The applicable text for the (E) designations is provided in **Chapter I**.

Such designation would eliminate the potential for significant adverse impacts from hazardous materials due to implementation of the Proposed Actions. Regardless of the Proposed Actions, the conditions in the future would be the same for the development of the sites qualifying for an (E) designation. Within the proposed rezoning area, 64 potential and projected development sites may be contaminated as a result of historical and/or current land use activity, the presence of fuel storage tanks, or some other condition identified in the *CEQR Technical Manual*. As such, these locations would receive an (E) designation pursuant to the Proposed Actions. Thus, the Proposed Actions are not expected to result in any significant adverse construction-related impacts to hazardous materials.

Natural Resources

The *CEQR Technical Manual* states that natural resources may be affected during construction, particularly during such activities as excavation; grading; site clearance or other vegetation removal; cutting; filling; installation of piles, bulkheads, or other waterfront structures; dredging; dewatering; or soil compaction from construction vehicles and equipment. A construction assessment is not needed for natural resources unless the construction activities would disturb a site or be located adjacent to a site containing natural resources. If there is a potential for the construction activities to disturb a natural resource, a preliminary natural resources assessment, should be conducted to determine whether, and the extent to which, the project's construction activities would disturb natural resources.

As discussed in **Chapter H**, "Natural Resources," the rezoning area is urbanized and densely developed, does not contain natural features of significance, and is not located immediately adjacent to any natural resources. Plant communities within the rezoning area consist of cultivated gardens, yards, and street trees, and are not significant natural resources. All of the projected and potential development sites are essentially either developed or are vacant lots devoid of natural resources. Any vegetation on these sites in the existing condition would be typical urban invasive vegetation with no vegetation or wildlife of special or unique habitat value. Wildlife in the area is limited to mammals adapted to urban environments and transitory avian wildlife. There are no streams, ponds, or lakes that would provide any habitat for aquatic-related wildlife. The project area is located in a fully developed area of Brooklyn and has limited potential to provide unique habitat for noteworthy wildlife. Landscaped areas would continue to provide limited habitat for small urban mammals, birds and insects.

Accordingly, as the locations affected by with-action generated construction do not contain any important natural resources, the Proposed Actions are not expected to result in any significant adverse construction impacts related to natural resources.

Other Technical Areas

For other technical areas (land use and public policy, socioeconomics, open space, community facilities, infrastructure and neighborhood character), the *CEQR Technical Manual* recommends that a preliminary construction assessment is generally not needed unless the following are true:

- The construction activities are considered "long-term" (more than 2 years);
- Short-term construction activities would not directly affect a technical area, such as impeding the operation of a community facility (*e.g.*, result in the closing of a community health clinic for a period of a month(s).

While the horizon year for study is 2022, 10 years from the present, it is expected that any actual development that would occur on an individual projected development site would take less than two years to complete. In addition, any construction activities that do occur on a projected development site are not expected to directly affect community facilities, land use and public policy, socioeconomics, open space, community facilities, infrastructure and neighborhood

character in the rezoning area. Therefore, further assessment of the potential of construction-related impacts to affect other technical areas is not warranted.

It is also expected that construction contracts would include provisions for a rodent (mouse and rat) control program. Before the start of construction on any of the projected or potential development sites, it is expected that contractors would survey and bait the appropriate areas and provide for proper site sanitation as needed. During the construction phase, as necessary, contractors would carry out a maintenance program, and coordination is expected to be maintained with appropriate public agencies. As with most construction sites, only rodenticides registered with the Environmental Policy Act (EPA) and New York State Department of Environmental Conservation (NYSDEC) would be permitted, and contractors would be required to perform rodent control programs in a manner that avoids hazards to humans, domestic animals, and non-target wildlife. Therefore, construction activities are not expected to result in any significant adverse impacts on rodent control.

CONCLUSION

As demonstrated above, construction-related activities are not expected to have any significant adverse impacts on transportation, air quality, noise, historic resources, hazardous materials or other technical areas as a result of the Proposed Actions. Therefore, no significant adverse construction impacts are expected as a result of the proposed action.

T. CONCEPTUAL ANALYSIS OF PROPOSED TEXT AMENDMENTS

INTRODUCTION

As described in Attachment 1, "Project Description," the proposed actions include four zoning text amendments. For zoning text amendments, a conceptual analysis considers what the general effects of the provisions of the text would be elsewhere in the City, apart from the area analyzed in the EAS, to assess the potential for the proposed text amendment to result in significant adverse impacts.

PROPOSED ZONING TEXT AMENDMENTS

The proposed action includes four zoning text amendments.

One amendment would establish a new C4-4L regional commercial zoning district for medium-density residential and commercial development along major retail or transit corridors where elevated train tracks are present. The proposed C4-4L district would allow buildings with a maximum building height of 80 feet after a 40-65 foot base, except for lots fronting on the elevated rail line within 125 feet of the streetline adjacent to an elevated rail line. For lots within 125 feet of, and fronting on, an elevated rail line, special height and setback regulations are proposed that would allow buildings to rise to a maximum height of ten stories or 100 feet. New developments and enlargements at the streetline would be required to be set back five feet from the streetline at the ground floor, and another 15 feet above the building base between 30 and 65 feet.

A second text amendment would require transparency on the ground floor in R7D districts mapped with a C2 commercial overlay and in R9D districts mapped in conjunction with a C2 district, and in C4-5D districts. Specifically, each ground floor level of a commercial or community facility use must be glazed with transparent materials, which may include show windows, transom windows or glazed portions of doors. Such transparency must have a minimum width of two feet and occupy at least 50 percent of the surface area of each ground floor level between a height of two feet and 12 feet, or the height of the ground floor ceiling. The maximum width without transparency shall not exceed ten feet. This text amendment would modify Section 32-434 of the Zoning Resolution.

Another amendment would establish an inclusionary housing floor area bonus that would increase the permitted residential floor area ratio from 3.45 FAR to 4.6 FAR, 4.2 FAR to 5.6 FAR, and 3.45 FAR to 4.6 FAR, in R7A, R7D, and C4-4L districts within the rezoning area, respectively. The permitted floor area bonuses are conditioned upon the provision of at least 20 percent of dwelling units as lower income housing units. This text amendment would modify Appendix F of the Zoning Resolution to apply the Inclusionary Housing program to the above mentioned districts within the rezoning area.

The last text amendment would establish an Enhanced Commercial (EC) district along Broadway between Flushing Avenue and Monroe Street in Brooklyn Community District 3. The amendment would modify Section 132-00 to apply the proposed regulations to new development and enlargements at the streetline, but would not apply to schools, churches, or lots less than 20 feet wide. The proposed ground floor use regulations would require that all ground floor uses fronting on Broadway, or within 30 feet of Broadway be non-residential, such as retail establishments, offices and

community facilities. The EC also includes regulations for off-street parking, residential lobbies, transparency requirements, and new curb cuts.

The purpose and need for these zoning text amendments is presented in Attachment 1.

AREA OF APPLICABILITY

The establishment of the new C4-4L district would only apply to the areas proposed within the rezoning area of the current application. While the district may be mapped elsewhere in the City, there are no known future rezonings, other than the present application, that propose the mapping of C4-4L districts. However, any future mappings of C4-4L would require its own environmental review under CEQR prior to approval by the City Planning Commission. Furthermore, the RWCDS considers application of all elements of the text amendment on specified projected and potential development sites.

The text amendment that would require transparency of on the ground floor of certain commercial districts would apply to currently mapped R7D zoning districts in Brooklyn Community Districts 3 and 13, and C4-5D zoning districts currently mapped in Bronx Community District 7. The transparency requirements would not induce any new development or new building bulk or form in these community districts but would alter the facades of certain urban design components of new development, which are described more fully in the Urban Design chapter.

The zoning text amendment establishing the Inclusionary Housing program would apply to the proposed R7A, R7D, and C4-4L districts within the rezoning area. The "IH" program would not be applied to areas outside the rezoning area. Any future mapping of an R7A, R7D or C4-4L districts in an existing Inclusionary Housing Designated Area or establishment of a new Inclusionary Housing Designated Area with a R7A, R7D, or C4-4L district would require its own environmental review under CEQR prior to approval by the City Planning Commission.

The zoning text amendment to establish an Enhanced Commercial district would only apply to the stretch along Broadway between Flushing Avenue and Monroe Street in Brooklyn Community District 3. The Enhanced Commercial district would not be applicable outside the rezoning area and any future mapping of an Enhanced Commercial district would be subject to its own environmental review under CEQR prior to approval by the City Planning Commission.

Accordingly, these zoning text amendments would either apply only to the proposed rezoning area or, where applicable outside the rezoning area, would not induce any new development or change significantly the type of development that would occur. Furthermore, in the future, any new mapping or text amendment proposals would require their own environmental review under CEQR prior to approval by the City Planning Commission.

CONCLUSION

As the proposed zoning text amendments would either apply only to the rezoning area or, where applicable outside the rezoning area, would not induce any new development, they would not have the potential to result in significant adverse impacts due to development elsewhere in the City and further analysis is not warranted.

BEDFORD-STUYVESANT NORTH REZONING EAS

CEQR No.: 12DCP156Y
ULURP Nos.: 120294ZMK, N120295ZRK & N120296ZRY

APPENDICES

Appendix A: Zoning Text Amendment

BEDFORD-STUYVESANT NORTH
PROPOSED ZONING TEXT AMENDMENT
2012.05.03

Matter in underline is new, to be added;
Matter in ~~strikeout~~ is to be deleted;
Matter with # # is defined in Section 12-10;
* * * indicates where unchanged text appears in the Zoning Resolution

* * *

Article 1
General Provisions

Chapter 1
Title, Establishment of Controls and Interpretation of Regulations

* * *

11-122
Districts established

In order to carry out the purposes and provisions of this Resolution, the following districts are hereby established:

* * *

Commercial Districts

* * *

C4-4 General Commercial District
C4-4A General Commercial District
C4-4D General Commercial District
C4-4L General Commercial District
C4-5 General Commercial District

* * *

Special Purpose Districts

* * *

Establishment of the Special Downtown Jamaica District In order to carry out the special purposes of this Resolution as set forth in Article XI, Chapter 5, the #Special Downtown Jamaica District# is hereby established.

Establishment of the Special Enhanced Commercial District

In order to carry out the special purposes of this Resolution as set forth in Article XIII, Chapter 2, the #Special Enhanced Commercial District# is hereby established.

Establishment of the Special Forest Hills District

In order to carry out the special purposes of this Resolution as set forth in Article VIII, Chapter 6, the #Special Forest Hills District# is hereby established.

~~Establishment of the Special Fourth Avenue Enhanced Commercial District~~

~~In order to carry out the special purposes of this Resolution as set forth in Article XIII, Chapter 2, the #Special Fourth Avenue Enhanced Commercial District# is hereby established.~~

* * *

12-10
Definitions

* * *

Special Enhanced Commercial District

The "Special Enhanced Commercial District" is a Special Purpose District designated by the letters "EC" in which special regulations set forth in Article XIII, Chapter 2 apply.

* * *

~~Special Fourth Avenue Enhanced Commercial District~~

~~The "Special Fourth Avenue Enhanced Commercial District" is a Special Purpose District designated by the letters "EC" in which special regulations set forth in Article XIII, Chapter 2 apply.~~

* * *

Chapter 4
Sidewalk Cafe Regulations

* * *

14-44
Special Zoning Districts Where Certain Sidewalk Cafes are Permitted

* * *

Brooklyn	#Enclosed Sidewalk Cafe#	#Unenclosed Sidewalk Cafe#

~~Fourth Avenue Enhanced Commercial District~~	~~No~~	~~Yes~~
Bay Ridge District		
Coney Island District	No	Yes
Coney Island Mixed Use District	Yes	Yes
Downtown Brooklyn District	Yes	Yes
Enhanced Commercial District 1 (Fourth Avenue)	No	Yes
Enhanced Commercial District X (Broadway, Bedford-Stuyvesant)	No	Yes

* * *

ARTICLE II
RESIDENCE DISTRICT REGULATIONS

* * *

Chapter 3
Bulk Regulations for Residential Buildings in Residence Districts

*** * ***

23-144
In designated areas where the Inclusionary Housing Program is applicable

In #Inclusionary Housing designated areas#, as listed in the table in this Section, the maximum permitted #floor area ratios# shall be as set forth in Section 23-952 (Floor area compensation in Inclusionary Housing designated areas). The locations of such areas are specified in APPENDIX F (Inclusionary Housing Designated Areas) of this Resolution.

Community District	Zoning District
Community District 1, Bronx	R6A R7-2 R7A R7X R8A
Community District 4, Bronx	R8A R9D
Community District 7, Bronx	R7D
Community District 1, Brooklyn	R6 R6A R6B R7A R7-3
Community District 2, Brooklyn	R7A R8A R9A
Community District 3, Brooklyn	R7A R7D

Community District 6, Brooklyn	R7-2
Community District 7, Brooklyn	R7A R8A
Community District 14, Brooklyn	R7A
Community District 3, Manhattan	R7A R8A R9A
Community District 6, Manhattan	R10
Community District 7, Manhattan	R9A R10
Community District 1, Queens	R7A
Community District 2, Queens	R7X

* * *

ARTICLE III
COMMERCIAL DISTRICT REGULATIONS

* * *

Chapter 3
Bulk Regulations for Commercial or Community Facility Buildings in Commercial Districts

* * *

33-122
Commercial buildings in all other Commercial Districts

C1-6 C1-7 C1-8 C1-9 C2-6 C2-7 C2-8 C3 C4 C5 C6 C7 C8

In the districts indicated, the maximum #floor area ratio# for a #zoning lot# containing only #commercial uses# shall not exceed the #floor area ratio# set forth in the following table:

Districts	Maximum #Floor Area Ratio#
C3	0.50
C4-1 C8-1	1.00
C1-6 C1-7 C1-8 C1-9 C2-6 C2-7 C2-8 C7 C8-2 C8-3	2.00
C4-2A C4-3A	3.00
C4-2 C4-2F C4-3 C4-4 C4-4D C4-5 C4-6	3.40
C4-4A C4-4L C4-5A C4-5X C5-1	4.00
C4-5D	4.20

C8-4	5.00
C6-1 C6-2 C6-3	6.00
C6-3D	9.00
C4-7 C5-2 C5-4 C6-4 C6-5 C6-8	10.00
C5-3 C5-5 C6-6 C6-7 C6-9	15.00

33-123
Community facility buildings or buildings used for both community facility and commercial uses in all other Commercial Districts

C1-6 C1-7 C1-8 C1-9 C2-6 C2-7 C2-8 C3 C4 C5 C6 C8

In the districts indicated, the maximum #floor area ratio# for a #zoning lot# containing #community facility uses#, or for a #zoning lot# containing both #commercial# and #community facility uses#, shall not exceed the #floor area ratio# set forth in the following table:

Districts	Maximum #Floor Area Ratio#
C3	1.00
C4-1	2.00
C8-1	2.40
C4-2A C4-3A	3.00
C1-6A C2-6A C4-4A C4-4L C4-5A	4.00
C4-5D	4.20
C4-2 C4-3 C8-2	4.80
C4-5X	5.00
C6-1A	6.00
C1-6 C1-7 C2-6 C4-2F C4-4 C4-4D C4-5 C6-1 C6-2 C8-3 C8-4	6.50

C1-8A C2-7A C6-3A	7.50
C1-8X C2-7X C6-3D C6-3X	9.00
C1-8 C1-9 C2-7 C2-8 C4-6 C4-7 C5-1 C5-2 C5-4 C6-3 C6-4 C6-5 C6-8	10.00
C5-3 C5-5 C6-6 C6-7 C6-9	15.00

* * *

33-432
In other Commercial Districts

* * *

C1-6A C1-7A C1-8A C1-8X C1-9A C2-6A C2-7A C2-7X C2-8A C4-2A C4-3A C4-4A C4-4D C4-4L C4-5A C4-5D C4-5X C4-6A C4-7A C5-1A C5-2A C6-2A C6-3A C6-3D C6-3X C6-4A C6-4X

(b) In the districts indicated, the height and setback regulations of Sections 33-43 through 33-457, inclusive, shall not apply. In lieu thereof, the provisions of Section 35-24 (Special Street Wall Location and Height and Setback Regulations in Certain Districts) shall apply.

* * *

33-493
Special provisions along certain district boundaries

C1-6A C1-7A C1-8A C1-9A C2-6A C2-7A C2-7X C2-8A C4-2A C4-3A C4-4A C4-4D C4-4L C4-5A C4-5D C4-5X C4-6A C4-7A C5-1A C5-2A C6-2A C6-3A C6-3D C6-3X C6-4A C6-4X

In the districts indicated, and in C1 and C2 Districts mapped within R6A, R7A, R7B, R7D, R7X, R8A, R8B, R8X, R9A, R9D, R9X, R10A or R10X Districts, the #development# or #enlargement# of a #building#, or portions thereof, within 25 feet of an R1, R2, R3, R4, R5 or R6B District shall comply with the requirements for R6B Districts in Section 23-633 (Street wall location and height and setback regulations in certain districts).

* * *

Chapter 4
Bulk Regulations for Residential Buildings in Commercial Districts

34-00
APPLICABILITY AND DEFINITIONS

34-01
Applicability of this Chapter

The #bulk# regulations of this Chapter apply to any #zoning lot# containing only #residential buildings# in any #Commercial District# in which such #buildings# are permitted. Where a #residential building# and one or more #buildings# containing non-#residential uses# are on a single #zoning lot#, the #bulk# regulations of Article III, Chapter 5, shall apply. In addition, the #bulk# regulations of this Chapter or of specified Sections thereof also apply in other provisions of this Resolution where they are incorporated by cross reference.

However, in C3A Districts, the #bulk# regulations of this Chapter shall not apply to any #residential building#. In lieu thereof, the #bulk# regulations for R3A Districts ~~of~~ in Article II, Chapter 3 (Bulk Regulations for Residential Buildings in Residence Districts), shall apply to #residential buildings#.

In C4-4L Districts, the #bulk# regulations of this Chapter shall not apply to any #residential building#. In lieu thereof, the #bulk# regulations for C4-4L Districts in Article III, Chapter 5 (Bulk Regulations for Mixed Buildings in Commercial Districts), shall apply to #residential buildings#.

Existing #buildings or other structures# that do not comply with one or more of the applicable #bulk# regulations are #non-complying buildings or other structures# and are subject to the regulations set forth in Article V, Chapter 4.

Special regulations applying only in Special Purpose Districts are set forth in Articles VIII, IX, X, XI, XII and XIII.

All C6-1A Districts shall comply with the regulations of C6-1 Districts except as set forth in Section 34-112.

In Manhattan Community Districts 1, 2, 3, 4, 5 and 6, Brooklyn Community Districts 1, 2, 6 and 8, and Queens Community Districts 1 and 2, the #conversion# of non-#residential floor area# to #residences# in #buildings# erected prior to December 15, 1961, or January 1, 1977, as applicable, shall be subject to the provisions of Article 1, Chapter 5 (Residential Conversions within Existing Buildings), unless such #conversions# meet the requirements for new #residential development# of Article II (Residence District Regulations).

Special regulations applying in the #waterfront area# are set forth in Article VI, Chapter 2.

34-011
Quality Housing Program

(a) In C1 and C2 Districts mapped within #Residence Districts# with a letter suffix, and in C1-6A, C1-7A, C1-8A, C1-8X, C1-9A, C2-6A, C2-7A, C2-7X, C2-8A, C4-2A, C4-3A, C4-4A, C4-4D, C4-4L, C4-5A, C4-5D, C4-5X, C4-6A, C4-7A, C5-1A, C5-2A, C6-2A, C6-3A, C6-3D, C6-3X, C6-4A or C6-4X Districts, #residential buildings# shall comply with all of the requirements of Article II, Chapter 8 (Quality Housing Program).

* * *

Chapter 5
Bulk Regulations for Mixed Buildings in Commercial Districts

* * *

35-011
Quality Housing Program

(a) In C1 and C2 Districts mapped within R6 through R10 Districts with a letter suffix, and in C1-6A, C1-7A, C1-8A, C1-8X, C1-9A, C2-6A, C2-7A, C2-7X, C2-8A, C4-2A, C4-3A, C4-4A, C4-4D, C4-4L, C4-5A, C4-5D, C4-5X, C4-6A, C4-7A, C5-1A, C5-2A, C6-2A, C6-3A, C6-3D, C6-3X, C6-4A or C6-4X Districts, any #residential# portion of a #building# shall comply with all of the regulations of Article II, Chapter 8 (Quality Housing Program), and the entire #building# shall comply with the provisions of Sections 28-33 (Planting Areas) and 28-50 (PARKING FOR QUALITY HOUSING). In C1 and C2 Districts mapped within R5D Districts, only those regulations of Article II, Chapter 8, as set forth in Section 28-01 (Applicability of this Chapter), shall apply.

* * *

35-23
Residential Bulk Regulations in Other C1 or C2 Districts or in C3, C4, C5 or C6 Districts

* * *

C1-6A C1-7A C1-8A C1-8X C1-9A C2-6A C2-7A C2-7X C2-8A C4-2A C4-3A C4-4A C4-4D C4-4L C4-5A C4-5D C4-5X C4-6A C4-7A C5-1A C5-2A C6-2A C6-3A C6-3D C6-3X C6-4A C6-4X

(b) In the districts indicated, the #bulk# regulations for #residential# portions of #buildings# are the #bulk# regulations for the #Residence Districts# set forth in the following table. However, the height and setback regulations of Sections 23-60 through 23-65, inclusive, shall not apply. In lieu thereof, Section 35-24 shall apply.

Applicable #Residence District#

	District
R6A	C4-2A C4-3A
R7A	C1-6A C2-6A C4-4A C4-4L C4-5A
R7D	C4-5D
R7X	C4-5X
R8A	C1-7A C4-4D C6-2A
R9A	C1-8A C2-7A C6-3A
R9D	C6-3D
R9X	C1-8X C2-7X C6-3X
R10A	C1-9A C2-8A C4-6A C4-7A C5-1A C5-2A C6-4A
R10X	C6-4X

35-24
Special Street Wall Location and Height and Setback Regulations in Certain Districts

C1-6A C1-7A C1-8A C1-8X C1-9A C2-6A C2-7A C2-7X C2-8A C4-2A C4-3A C4-4A C4-4D C4-4L C4-5A C4-5D C4-5X C4-6A C4-7A C5-1A C5-2A C6-2A C6-3A C6-3D C6-3X C6-4A C6-4X

In the districts indicated, and in other C1 or C2 Districts when mapped within R6A, R6B, R7A, R7B, R7D, R7X, R8A, R8B, R8X, R9A, R9D, R9X, R10A or R10X Districts, for all #buildings or other structures#, and for #Quality Housing buildings# in other #Commercial Districts#, #street wall# location and height and setback regulations are set forth in this Section. The height of all #buildings or other structures# shall be measured from the #base plane#.

(a) Permitted obstructions

C1-6A C1-7A C1-8A C1-8X C1-9A C2-6A C2-7A C2-7X C2-8A C4-2A C4-3A C4-4A C4-4D C4-4L C4-5A C4-5D C4-5X C4-6A C4-7A C5-1A C5-2A C6-2A C6-3A C6-3D C6-3X C6-4A C6-4X

In the districts indicated, and in other C1 or C2 Districts when mapped within R6A, R6B, R7A, R7B, R7D, R7X, R8A, R8B, R8X, R9A, R9D, R9X, R10A or R10X Districts, and for #Quality Housing buildings# in other #Commercial Districts#, the provisions of Section 33-42 shall apply to any #building or other structure#. In addition, a dormer may be allowed as a permitted obstruction pursuant to paragraph (c) of Section 23-621 (Permitted obstructions in certain

districts), and an elevator shaft and associated vestibule may be allowed as a permitted obstruction, pursuant to paragraph (f) of Section 23-62.

(b) #Street wall# location

C1-6A C2-6A C4-2A C4-3A C4-4A C4-5A C4-5X

(1) In the districts indicated, and in C1 or C2 Districts when mapped within R6A, R6B, R7A, R7B or R7X Districts, and for #Quality Housing buildings# in other #Commercial Districts# with a residential equivalent of an R6 or R7 District, at least 70 percent of the #aggregate width of street walls# shall be located within eight feet of the #street line# and shall extend to at least the minimum base height specified in Table A of this Section for #buildings# in contextual districts, or Table B for #buildings# in non-contextual districts, or the height of the #building#, whichever is less. The remaining 30 percent of the #aggregate width of street walls# may be located beyond eight feet of the #street line#.

Existing #buildings# may be horizontally #enlarged# without regard to #street wall# location provisions, provided the amount of new #floor area# does not exceed 50 percent of the amount of #floor area# existing on June 29, 1994, and the #enlarged# portion of the #building# does not exceed one #story# or 15 feet in height, whichever is less.

For #zoning lots# bounded by more than one #street line#, these #street wall# location provisions shall be mandatory along only one #street line#.

Where only one #street line# is coincident with the boundary of a #Commercial District# mapped along an entire #block# front, the #street wall# location provisions shall apply along such coincident #street line#. For all other #zoning lots#, the #street wall# location provisions shall apply along at least one #street line#.

C1-7A C1-8A C1-8X C1-9A C2-7A C2-7X C2-8A C4-4D C4-5D

(2) In the districts indicated, and in C1 or C2 Districts when mapped within R7D, R8A, R8B, R8X, R9A, R9D, R9X, R10A or R10X Districts, and for #Quality Housing buildings# in other C1 or C2 Districts with a residential equivalent of an R8, R9 or R10 District, the following #street wall# location provisions shall apply along #wide streets# and along #narrow streets# within 50 feet of their intersection with a #wide street#:

(i) The #street wall# shall be located on the #street line# and extend along the entire #street# frontage of the #zoning lot# up to at least the minimum base height specified in Table A of this Section for #buildings# in contextual districts, or Table B for #buildings# in

non-contextual districts, or the height of the #building#, whichever is less. To allow articulation of #street walls# at the intersection of two #street lines#, the #street wall# may be located anywhere within an area bounded by the two #street lines# and a line connecting such #street lines# at points 15 feet from their intersection.

In C1 or C2 Districts when mapped within R9D Districts, to allow articulation of #street walls# at the intersection of two #street lines#, up to 50 percent of the area bounded by the two #street lines# and lines parallel to and 50 feet from such #street lines# may be unoccupied by a #building#. However, where one such #street line# fronts an elevated rail line, a minimum of 25 percent and a maximum of 50 percent of the area bounded by the two #street lines# and lines parallel to and 50 feet from such #street lines# shall be unoccupied by a #building#.

(ii) Recesses, not to exceed three feet in depth from the #street line#, shall be permitted on the ground floor where required to provide access to the #building#.

Above a height of 12 feet above the #base plane#, up to 30 percent of the #aggregate width of street walls# may be recessed beyond the #street line#, provided any such recesses deeper than 10 feet along a #wide street#, or 15 feet along a #narrow street#, are located within an #outer court#. Furthermore, no recesses shall be permitted within 30 feet of the intersection of two #street lines# except to articulate the #street walls# as set forth in paragraph (b)(2)(i) of this Section.

(iii) Where a continuous sidewalk widening is provided along the entire #block# frontage of a #street#, the boundary of the sidewalk widening shall be considered to be the #street line# for the purposes of this Section.

No #street wall# location rules shall apply along #narrow streets# beyond 50 feet of their intersection with a #wide street#.

C4-6A C4-7A C5-1A C5-2A C6-2A C6-3A C6-3D C6-3X C6-4A C6-4X

(3) In the districts indicated, and for #Quality Housing buildings# in other C4, C5 or C6 Districts with a residential equivalent of an R8, R9 or R10 District, the #street wall# location requirements shall be as set forth in paragraph (b)(2), inclusive, of this Section, except that a #street wall# with a minimum height of 12 feet shall be required on a #narrow street line#

beyond 50 feet of its intersection with a #wide street#, and shall extend along such entire #narrow street# frontage of the #zoning lot#.

In C6-4X Districts, #public plazas# are only permitted to front upon a #narrow street line# beyond 50 feet of its intersection with a #wide street line#. The #street wall# location provisions of this Section shall not apply along any such #street line# occupied by a #public plaza#.

In C6-3D Districts, to allow articulation of #street walls# at the intersection of two #street lines#, up to 50 percent of the area bounded by the two #street lines# and lines parallel to and 50 feet from such #street lines# may be unoccupied by a #building#.

However, where one such #street line# fronts an elevated rail line, a minimum of 25 percent and a maximum of 50 percent of the area bounded by the two #street lines# and lines parallel to and 50 feet from such #street lines# shall be unoccupied by a #building#.

C4-4L

(4) In C4-4L Districts, the #street wall# location provisions of paragraph, (b)(1), of this Section shall apply along any #street# that does not contain an elevated rail line. For #zoning lots# bounded by a #street# containing an elevated rail line, the following regulations shall apply along the frontage facing the elevated rail line:

(i) a sidewalk widening shall be provided along the entire #zoning lot# frontage of such #street# containing an elevated rail line. Such sidewalk widening shall have a depth of five feet, shall be improved to Department of Transportation standards for sidewalks, shall be at the same level as the adjoining public sidewalk, and shall be accessible to the public at all times. A line parallel to and five feet from the #street line# of such #street# containing an elevated rail line, as measured within the #zoning lot#, shall be considered the #street line# for the purpose of applying all regulations of this Section, 35-24, inclusive.

(ii) at least 70 percent of the #aggregate width of street walls# shall be located at the #street line# of the #street# containing the elevated rail line and extend to at least the minimum base height, or the height of the #building#, whichever is less, up to the maximum base height.

(c) Setback regulations

C1-6A C1-7A C1-8A C1-8X C1-9A C2-6A C2-7A C2-7X C2-8A C4-2A

C4-3A C4-4A C4-4D C4-4L C4-5A C4-5D C4-5X C4-6A C4-7A C5-1A C5-2A C6-2A C6-3A C6-3D C6-3X C6-4A C6-4X

In the districts indicated, and in C1 or C2 Districts when mapped within R6A, R6B, R7A, R7B, R7D, R7X, R8A, R8B, R8X, R9A, R9D, R9X, R10A or R10X Districts, for all #buildings#, and for #Quality Housing buildings# in other #Commercial Districts#, setbacks are required for all portions of #buildings or other structures# that exceed the maximum base height specified in the table in this Section. Such setbacks shall be provided in accordance with the following regulations:

(1) At a height not lower than the minimum base height or higher than the maximum base height specified in Table A of this Section for #buildings# in contextual districts, and Table B for #buildings# in non-contextual districts, a setback with a depth of at least 10 feet shall be provided from any #street wall# fronting on a #wide street#, and a setback with a depth of at least 15 feet shall be provided from any #street wall# fronting on a #narrow street#, except such dimensions may include the depth of any permitted recesses in the #street wall#.

(2) These setback provisions are optional for any #building# wall that is either located beyond 50 feet of a #street line# or oriented so that lines drawn perpendicular to it in plan would intersect a #street line# at an angle of 65 degrees or less. In the case of an irregular #street line#, the line connecting the most extreme points of intersection shall be deemed to be the #street line#. Furthermore, dormers provided in accordance with the provisions of paragraph (a) of this Section may penetrate a required setback area.

(3) In C6-3D Districts, for #buildings or other structures# on #zoning lots# that front upon an elevated rail line, at a height not lower than 15 feet or higher than 25 feet, a setback with a depth of at least 20 feet shall be provided from any #street wall# fronting on such elevated rail line, except that such dimensions may include the depth of any permitted recesses in the #street wall# and the depth of such setback may be reduced by one foot for every foot that the depth of the #zoning lot#, measured perpendicular to the elevated rail line, is less than 110 feet, but in no event shall a setback less than 10 feet in depth be provided above the minimum base height.

(i) The setback provisions of paragraph (c) of this Section are optional where a #building# wall is within the area bounded by two intersecting #street lines# and lines parallel to and 70 feet from such #street lines#.

(ii) Where such #building# is adjacent to a #public park#, such setback may be provided at grade for all portions of #buildings# outside of

the area bounded by two intersecting #street lines# and lines parallel to and 70 feet from such #street lines#, provided that any area unoccupied by a #building# shall be improved to Department of Transportation standards for sidewalks, shall be at the same level as the adjoining public sidewalks, and shall be accessible to the public at all times.

(4) In C4-4L Districts, for #zoning lots# bounded by a #street# containing an elevated rail line, the setback provisions of this paragraph (c) are modified as follows:

(i) a setback with a depth of at least 15 feet from the #street line# of the #street# containing the elevated rail line shall be provided at a height not lower than the minimum base height of either 30 feet or three #stories#, whichever is less, and not higher than the maximum base height of either 65 feet or six #stories#, whichever is less; and

(ii) dormers shall not be a permitted obstruction within such setback distance.

(d) Maximum #building# height

No #building or other structure# shall exceed the maximum #building# height specified in Table A of this Section for contextual districts, or Table B for non-contextual districts, except as provided in this paragraph, (d), inclusive:

C6-3D C6-4X

(1) In the districts indicated, any #building# or #buildings#, or portions thereof, which in the aggregate occupy not more than 40 percent of the #lot area# of a #zoning lot# (or, for #zoning lots# of less than 20,000 square feet, the percentage set forth in the table in Section 33-454) above a height of 85 feet above the #base plane#, is hereinafter referred to as a tower. Dormers permitted within a required setback area pursuant to paragraph (a) of this Section shall not be included in tower #lot coverage#. Such tower or towers may exceed a height limit of 85 feet above the #base plane#, provided:

~~(1)~~(i) at all levels, such tower is set back from the #street wall# of a base at least 15 feet along a #narrow street#, and at least 10 feet along a #wide street#, except such dimensions may include the depth of any permitted recesses in the #street wall#;

~~(2)~~(ii) the base of such tower complies with the #street wall# location provisions of paragraph (b) of this Section, and the setback provisions of paragraph (c) of this Section; and

~~(3)~~(iii) the minimum coverage of such tower above a height of 85 feet above the #base plane# is at least 33 percent of the #lot area# of the #zoning lot#; however, such minimum coverage requirement shall not apply to the highest 40 feet of such tower.

In C6-3D Districts, the highest four #stories#, or as many #stories# as are located entirely above a height of 165 feet, whichever is less, shall have a #lot coverage# of at least 50 percent of the #story# immediately below such #stories#, and a maximum #lot coverage# of 80 percent of the #story# immediately below such #stories#. Such reduced #lot coverage# shall be achieved by one or more setbacks on each face of the tower, where at least one setback on each tower face has a depth of at least four feet, and a width that, individually or in the aggregate, is equal to at least 10 percent of the width of such respective tower face. For the purposes of this paragraph, each tower shall have four tower faces, with each face being the side of a rectangle within which the outermost walls of the highest #story# not subject to the reduced #lot coverage# provisions have been inscribed. The required setbacks shall be measured from the outermost walls of the #building# facing each tower face. Required setback areas may overlap.

In C6-3D Districts, for towers fronting on elevated rail lines, the outermost walls of each #story# located entirely above a height of 85 feet shall be inscribed within a rectangle. The maximum length of any side of such rectangle that is parallel or within 45 degrees of being parallel to such elevated rail line shall be 125 feet, or 75 percent of the frontage of the #zoning lot# along such elevated rail line, whichever is less.

C4-4L

(2) In C4-4L Districts, for #zoning lots# bounded by a #street# containing an elevated rail line and within 125 feet of such #street#, the maximum #building# height shall be 100 feet or ten #stories#, whichever is less.

(e) Additional regulations

C1-6A C1-7A C1-8A C1-8X C1-9A C2-6A C2-7A C2-7X C2-8A C4-2A C4-3A C4-4A C4-4D C4-4L C4-5A C4-5D C4-5X C4-6A C4-7A C5-1A C5-2A C6-2A C6-3A C6-3D C6-3X C6-4A C6-4X

In the districts indicated, and in C1 or C2 Districts when mapped within R6A, R6B, R7A, R7B, R7D, R7X, R8A, R8B, R8X, R9A, R9D, R9X, R10A or R10X

Districts, and for #Quality Housing buildings# in other #Commercial Districts#, the following additional provisions shall apply:

(1) Existing #buildings# may be vertically enlarged by up to one #story# or 15 feet without regard to the #street wall# location requirements of paragraph (b) of this Section.

(2) On #through lots# that extend less than 180 feet in maximum depth from #street# to #street#, the #street wall# location requirements of paragraph (b) shall be mandatory along only one #street# frontage. However, in C4-4L Districts, such #street wall# location regulations shall apply along the frontage of any #street# containing an elevated rail line.

(3) The #street wall# location and minimum base height provisions of paragraph (b) shall not apply along any #street# frontage of a #zoning lot# occupied by #buildings# whose #street wall# heights or widths will remain unaltered.

(4) The minimum base height provisions of paragraph (b) shall not apply to #buildings developed# or #enlarged# after February 2, 2011, that do not exceed such minimum base heights, except where such #buildings# are located on #zoning lots# with multiple #buildings#, one or more of which is #developed#, #enlarged# or altered after February 2, 2011, to a height exceeding such minimum base heights.

(5) The City Planning Commission may, upon application, authorize modifications in the required #street wall# location of a #development# or #enlargement# if the Commission finds that existing #buildings#, or existing open areas serving existing #buildings# to remain on the #zoning lot#, would be adversely affected by the location of the #street walls# of the #development# or #enlargement# in the manner prescribed in this Section.

(6) For any #zoning lot# located in a Historic District designated by the Landmarks Preservation Commission, the minimum base height and #street wall# location regulations of this Section, or as modified in any applicable Special District, shall be modified as follows:

(i) The minimum base height of a #street wall# may vary between the height of the #street wall# of an adjacent #building# before setback, if such height is lower than the minimum base height required, up to the minimum base height requirements of this Section, or as modified in any applicable Special District.

(ii) The maximum base height of a #street wall# may vary between the height of the #street wall# of an adjacent #building# before

setback, if such height is higher than the maximum base height allowed, and the maximum base height requirements of this Section, provided that such height not exceed 150 feet and provided that such #zoning lot# is located within the area bounded by West 22nd Street, a line 100 feet west of Fifth Avenue, a line midway between West 16th Street and West 17th Street, and a line 100 feet east of Sixth Avenue.

(iii) The location of the #street wall# of any #building# may vary between the #street wall# location requirements of this Section, or as modified in any applicable Special District, and the location of the #street wall# of an adjacent #building# fronting on the same #street line#.

(7) In C6-3D Districts, where a #building# on an adjacent #zoning lot# has #dwelling unit# windows located within 30 feet of a #side lot line# of the #development# or #enlargement#, an open area extending along the entire length of such #side lot line# with a minimum width of 15 feet shall be provided. Such open area may be obstructed only by the permitted obstructions set forth in Section 33-23 (Permitted Obstructions in Required Yards or Rear Yard Equivalents).

(8) For the purposes of applying the #street wall# location regulations of paragraph (b), any #building# wall oriented so that lines perpendicular to it would intersect a #street line# at an angle of 65 degrees or less shall not be considered a #street wall#.

TABLE A
HEIGHT AND SETBACK FOR BUILDINGS
IN CONTEXTUAL DISTRICTS

District	Minimum Base Height	Maximum Base Height	Maximum Building Height
C1 or C2 mapped in R6B	30	40	50
C1 or C2 mapped in R6A C4-2A C4-3A	40	60	70
C1 or C2 mapped in R7B	40	60	75
C1 or C2 mapped in R7A C1-6A C2-6A C4-4A C4-5A	40	65	80
C1 or C2 mapped in R7D C4-5D	60	85	100

C4-4L	40	65	80
C1 or C2 mapped in R7X C4-5X	60	85	125
C1 or C2 mapped in R8B	55	60	75
C1 or C2 mapped in R8A C1-7A C4-4D C6-2A	60	85	120
C1 or C2 mapped in R8X	60	85	150
C1 or C2 mapped in R9A** C1-8A** C2-7A** C6-3A**	60	95	135
C1 or C2 mapped in R9A* C1-8A* C2-7A* C6-3A*	60	102	145
C1 or C2 mapped in R9D C6-3D	60	85****	***
C1 or C2 mapped in R9X** C1-8X** C2-7X** C6-3X**	60	120	160
C1 or C2 mapped in R9X* C1-8X* C2-7X* C6-3X*	105	120	170
C1 or C2 mapped in R10A** C1-9A** C2-8A** C4-6A** C4-7A** C5-1A** C5-2A** C6-4A**	60	125	185
C1 or C2 mapped in R10A* C1-9A* C2-8A* C4-6A* C4-7A* C5-1A* C5-2A* C6-4A*	125	150	210
C1 or C2 mapped in R10X C6-4X	60	85	***

---

* Refers to that portion of a district which is within 100 feet of a #wide street#

** Refers to that portion of a district on a #narrow street#, except within a distance of 100 feet from its intersection with a #wide street#

*** #Buildings# may exceed a maximum base height of 85 feet in accordance with paragraph (d) of this Section

**** For #developments# or #enlargements# that front upon an elevated rail line, the maximum base height shall be 25 feet.

* * *

35-32
Modification of Lot Coverage Regulations

In C4-4L Districts, the maximum #residential lot coverage# provisions of Sections 23-145 (For Quality Housing buildings) and 23-147 (For non-profit residences for the elderly) are modified as follows:

For #through lots# with a maximum depth of 180 feet or less, the maximum #residential lot coverage# shall be 80 percent. #Corner lots# shall not be subject to a maximum #residential lot coverage# where such #corner lots# are:

(a) 5,000 square feet or less in area; or

(b) 7,500 square feet or less in area and bounded by #street lines# that intersect to form an angle of less than 65 degrees, where one such #street# contains an elevated rail line.

* * *

35-50
MODIFICATION OF YARD REGULATIONS

* * *

35-53
Modification of Rear Yard Requirements

C1 C2 C3 C4 C5 C6

In the districts indicated, for a #residential# portion of a #mixed building#, the required #residential rear yard# shall be provided at the floor level of the lowest #story# used for #dwelling units# or #rooming units#, where any window of such #dwelling units# or #rooming units# faces onto such #rear yard#.

35-531
Residential rear yard equivalents in certain districts

In C4-4L Districts, for #through lots# that have a maximum depth of 180 feet or less and are bounded by a #street# containing an elevated rail line, no #residential rear yard equivalent# shall be required.

* * *

36-20
REQUIRED ACCESSORY OFF-STREET PARKING SPACES FOR COMMERCIAL OR COMMUNITY FACILITY USES

36-21

General Provisions

* * *

REQUIRED OFF-STREET PARKING SPACES FOR COMMERCIAL OR COMMUNITY FACILITY USES

Type of #Use#

Parking Spaces Required in Relation to Specified Unit of Measurement - Districts

---

FOR COMMERCIAL USES

Food stores with 2,000 or more square feet of #floor area# per establishment. #Uses# in PRC-A in Use Group 6

None required - C1-5 C1-6 C1-7 C1-8 C1-9 C2-5 C2-6 C2-7 C2-8 C4-5 C4-5A C4-5X C4-4A C4-4L C4-6 C4-7 C5 C6 C8-4
1 per 100 sq. ft. of #floor area# - C1-1 C2-1 C4-1
1 per 200 sq. ft. of #floor area# - C1-2 C2-2 C4-2 C8-1
1 per 300 sq. ft. of #floor area# - C1-3 C2-3 C4-2A C4-3 C7 C8-2
1 per 1,000 sq. ft. of #floor area# - C1-4 C2-4 C4-4 C4-5D C8-3

General retail or service #uses#. Food stores with less than 2,000 square feet of #floor area#. #Uses# in PRC-B in Use Group 6, 8, 9, 10 or 12 or when permitted by special permit; or #uses# in PRC-B1 in Use Group 6, 7, 8, 9, 10, 11, 13, 14 or 16

None required - C1-5 C1-6 C1-7 C1-8 C1-9 C2-5 C2-6 C2-7 C2-8 C4-4A C4-4L C4-5 C4-5A C4-5X C4-6 C4-7 C5 C6 C8-4
1 per 150 sq. ft. of #floor area#[1] - C1-1 C2-1 C3 C4-1
1 per 300 sq. ft. of #floor area#[1] - C1-2 C2-2 C4-2 C8-1
1 per 400 sq. ft. of #floor area#[1] - C1-3 C2-3 C4-2A C4-3 C7 C8-2
1 per 1,000 sq. ft. of #floor area# - C1-4 C2-4 C4-4 C4-5D C8-3

Low traffic generating #uses#. #Uses# in PRC-C in Use Group 6, 7, 9, 12, 13, 14 or 16 or when permitted by special permit

None required - C1-5 C1-6 C1-7 C1-8 C1-9 C2-5 C2-6 C2-7 C2-8 C4-4A C4-4L C4-5 C4-5A C4-5X C4-6 C4-7 C5 C6 C8-4
1 per 400 sq. ft. of #floor area# - C1-1 C2-1 C3 C4-1
1 per 600 sq. ft. of #floor area# - C1-2 C2-2 C4-2 C8-1
1 per 800 sq. ft. of #floor area# - C1-3 C2-3 C4-2A C4-3 C7 C8-2
1 per 1,000 sq. ft. of #floor area# - C1-4 C2-4 C4-4 C4-5D C8-3

Court houses

None required - C1-5 C1-6 C1-7 C1-8 C1-9 C2-5 C2-6 C2-7 C2-8 C4-4A C4-4L C4-5 C4-5A C4-5X C4-6 C4-7 C5 C6 C8-4
1 per 500 sq. ft. of #floor area# - C1-1 C2-1 C3 C4-1
1 per 800 sq. ft. of #floor area# - C1-2 C2-2 C4-2 C8-1
1 per 1,000 sq. ft. of #floor area# - C1-3 C2-3 C4-2A C4-3 C8-2
1 per 2,000 sq. ft. of #floor area# - C1-4 C2-4 C4-4 C4-5D C8-3

Places of assembly. #Uses# in PRC-D in Use Group 6, 8, 9, 10, 12, 13 or 14 or when permitted by special permit

None required - C1-5 C1-6 C1-7 C1-8 C1-9 C2-5 C2-6 C2-7 C2-8 C4-4A C4-4L C4-5 C4-5A C4-5X C4-6 C4-7 C5 C6 C8-4
1 per 4 persons rated capacity - C1-1 C2-1 C3 C4-1
1 per 8 persons rated capacity - C1-2 C2-2 C4-2 C8-1
1 per 12 persons rated capacity - C1-3 C2-3 C4-2A C4-3 C7 C8-2
1 per 25 persons rated capacity - C1-4 C2-4 C4-4 C4-5D C8-3

* * *

Storage or miscellaneous #uses#. #Uses# in PRC-G in Use Group 10 or Use Group 16, or when permitted by special permit, and with a minimum of 10,000 square feet of #floor area# or 15 employees

None required - C4-4A C4-4L C4-5 C4-5A C4-5X C4-6 C4-7 C5 C6 C8-4
1 per 2,000 sq. ft. of #floor area#[3], or 1 per 3 employees, whichever will require a lesser number of spaces - C4-1 C4-2 C4-3 C4-4 C4-5D C8-1 C8-2 C8-3

* * *

Hotels

(a) For that #floor area# used for sleeping accommodations

None required - C1-5 C1-6 C1-7 C1-8 C1-9 C2-5 C2-6 C2-7 C2-8 C4-4A C4-4L C4-5 C4-5A C4-5X C4-6 C4-7 C5 C6 C8-4
1 per 4 guest rooms or suites - C2-1 C4-1
1 per 8 guest rooms or suites - C2-2 C4-2 C8-1
1 per 12 guest rooms or suites - C2-3 C2-4 C4-2A C4-3 C4-4 C4-5D C8-2 C8-3

(b) For that #floor area# used for meeting halls, auditoriums, eating or drinking places, wedding chapels or banquet halls, or radio or television studios

None required - C1-5 C1-6 C1-7 C1-8 C1-9 C2-5 C2-6 C2-7 C2-8 C4-4A C4-4L C4-5 C4-5A C4-5X C4-6 C4-7 C5 C6 C8-4
1 per 4 persons-rated capacity - C2-1 C4-1
1 per 8 persons-rated capacity - C2-2 C4-2 C8-1
1 per 12 persons-rated capacity - C2-3 C4-2A C4-3 C8-2
1 per 25 persons-rated capacity - C2-4 C4-4 C4-5D C8-3

* * *

Post offices

None required - C1-5 C1-6 C1-7 C1-8 C1-9 C2-5 C2-6 C2-7 C2-8 C4-4A C4-4L C4-5 C4-5A C4-5X C4-6 C4-7 C5 C6 C8-4
1 per 800 sq. ft. of #floor area# - C1-1 C2-1 C3 C4-1
1 per 1,200 sq. ft. of #floor area# - C1-2 C2-2 C4-2 C8-1
1 per 1,500 sq. ft. of #floor area# - C1-3 C2-3 C4-2A C4-3 C8-2
1 per 2,000 sq. ft. of #floor area# - C1-4 C2-4 C4-4 C4-5D C8-3

* * *

Funeral establishments

None required - C1-5 C1-6 C1-7 C1-8 C1-9 C2-5 C2-6 C2-7 C2-8 C4-4A C4-4L C4-5 C4-5A C4-5X C4-6 C4-7 C6 C8-4
1 per 200 sq. ft. of #floor area# - C1-1 C2-2 C4-1
1 per 400 sq. ft. of #floor area# - C1-2 C2-2 C4-2 C8-1
1 per 600 sq. ft. of #floor area# - C1-3 C1-4 C2-3 C2-4 C4-2A C4-3 C4-4 C4-5D C8-2 C8-3

FOR COMMUNITY FACILITY USES

* * *

Ambulatory diagnostic or treatment health care facilities listed in Use Group 4
None required - C1-5 C1-6 C1-7 C1-8 C1-9 C2-5 C2-6 C2-7 C2-8 C4-4A C4-4L C4-5 C4-5A C4-5X C4-6 C4-7 C5 C6 C8-4

* * *

Hospitals and related facilities[4]

1 per 5 beds - C1-1 C1-2 C2-1 C2-2 C3 C4-1 C4-2 C8-1
1 per 8 beds - C1-3 C1-4 C2-3 C2-4 C4-2A C4-3 C4-4 C4-5D C8-2 C8-3
1 per 10 beds - C1-5 C1-6 C1-7 C1-8 C1-9 C2-5 C2-6 C2-7 C2-8 C4-4A C4-4L C4-5 C4-5A C4-5X C4-6 C4-7 C5 C6 C8-4

* * *

36-52
Size, Location and Identification of Spaces

* * *

36-522
Location of parking spaces in certain districts

C1-6A C1-7A C1-8A C1-8X C1-9A C2-6A C2-7A C2-7X C2-8A C4-2A C4-3A C4-4A C4-4D C4-4L C4-5A C4-5D C4-5X C4-6A C4-7A C5-1A C5-2A C6-2A C6-3A C6-3D C6-4A C6-4X

In the districts indicated, and in C1 and C2 Districts mapped within R5D, R6A, R6B, R7A, R7B, R7D, R7X, R8A, R8B, R8X, R9A, R9D, R9X, R10A and R10X Districts, and for #Quality Housing buildings# in C1, C2, C4, C5 and C6 Districts without a letter suffix, all #accessory# off-street parking spaces shall comply with the provisions of this Section.

* * *

Article VI
Special Regulations Applicable To Certain Areas

*** * ***

Chapter 2
Special Regulations Applying in the Waterfront Area

*** * ***

62-34
Height and Setback Regulations On Waterfront Blocks

* * *

62-341
Developments on land and platforms

* * *

(d) Medium and high density contextual districts

R6A R6B R7A R7B R7D R7X R8A R8B R8X R9A R9X R10A
C1-6A C1-7A C1-8A C1-8X C1-9A C2-6A C2-7A C2-7X C2-8A C4-2A
C4-3A C4-4A C4-4L C4-5A C4-5D C4-5X C4-6A C4-7A C5-1A C5-2A C6-2A
C6-3A C6-4A

In the districts indicated, and in C1 and C2 Districts mapped within such #Residence Districts#, the height and setback regulations of Sections 23-60, 24-50 and 35-24 shall not apply. In lieu thereof, the following regulations shall apply:

* * *

TABLE C

HEIGHT AND SETBACK FOR ALL BUILDINGS IN
MEDIUM AND HIGH DENSITY CONTEXTUAL DISTRICTS

District	Minimum Base Height	Maximum Base Height	Maximum Height of #Buildings or other Structures#
R6B C1 or C2 mapped within R6B	30	40	50
R6A C1 or C2 mapped within R6A C4-2A C4-3A	40	60	70
R7B C1 or C2 mapped within R7B	40	60	75
R7A C1 or C2 mapped within R7A C1-6A C2-6A C4-4A C4-4L C4-5A	40	65	80
R7D C1 or C2 mapped within R7D C4-5D	60	85	100
R7X C1 or C2 mapped within R7X C4-5X	60	85	125

* * *

Article XIII - Special Purpose Districts

* * *

Chapter 2
Special ~~Fourth Avenue~~ Enhanced Commercial District

132-00
GENERAL PURPOSES

The #Special ~~Fourth Avenue~~ Enhanced Commercial District#, ~~in the Borough of Brooklyn,~~ established in this Chapter of the Resolution is designed to promote and protect public health, safety and general welfare. These general goals include, among others, the promotion and maintenance of a lively and engaging pedestrian experience along commercial avenues as follows: ~~the following specific purposes:~~

(a) in #Special Enhanced Commercial District# 1, to enhance the ~~character~~ vitality of emerging commercial districts ~~the area~~ by ensuring that a majority of the ground floor space within buildings is occupied by commercial establishments that enliven the pedestrian experience along the street ~~that promote a lively and engaging pedestrian experience along Fourth Avenue~~;

(b) in #Special Enhanced Commercial District# X, to enhance the vitality of commercial districts by limiting the ground floor presence of inactive #street wall# frontage; and

~~to limit the number of curb cuts along Fourth Avenue in order to minimize conflicts between vehicles and pedestrians; and~~

(c) to promote the most desirable use of land in the area and thus preserve, protect and enhance the value of land and buildings and thereby protect City tax revenues.

* * *

~~**132-01**~~
~~**Definitions**~~

~~Ground floor level~~

~~For the purposes of this Chapter, "ground floor level" shall mean a #building's# lowest #story# located within 30 feet of the Fourth Avenue #street wall# of the #building#.~~

132-10
GENERAL PROVISIONS

The provisions of this Chapter shall apply to all #buildings# with ~~Fourth Avenue~~ #street# frontage along a #designated commercial street#.

The regulations of all other Chapters of this Resolution are applicable, except as superseded, supplemented or modified by the provisions of this Chapter. In the event of a conflict between the provisions of this Chapter and other regulations of this Resolution, the provisions of this Chapter shall control.

132-11
Special Enhanced Commercial Districts Specified

The #Special Enhanced Commercial District# is mapped in the following areas:

(a) #Special Enhanced Commercial District# 1: (11/29/2011)

The #Special Enhanced Commercial District# 1 is established on the following #designated commercial streets# as indicated on the #zoning maps#:

Fourth Avenue, in the Borough of Brooklyn, generally between 24th Street and Atlantic Avenue.

(b) #Special Enhanced Commercial District# X: (date of adoption)

The #Special Enhanced Commercial District# X is established on the following #designated commercial streets# as indicated on the #zoning maps#:

Broadway, in the Borough of Brooklyn, on the south side of the #street# generally between Sumner Place and Monroe Street.

132-12
Definitions

Ground floor level

For the purposes of this Chapter, "ground floor level" shall mean a #building's# lowest #story# located within 30 feet of the #building's street wall# along a #designated commercial street#.

Designated commercial street

For the purposes of this Chapter, a "designated commercial street" shall be the portions of those #streets# specified in Section 132-11 (Special Enhanced Commercial Districts Specified).

132-13
Applicability of Special Use, Transparency and Parking Regulations

The special #use#, transparency and parking regulations of this Chapter shall apply to #buildings# in #Special Enhanced Commercial Districts# as designated in the following Table, except as otherwise provided in Sections 132-21, 132-31, and 132-41 (Applicability).

SPECIAL REGULATIONS FOR ENHANCED COMMERCIAL DISTRICTS					
	#Use# Regulations		**Transparency Regulations**	**Parking Regulations**	
#Special Enhanced Commercial	Mandatory Ground Floor Uses (Section 132-22)	Maximum Width Restrictions (132-23)	Ground Floor Transparency (132-32)	Location of Parking Spaces	Curb Cuts (132-43)

District#	Minimum Percentage of #Commercial Uses# (132-22, (a))	Non-#Residential Uses# (132-22, (b))	Other Permitted #Uses# (132-22, (c))			(132-42)	
EC –1 (Fourth Avenue, BK)	X		X	X	X	X	X
EC –X (Broadway, BK)		X	X	X	X	X	X

132-20
SPECIAL USE REGULATIONS

~~The special #use# regulations of this Section shall apply to the Fourth Avenue #street walls# of #developments# and to #buildings enlarged# on the #ground floor level#, where such #ground floor level# fronts upon Fourth Avenue. For #buildings# fronting along multiple #streets#, the required percentage of #ground floor level street wall# allocated to certain #uses#, as set forth in this Section, shall apply only to the portion of the #building's ground floor level# fronting upon Fourth Avenue.~~

~~The following shall be exempt from the #use# provisions of this Section:~~

~~(a) #buildings# located in #Commercial Districts# on a #zoning lot# with a width of less than 20 feet, as measured along the Fourth Avenue #street line#, provided such #zoning lot# existed on (date of adoption); and~~

~~(b) any #community facility building# used exclusively for either a #school#, as listed in Use Group 3, or a house of worship, as listed in Use Group 4.~~

The special #use# regulations of this Section, inclusive, shall apply to #buildings# in the #Special Enhanced Commercial Districts# designated in Section 132-13 (Applicability of Special Use, Transparency and Parking Regulations), except as otherwise provided in Section 132-21 (Applicability of Use Regulations).

In all #Special Enhanced Commercial Districts#, the finished floor of the #ground floor level#:

(a) for #developments# or #ground floor level enlargements#, shall be located not higher than two feet above nor lower than two feet below the as-built level of the adjacent sidewalk along a #designated commercial street#; and

(b) where regulations apply to existing #buildings# constructed prior to (date of adoption), shall be located not higher than five feet above nor lower than five feet below the as-built level of the adjacent sidewalk along a #designated commercial street#.

132-21
Applicability of Use Regulations
~~**Special Ground Floor Level Use Requirements in Commercial Districts**~~

~~In #Commercial Districts#, the following #use# provisions shall apply to the #ground floor level# of a #building#. In addition to these provisions, permitted #uses# shall comply with the provisions of Sections 132-30 (SPECIAL TRANSPARENCY REGULATIONS), and 132-40 (SPECIAL PARKING REGULATIONS).~~

~~(a) Mandatory commercial uses for a portion of the #ground floor level#~~

~~Mandatory #commercial use# regulations shall apply to an area of a #building's ground floor level# defined by an aggregate width equal to at least 50 percent of a #building's# Fourth Avenue #street wall# and a depth equal to at least 30 feet, as measured from the Fourth Avenue #street wall#. Such an area on the #ground floor level# shall be occupied by #commercial uses# listed in Use Groups 5, 6A, 6C excluding banks and loan offices, 7B, 8A, 8B, and 9A.~~

~~(b) Remaining portion of #ground floor level#~~

~~The remaining portion of the #ground floor level# shall be occupied by any non-#residential use# permitted by the underlying district regulations, except that:~~

~~(1) #residential# lobbies, and an associated vertical circulation core shall be permitted in such remaining area, provided that the #street wall# width of such lobbies shall not exceed 25 feet, as measured along the Fourth Avenue #street line#. In addition, the 30 foot depth requirement for #commercial uses# pursuant to paragraph (a) of this Section may be encroached upon where necessary to accommodate a vertical circulation core associated with such #residential# lobby; and~~

~~(2) off-street parking spaces and entrances to such spaces shall comply with the provisions of Section 132-40 (SPECIAL PARKING REGULATIONS).~~

~~(c) Location of #ground floor level#~~

~~The finished floor of the #ground floor level# shall be located not higher than two feet above nor lower than two feet below the as-built level of the adjacent Fourth Avenue public sidewalk.~~

In #Special Enhanced Commercial Districts# the applicable special #use# provisions set forth in Section 132-13 (Applicability of Special Use, Transparency and Parking Regulations) shall apply as follows.

In the #Commercial Districts# located within the #Special Enhanced Commercial Districts#, the applicable special #use# provisions indicated in the Table in Section 132-13 shall apply to #developments# and to #buildings enlarged# on the #ground floor level#, where such #ground floor level# fronts upon a #designated commercial street#, except that such provisions shall not apply to #zoning lots# with a width of less than 20 feet, as measured along the #street line# of the #designated commercial street#, provided such #zoning lot# existed on:

(a) November 29, 2011 for #Special Enhanced Commercial District# 1; and

(b) (date of adoption) for #Special Enhanced Commercial District# X.

In addition, the applicable special #use# provisions indicated in the Table in Section 132-13 shall not apply to any #community facility building# used exclusively for either a #school#, as listed in Use Group 3, or a house of worship, as listed in Use Group 4.

132-22
Mandatory Ground Floor Uses
~~**Special Ground Floor Level Use Requirements in Residence Districts**~~

~~In #Residence Districts#, all #uses# permitted by the underlying district regulations are permitted on the #ground floor level#, provided such #uses# comply with the provisions of Sections 132-30 (SPECIAL TRANSPARENCY REGULATIONS), where applicable, and 132-40 (SPECIAL PARKING REGULATIONS).~~

In the applicable #Special Enhanced Commercial Districts# indicated in the Table in Section 132-13 (Applicability of Special Use, Transparency and Parking Regulations), the following provisions shall apply to the #ground floor level street walls# of #buildings# fronting along a #designated commercial street#. For #buildings# fronting along multiple #streets#, the required percentage of #ground floor level street wall# allocated to certain #uses#, as set forth in this Section, shall apply only to the portion of the #building's ground floor level# fronting upon a #designated commercial street#.

(a) Minimum percentage of #commercial uses#

In the applicable #Special Enhanced Commercial Districts#, mandatory #commercial use# regulations shall apply to an area of a #building's ground floor level# defined by an aggregate width equal to at least 50 percent of a #building's street wall# along a #designated commercial street# and a depth equal to at least 30 feet, as measured from the #street wall# along the #designated commercial street#. Such an area on the #ground floor level# shall be occupied by #commercial uses# listed in Use Groups 5, 6A, 6C excluding banks and loan offices, 7B, 8A, 8B, or 9A.

The remaining portion of the #ground floor level# shall be occupied by any non-#residential use# permitted by the underlying district regulations, or by other uses permitted pursuant to paragraph (c) of this Section.

(b) Mandatory non-#residential uses#

In the applicable #Special Enhanced Commercial Districts#, the #ground floor level# of a #building# fronting along a #designated commercial street# shall be occupied by any non-#residential use# permitted by the underlying district regulations or by other #uses# permitted pursuant to paragraph (c) of this Section.

(c) Other permitted #uses#

In the applicable #Special Enhanced Commercial Districts#, the following #uses# shall be permitted on the #ground floor level# of a #building# along a #designated commercial street#, only as follows:

(1) #residential# lobbies, and an associated vertical circulation core shall be permitted on the #ground floor level#, provided that such lobbies comply with the maximum width provisions of paragraph (c) of Section 132-24 (Maximum Width Restrictions). In addition, the 30 foot depth requirement for #commercial uses# set forth in paragraph (a) of this Section, where applicable, may be encroached upon where necessary to accommodate a vertical circulation core associated with such #residential# lobby; and

(2) #accessory# off-street parking spaces and entrances and exits thereto shall be permitted on the #ground floor level#, provided that such off-street parking spaces and associated entrances and exits comply with the provisions of Section 132-40 (SPECIAL PARKING REGULATIONS).

132-23
Maximum Width Restrictions

In the applicable #Special Enhanced Commercial Districts# indicated in the table in Section 132-13 (Applicability of Special Use, Transparency and Parking Regulations), the following provisions shall apply to the #ground floor level# of all #buildings# with #street# frontage along a #designated commercial street#. The maximum #street wall# width of any #ground floor level residential# lobby shall not exceed 25 feet, as measured along the #street line# of a #designated commercial street#.

132-30
SPECIAL TRANSPARENCY REGULATIONS

~~The special transparency regulations of this Section shall apply to the Fourth Avenue #street walls# of #developments# and to portions of #buildings enlarged# on the #ground~~

~~floor level#, where such #ground floor level# fronts upon Fourth Avenue. For #buildings# fronting along multiple #streets#, the required percentage of #ground floor level street wall# allocated to transparent materials, as set forth in this Section, shall apply only to the portion of the #building's ground floor level# fronting upon Fourth Avenue.~~

~~The following shall be exempt from the transparency provisions of this Section:~~

~~(a) #buildings# in #Residence Districts# where the #ground floor level# of such #buildings# contains #dwelling units# or #rooming units#; and~~

~~(b) #buildings# located in #Commercial Districts# on a #zoning lot# with a width of less than 20 feet, as measured along the Fourth Avenue #street line#, provided such #zoning lot# existed on (date of adoption); and~~

~~(c) any #community facility building# used exclusively for either a #school# or a house of worship.~~

The special transparency regulations of this Section, inclusive, shall apply to #buildings# in the #Special Enhanced Commercial Districts# indicated in the Table in Section 132-13 (Applicability of Special Use, Transparency and Parking Regulations), except as otherwise provided in Section 132-31 (Applicability of Transparency Regulations).

132-31
Applicability of Transparency Regulations
~~**Special Ground Floor Level Transparency Requirements**~~

~~The #ground floor level street wall# shall be glazed with transparent materials which may include show windows, transom windows or glazed portions of doors, provided such transparent materials have a minimum width of two feet. Such transparency shall occupy at least 50 percent of the surface area of each such #ground floor level street wall# between a height of two feet, and 12 feet, or the height of the ground floor ceiling, whichever is higher as measured from the adjoining sidewalk. The lowest point of any transparency that is provided to satisfy the requirements of this Section shall not be higher than two feet, six inches above the #curb level#, with the exception of transom windows, or portions of windows separated by mullions or other structural dividers. In addition, the maximum width of a portion of the #ground floor level street wall# without transparency shall not exceed ten feet.~~

~~However, where an entrance to an off-street parking facility is permitted on Fourth Avenue in accordance with the provisions of Section 132-42 (Special Curb Cut Requirements), the transparency requirements of this Section shall not apply to the portion of the #ground floor level street wall# occupied by such entrance.~~

In #Special Enhanced Commercial Districts# the applicable special transparency provisions set forth in Section 132-13 (Applicability of Special Use, Transparency and Parking Regulations) shall apply as follows.

The special transparency provisions indicated in the Table in Section 132-13 shall apply to #developments# and to #buildings enlarged# on the #ground floor level#, where such #ground floor level# fronts upon a #designated commercial street#, except that such provisions shall not apply to:

(a) #zoning lots# in #Commercial Districts# with a width of less than 20 feet, as measured along the #street line# of a #designated commercial street#, provided such #zoning lots# existed on:

(1) November 29, 2011 for #Special Enhanced Commercial District# 1; and

(2) (date of adoption) for #Special Enhanced Commercial District# X.

(b) any #community facility building# used exclusively for either a #school#, as listed in Use Group 3, or a house of worship, as listed in Use Group 4.

In addition, in #Special Enhanced Commercial Districts# 1 and X, the special transparency provisions indicated in the Table in Section 132-13 shall not apply to #buildings# in #Residence Districts# where the #ground floor level# contains #dwelling units# or #rooming units#.

132-32
Ground Floor Level Transparency Requirements

In the applicable #Special Enhanced Commercial Districts#, as indicated in the Table in Section 132-13 (Applicability of Special Use, Transparency and Parking Regulations), the special transparency regulations of this Section shall apply to the #ground floor level street walls# of #buildings# fronting along a #designated commercial street#. For #buildings# fronting along multiple #streets#, the required percentage of #ground floor level street wall# allocated to transparent materials, as set forth in this Section, shall apply only to the portion of the #building's ground floor level# fronting upon a #designated commercial street#.

The #ground floor level street wall# shall be glazed with transparent materials which may include #show windows#, transom windows or glazed portions of doors. Such glazing may be provided anywhere on such #ground floor level street wall#, except that:

(a) transparent materials shall occupy at least 50 percent of the surface area of such #ground floor level street wall# between a height of two feet and 12 feet, or the height of the ground floor ceiling, whichever is higher, as measured from the adjoining sidewalk. Transparent materials provided to satisfy such 50 percent requirement shall:

(1) not begin higher than 2 feet, 6 inches above the level of the adjoining sidewalk, with the exception of transom windows, or portions of windows separated by mullions or other structural dividers; and

(2) have a minimum width of two feet; and

(b) the maximum width of a portion of the #ground floor level street wall# without transparency shall not exceed ten feet.

However, where an entrance to an off-street parking facility is permitted on a #designated commercial street# in accordance with the provisions of Section 132-43 (Curb Cut Requirements), the transparency requirements of this Section shall not apply to the portion of the #ground floor level street wall# occupied by such entrance.

132-40
SPECIAL PARKING REGULATIONS

~~The provisions of this Section shall apply to all #buildings# with Fourth Avenue #street# frontage.~~

The special parking regulations of this Section, inclusive, shall apply to all #buildings# in the #Special Enhanced Commercial Districts# indicated in the Table in Section 132-13 (Applicability of Special Use, Transparency and Parking Regulations).

132-41
Applicability of Parking Regulations
~~**Special Location of Parking Spaces Requirements**~~

~~All off-street parking spaces shall be located within a #completely enclosed building#. Enclosed, off-street parking spaces shall be permitted on the ground floor of a #building# only where they are located beyond 30 feet of such #building's# Fourth Avenue #street wall#. Entrances to such spaces along Fourth Avenue shall be permitted only where a curb cut is allowed in accordance with the provisions of Section 132-42 (Special Curb Cut Requirements).~~

In #Special Enhanced Commercial Districts#, the applicable special parking provisions indicated in the Table in Section 132-13 (Applicability of Special Use, Transparency and Parking Regulations) shall apply to all #buildings# with frontage along a #designated commercial street#.

132-42
Location of Parking Spaces

~~**Special Curb Cut Requirements**~~

~~For #zoning lots# with frontage along Fourth Avenue and another #street#, curb cuts accessing off-street parking spaces shall not be permitted along Fourth Avenue.~~

~~Curb cuts accessing off-street parking spaces shall be permitted on Fourth Avenue only where such curb cut is located on a #zoning lot# that:~~

~~(a) is an #interior lot# fronting along Fourth Avenue;~~

~~(b) existed on (date of adoption);~~

~~(c) has a width of at least 60 feet, as measured along the Fourth Avenue #street line#; and~~

~~(d) has a #lot area# of at least 5,700 square feet.~~

In the applicable #Special Enhanced Commercial Districts#, as indicated in the Table in Section 132-13 (Applicability of Special Use, Transparency and Parking Regulations), the following provisions shall apply to the ground floor of all #buildings# with #street# frontage along a #designated commercial street#.

All off-street parking spaces shall be located within a #completely enclosed building#.

Enclosed, off-street parking spaces shall be permitted on the ground floor of a #building# only where they are located beyond 30 feet of such #building's street wall# along a #designated commercial street#. Entrances to such spaces along a #designated commercial street# shall be permitted only where a curb cut is allowed in accordance with the provisions of Section 132-43 (Curb Cut Requirements).

132-43
Curb Cut Requirements

In the applicable #Special Enhanced Commercial Districts#, as indicated in the Table in Section 132-13 (Applicability of Special Use, Transparency and Parking Regulations), the following provisions shall apply to the ground floor of all #buildings# with #street# frontage along a #designated commercial street#.

For #zoning lots# with frontage along a #designated commercial street# and another #street#, curb cuts accessing off-street parking spaces shall not be permitted along a #designated commercial street# .

Curb cuts accessing off-street parking spaces shall be permitted on a #designated commercial street# -only where such curb cut is located on a #zoning lot# that:

(a) is an #interior lot# fronting along a #designated commercial street# ;

(b) existed on;

(1) November 29, 2011 for #Special Enhanced Commercial District# 1; and

(2) (date of adoption) for #Special Enhanced Commercial District# X.

(c) has a width of at least 60 feet, as measured along the #street line# of the #designated commercial street#; and

(d) has a #lot area# of at least 5,700 square feet.

* * *

APPENDIX F
INCLUSIONARY HOUSING DESIGNATED AREAS

The boundaries of #Inclusionary Housing designated areas# are shown on the maps listed in this Appendix F. The #Residence Districts# listed for such areas shall include #Commercial Districts# where #residential buildings# or the #residential# portion of #mixed buildings# are governed by #bulk# regulations of such #residence districts#.

Table of
Inclusionary Housing Designated Areas
by Zoning Map

[ADD FOLLOWING TO TABLE]

Map 12d / Brooklyn CD 3 / Map 3
Map 13b / Brooklyn CD 3 / Map 3, Map 4, Map 5
Map 17a / Brooklyn CD 3 / Map 1, Map 2, Map 3, Map 4, Map 5

* * *

Brooklyn

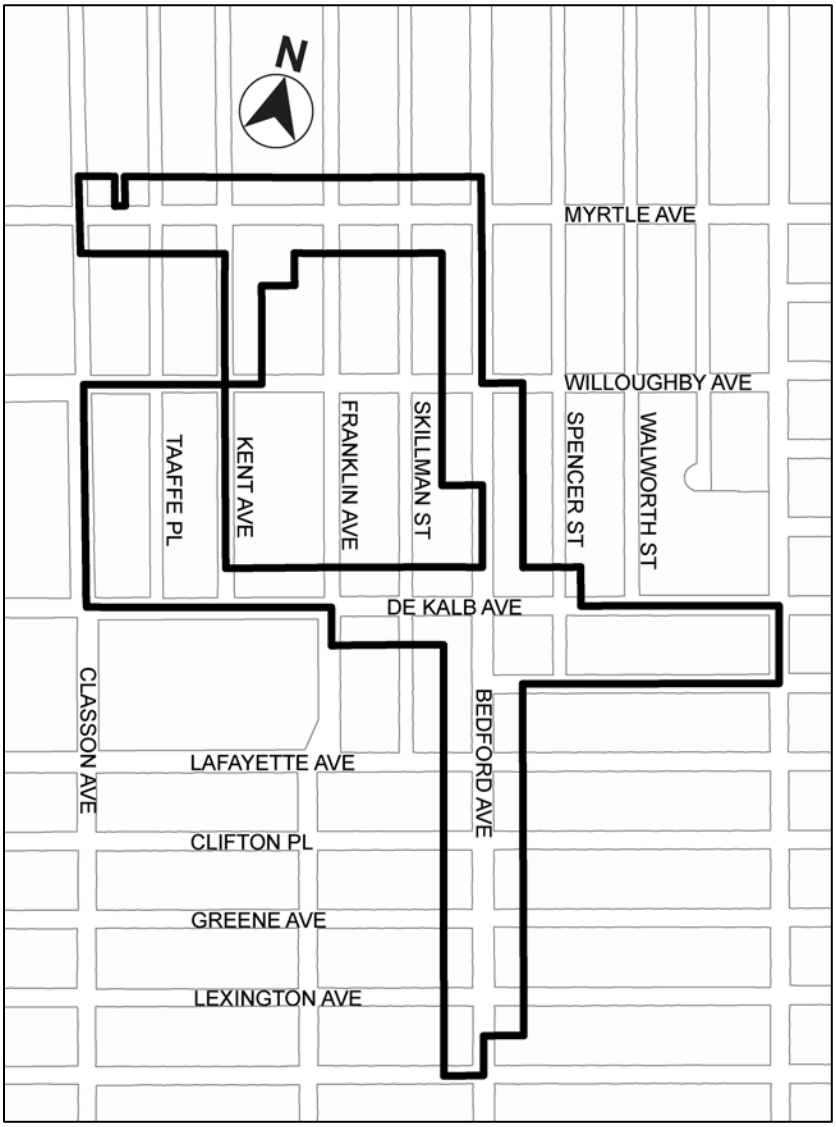
* * *

Brooklyn Community District 3

* * *

In the R7A Districts within the areas shown on the following Map 3:

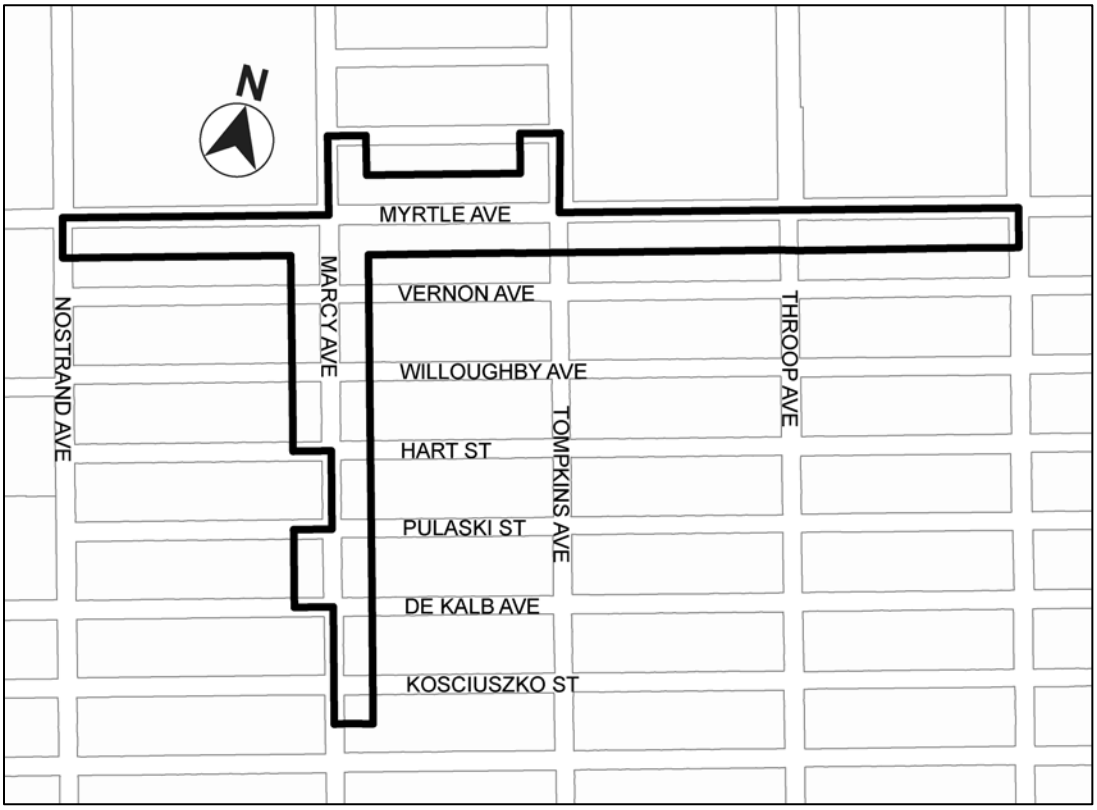
Map 3



Portion of Community District 3, Brooklyn

In R7A and R7D Districts within the areas shown on the following Map 4:

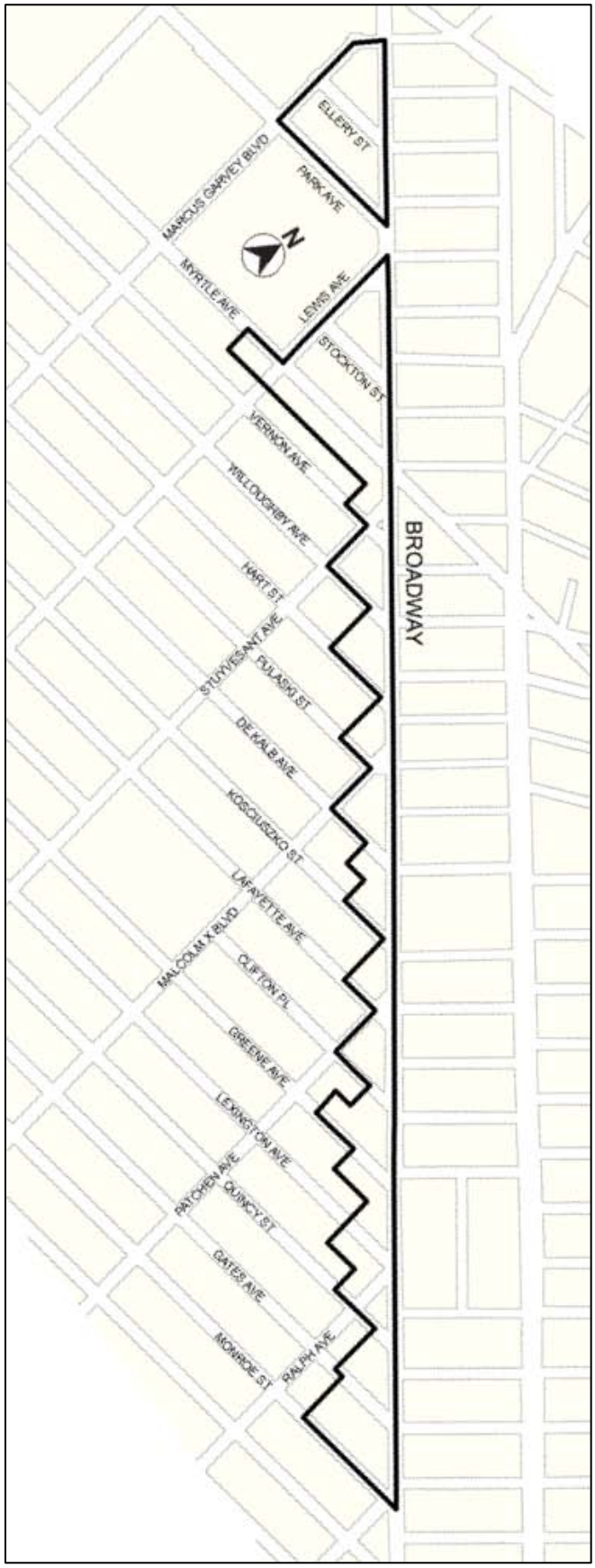
Map 4



Portion of Community District 3, Brooklyn

In R7A and R7D Districts within the areas shown on the following Map 5:

Map 5


ELLERY ST
PARK AVE
MARCUS GARVEY BLVD
MYRTLE AVE
LEWIS AVE
STOCKTON ST
VERNON AVE
WILLOUGHBY AVE
HART ST
STUYVESANT AVE
PULASKI ST
DE KALB AVE
KOSCIUSZKO ST
LAFAYETTE AVE
MALCOLM X BLVD
CLIFTON PL
GREENE AVE
LEXINGTON AVE
PATCHEN AVE
QUINCY ST
GATES AVE
MONROE ST
RALPH AVE
BROADWAY

Portion of Community District 3, Brooklyn

R7D TRANSPARENCY
PROPOSED ZONING TEXT AMENDMENT
2012.05.03

Matter in underline is new, to be added;
Matter in ~~strikeout~~ is to be deleted;
Matter with # # is defined in Section 12-10;
* * * indicates where unchanged text appears in the Zoning Resolution

*** * ***

ARTICLE III
COMMERCIAL DISTRICT REGULATIONS

Chapter 2
Use Regulations

*** * ***

32-434
Ground floor use in C4-5D and C6-3D Districts and in certain C2 Districts

C4-5D C6-3D

In the districts indicated and in C2 Districts mapped within R7D or R9D Districts, #uses# within #stories# that have a floor level within five feet of #curb level# shall be limited to non-#residential uses# which shall extend along the entire width of the #building#, and lobbies, entrances to subway stations and #accessory# parking spaces, provided such lobbies and entrances do not occupy, in total, more than 25 percent of the #street wall# width of the #building# or more than 20 linear feet of #street wall# frontage on a #wide street# or 30 linear feet on a #narrow street#, whichever is less. Such non-#residential uses# shall have a minimum depth of 30 feet from the #street wall# of the #building#. In C6-3D Districts, a vertical circulation core shall be permitted within such minimum 30 foot depth.

Enclosed parking spaces, or parking spaces within a #building#, including such spaces #accessory# to #residences#, shall be permitted to occupy #stories# that have a floor level within five feet of #curb level# provided they are located beyond 30 feet of the #street wall# of the #building#. However, loading berths serving any permitted #use# in the #building# may occupy up to 40 feet of such #street# frontage and, if such #building# fronts on both a #wide street# and a #narrow street#, such loading berth shall be located only on a #narrow street#.

In C6-3D Districts, each ground floor level #street wall# of a #commercial# or #community facility use# shall be glazed with materials which may include #show windows#, glazed transoms or glazed portions of doors. Such glazing shall occupy at least 70 percent of the area of each such ground floor level #street wall#, measured to a height of 10 feet above the level of the

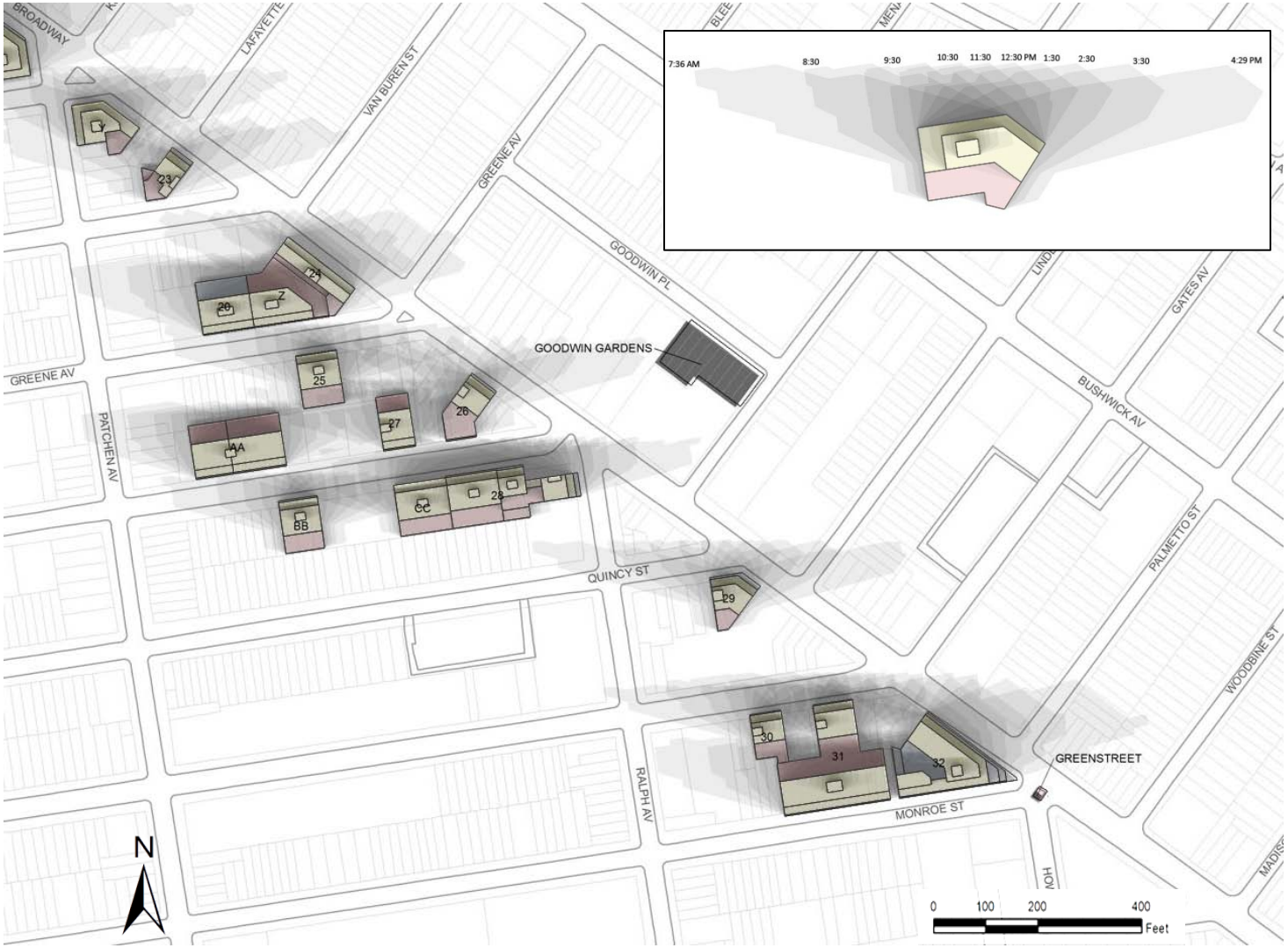
adjoining sidewalk, public access area or #base plane#, whichever is higher. Not less than 50 percent of the area of each such ground floor level #street wall# shall be glazed with transparent materials and up to 20 percent of such area may be glazed with translucent materials. However, where the #street wall# or portion thereof fronts an elevated rail line or is located within 50 feet of a #street wall# that fronts an elevated rail line, the glazing requirement of the area of the ground floor level #street wall# may be reduced from 70 percent to 50 percent, and not less than 35 percent of the area of each such ground floor level #street wall# shall be glazed with transparent materials and up to 15 percent of such area may be glazed with translucent materials. Furthermore, all security gates installed after September 30, 2009, that are swung, drawn or lowered to secure #commercial# or #community facility# premises shall, when closed, permit visibility of at least 75 percent of the area covered by such gate when viewed from the #street#, except that this provision shall not apply to entrances or exits to parking garages.

In C4-5D Districts, and in C2 Districts mapped within R7D or R9D Districts, #buildings# developed after (date of adoption) or for portions of #buildings enlarged# on the ground floor level after (date of adoption), shall comply with the glazing provisions set forth in Section 132-30 (SPECIAL TRANSPARENCY REGULATIONS), inclusive. Such provisions shall apply in such districts to #building# frontages on Fulton Street in the Borough of Brooklyn and to frontages on Webster Avenue in the Borough of the Bronx. However, these provisions shall not apply to #buildings# on #zoning lots# with a width of less than 20 feet, provided such #zoning lot# existed on (date of adoption).

Appendix B: Shadow Diagrams

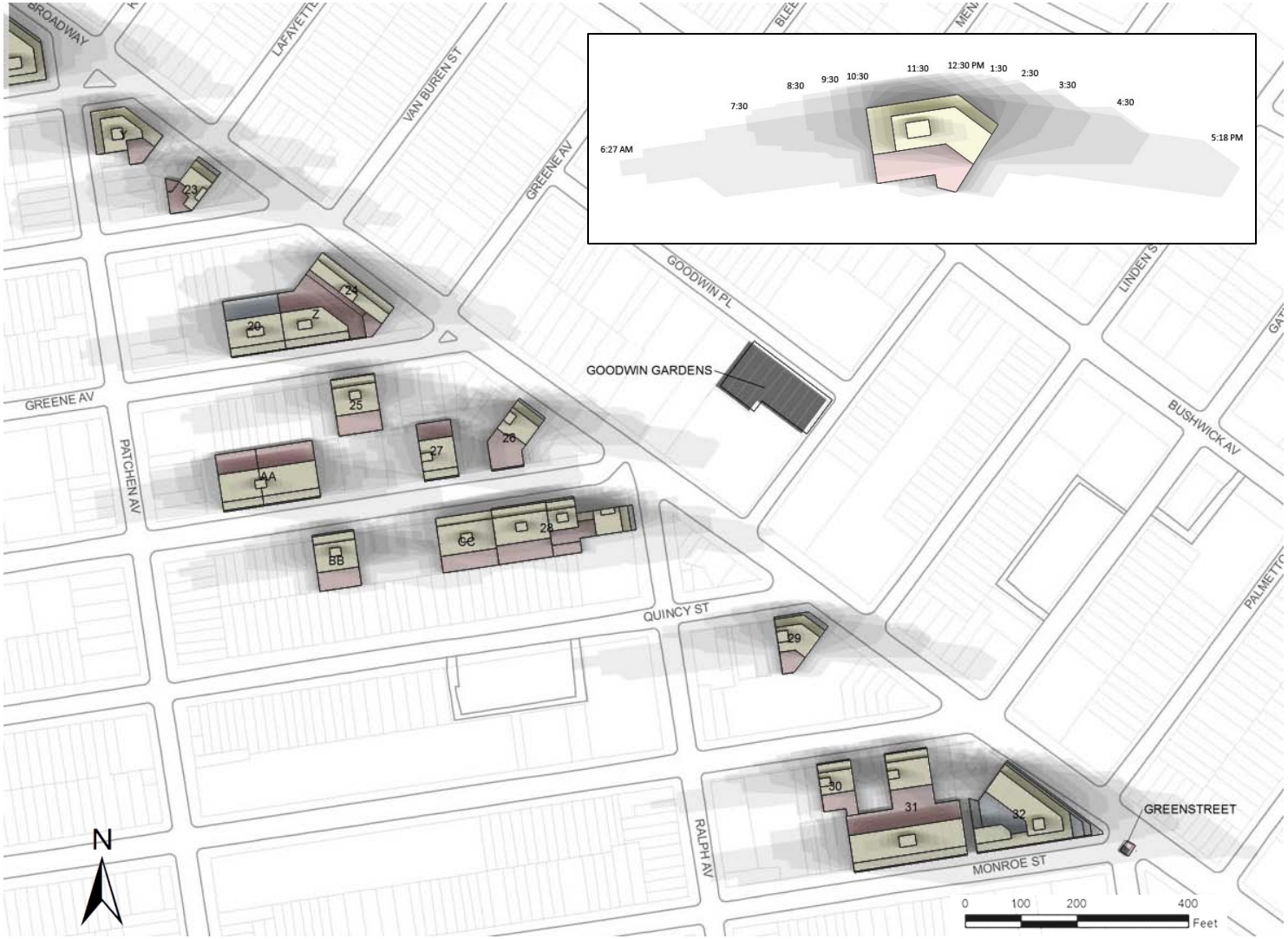
Bedford-Stuyvesant North Rezoning

Tier 3 Analysis – March 21



Bedford-Stuyvesant North Rezoning

Tier 3 Analysis – May 6



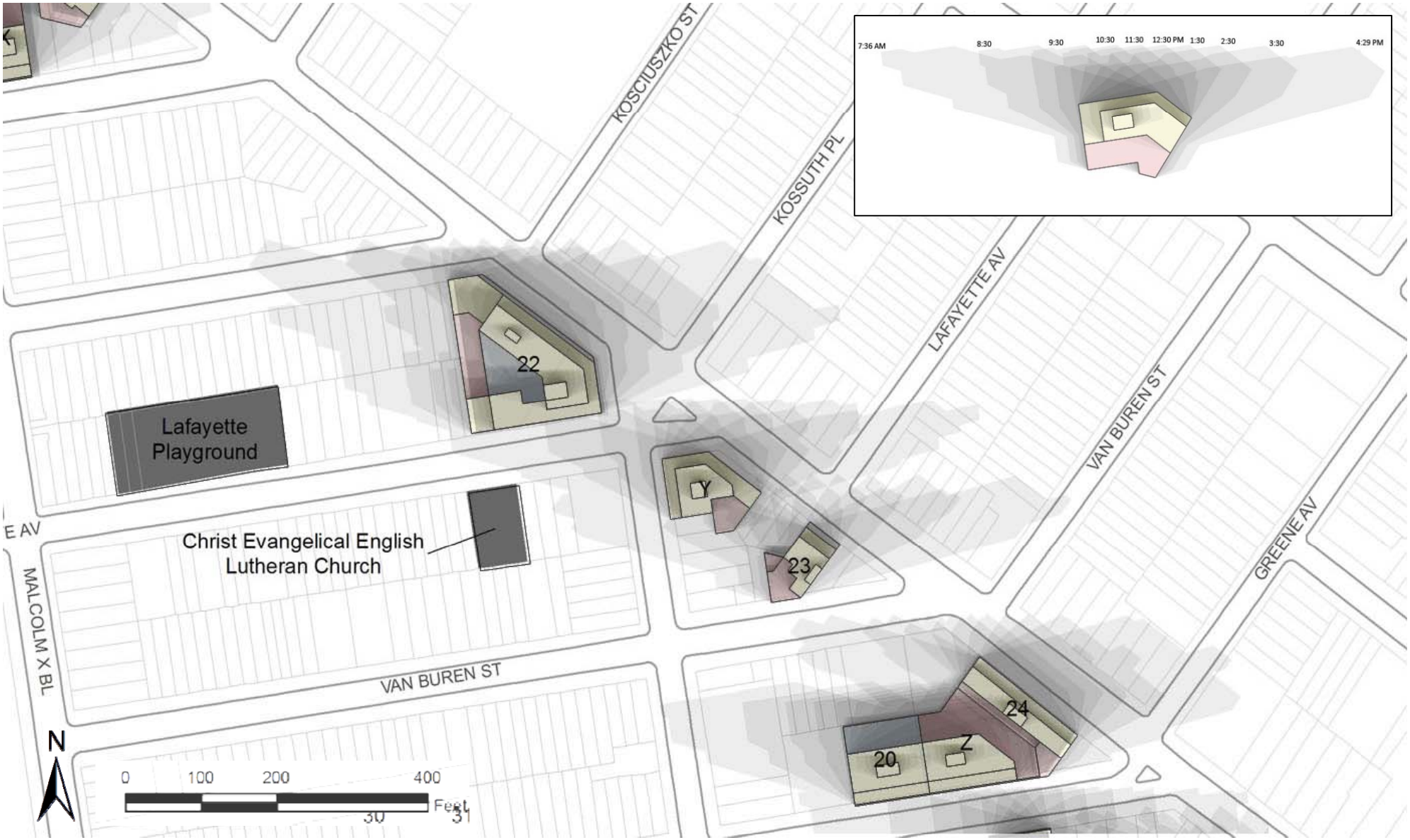
Bedford-Stuyvesant North Rezoning

Tier 3 Analysis – December 21



Bedford-Stuyvesant North Rezoning

Tier 3 Analysis – March 21



Bedford-Stuyvesant North Rezoning

Tier 3 Analysis – May 6





Bedford-Stuyvesant North Rezoning

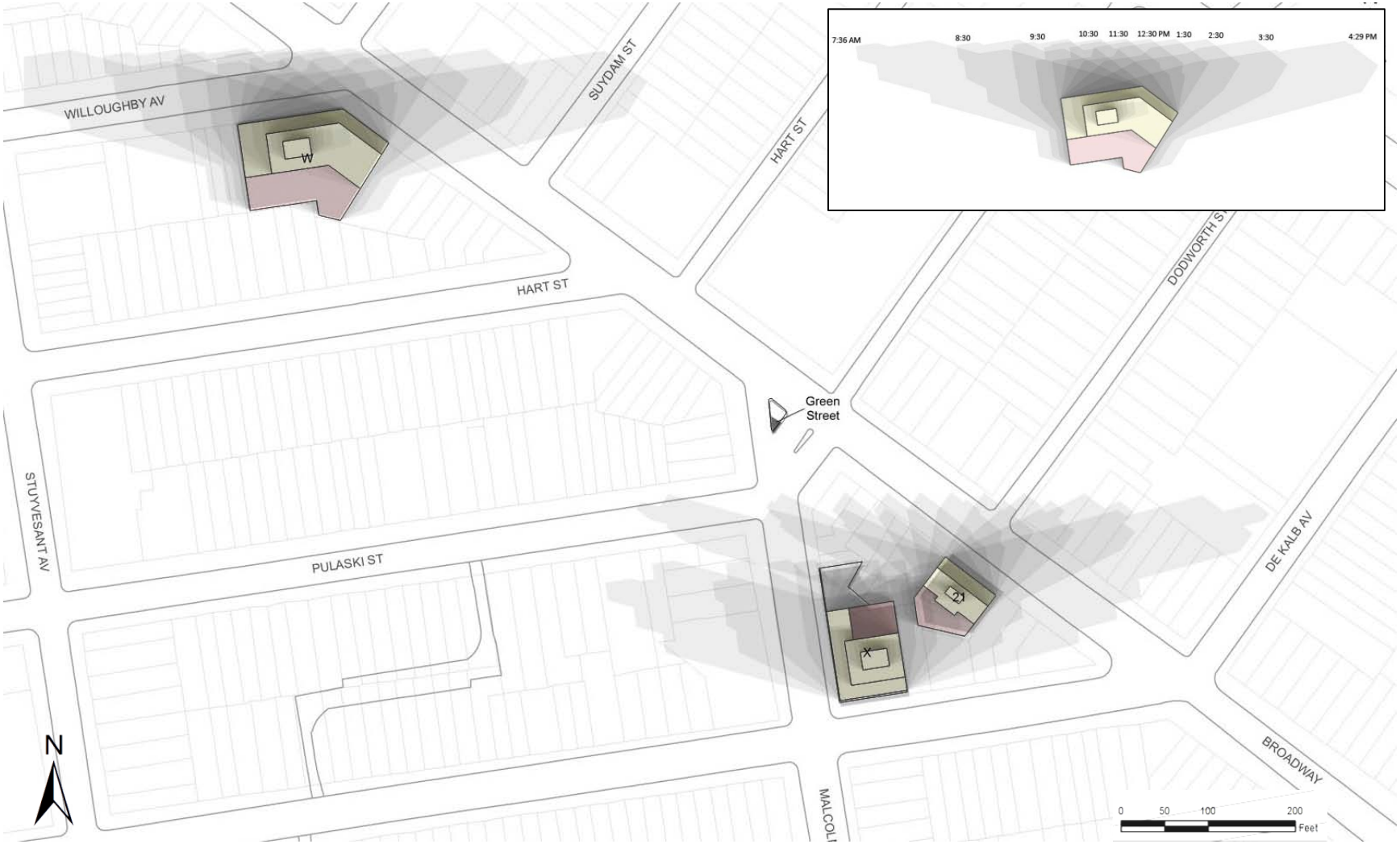
Tier 3 Analysis - December 21





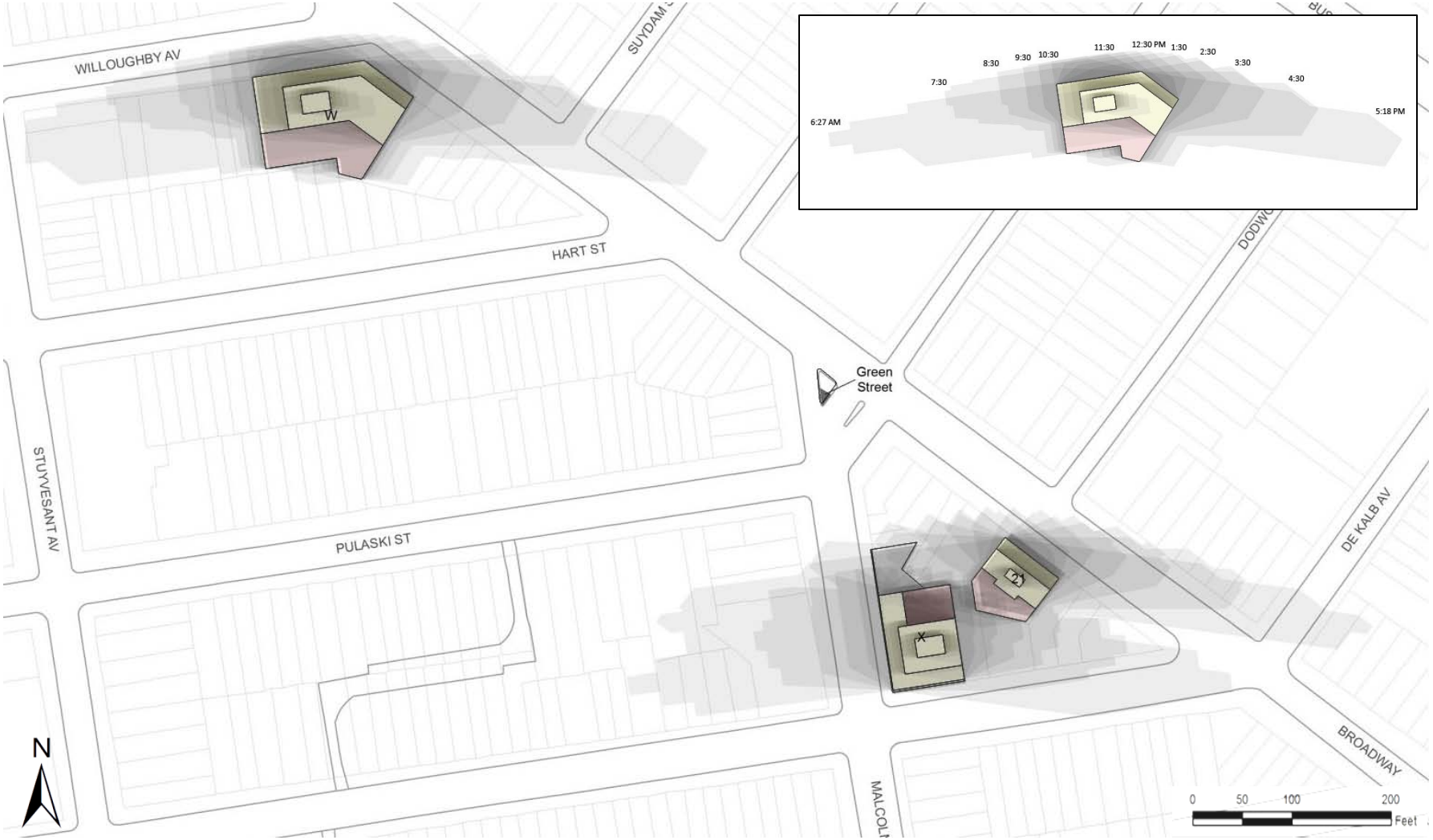
Bedford-Stuyvesant North Rezoning

Tier 3 Analysis – March 21



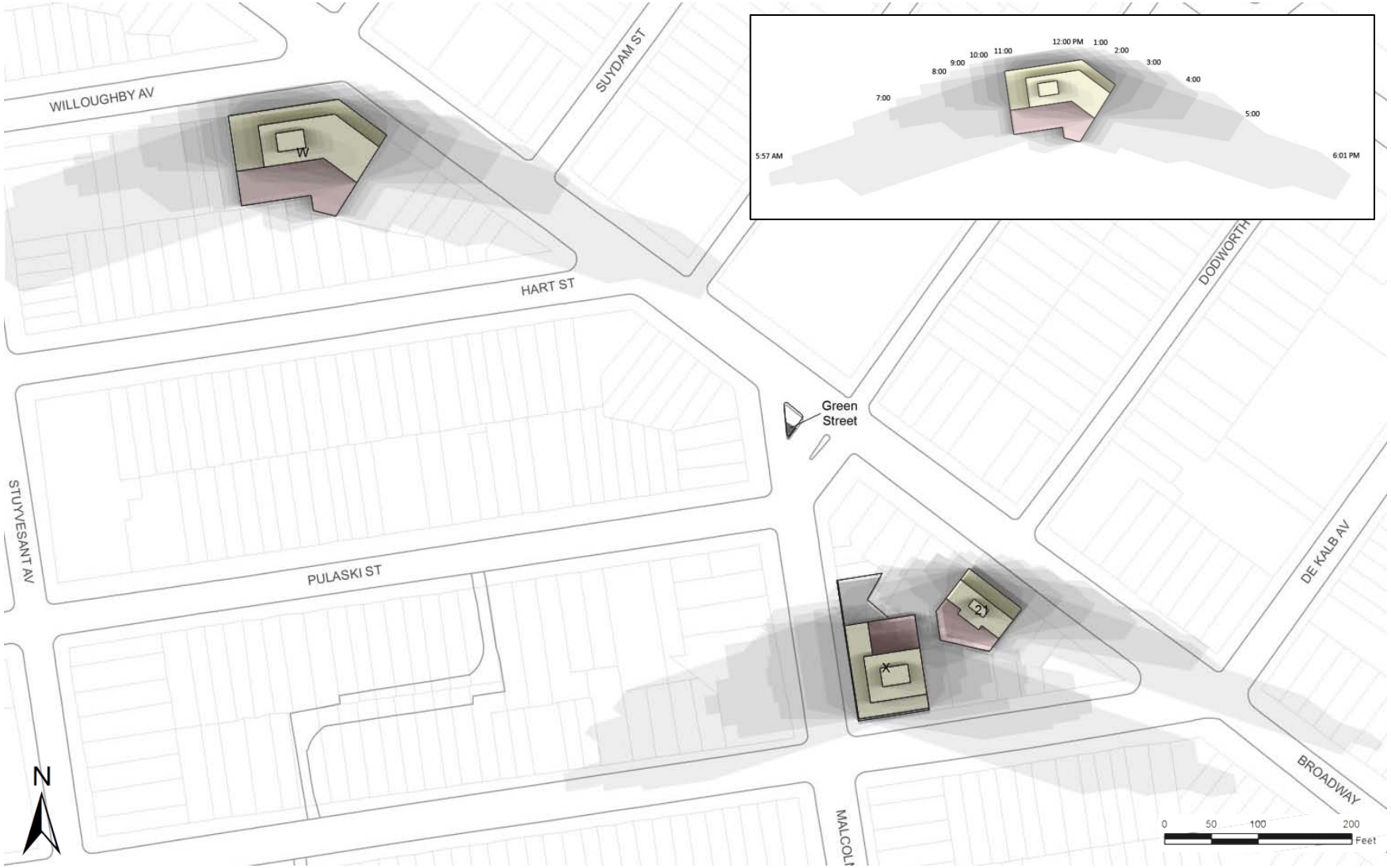
Bedford-Stuyvesant North Rezoning

Tier 3 Analysis – May 6



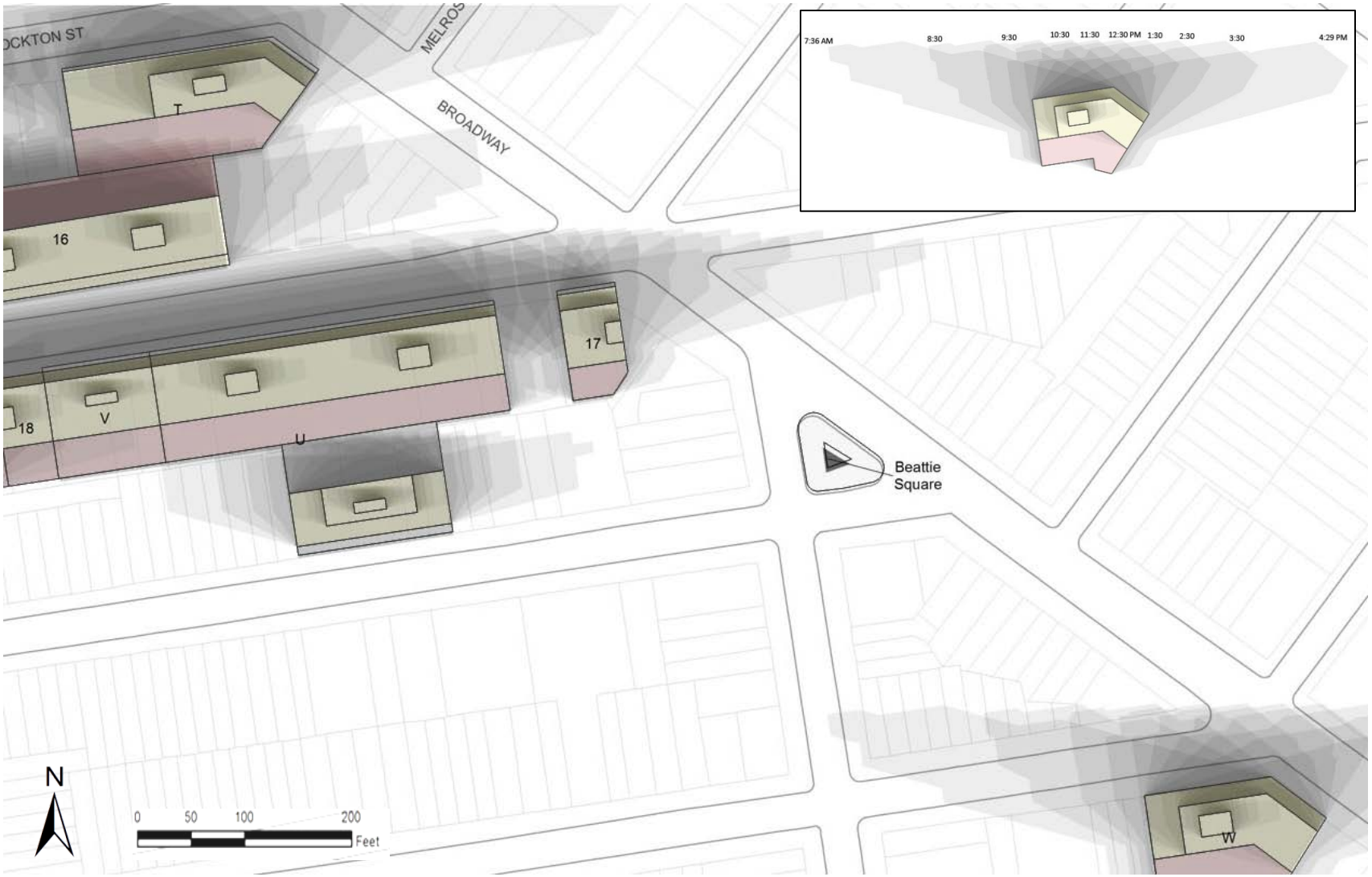
Bedford-Stuyvesant North Rezoning

Tier 3 Analysis – June 21



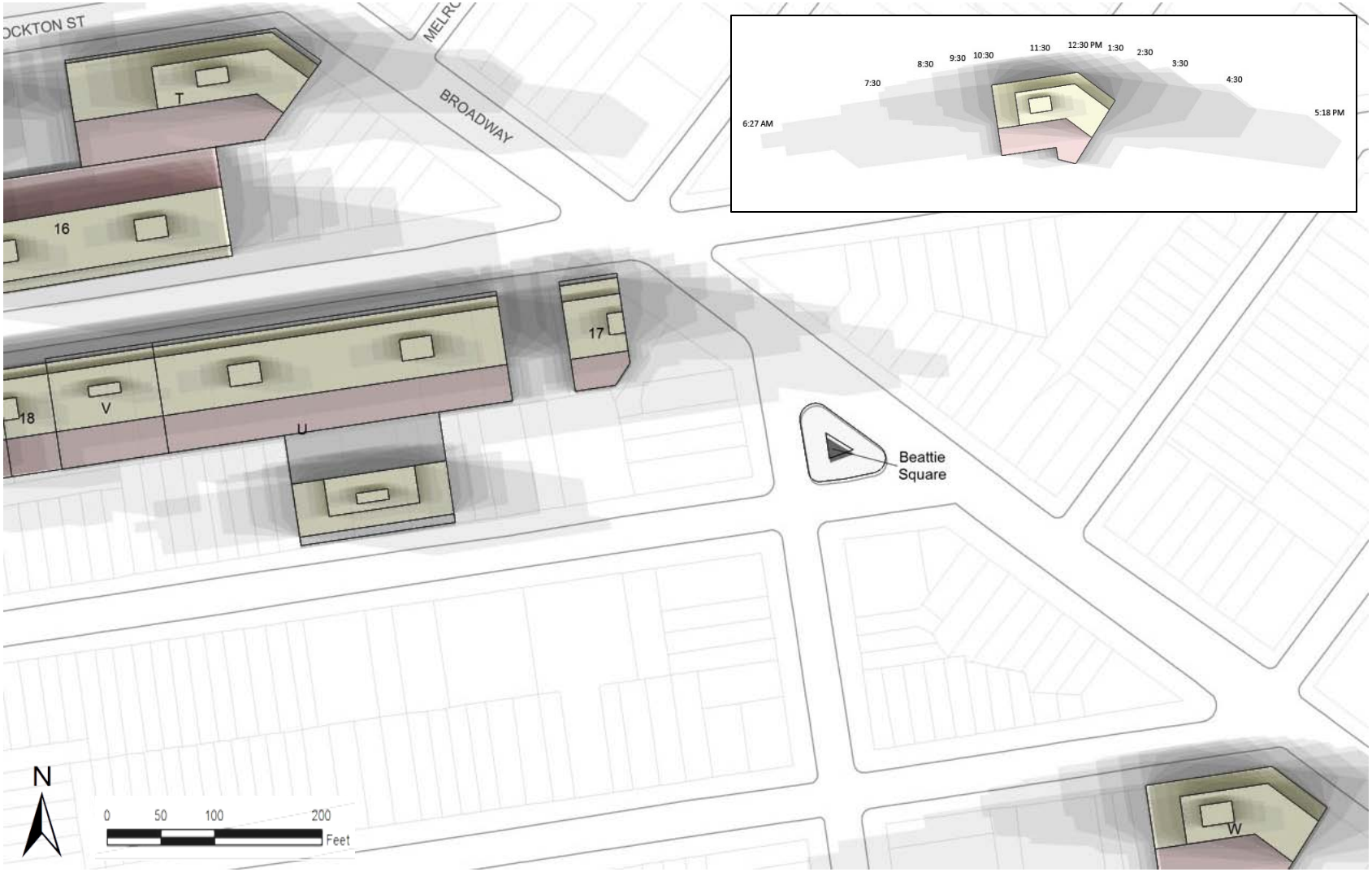
Bedford-Stuyvesant North Rezoning

Tier 3 Analysis – March 21



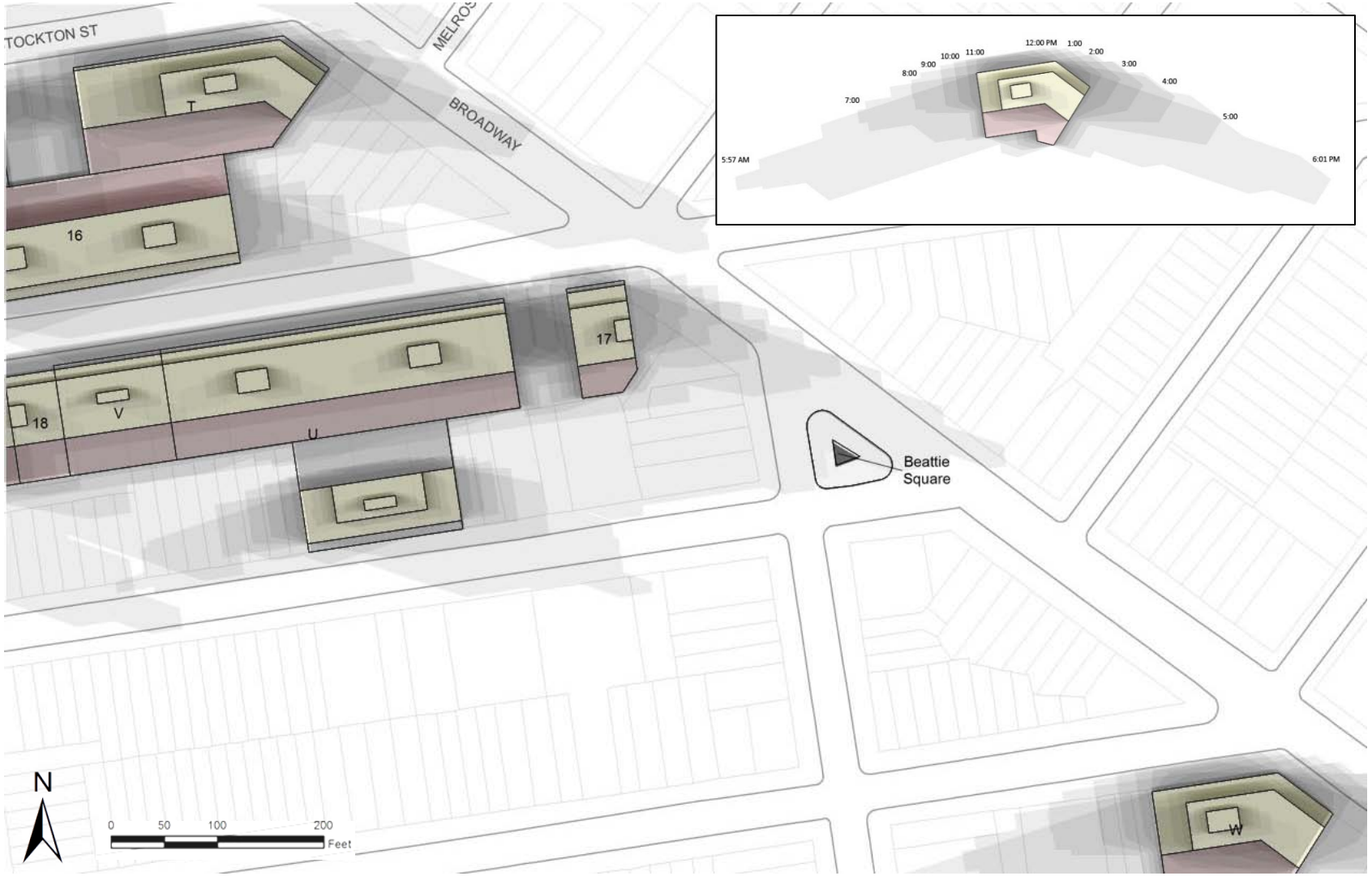
Bedford-Stuyvesant North Rezoning

Tier 3 Analysis – May 6



Bedford-Stuyvesant North Rezoning

Tier 3 Analysis – June 21



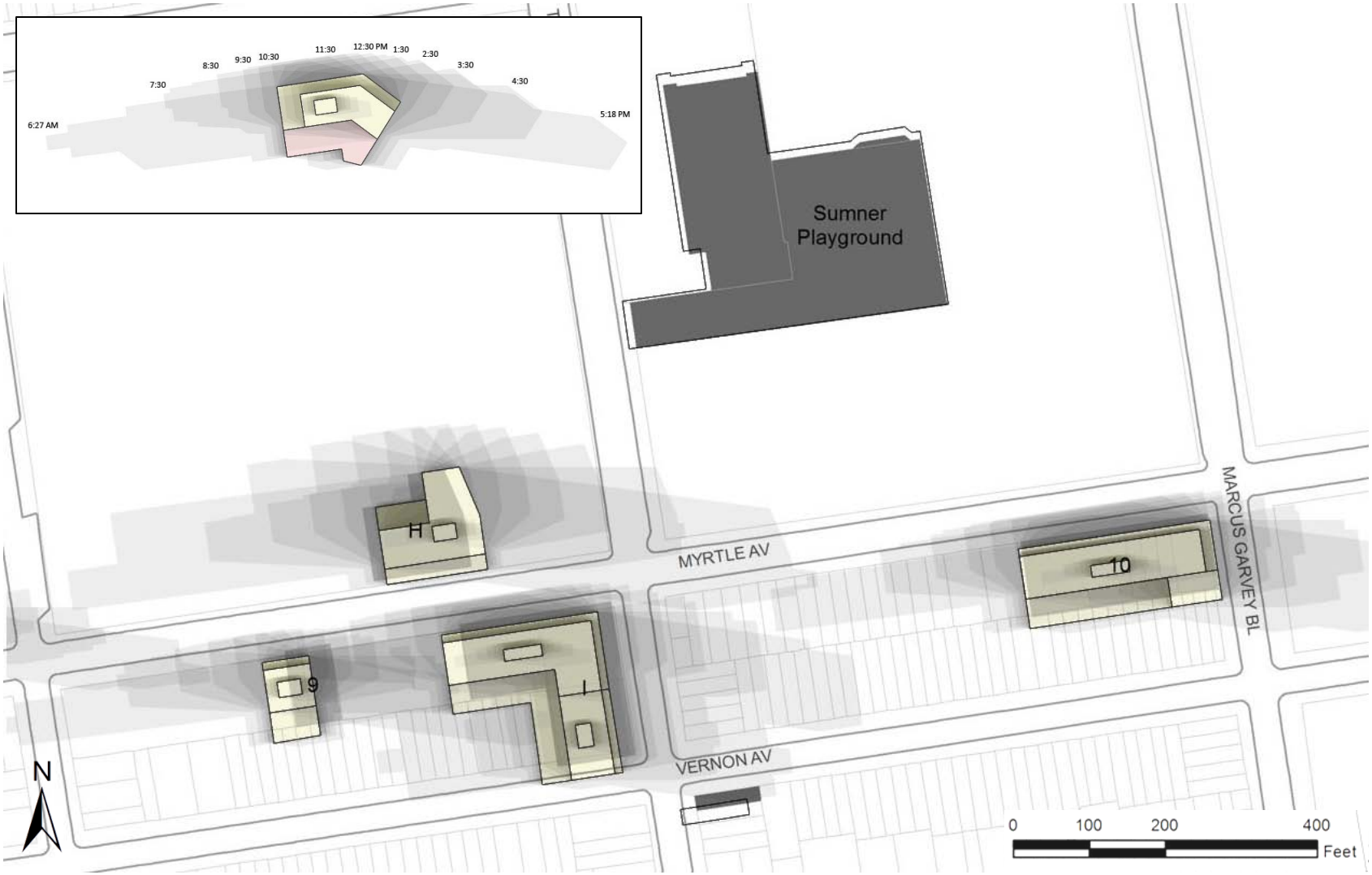
Bedford-Stuyvesant North Rezoning

Tier 3 Analysis – March 21



Bedford-Stuyvesant North Rezoning

Tier 3 Analysis – May 6



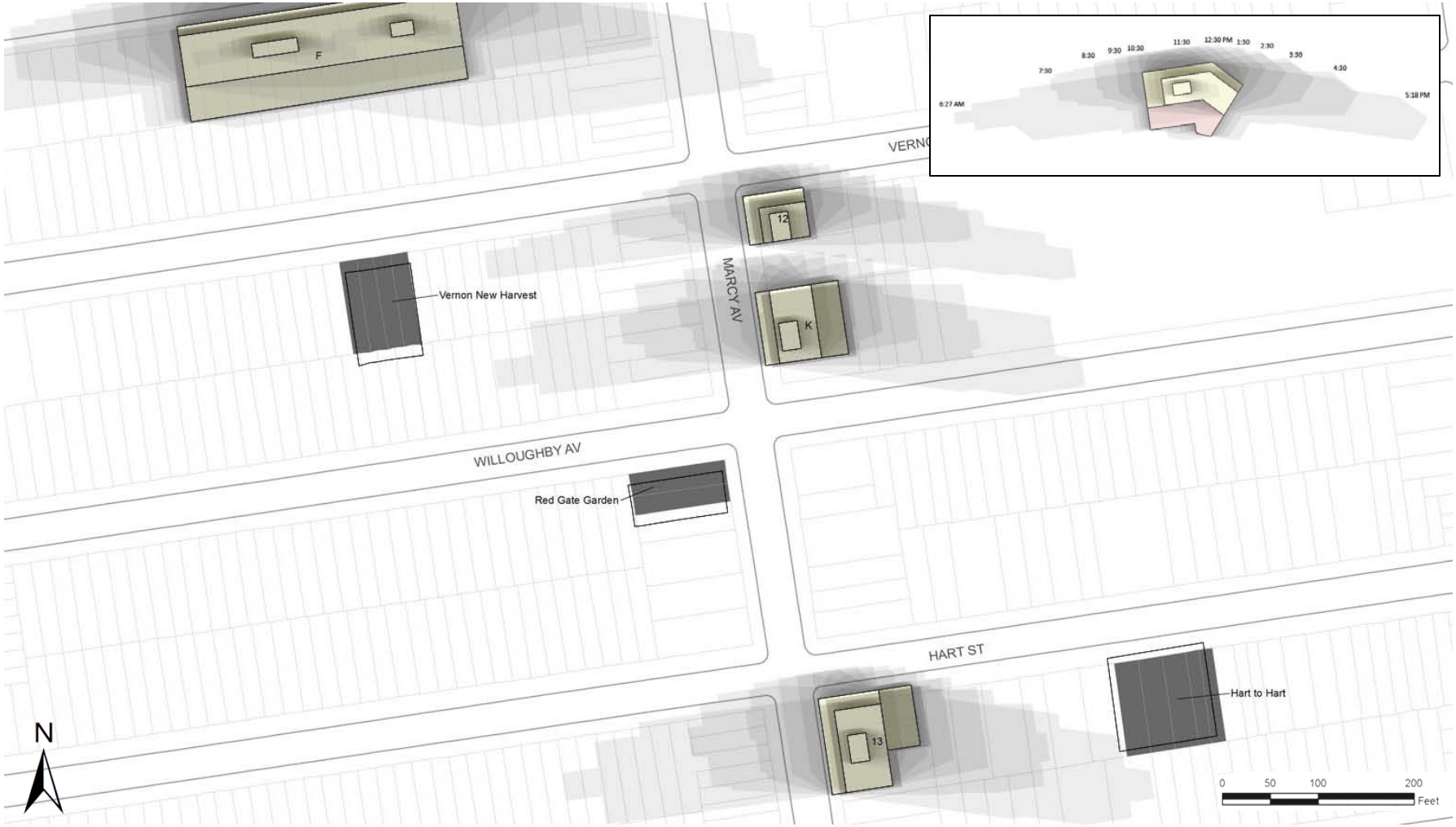
Bedford-Stuyvesant North Rezoning

Tier 3 Analysis – March 21



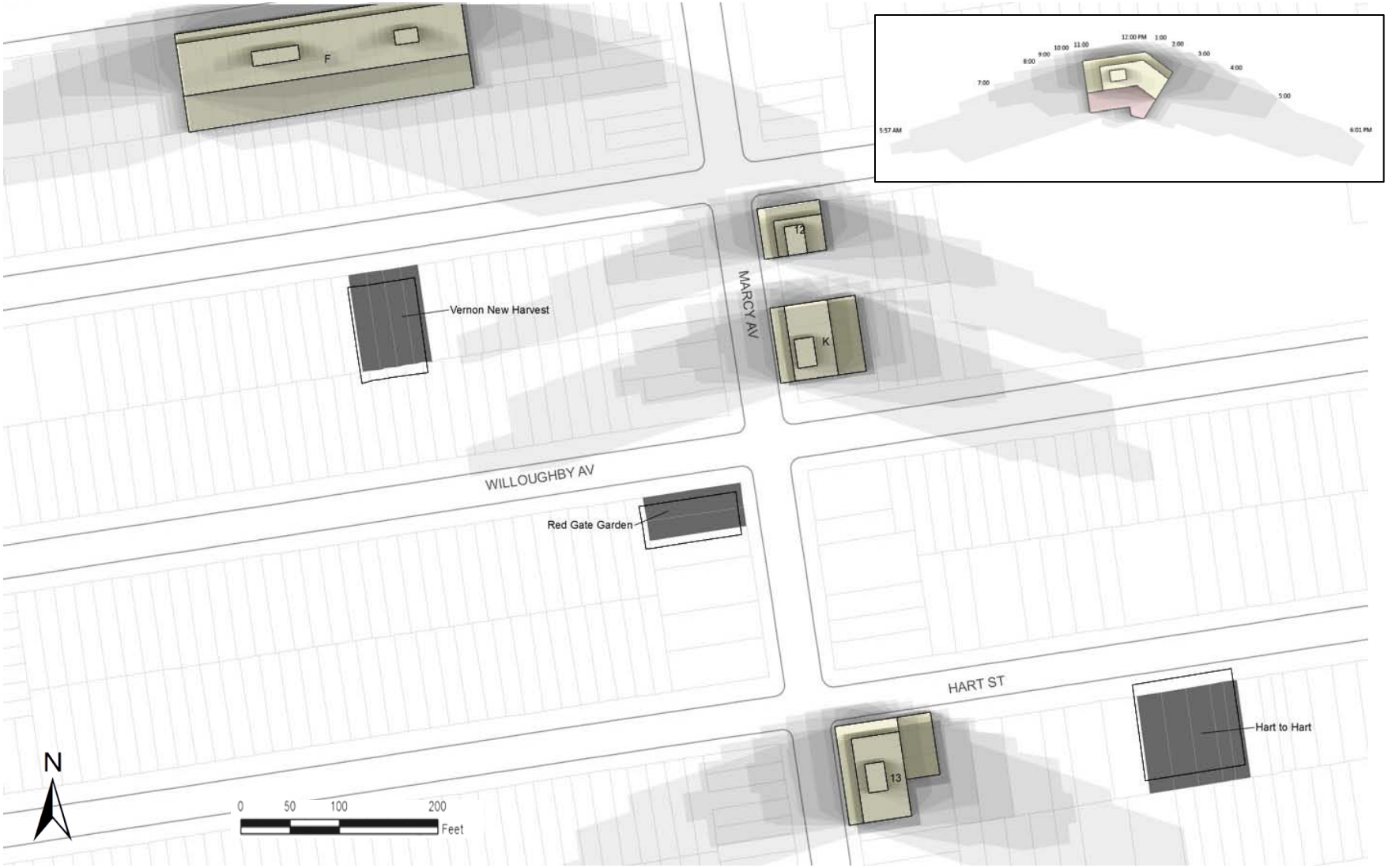
Bedford-Stuyvesant North Rezoning

Tier 3 Analysis – May 6



Bedford-Stuyvesant North Rezoning

Tier 3 Analysis – June 21



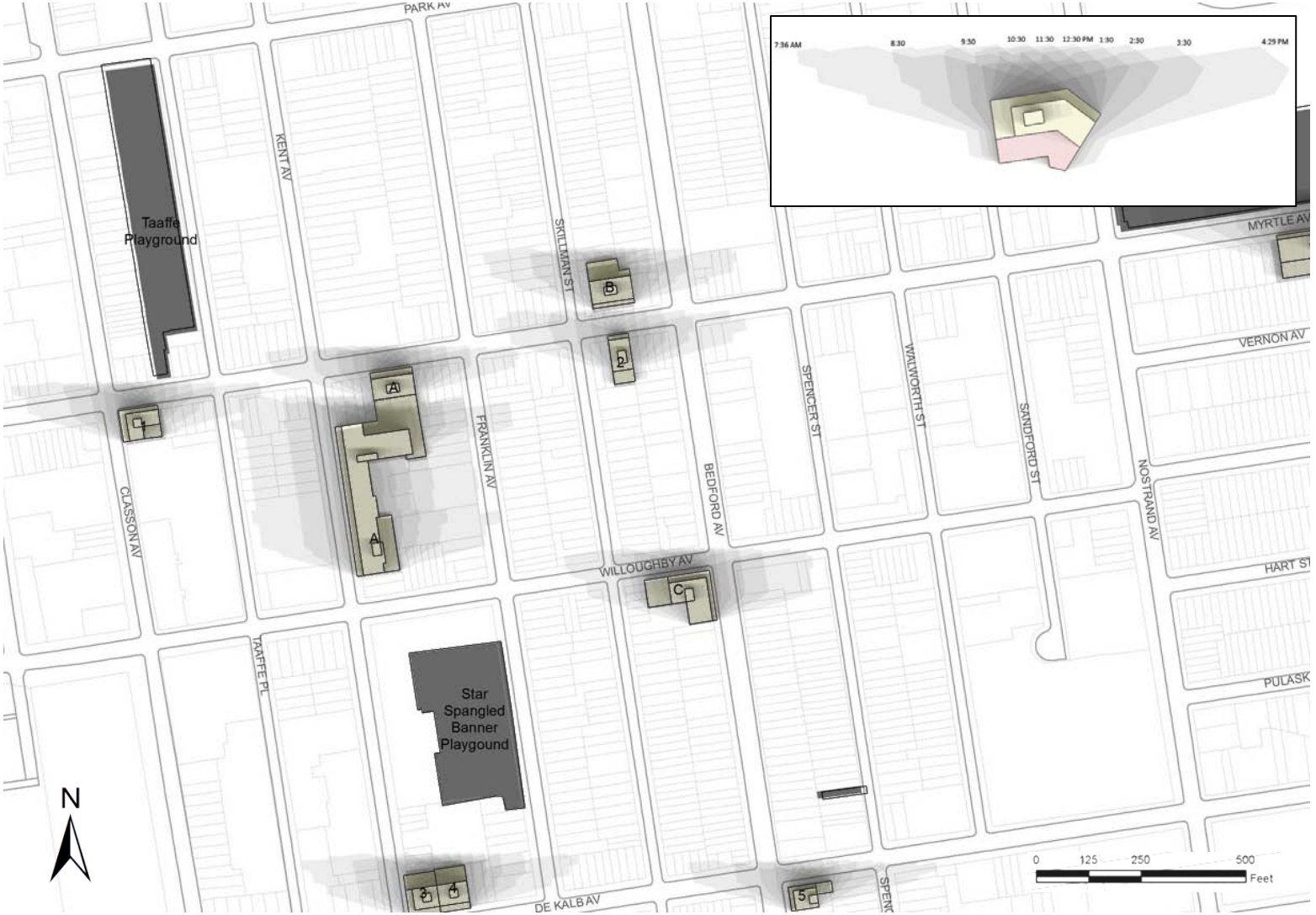
Bedford-Stuyvesant North Rezoning

Tier 3 Analysis - December 21



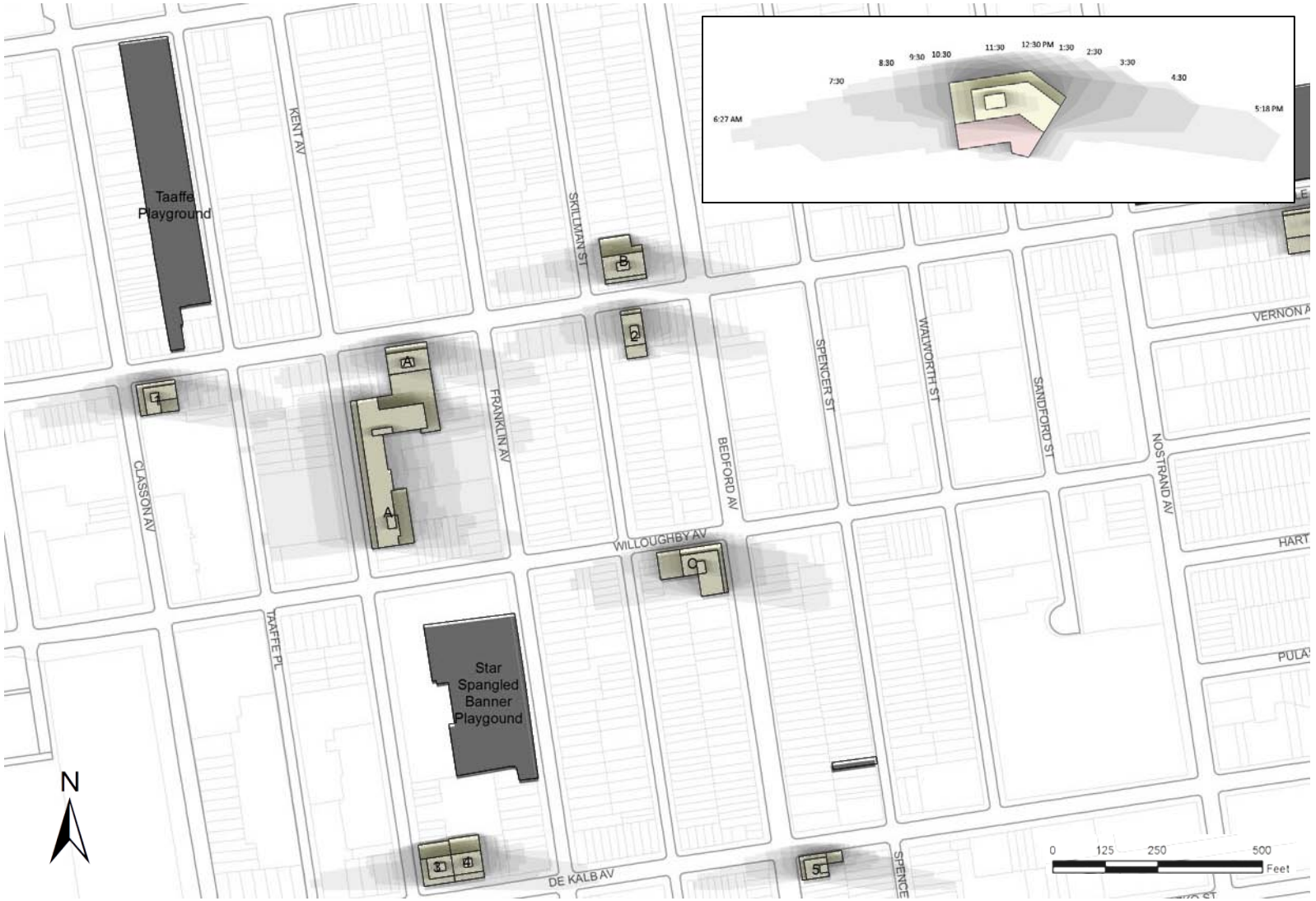
Bedford-Stuyvesant North Rezoning

Tier 3 Analysis – March 21



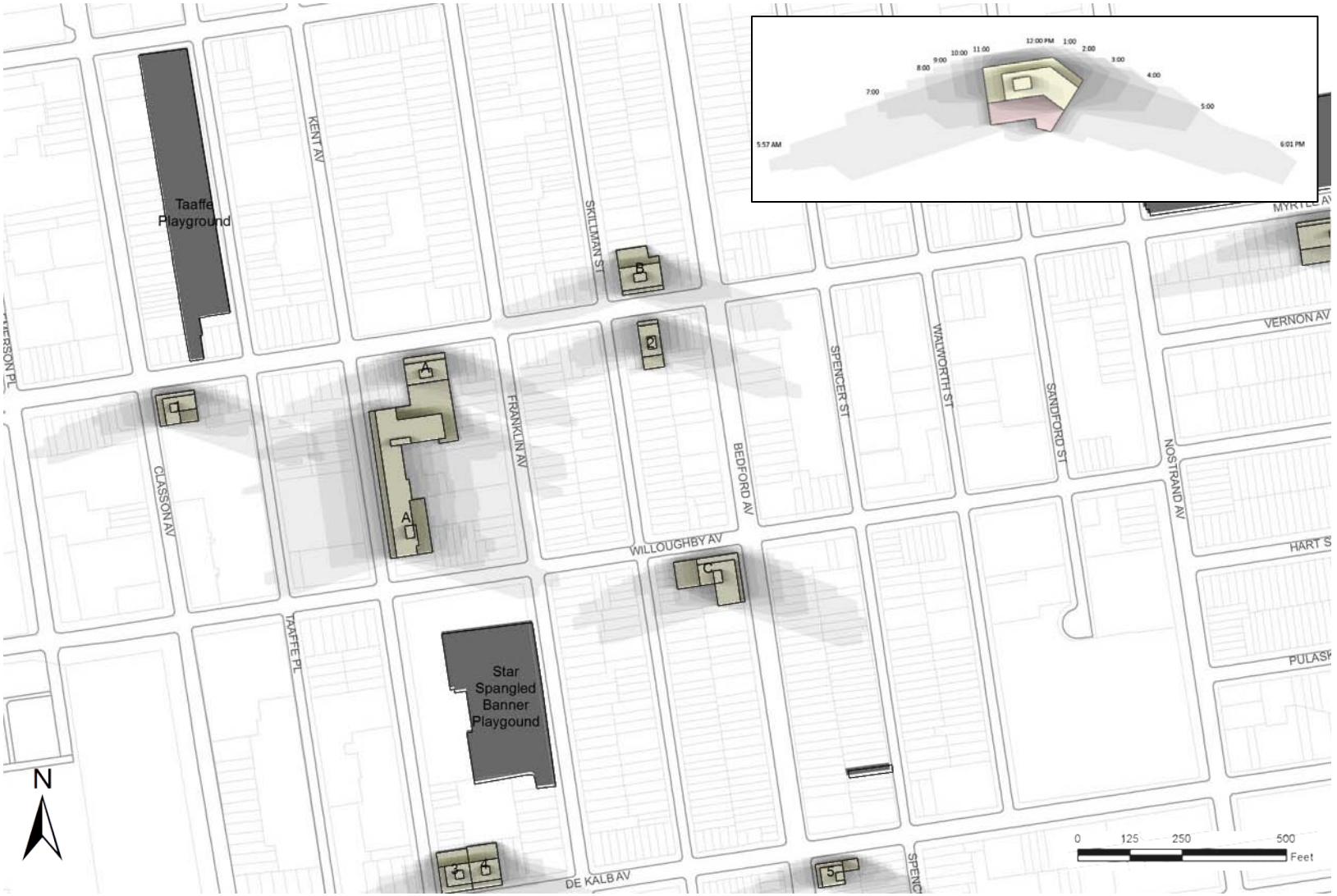
Bedford-Stuyvesant North Rezoning

Tier 3 Analysis – May 6



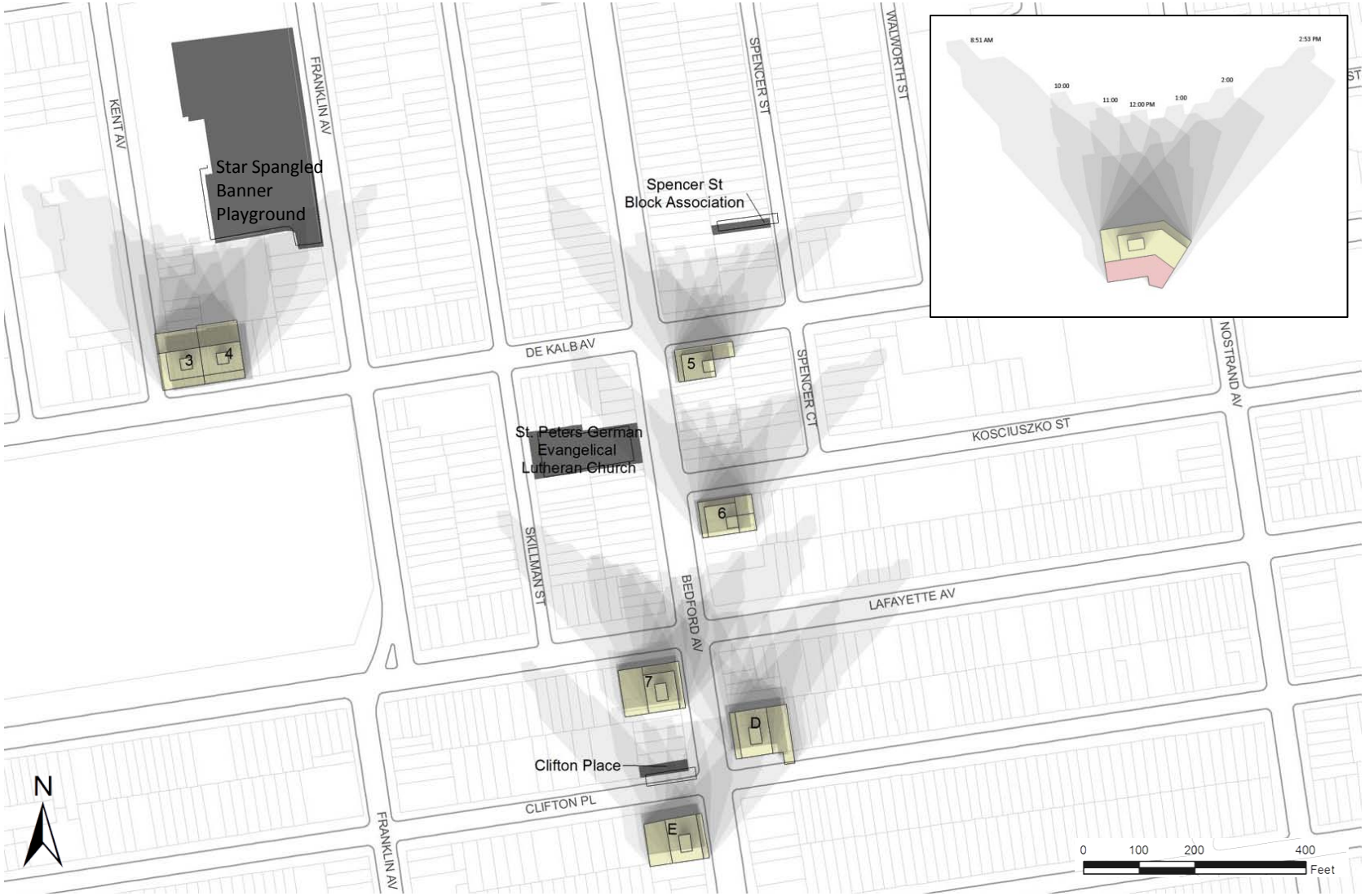
Bedford-Stuyvesant North Rezoning

Tier 3 Analysis – June 21



Bedford-Stuyvesant North Rezoning

Tier 3 Analysis - December 21



Bedford-Stuyvesant North Rezoning

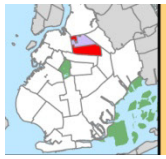
Tier 3 Analysis – May 21



Bedford-Stuyvesant North Rezoning

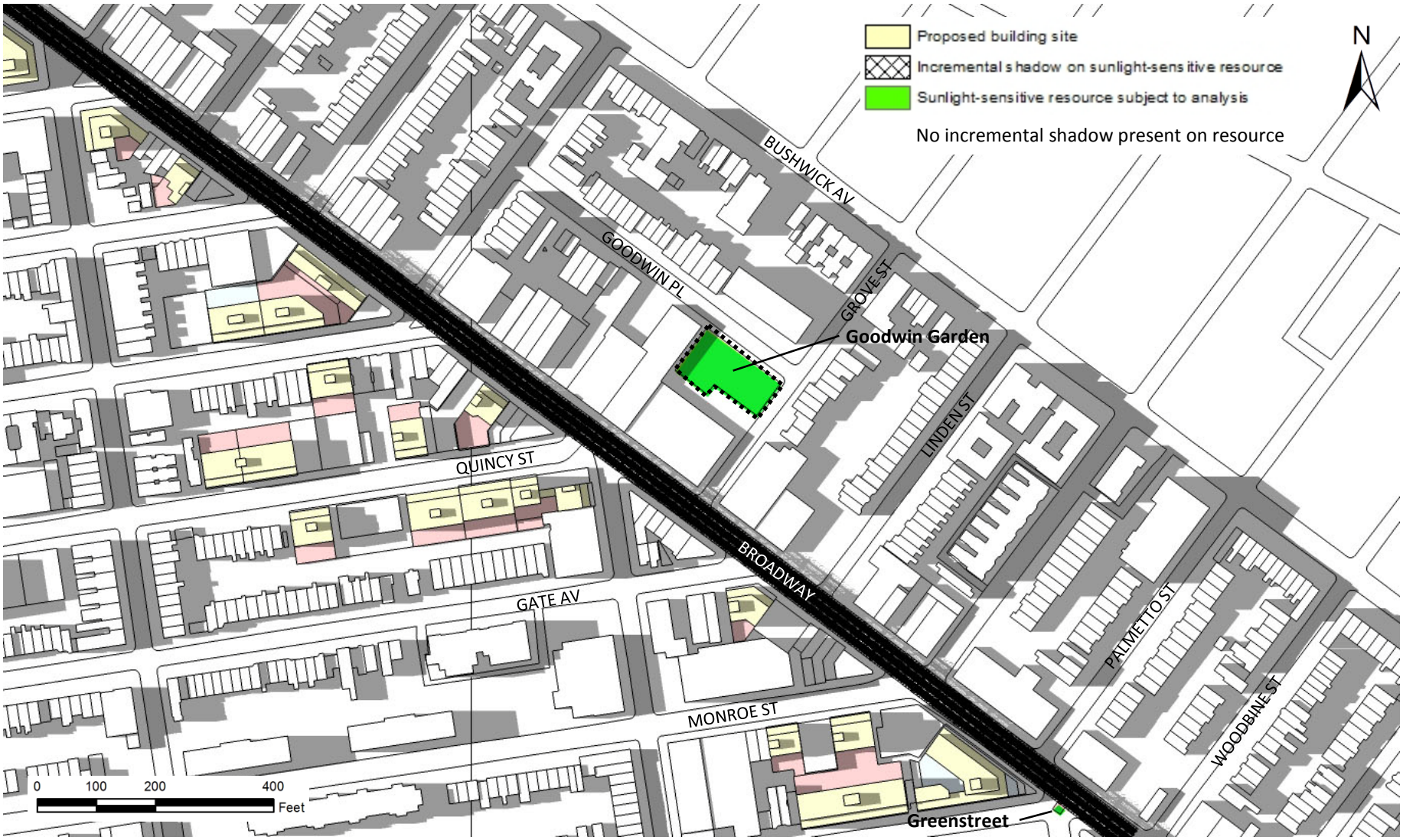
Tier 3 Analysis – June 21





Bedford-Stuyvesant North Rezoning

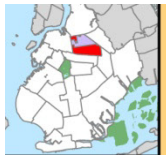
May 6, 4:30p.m.



Bedford-Stuyvesant North Rezoning

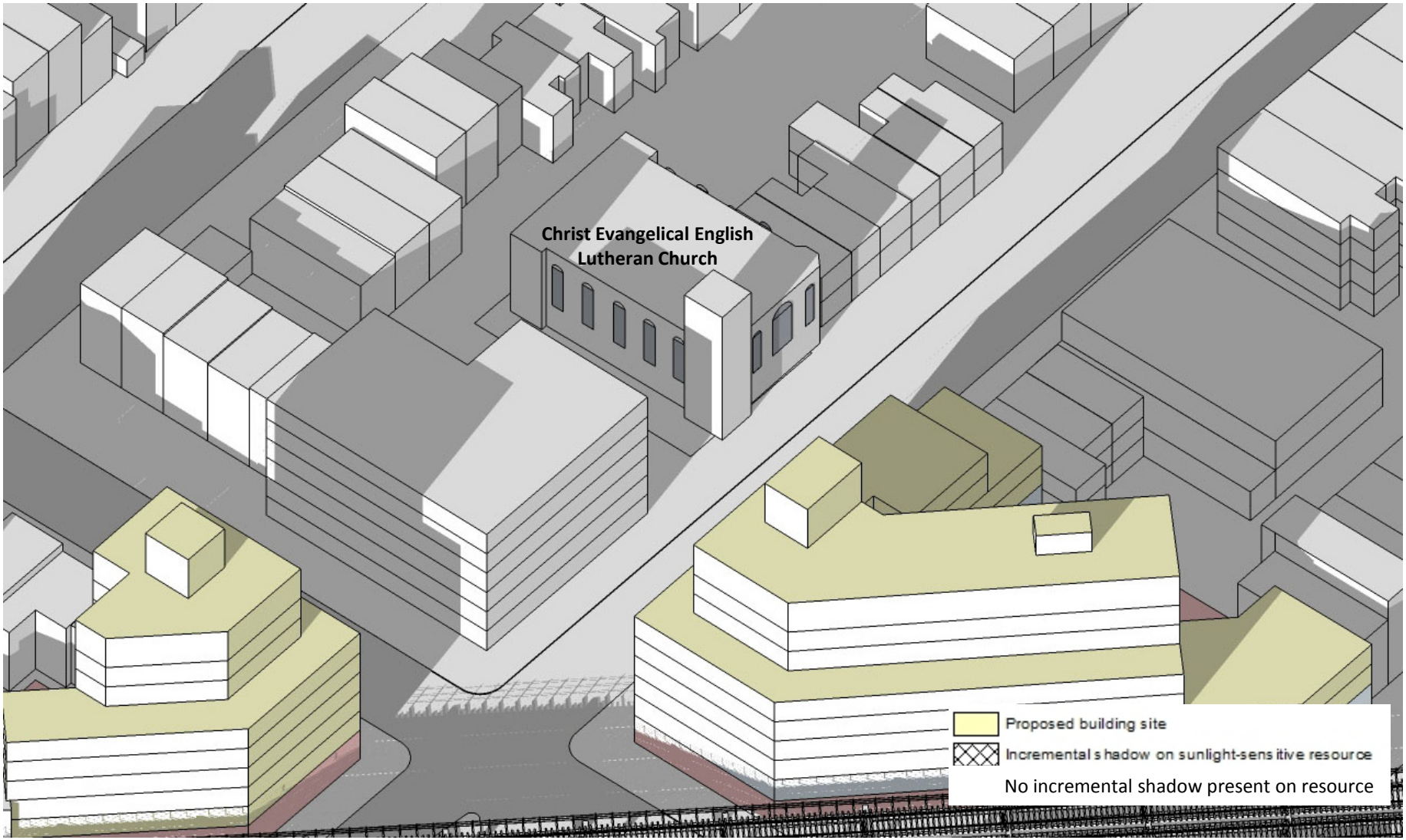
May 6, 5:18 p.m.

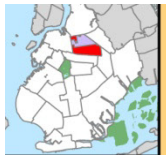




Bedford-Stuyvesant North Rezoning

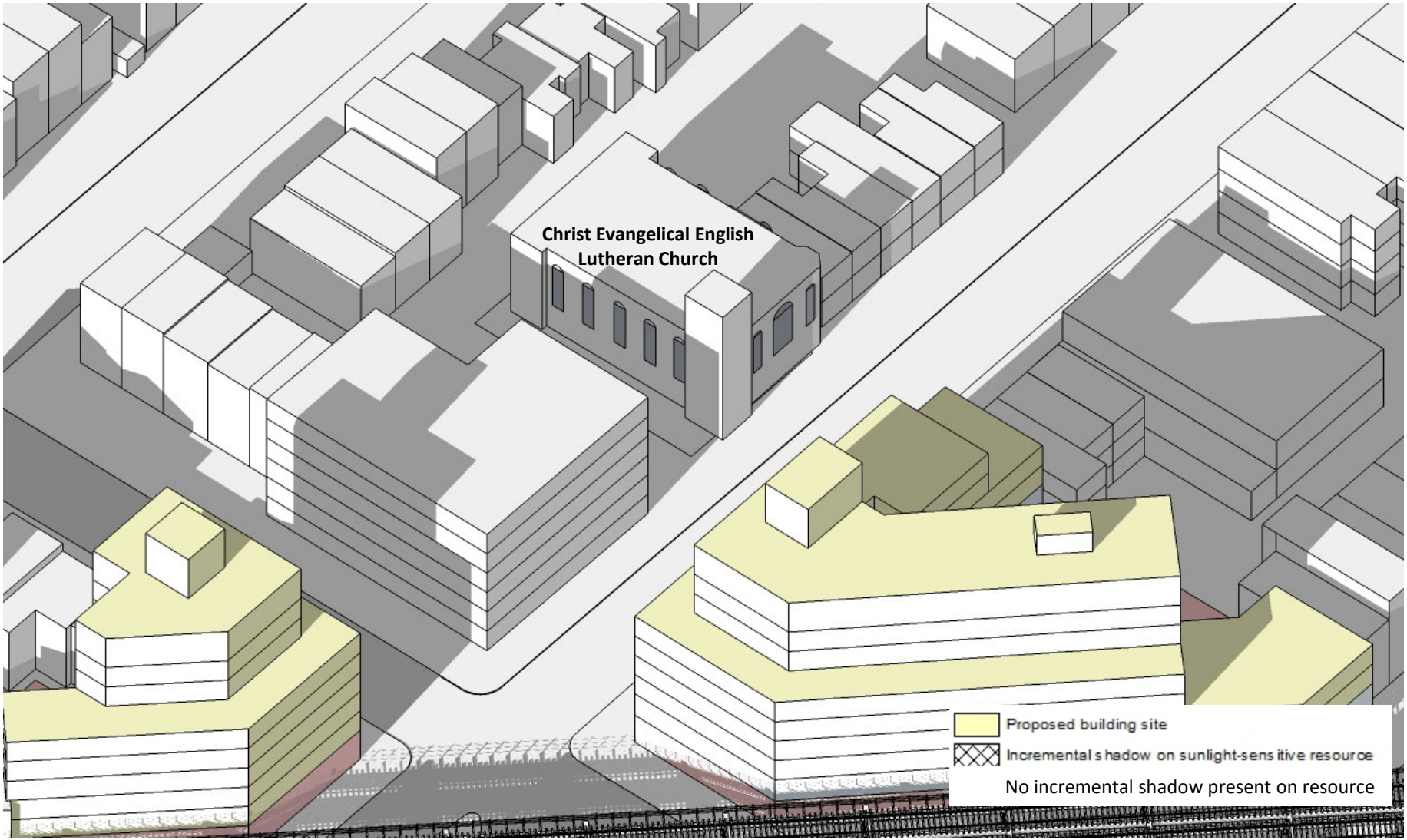
June 21, 5:57 a.m.

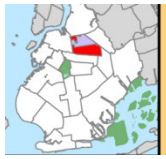




Bedford-Stuyvesant North Rezoning

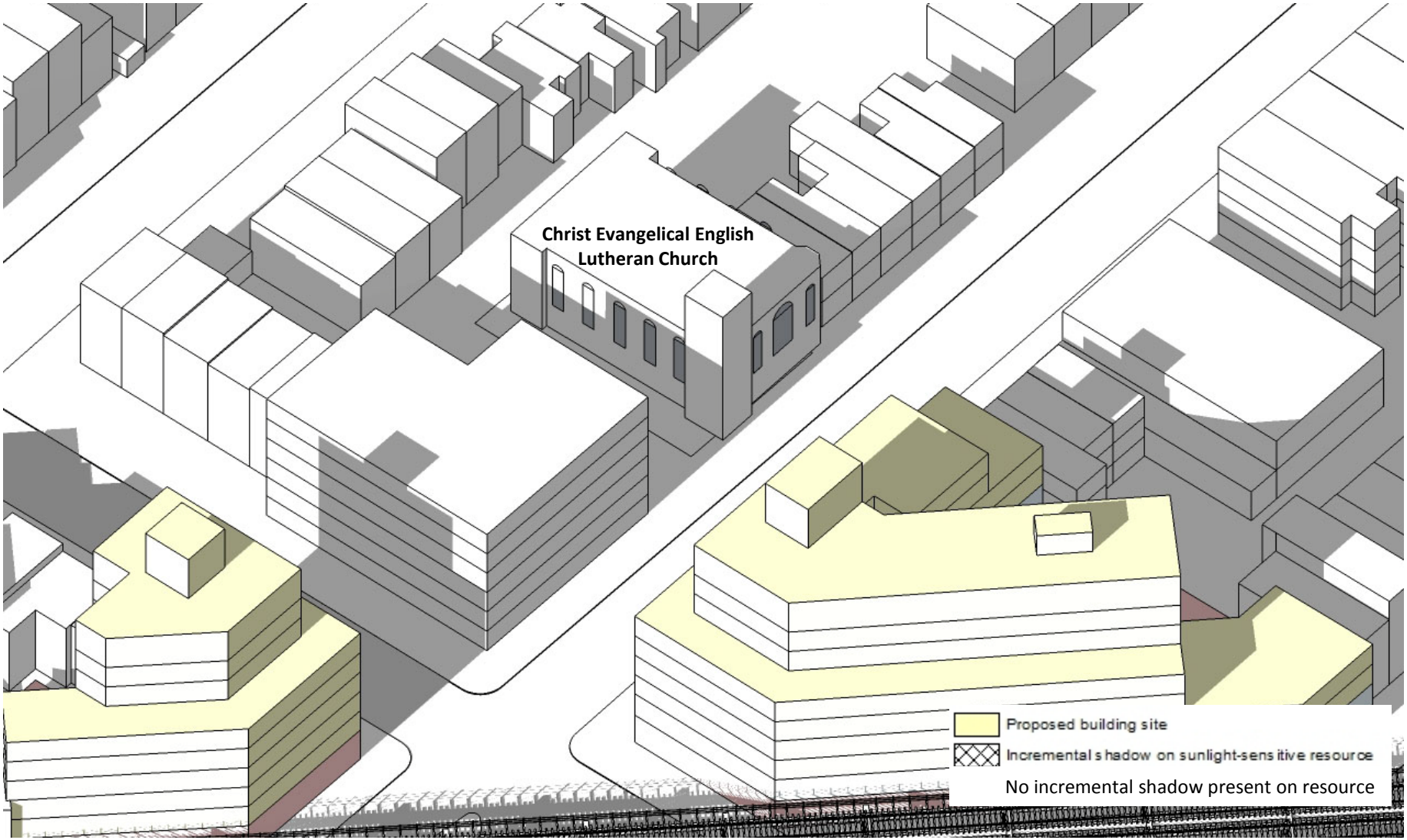
June 21, 6:24 a.m.

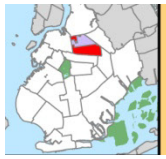




Bedford-Stuyvesant North Rezoning

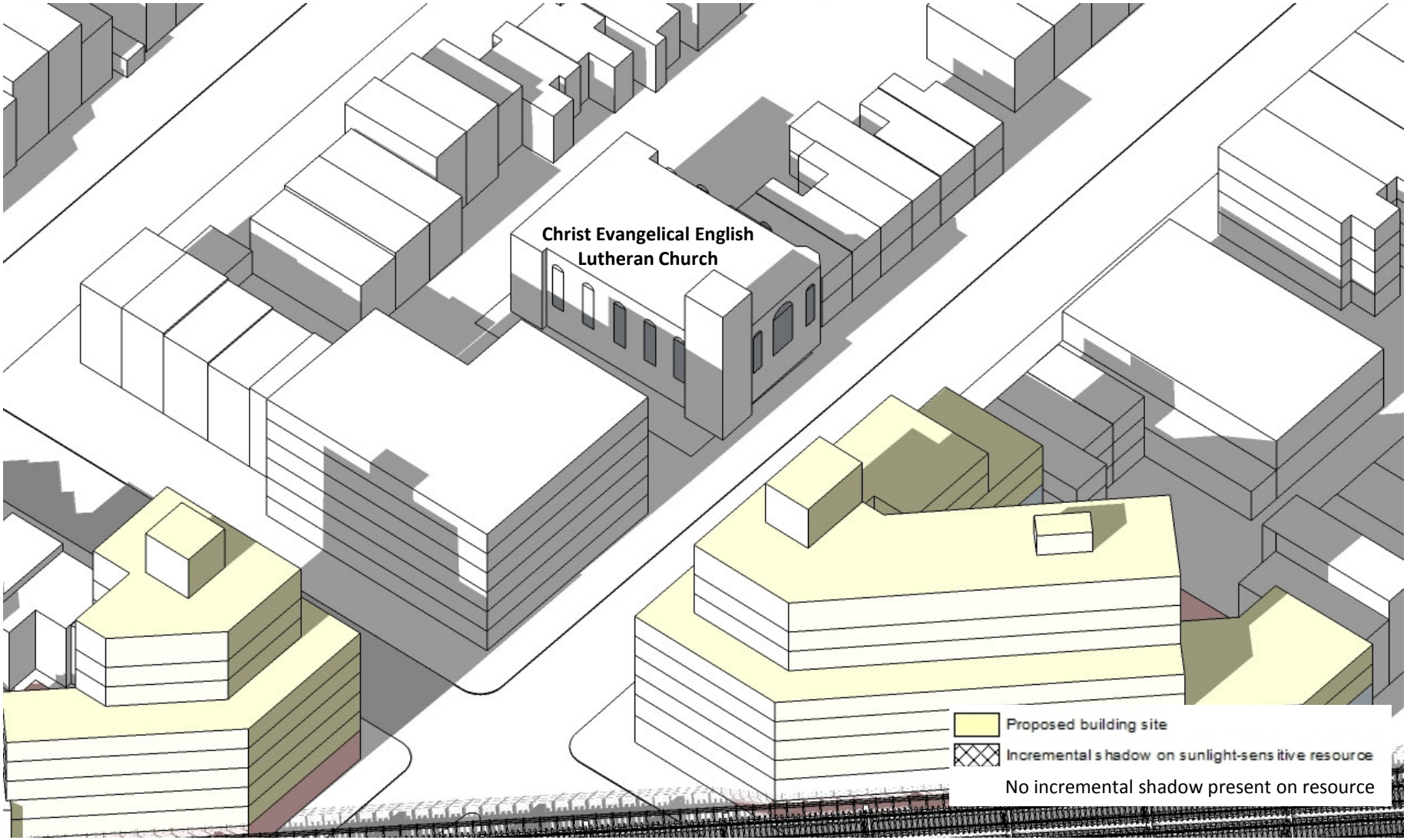
June 21, 7:00 a.m.

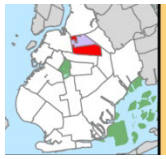




Bedford-Stuyvesant North Rezoning

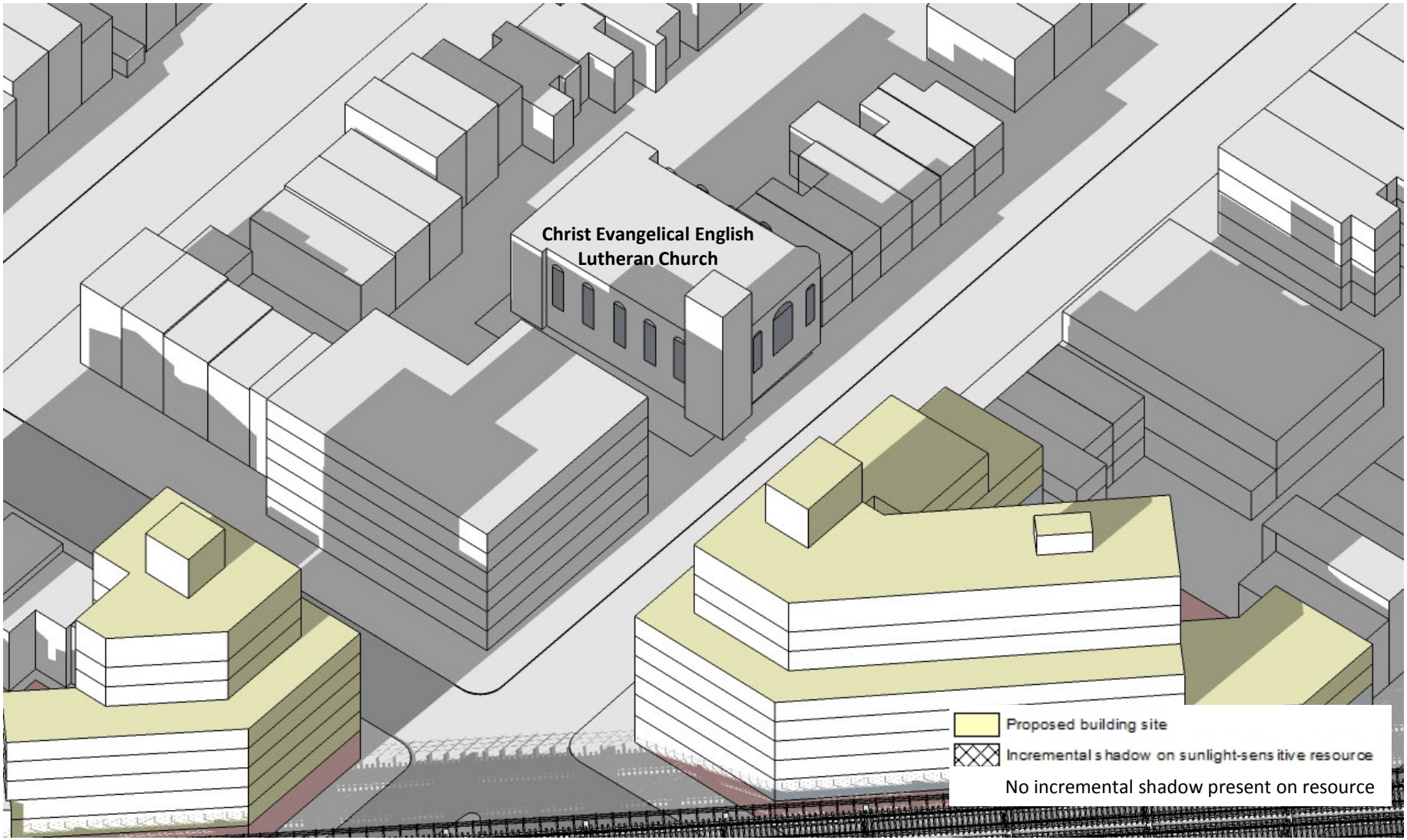
June 21, 7:10 a.m.

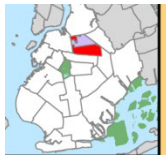




Bedford-Stuyvesant North Rezoning

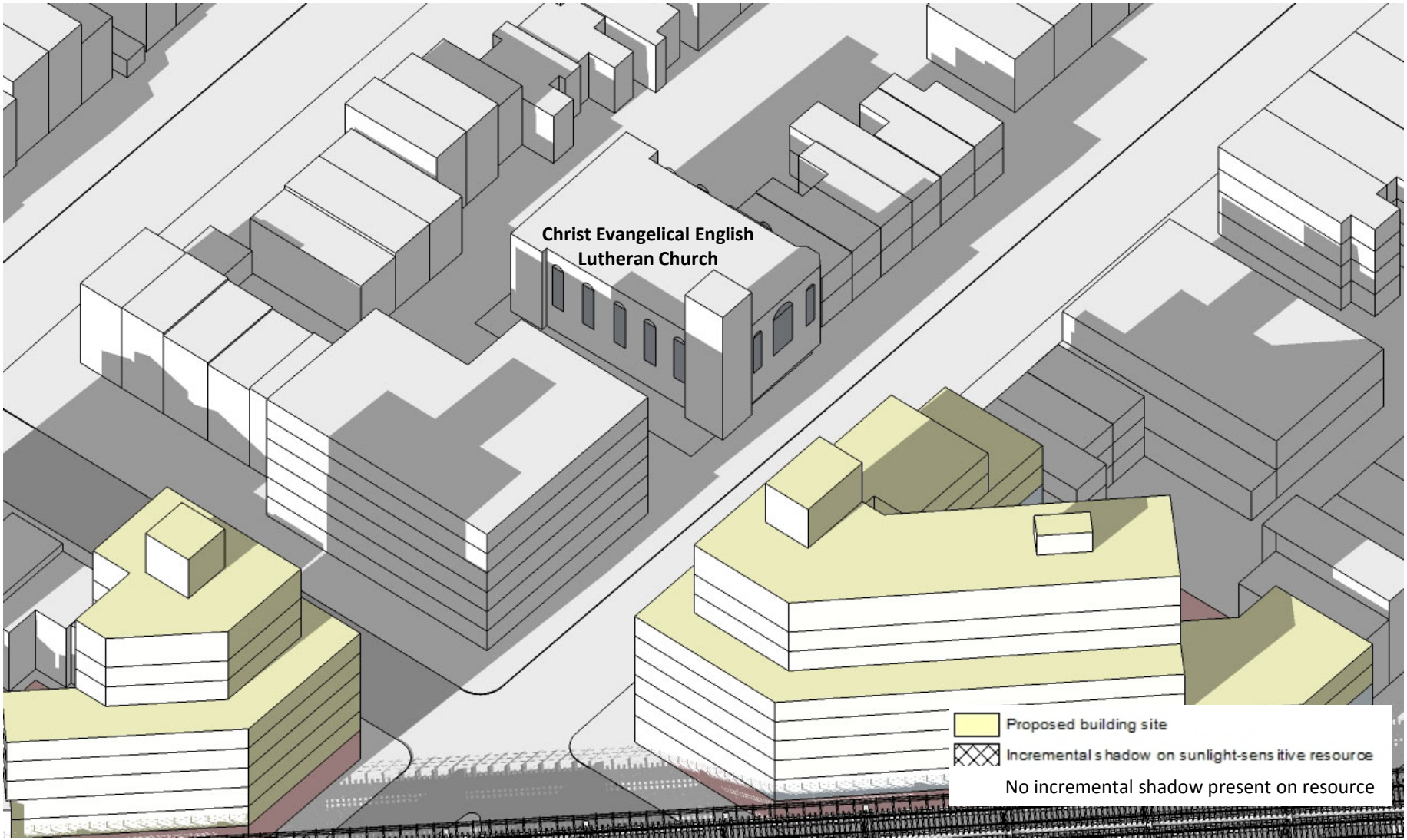
May 6, 6:27 a.m.

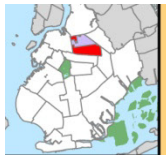




Bedford-Stuyvesant North Rezoning

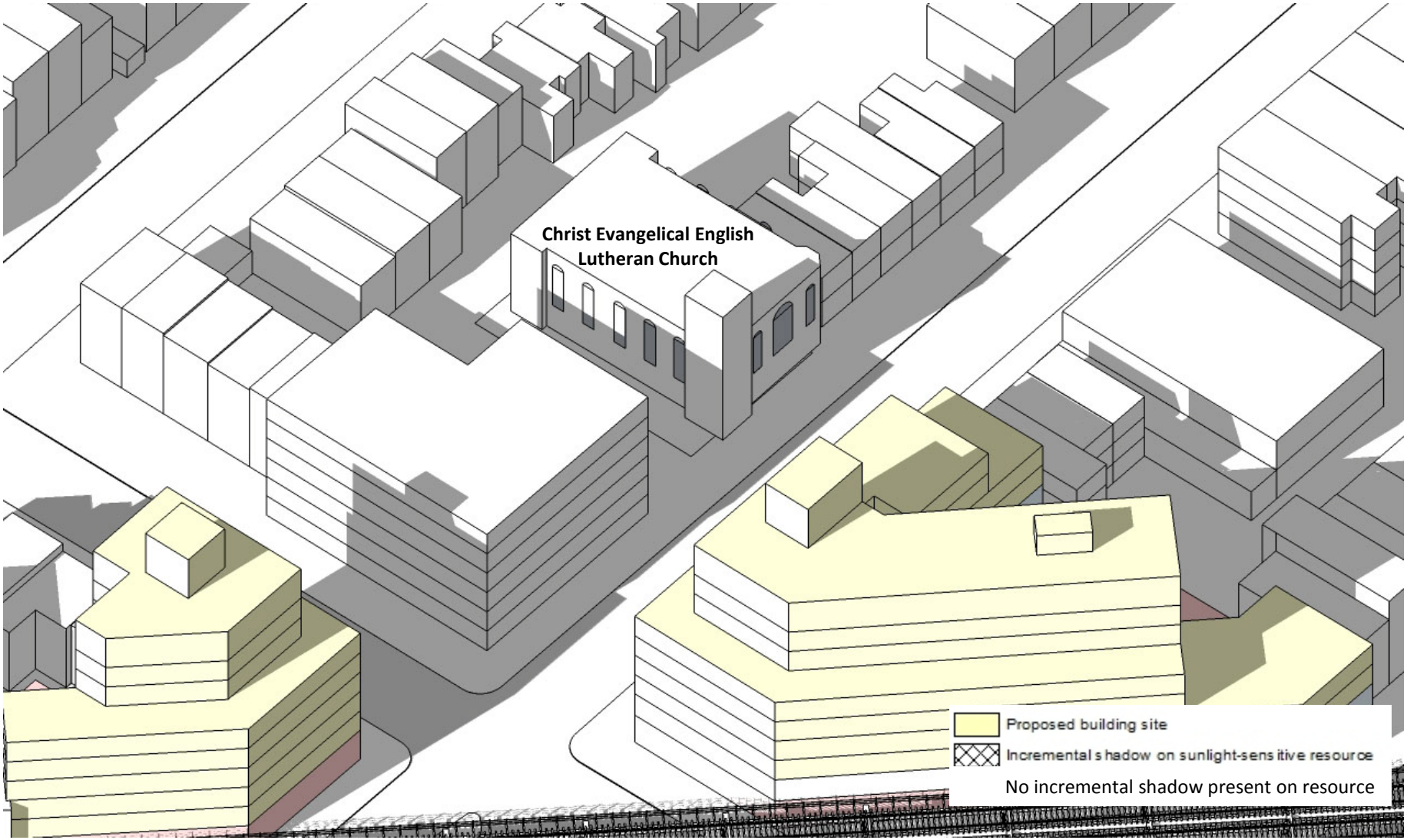
May 6, 6:36 a.m.

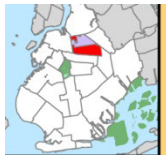




Bedford-Stuyvesant North Rezoning

May 6, 7:23 a.m.

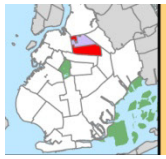




Bedford-Stuyvesant North Rezoning

December 21, 8:51 a.m.

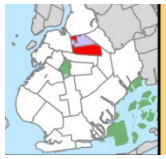




Bedford-Stuyvesant North Rezoning

December 21, 9:12 a.m.





Bedford-Stuyvesant North Rezoning

June 21, 5:24 p.m.



Bedford-Stuyvesant North Rezoning

June 21, 6:01 p.m.

Figure number



Bedford-Stuyvesant North Rezoning

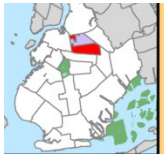
March 21, 4:21 p.m.



Bedford-Stuyvesant North Rezoning

March 21, 4:29 p.m.

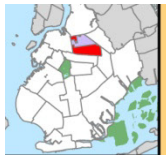




Bedford-Stuyvesant North Rezoning

May 6, 5:18 p.m.

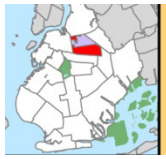




Bedford-Stuyvesant North Rezoning

December 21, 8:51 a.m.

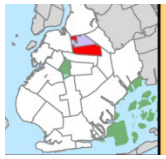




Bedford-Stuyvesant North Rezoning

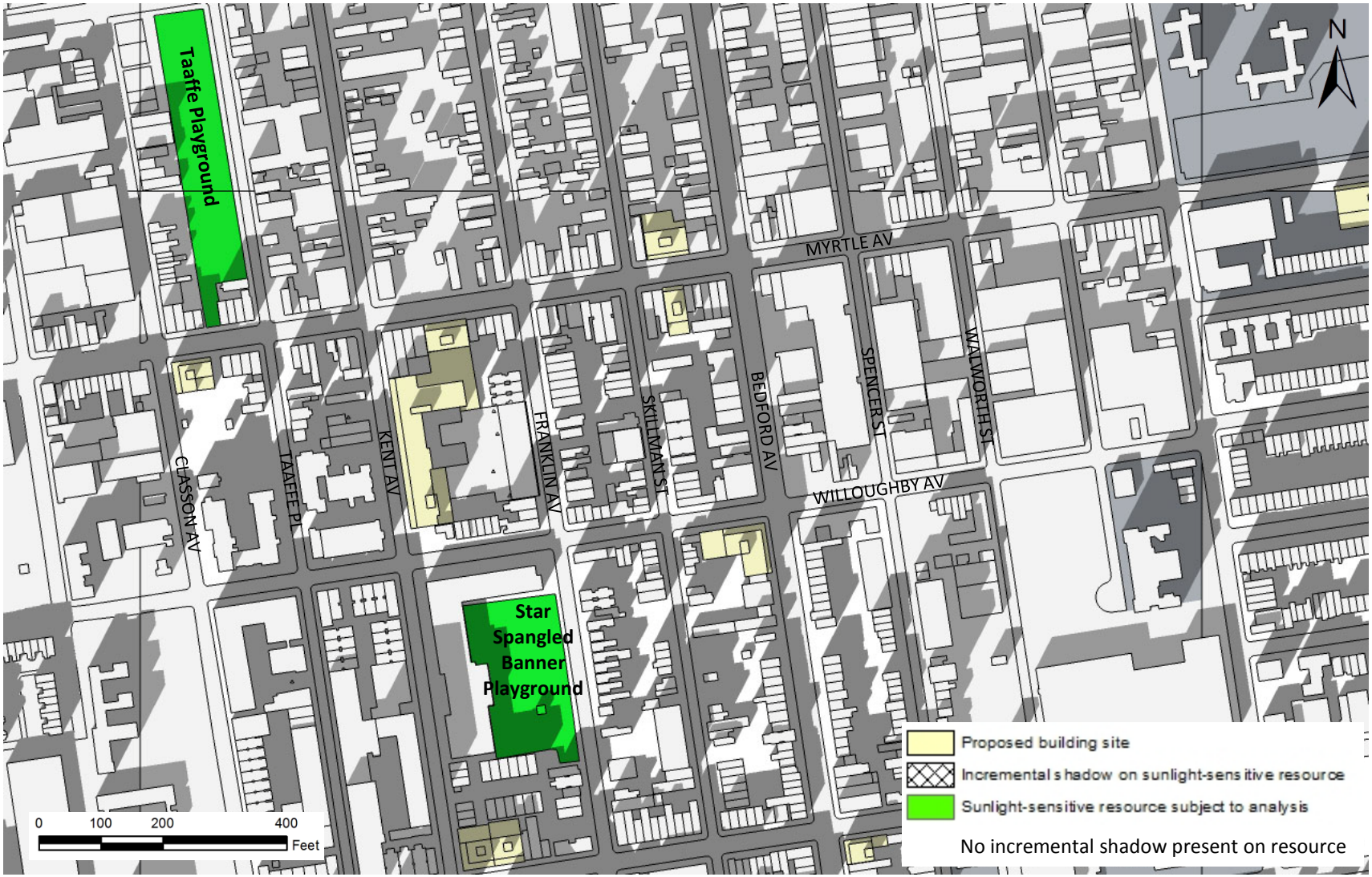
December 21, 9:56 a.m.

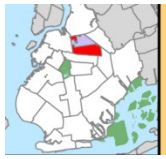




Bedford-Stuyvesant North Rezoning

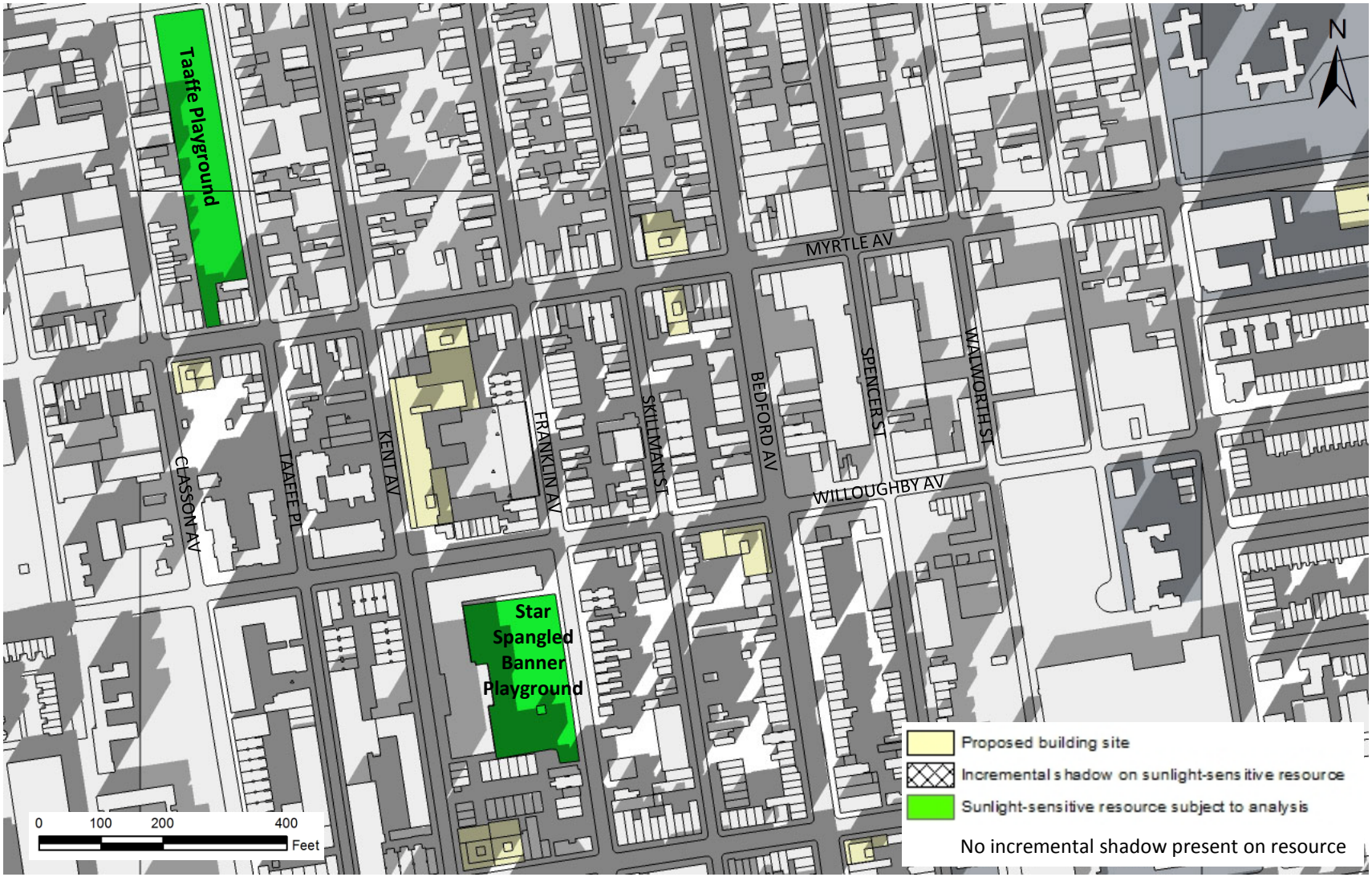
December 21, 1:45 p.m.

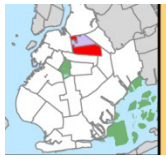




Bedford-Stuyvesant North Rezoning

December 21, 2:00 p.m.

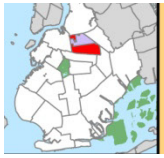




Bedford-Stuyvesant North Rezoning

December 21, 2:53 p.m.

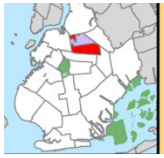




Bedford-Stuyvesant North Rezoning

December 21, 8:51 a.m.

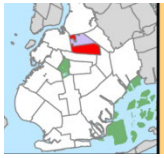




Bedford-Stuyvesant North Rezoning

December 21, 9:20 a.m.

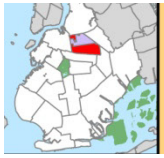




Bedford-Stuyvesant North Rezoning

December 21, 10:00 a.m.

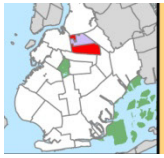




Bedford-Stuyvesant North Rezoning

December 21, 11:00 a.m.

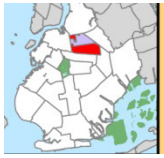




Bedford-Stuyvesant North Rezoning

December 21, 12:00 p.m.

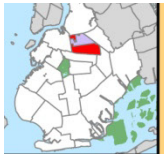




Bedford-Stuyvesant North Rezoning

December 21, 1:00 p.m.

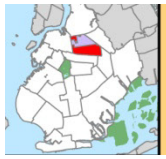




Bedford-Stuyvesant North Rezoning

December 21, 2:00 p.m.

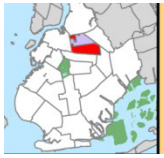




Bedford-Stuyvesant North Rezoning

December 21, 2:30 p.m.

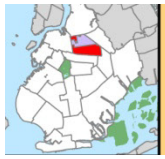




Bedford-Stuyvesant North Rezoning

June 21, 5:57 a.m.





Bedford-Stuyvesant North Rezoning

June 21, 7:00 a.m.



Appendix C: Landmarks Preservation Commission Correspondence

ENVIRONMENTAL REVIEW

Project number: DEPARTMENT OF CITY PLANNING / 77DCP019K
Project: BEDFORD-STUYVESANT NORTH REZONING
Date received: 4/9/2012

Comments: The LPC is in receipt of new, additional information as of 4/9/12. On this basis, comments on the above cited project are revised as indicated below.

Also attached is additional information on each of the proposed historic districts/study area as flagged, as per request of the lead agency. Disregard any sentence fragments at the end of each entry, as the text was block copied.

No adverse impacts are anticipated to historic properties as a result of this action.

Properties that are individually LPC designated or in LPC historic districts require permits from the LPC Preservation department. Properties that are S/NR listed or S/NR eligible require consultation with SHPO if there are State or Federal permits or funding required as part of the action.

Properties with no Architectural or Archaeological significance:

1) ADDRESS: 790 BROADWAY, BBL: 3015780005
2) ADDRESS: 7 MARCUS GARVEY BLVD, BBL: 3015780014
3) ADDRESS: PARK AVENUE, BBL: 3015790050
4) ADDRESS: 869 PARK AVENUE, BBL: 3015790051
5) ADDRESS: 310 ELLERY STREET, BBL: 3015790053
6) ADDRESS: 886 BROADWAY, BBL: 3015820015
7) ADDRESS: 23 LEWIS AVENUE, BBL: 3015840001
8) ADDRESS: 1101 MYRTLE AVENUE, BBL: 3015840004
9) ADDRESS: 1123 MYRTLE AVENUE, BBL: 3015840011
10) ADDRESS: 1070 MYRTLE AVENUE, BBL: 3015850031
11) ADDRESS: 1068 MYRTLE AVENUE, BBL: 3015850032
12) ADDRESS: 1066 MYRTLE AVENUE, BBL: 3015850033
13) ADDRESS: 1116 MYRTLE AVENUE, BBL: 3015860008
14) ADDRESS: 1094 MYRTLE AVENUE, BBL: 3015860010
15) ADDRESS: 1086 MYRTLE AVENUE, BBL: 3015860011
16) ADDRESS: 1122 MYRTLE AVENUE, BBL: 3015860012
17) ADDRESS: 369 VERNON AVENUE, BBL: 3015860014
18) ADDRESS: 1090 MYRTLE AVENUE, BBL: 3015860024
19) ADDRESS: 373 VERNON AVENUE, BBL: 3015860027
20) ADDRESS: 1102 MYRTLE AVENUE, BBL: 3015860051
21) ADDRESS: 1100 MYRTLE AVENUE, BBL: 3015860052
22) ADDRESS: 1128 MYRTLE AVENUE, BBL: 3015860053
23) ADDRESS: 367 VERNON AVENUE, BBL: 3015860056
24) ADDRESS: 874 WILLOUGHBY AVENUE, BBL: 3015930023
25) ADDRESS: 1096 BROADWAY, BBL: 3016000001
26) ADDRESS: 1107 DE KALB AVENUE, BBL: 3016000028
27) ADDRESS: 541 VAN BUREN STREET, BBL: 3016130009

28) ADDRESS: 1005 GREENE AVENUE, BBL: 3016180035
29) ADDRESS: 1268 BROADWAY, BBL: 3016230070
30) ADDRESS: 891 LEXINGTON AVENUE, BBL: 3016230073
31) ADDRESS: 4 RALPH AVENUE, BBL: 3016280021
32) ADDRESS: 818 LEXINGTON AVENUE, BBL: 3016280022
33) ADDRESS: 820 LEXINGTON AVENUE, BBL: 3016280023
34) ADDRESS: 850 LEXINGTON AVENUE, BBL: 3016280030
35) ADDRESS: 65 TOMPKINS AVENUE, BBL: 3017400001
36) ADDRESS: 134 STOCKTON STREET, BBL: 3017470001
37) ADDRESS: 553 MARCY AVENUE, BBL: 3017470007
38) ADDRESS: STOCKTON STREET, BBL: 3017470010
39) ADDRESS: 869 MYRTLE AVENUE, BBL: 3017470019
40) ADDRESS: 128 STOCKTON STREET, BBL: 3017470020
41) ADDRESS: 138 STOCKTON STREET, BBL: 3017470021
42) ADDRESS: 847 MYRTLE AVENUE, BBL: 3017470022
43) ADDRESS: 901 MYRTLE AVENUE, BBL: 3017470023
44) ADDRESS: 106 STOCKTON STREET, BBL: 3017470024
45) ADDRESS: 130 STOCKTON STREET, BBL: 3017470051
46) ADDRESS: 132 STOCKTON STREET, BBL: 3017470053
47) ADDRESS: 833 MYRTLE AVENUE, BBL: 3017470062
48) ADDRESS: 98 STOCKTON STREET, BBL: 3017470064
49) ADDRESS: 851 MYRTLE AVENUE, BBL: 3017470067
50) ADDRESS: 784 MYRTLE AVENUE, BBL: 3017540024
51) ADDRESS: 786 MYRTLE AVENUE, BBL: 3017540025
52) ADDRESS: MYRTLE AVENUE, BBL: 3017540026
53) ADDRESS: MYRTLE AVENUE, BBL: 3017540027
54) ADDRESS: 792 MYRTLE AVENUE, BBL: 3017540028
55) ADDRESS: MYRTLE AVENUE, BBL: 3017540029
56) ADDRESS: 796 MYRTLE AVENUE, BBL: 3017540030
57) ADDRESS: 798 MYRTLE AVENUE, BBL: 3017540031
58) ADDRESS: 800 MYRTLE AVENUE, BBL: 3017540032
59) ADDRESS: 802 MYRTLE AVENUE, BBL: 3017540033
60) ADDRESS: 804 MYRTLE AVENUE, BBL: 3017540034
61) ADDRESS: 806 MYRTLE AVENUE, BBL: 3017540035
62) ADDRESS: 922 MYRTLE AVENUE, BBL: 3017560033
63) ADDRESS: 258 THROOP AVENUE, BBL: 3017560037
64) ADDRESS: 607 MARCY AVENUE, BBL: 3017590002
65) ADDRESS: 609 MARCY AVENUE, BBL: 3017590003
66) ADDRESS: 599 MARCY AVENUE, BBL: 3017590004
67) ADDRESS: 683 MARCY AVENUE, BBL: 3017850001
68) ADDRESS: MARCY AVENUE, BBL: 3017850003
69) ADDRESS: 689 MARCY AVENUE, BBL: 3017850005
70) ADDRESS: 1027 BEDFORD AVENUE, BBL: 3017880002
71) ADDRESS: 1023 BEDFORD AVENUE, BBL: 3017880004
72) ADDRESS: 1021 BEDFORD AVENUE, BBL: 3017880005
73) ADDRESS: 673 MYRTLE AVENUE, BBL: 3019000067
74) ADDRESS: 671 MYRTLE AVENUE, BBL: 3019000068
75) ADDRESS: MYRTLE AVENUE, BBL: 3019000069
76) ADDRESS: 667 MYRTLE AVENUE, BBL: 3019000070
77) ADDRESS: 913 KENT AVENUE, BBL: 3019120003
78) ADDRESS: 930 BEDFORD AVENUE, BBL: 3019280034
79) ADDRESS: 1062 BEDFORD AVENUE, BBL: 3019540022
80) ADDRESS: 1104 BEDFORD AVENUE, BBL: 3019710028

81) ADDRESS: 894 QUINCY STREET, BBL: 3014790008
82) ADDRESS: 1336 BROADWAY, BBL: 3014790011
83) ADDRESS: 1380 BROADWAY, BBL: 3014800016
84) ADDRESS: 1024 GATES AVENUE, BBL: 3014800017
85) ADDRESS: MONROE STREET, BBL: 3014800023
86) ADDRESS: 1392 BROADWAY, BBL: 3014800034
87) ADDRESS: 1376 BROADWAY, BBL: 3014800036
88) ADDRESS: 1386 BROADWAY, BBL: 3014800038
89) ADDRESS: 1372 BROADWAY, BBL: 3014800040
90) ADDRESS: 1010 GATES AVENUE, BBL: 3014800041
91) ADDRESS: MONROE STREET, BBL: 3014800042
92) ADDRESS: 1008 GATES AVENUE, BBL: 3014800055
93) ADDRESS: 1390 BROADWAY, BBL: 3014800056
94) ADDRESS: 794 BROADWAY, BBL: 3015780017
95) ADDRESS: PARK AVENUE, BBL: 3015790022
96) ADDRESS: 822 BROADWAY, BBL: 3015790025
97) ADDRESS: 33 MARCUS GARVEY BLVD, BBL: 3015800001
98) ADDRESS: 912 BROADWAY, BBL: 3015840039
99) ADDRESS: 1103 MYRTLE AVENUE, BBL: 3015840050
100) ADDRESS: 354 STOCKTON STREET, BBL: 3015840051
101) ADDRESS: 371 VERNON AVENUE, BBL: 3015860003
102) ADDRESS: 1096 MYRTLE AVENUE, BBL: 3015860006
103) ADDRESS: 1080 MYRTLE AVENUE, BBL: 3015860031
104) ADDRESS: 1092 BROADWAY, BBL: 3016000013
105) ADDRESS: 1094 BROADWAY, BBL: 3016000014
106) ADDRESS: MALCOLM X BOULEVARD, BBL: 3016000015
107) ADDRESS: BROADWAY, BBL: 3016080027
108) ADDRESS: 618 KOSCIUSZKO STREET, BBL: 3016080034
109) ADDRESS: 1182 BROADWAY, BBL: 3016130016
110) ADDRESS: 1198 BROADWAY, BBL: 3016130017
111) ADDRESS: 1200 BROADWAY, BBL: 3016130023
112) ADDRESS: 1003 GREENE AVENUE, BBL: 3016180022
113) ADDRESS: 1224 BROADWAY, BBL: 3016180040
114) ADDRESS: 843 LEXINGTON AVENUE, BBL: 3016230041
115) ADDRESS: 1038 GREENE AVENUE, BBL: 3016230042
116) ADDRESS: 853 LEXINGTON AVENUE, BBL: 3016230053
117) ADDRESS: 1266 BROADWAY, BBL: 3016230057
118) ADDRESS: 834 LEXINGTON AVENUE, BBL: 3016280034
119) ADDRESS: 814 LEXINGTON AVENUE, BBL: 3016280038
120) ADDRESS: 842 LEXINGTON AVENUE, BBL: 3016280042
121) ADDRESS: 839 MYRTLE AVENUE, BBL: 3017470034
122) ADDRESS: 924 MYRTLE AVENUE, BBL: 3017560023
123) ADDRESS: 946 MYRTLE AVENUE, BBL: 3017560024
124) ADDRESS: 936 MYRTLE AVENUE, BBL: 3017560025
125) ADDRESS: 1004 MYRTLE AVENUE, BBL: 3017570027
126) ADDRESS: 1010 MYRTLE AVENUE, BBL: 3017570033
127) ADDRESS: 1006 MYRTLE AVENUE, BBL: 3017570034
128) ADDRESS: 994 MYRTLE AVENUE, BBL: 3017570035
129) ADDRESS: 1008 MYRTLE AVENUE, BBL: 3017570134
130) ADDRESS: 605 MARCY AVENUE, BBL: 3017590007
131) ADDRESS: 629 MARCY AVENUE, BBL: 3017710005
132) ADDRESS: 633 MARCY AVENUE, BBL: 3017710007
133) ADDRESS: 631 MARCY AVENUE, BBL: 3017710008

134) ADDRESS: 995 BEDFORD AVENUE, BBL: 3017830008
135) ADDRESS: 993 BEDFORD AVENUE, BBL: 3017830009
136) ADDRESS: 720 LAFAYETTE AVENUE, BBL: 3017910042
137) ADDRESS: LAFAYETTE AVENUE, BBL: 3017910043
138) ADDRESS: THROOP AVENUE, BBL: 3017910044
139) ADDRESS: 762 LAFAYETTE AVENUE, BBL: 3017910045
140) ADDRESS: 69 VAN BUREN STREET, BBL: 3017910047
141) ADDRESS: VAN BUREN STREET, BBL: 3017910048
142) ADDRESS: 718 LAFAYETTE AVENUE, BBL: 3017910051
143) ADDRESS: THROOP AVENUE, BBL: 3017910052
144) ADDRESS: 760 LAFAYETTE AVENUE, BBL: 3017910053
145) ADDRESS: 716 LAFAYETTE AVENUE, BBL: 3017910054
146) ADDRESS: MYRTLE AVENUE, BBL: 3019100023
147) ADDRESS: 588 MYRTLE AVENUE, BBL: 3019100024
148) ADDRESS: 590 MYRTLE AVENUE, BBL: 3019100025
149) ADDRESS: 676 MYRTLE AVENUE, BBL: 3019140022
150) ADDRESS: 473 DE KALB AVENUE, BBL: 3019260001
151) ADDRESS: 475 DE KALB AVENUE, BBL: 3019260074
152) ADDRESS: 471 DE KALB AVENUE, BBL: 3019260075
153) ADDRESS: 469 DE KALB AVENUE, BBL: 3019260076
154) ADDRESS: 467 DE KALB AVENUE, BBL: 3019260077
155) ADDRESS: 465 DE KALB AVENUE, BBL: 3019260078
156) ADDRESS: 973 KENT AVENUE, BBL: 3019260079
157) ADDRESS: 477 DE KALB AVENUE, BBL: 3019260080
158) ADDRESS: 1044 BEDFORD AVENUE, BBL: 3019500030
159) ADDRESS: 488 LAFAYETTE AVENUE, BBL: 3019500031
160) ADDRESS: 1040 BEDFORD AVENUE, BBL: 3019500033

Properties with Architectural significance:

1) ADDRESS: 830 LAFAYETTE AVENUE, BBL: 3016090005, LPC FINDINGS: ELIGIBLE NYC HISTORIC DISTRICT, STATE/NATIONAL REGISTER FINDINGS: ELIGIBLE NR HISTORIC DISTRICT, COMMENTS: Bedford Stuyvesant East Central Area
2) ADDRESS: 920 MYRTLE AVENUE, BBL: 3017560042, LPC FINDINGS: ELIGIBLE NYC HISTORIC DISTRICT, STATE/NATIONAL REGISTER FINDINGS: ELIGIBLE NR HISTORIC DISTRICT, COMMENTS: Traffic Court Area
3) ADDRESS: LAFAYETTE AVENUE, BBL: 3017910017, LPC FINDINGS: ELIGIBLE NYC HISTORIC DISTRICT, STATE/NATIONAL REGISTER FINDINGS: ELIGIBLE NR HISTORIC DISTRICT, COMMENTS: Tompkins Park Area
4) ADDRESS: 67 VAN BUREN STREET, BBL: 3017910018, LPC FINDINGS: ELIGIBLE NYC HISTORIC DISTRICT, STATE/NATIONAL REGISTER FINDINGS: ELIGIBLE NR HISTORIC DISTRICT, COMMENTS: Tompkins Park Area
5) ADDRESS: VAN BUREN STREET, BBL: 3017910019, LPC FINDINGS: ELIGIBLE NYC HISTORIC DISTRICT, STATE/NATIONAL REGISTER FINDINGS: ELIGIBLE NR HISTORIC DISTRICT, COMMENTS: Tompkins Park Area
6) ADDRESS: 881 LEXINGTON AVENUE, BBL: 3016230025, LPC FINDINGS: ELIGIBLE NYC HISTORIC DISTRICT, STATE/NATIONAL REGISTER FINDINGS: ELIGIBLE NR HISTORIC DISTRICT, COMMENTS: Bedford Stuyvesant at Broadway area
7) ADDRESS: 971 BEDFORD AVENUE, BBL: 3017780009, LPC FINDINGS: ELIGIBLE NYC HISTORIC DISTRICT, STATE/NATIONAL REGISTER FINDINGS: ELIGIBLE NR HISTORIC DISTRICT, COMMENTS: St. Peter's Area

LPC review of archaeological sensitivity models and historic maps indicates that on the project site(s) listed below there is potential for the recovery of archaeological resources for the occupation time periods noted. Accordingly, the Commission recommends that an archaeological documentary study be performed for the site(s) to clarify these initial findings and provide the threshold for the next level of review, if such review is necessary (see CEQR Technical Manual 2010).

Properties with Archaeological significance:
1) ADDRESS: 410 KOSCIUSZKO STREET, BBL: 3016050023, TIME PERIOD: 19th c (unspecified)
2) ADDRESS: KOSCIUSKO STREET, BBL: 3016050024, TIME PERIOD: 19th c (unspecified)
3) ADDRESS: 404 KOSCIUSZKO STREET, BBL: 3016050025, TIME PERIOD: 19th c (unspecified)
4) ADDRESS: KOSCIUSKO STREET, BBL: 3016050026, TIME PERIOD: 19th c (unspecified)

Attachment



4/12/2012

SIGNATURE DATE
Gina Santucci, Environmental Review Coordinator

File Name: 27927_FSO_GS_04102012.doc

Appendix D: Air Quality Backup

Air Quality (E) Designations

The heating, ventilation, and air conditioning (HVAC) analysis was performed to determine whether the proposed action would result in any potential significant adverse air quality impacts. The analysis determined that all sites under RWCDS would require (E) designations that would specify the type of fuel to be used. The proposed (E) designations for the applicable projected and potential development sites with respect to HVAC systems are presented below.

Air Quality E-Designations for Development Sites – HVAC Restrictions

The following language specifying these designations would be required:

- Block 1912, Lot 3 (Projected Development Site A): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1900, Lots 67, 68, 69, and 70 (Projected Development Site B): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1928, Lot 34 (Projected Development Site C): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1788, Lots 2,4, and 5 (Projected Development Site D): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1954, Lot 22 (Projected Development Site E): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1754, Lots 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, and 35 (Projected Development Site F): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1747, Lots 7, 10, 19, 20, 21, 22, 23, 24, 51, and 53a (Projected Development Site G): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) are located at least 13 feet from the lot line facing Myrtle Avenue and will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1747, Lots 53b, 62, 64, and 67 (Projected Development Site G): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) are located at least 15 feet from the lot line facing Stockton Street and will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1747, Lot 1 (Projected Development Site G): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air

conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.

- Block 1740, Lot 1 (Projected Development Site H): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1756, Lots 33, 37, and 42 (Projected Development Site I): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1585, Lots 31, 32, and 33 (Projected Development Site J): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1759, Lots 2, 3, and 4 (Projected Development Site K): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1785, Lot 1, 3, and 5 (Projected Development Site L): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1609, Lot 5 (Projected Development Site M): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1971, Lot 28 (Projected Development Site N): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1578, Lot 5 (Projected Development Site O): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1578, Lot 14 (Projected Development Site P): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1579, Lots 50, 51, and 53 (Projected Development Site Q): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1582, Lot 15 (Projected Development Site R): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1584, Lots 1 and 4 (Projected Development Site S): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.

- Block 1584, Lot 11 (Projected Development Site T): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1586, Lots 12, 14, 24, 27, 51, 52, 53, and 56 (Projected Development Site U): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1586, Lots 8, 10, and 11 (Projected Development Site V): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1593, Lot 23 (Projected Development Site W): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1600, Lot 1 and 28 (Projected Development Site X): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1613, Lot 9 (Projected Development Site Y): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1618, Lot 35 (Projected Development Site Z): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1623, Lot 70 and 73 (Projected Development Site AA): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1628, Lots 21, 22, and 23 (Projected Development Site BB): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1628, Lot 30 (Projected Development Site CC): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1605, Lots 23, 24, 25, and 26 (Projected Development Site DD): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1791, Lots 17, 18, and 19 (Projected Development Site EE): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.

- Block 1910, Lots 23, 24, and 25 (Potential Development Site 1): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1914, Lot 22 (Potential Development Site 2): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1926, Lots 1, 77, 78, 79, and 80 (Potential Development Site 3): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1778, Lot 9 (Potential Development Site 5): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1783, Lots 8 and 9 (Potential Development Site 6): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1950, Lots 30, 31, and 33 (Potential Development Site 7): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1747, Lot 34 (Potential Development Site 8): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1756, Lots 23, 24, and 25 (Potential Development Site 9): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1757, Lots 27, 33, 34, 35, and 134 (Potential Development Site 10): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1580, Lot 1 (Potential Development Site 11): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1759, Lot 7 (Potential Development Site 12): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1771, Lot 5, 7, and 8 (Potential Development Site 13): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1578, Lot 17 (Potential Development Site 14): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air

conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.

- Block 1579, Lot 22, 25 (Potential Development Site 15): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1584, Lot 39, 50, and 51 (Potential Development Site 16): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) are located at least 12 feet from the lot line facing Myrtle Avenue and will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 15786, Lot 31 (Potential Development Site 17): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1586, Lot 6 (Potential Development Site 18): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1586, Lot 3 (Potential Development Site 19): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1618, Lot 40 (Potential Development Site 20): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1600, Lot 13, 14, an 15 (Potential Development Site 21): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1608, Lot 27, 34 (Potential Development Site 22): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1613, Lot 16, 17, and 23 (Potential Development Site 23): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1618, Lot 22 (Potential Development Site 24): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1623, Lot 25 (Potential Development Site 25): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1623, Lot 41, 42, and 53 (Potential Development Site 26): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating

and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.

- Block 1623, Lot 57 (Potential Development Site 27): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1628, Lot 34, 38, and 42 (Potential Development Site 28): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1479, Lot 8, 11 (Potential Development Site 29): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1480, Lot 16, 17 (Potential Development Site 30): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1480, Lot 23, 55, and 56 (Potential Development Site 31): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) are located at least 12 feet from the lot line facing Gates Avenue and will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1480, Lots 34, 36, 38, 40, 41, and 42 (Potential Development Site 32): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.
- Block 1791, Lots 42, 43, 44, 45, 47, 48, 51, 52, 53, and 54 (Potential Development Site 33): Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) will use exclusively natural gas as the type of fuel for space heating and hot water (HVAC) systems to avoid any potential significant adverse air quality impacts.

Appendix E: Noise

Appendix E: Noise E-Designations

As described in Chapter P, "Noise," a number of projected and potential development sites require noise attenuation to avoid impacts from ambient noise. To avoid these impacts, an E-designation would be mapped on these sites as part of the proposed zoning.

There are four levels of required noise attenuation depending upon the ambient noise levels, two are 28 dBA and 31 dBA. Due to higher ambient noise levels on the ground floors, some sites require higher noise attenuation on the street level. Where this is necessary, 41 dBA and 37 dBA would be required for sites on the ground floors below the elevated train and 38 dBA and 34 dBA would be required above the elevated train. The projected and potential development sites where the the below level of noise attenuation would be required are presented in Tables F-1 (projected sites) and F-2 (potential sites).

The text for the E-designation for sites requiring 28 dBA is as follows:

> **"To ensure an acceptable interior noise environment, future residential/commercial uses must provide a closed window condition with a minimum of 28 dBA window/wall attenuation on all façades to maintain an interior noise level of 45 dBA. To maintain a closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to central air conditioning."**

For sites requiring 31 dBA noise attenuation, the following E-designation noise text would apply:

> **"To ensure an acceptable interior noise environment, future residential/commercial uses must provide a closed window condition with a minimum of 31 dBA window/wall attenuation on all façades to maintain an interior noise level of 45 dBA. To maintain a closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, central air conditioning."**

For sites requiring 37/34 dBA noise attenuation, the following E-designation noise text would apply:

"To ensure an acceptable interior noise environment, future residential/commercial uses must provide a closed window condition with a minimum of 37 dBA window/wall attenuation on all façades below the elevated train and 34 dBA above the elevated train to maintain an interior noise level of 45 dBA. To maintain a closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, central air conditioning."

For sites requiring 41/38 dBA noise attenuation, the following E-designation noise text would apply:

> **"To ensure an acceptable interior noise environment, future residential/commercial uses must provide a closed window condition with a minimum of 41 dBA window/wall attenuation on all façades below the elevated train and 38 dBA above the elevated train to maintain an interior noise level of 45 dBA. To achieve 41 dBA of building attenuation, special design features that go beyond the normal double-glazed windows are necessary and may include using specially designed windows (i.e., windows with small sizes, windows with air gaps, windows with thicker glazing, etc.), and additional building attenuation. To maintain a closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, central air conditioning."**

With the attenuation measures specified above, the proposed actions would not result in any significant adverse noise impacts, and would meet CEQR guidelines.

The E-designations for these sites affected by ambient noise are presented in Tables F-1 and F-2.

R1AM

	Start time	End time	Elapsed time	LAeq [dB]	LASMax [dB]	LASMin [dB]	LAF1 [dB]	LAF10 [dB]	LAF50 [dB]	LAF90 [dB]	LAeq 31.5Hz [dB]	LAeq 63Hz [dB]	LAeq 125Hz [dB]	LAeq 250Hz [dB]	LAeq 500Hz [dB]	LAeq 1kHz [dB]	LAeq 2kHz [dB]	LAeq 4kHz [dB]	LAeq 8kHz [dB]	LAeq 16kHz [dB]
Value				68.0	86.9	50.3	78.8	70.8	62.8	53.3	---	40.5	45.9	52.6	56.1	58.7	55.6	53.6	52.3	45.9
Time	09:04:20 AM	09:24:20 AM	0:20:00																	
Date	03/20/12	03/20/12																		

R1MD

	Start time	End time	Elapsed time	LAeq [dB]	LASMax [dB]	LASMin [dB]	LAF1 [dB]	LAF10 [dB]	LAF50 [dB]	LAF90 [dB]	LAeq 31.5Hz [dB]	LAeq 63Hz [dB]	LAeq 125Hz [dB]	LAeq 250Hz [dB]	LAeq 500Hz [dB]	LAeq 1kHz [dB]	LAeq 2kHz [dB]	LAeq 4kHz [dB]	LAeq 8kHz [dB]	LAeq 16kHz [dB]
Value				68.4	86.0	48.2	78.4	71.2	64.5	55.1	---	41.4	46.8	55.3	56.7	59.2	56.3	51.5	45.0	43.8
Time	11:40:42 AM	12:00:42 PM	0:20:00																	
Date	03/20/12	03/20/12																		

R1PM

	Start time	End time	Elapsed time	LAeq [dB]	LASMax [dB]	LASMin [dB]	LAF1 [dB]	LAF10 [dB]	LAF50 [dB]	LAF90 [dB]	LAeq 31.5Hz [dB]	LAeq 63Hz [dB]	LAeq 125Hz [dB]	LAeq 250Hz [dB]	LAeq 500Hz [dB]	LAeq 1kHz [dB]	LAeq 2kHz [dB]	LAeq 4kHz [dB]	LAeq 8kHz [dB]	LAeq 16kHz [dB]
Value				69.7	95.5	53.4	78.9	69.6	62.2	56.2	---	44.0	48.7	57.7	59.5	59.1	55.3	50.2	43.6	38.4
Time	04:33:33 PM	04:53:33 PM	0:20:00																	
Date	03/20/12	03/20/12																		

R2AM

	Start time	End time	Elapsed time	LAeq [dB]	LASMax [dB]	LASMin [dB]	LAF1 [dB]	LAF10 [dB]	LAF50 [dB]	LAF90 [dB]	LAeq 31.5Hz [dB]	LAeq 63Hz [dB]	LAeq 125Hz [dB]	LAeq 250Hz [dB]	LAeq 500Hz [dB]	LAeq 1kHz [dB]	LAeq 2kHz [dB]	LAeq 4kHz [dB]	LAeq 8kHz [dB]	LAeq 16kHz [dB]
Value				69.7	84.9	53.3	78.7	72.8	67.1	61.0	---	45.4	49.1	53.7	58.2	60.1	58.0	54.4	50.1	36.2
Time	07:57:48 AM	08:31:54 AM	0:21:00																	
Date	03/20/12	03/20/12																		

R2MD

	Start time	End time	Elapsed time	LAeq [dB]	LASMax [dB]	LASMin [dB]	LAF1 [dB]	LAF10 [dB]	LAF50 [dB]	LAF90 [dB]	LAeq 31.5Hz [dB]	LAeq 63Hz [dB]	LAeq 125Hz [dB]	LAeq 250Hz [dB]	LAeq 500Hz [dB]	LAeq 1kHz [dB]	LAeq 2kHz [dB]	LAeq 4kHz [dB]	LAeq 8kHz [dB]	LAeq 16kHz [dB]
Value				70.7	86.6	55.0	81.5	73.0	67.2	61.1	---	46.6	50.7	55.2	59.1	62.0	58.7	55.3	48.9	40.3
Time	11:07:40 AM	11:27:40 AM	0:20:00																	
Date	03/20/12	03/20/12																		

R2PM

	Start time	End time	Elapsed time	LAeq [dB]	LASMax [dB]	LASMin [dB]	LAF1 [dB]	LAF10 [dB]	LAF50 [dB]	LAF90 [dB]	LAeq 31.5Hz [dB]	LAeq 63Hz [dB]	LAeq 125Hz [dB]	LAeq 250Hz [dB]	LAeq 500Hz [dB]	LAeq 1kHz [dB]	LAeq 2kHz [dB]	LAeq 4kHz [dB]	LAeq 8kHz [dB]	LAeq 16kHz [dB]
Value				68.7	85.4	54.6	78.7	70.9	65.6	59.2	---	46.8	52.7	55.3	57.0	58.4	56.0	53.5	49.3	38.4
Time	04:01:36 PM	04:22:17 PM	0:20:00																	
Date	03/20/12	03/20/12																		

R3AM

	Start time	End time	Elapsed time	LAeq [dB]	LASMax [dB]	LASMin [dB]	LAF1 [dB]	LAF10 [dB]	LAF50 [dB]	LAF90 [dB]	LAeq 31.5Hz [dB]	LAeq 63Hz [dB]	LAeq 125Hz [dB]	LAeq 250Hz [dB]	LAeq 500Hz [dB]	LAeq 1kHz [dB]	LAeq 2kHz [dB]	LAeq 4kHz [dB]	LAeq 8kHz [dB]	LAeq 16kHz [dB]
Value				80.8	93.1	69.1	89.6	84.6	77.6	72.9	40.8	56.9	60.9	65.0	69.8	70.7	68.9	65.0	58.4	51.8
Time	08:40:19 AM	09:10:50 AM	0:30:00																	
Date	03/22/12	03/22/12																		

R3MD

	Start time	End time	Elapsed time	LAeq [dB]	LASMax [dB]	LASMin [dB]	LAF1 [dB]	LAF10 [dB]	LAF50 [dB]	LAF90 [dB]	LAeq 31.5Hz [dB]	LAeq 63Hz [dB]	LAeq 125Hz [dB]	LAeq 250Hz [dB]	LAeq 500Hz [dB]	LAeq 1kHz [dB]	LAeq 2kHz [dB]	LAeq 4kHz [dB]	LAeq 8kHz [dB]	LAeq 16kHz [dB]
Value				79.0	93.1	65.2	87.4	82.8	76.0	71.4	39.5	52.6	56.8	62.8	68.7	68.9	67.2	63.5	55.1	43.5
Time	11:03:12 AM	11:33:36 AM	0:30:00																	
Date	03/22/12	03/22/12																		

R3PM

	Start time	End time	Elapsed time	LAeq [dB]	LASMax [dB]	LASMin [dB]	LAF1 [dB]	LAF10 [dB]	LAF50 [dB]	LAF90 [dB]	LAeq 31.5Hz [dB]	LAeq 63Hz [dB]	LAeq 125Hz [dB]	LAeq 250Hz [dB]	LAeq 500Hz [dB]	LAeq 1kHz [dB]	LAeq 2kHz [dB]	LAeq 4kHz [dB]	LAeq 8kHz [dB]	LAeq 16kHz [dB]
Value				80.4	100.6	68.4	88.5	83.5	76.8	71.9	39.7	53.5	63.4	67.0	69.4	70.0	67.7	63.7	57.2	48.3
Time	04:05:27 PM	04:35:27 PM	0:30:00																	
Date	03/22/12	03/22/12																		

R4AM

	Start time	End time	Elapsed time	LAeq [dB]	LASMax [dB]	LASMin [dB]	LAF1 [dB]	LAF10 [dB]	LAF50 [dB]	LAF90 [dB]	LAeq 31.5Hz [dB]	LAeq 63Hz [dB]	LAeq 125Hz [dB]	LAeq 250Hz [dB]	LAeq 500Hz [dB]	LAeq 1kHz [dB]	LAeq 2kHz [dB]	LAeq 4kHz [dB]	LAeq 8kHz [dB]	LAeq 16kHz [dB]
Value				63.5	77.1	51.5	73.3	66.2	60.6	55.6	---	44.4	45.0	46.5	50.5	54.0	52.4	48.1	50.2	35.1
Time	08:50:05 AM	09:12:25 AM	0:20:01																	
Date	03/21/12	03/21/12																		

R4MD

	Start time	End time	Elapsed time	LAeq [dB]	LASMax [dB]	LASMin [dB]	LAF1 [dB]	LAF10 [dB]	LAF50 [dB]	LAF90 [dB]	LAeq 31.5Hz [dB]	LAeq 63Hz [dB]	LAeq 125Hz [dB]	LAeq 250Hz [dB]	LAeq 500Hz [dB]	LAeq 1kHz [dB]	LAeq 2kHz [dB]	LAeq 4kHz [dB]	LAeq 8kHz [dB]	LAeq 16kHz [dB]
Value				65.4	82.9	49.9	76.6	67.7	59.9	53.9	---	47.4	49.5	48.8	53.6	54.9	54.3	49.2	42.5	42.9
Time	11:54:15 AM	12:15:39 PM	0:21:24																	
Date	03/21/12	03/21/12																		

R4PM

	Start time	End time	Elapsed time	LAeq [dB]	LASMax [dB]	LASMin [dB]	LAF1 [dB]	LAF10 [dB]	LAF50 [dB]	LAF90 [dB]	LAeq 31.5Hz [dB]	LAeq 63Hz [dB]	LAeq 125Hz [dB]	LAeq 250Hz [dB]	LAeq 500Hz [dB]	LAeq 1kHz [dB]	LAeq 2kHz [dB]	LAeq 4kHz [dB]	LAeq 8kHz [dB]	LAeq 16kHz [dB]
Value				65.6	83.0	53.1	74.9	68.2	61.7	55.6	---	41.8	49.3	51.8	56.7	54.6	52.0	48.0	41.2	36.9
Time	04:56:59 PM	05:17:41 PM	0:20:20																	
Date	03/21/12	03/21/12																		

R5AM

	Start time	End time	Elapsed time	LAeq [dB]	LASMax [dB]	LASMin [dB]	LAF1 [dB]	LAF10 [dB]	LAF50 [dB]	LAF90 [dB]	LAeq 31.5Hz [dB]	LAeq 63Hz [dB]	LAeq 125Hz [dB]	LAeq 250Hz [dB]	LAeq 500Hz [dB]	LAeq 1kHz [dB]	LAeq 2kHz [dB]	LAeq 4kHz [dB]	LAeq 8kHz [dB]	LAeq 16kHz [dB]
Value				81.1	96.6	56.7	95.2	79.8	70.7	64.6	36.3	54.5	58.1	67.0	72.4	69.5	67.6	63.7	57.1	50.3
Time	08:06:01 AM	08:38:26 AM	0:30:00																	
Date	03/27/12	03/27/12																		

R5MD

	Start time	End time	Elapsed time	LAeq [dB]	LASMax [dB]	LASMin [dB]	LAF1 [dB]	LAF10 [dB]	LAF50 [dB]	LAF90 [dB]	LAeq 31.5Hz [dB]	LAeq 63Hz [dB]	LAeq 125Hz [dB]	LAeq 250Hz [dB]	LAeq 500Hz [dB]	LAeq 1kHz [dB]	LAeq 2kHz [dB]	LAeq 4kHz [dB]	LAeq 8kHz [dB]	LAeq 16kHz [dB]
Value				77.9	94.6	63.9	90.2	79.3	73.4	67.1	34.9	52.3	57.2	63.7	68.4	67.0	65.5	61.2	53.8	56.3
Time	10:57:30 AM	11:48:05 AM	0:30:00																	
Date	03/21/12	03/21/12																		

R5PM

	Start time	End time	Elapsed time	LAeq [dB]	LASMax [dB]	LASMin [dB]	LAF1 [dB]	LAF10 [dB]	LAF50 [dB]	LAF90 [dB]	LAeq 31.5Hz [dB]	LAeq 63Hz [dB]	LAeq 125Hz [dB]	LAeq 250Hz [dB]	LAeq 500Hz [dB]	LAeq 1kHz [dB]	LAeq 2kHz [dB]	LAeq 4kHz [dB]	LAeq 8kHz [dB]	LAeq 16kHz [dB]
Value				81.3	96.9	58.4	95.4	79.1	68.7	62.6	33.6	52.4	58.7	66.6	72.3	70.1	69.0	64.8	55.7	45.9
Time	04:18:31 PM	04:48:44 PM	0:30:00																	
Date	03/21/12	03/21/12																		

R6AM

	Start time	End time	Elapsed time	LAeq [dB]	LASMax [dB]	LASMin [dB]	LAF1 [dB]	LAF10 [dB]	LAF50 [dB]	LAF90 [dB]	LAeq 31.5Hz [dB]	LAeq 63Hz [dB]	LAeq 125Hz [dB]	LAeq 250Hz [dB]	LAeq 500Hz [dB]	LAeq 1kHz [dB]	LAeq 2kHz [dB]	LAeq 4kHz [dB]	LAeq 8kHz [dB]	LAeq 16kHz [dB]
Value				74.8	86.9	60.3	85.5	78.5	69.3	63.5	39.4	55.2	57.4	60.0	64.5	63.9	63.7	58.7	51.0	37.6
Time	08:14:22 AM	08:44:22 AM	0:30:00																	
Date	03/22/12	03/22/12																		

R6MD

	Start time	End time	Elapsed time	LAeq [dB]	LASMax [dB]	LASMin [dB]	LAF1 [dB]	LAF10 [dB]	LAF50 [dB]	LAF90 [dB]	LAeq 31.5Hz [dB]	LAeq 63Hz [dB]	LAeq 125Hz [dB]	LAeq 250Hz [dB]	LAeq 500Hz [dB]	LAeq 1kHz [dB]	LAeq 2kHz [dB]	LAeq 4kHz [dB]	LAeq 8kHz [dB]	LAeq 16kHz [dB]
Value				73.9	91.9	58.7	84.1	78.0	68.2	63.4	40.2	53.2	55.2	58.7	63.1	62.6	62.6	57.2	49.6	36.3
Time	11:38:03 AM	12:13:13 PM	0:30:00																	
Date	03/22/12	03/22/12																		

R6PM

	Start time	End time	Elapsed time	LAeq [dB]	LASMax [dB]	LASMin [dB]	LAF1 [dB]	LAF10 [dB]	LAF50 [dB]	LAF90 [dB]	LAeq 31.5Hz [dB]	LAeq 63Hz [dB]	LAeq 125Hz [dB]	LAeq 250Hz [dB]	LAeq 500Hz [dB]	LAeq 1kHz [dB]	LAeq 2kHz [dB]	LAeq 4kHz [dB]	LAeq 8kHz [dB]	LAeq 16kHz [dB]
Value				74.6	86.4	62.0	83.5	78.3	71.5	65.7	40.5	54.4	55.9	59.9	64.2	64.2	63.9	58.7	49.6	36.6
Time	04:39:01 PM	05:09:50 PM	0:30:00																	
Date	03/22/12	03/22/12																		

Brinckerhoff Computation Sheet

Page ____ of ____

Made by Ronald Ying

Date 3/20/2012

Checked by ____

Date ____

Subject Noise Monitoring –

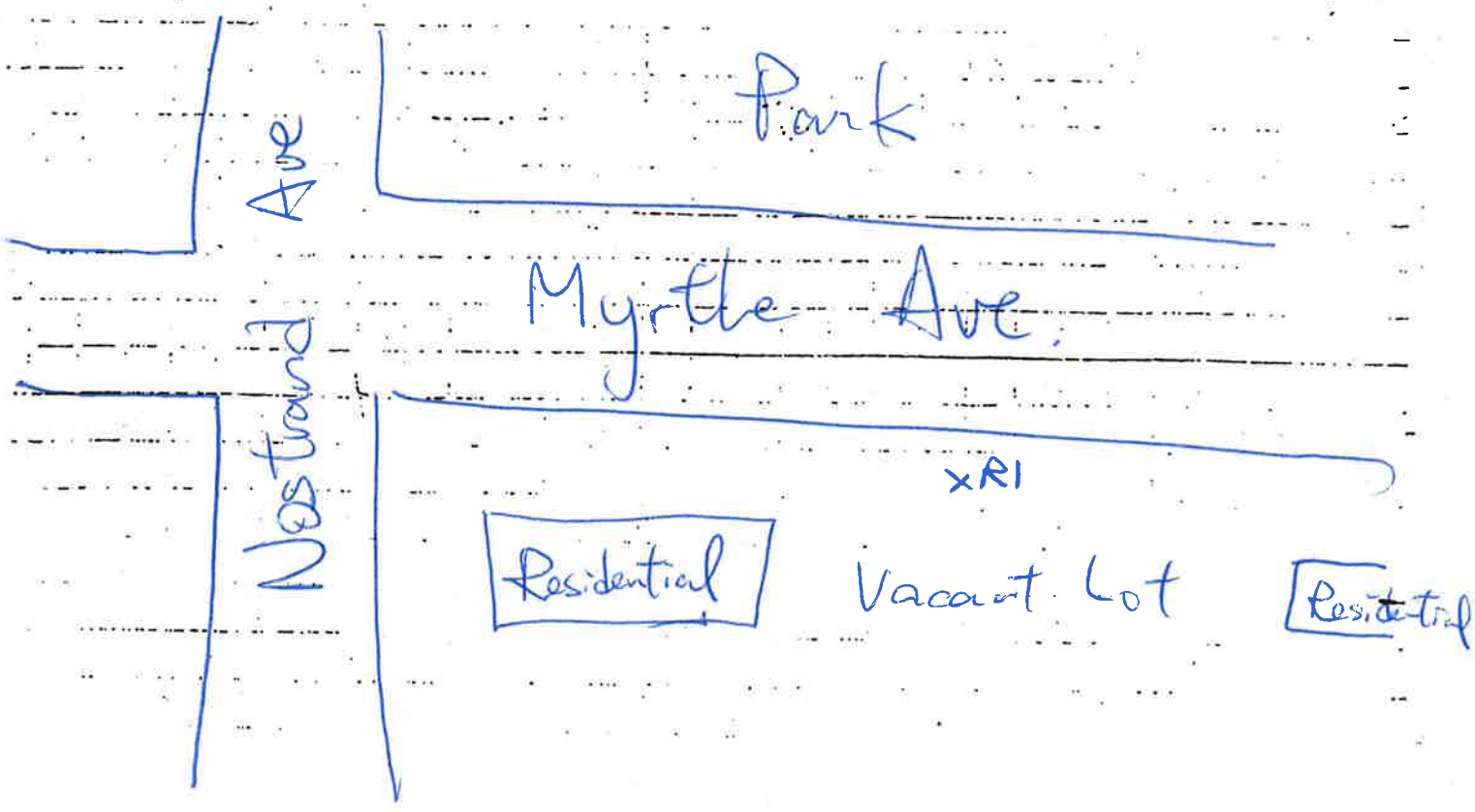
Receptor 1: Vacant lot between 774 & 890 Myrtle Ave.

Weather:

Date →	3/20	3/20	3/20	
Time →	9:04am	11:40am	4:33pm	
LEQ	68.0	68.4	69.7	
SEL				
L99				
L90	53.3	55.1	61.0	
L50	62.8	64.5	67.1	
L10	70.8	71.2	72.8	
L1	78.8	78.4	78.7	
INST				
MINL	50.3	48.2	53.3	
MAXL	86.9	86.0	84.9	
MAXF				
PEAK				
SPL	94.0	94.0	94.0	

TRAFFIC VOLUMES

ROADWAY	AUTO	LT	HT	BUS



Brinckerhoff Computation Sheet

Page ____ of ____

Made by Ronald Ying

Date 3/20/2012

Checked by ____

Date ____

Subject Noise Monitoring –

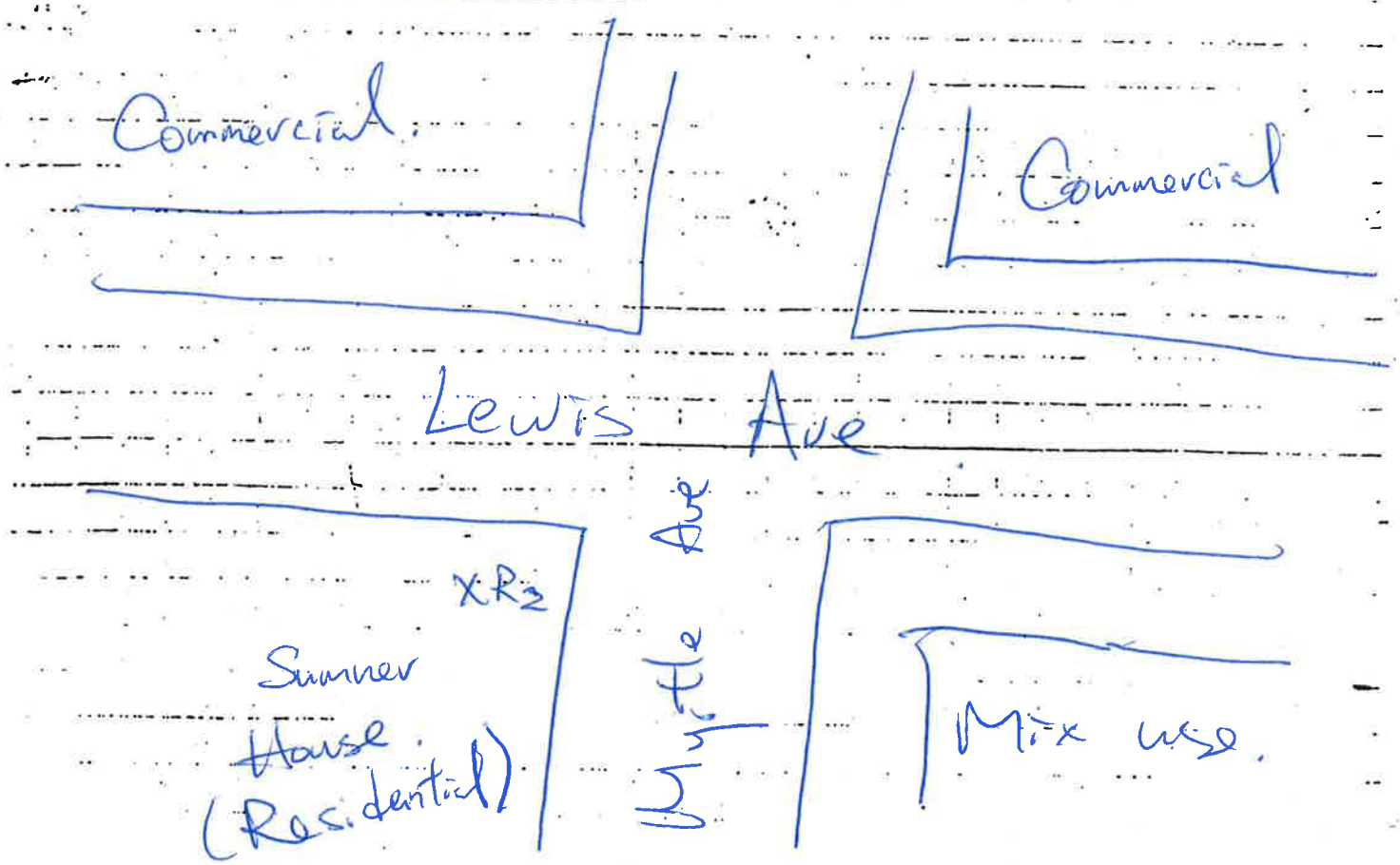
Receptor 2 Summer House : NW Corner Myrtle & Lewis Av.

Weather:

Date →	3/20	3/20	3/20	
Time →	7:57am	11:01am	4:30pm	
LEQ	69.7	70.7	68.7	
SEL				
L99				
L90	61.0	61.1	59.2	
L50	67.1	67.2	65.6	
L10	72.8	73.0	70.9	
L1	78.7	81.5	78.7	
INST				
MINL	53.3	55.0	54.6	
MAXL	84.9	86.6	85.4	
MAXF				
PEAK				
SPL	94.0	94.0	94.0	

TRAFFIC VOLUMES

ROADWAY	AUTO	LT	HT	BUS



Parsons Brinckerhoff Computation Sheet

Page ____ of ____

Made by Ronald Ying

Date 3/22/12

Checked by ____

Date ____

Subject Noise Monitoring -

Receptor 3 943B Broadway

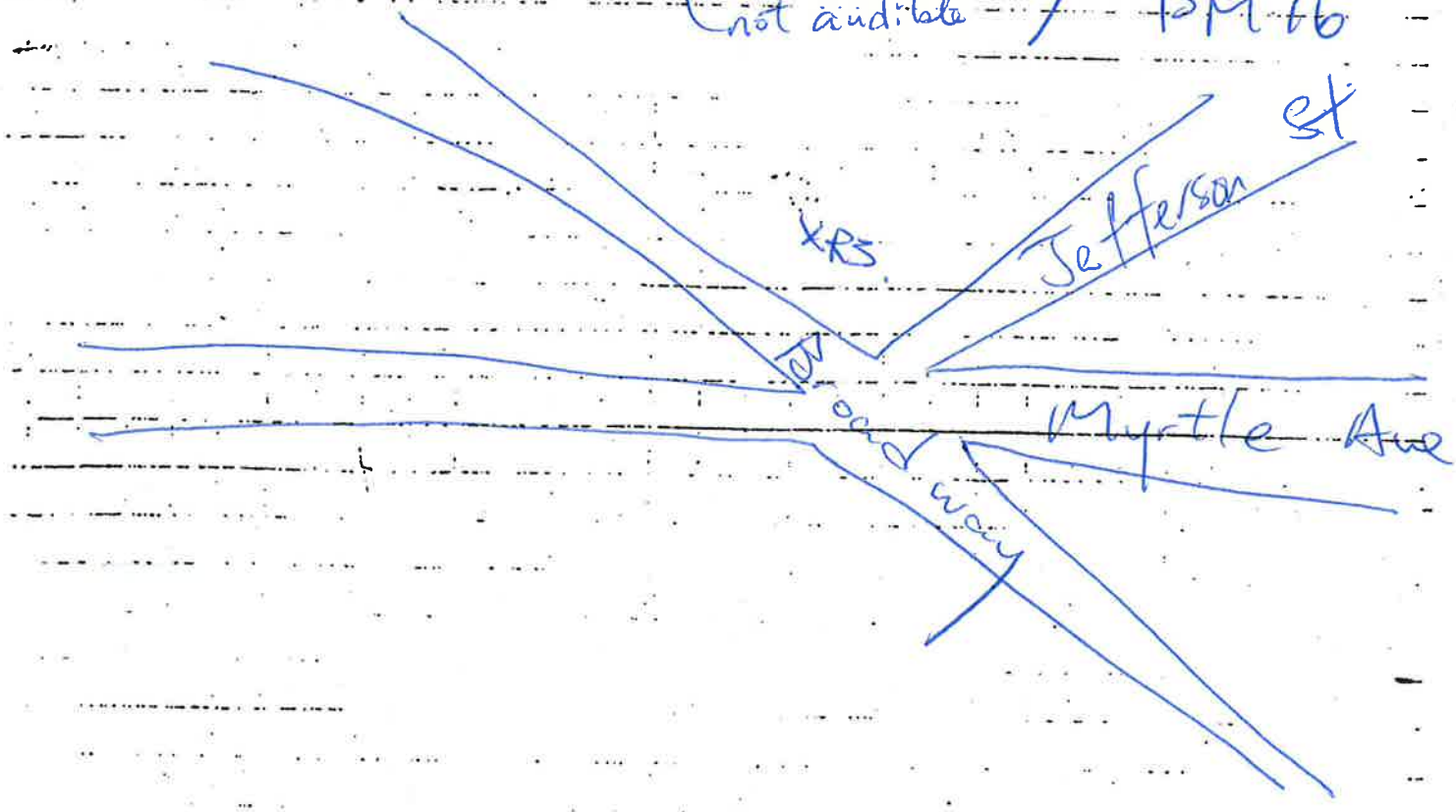
Weather:

Date →	3/22	3/22	3/22	
Time →	8:40am	11:03am	4:05pm	
LEQ	80.8	79.0	80.4	
SEL				
L99				
L90	72.9	71.4	71.9	
L50	77.6	76.0	76.8	
L10	84.6	82.8	83.5	
L1	89.6	87.4	88.5	
INST				
MINL	69.1	65.2	68.4	
MAXL	93.1	93.1	100.6	
MAXF				
PEAK				
SPL	94.0	94.0	94.0	

TRAFFIC VOLUMES

ROADWAY	AUTO	LT	HT	BUS

Train count: AM 14
MD 17
PM 16
(some trains are not audible)



Brinckerhoff Computation Sheet

Page ____ of ____

Made by ____

Date ____

Checked by ____

Date ____

Subject Noise Monitoring -

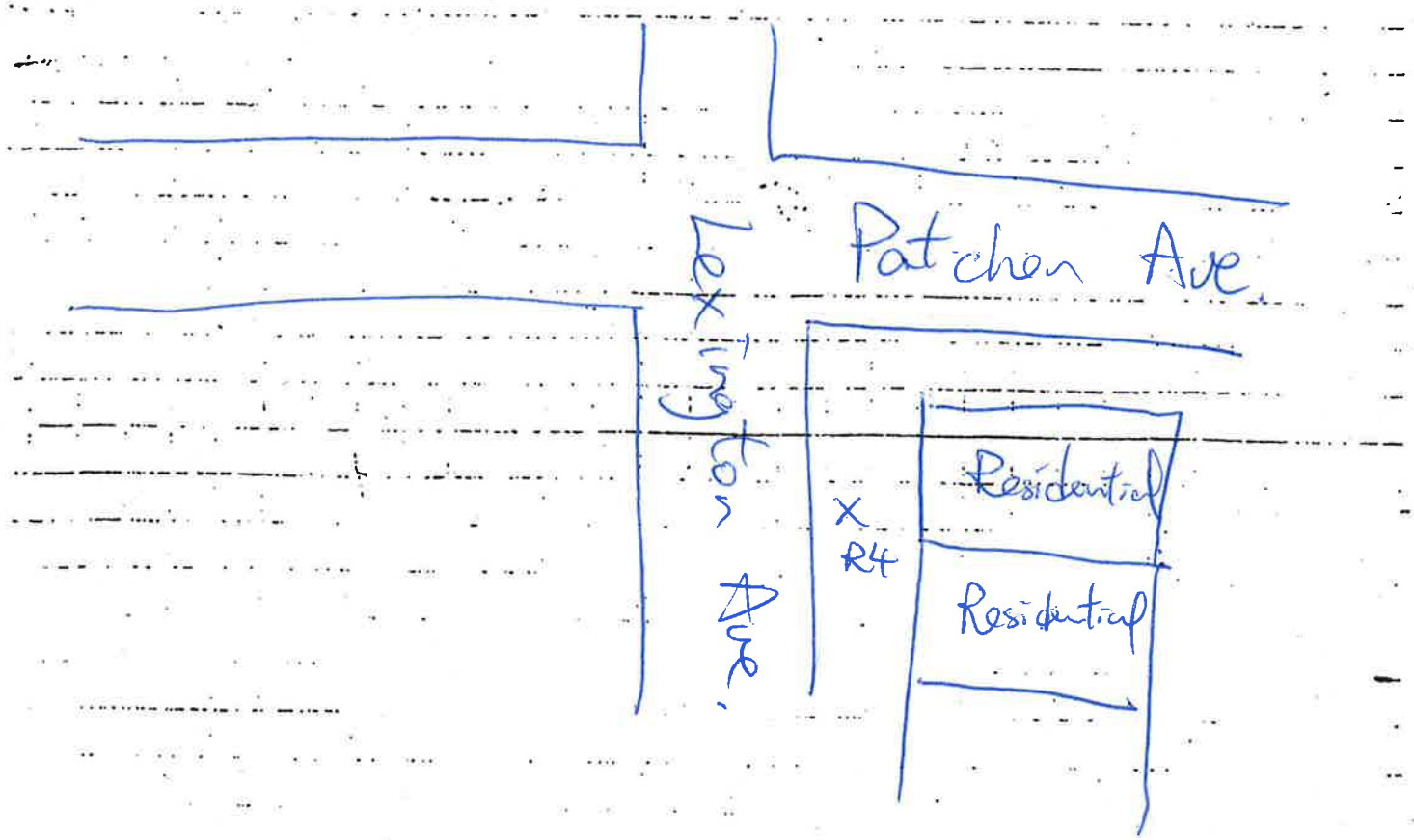
Receptor 4. 61 Patchen Ave.

Weather:

	~~3/21~~			
Date →	~~3/5~~ 3/24	3/24	3/21	
Time →	8:50 am	11:54 am	4:56 pm	
LEQ	63.5	65.4	65.6	
SEL				
L99				
L90	55.6	53.6	55.6	
L50	60.6	59.9	61.7	
L10	66.2	67.7	68.2	
L1	73.3	76.6	74.9	
INST				
MINL	51.5	49.9	53.1	
MAXL	77.1	82.9	83.0	
MAXF				
PEAK				
SPL	94.0	94.0	94.0	

TRAFFIC VOLUMES

ROADWAY	AUTO	LT	MT	BUS



Brinckerhoff Computation Sheet

Page ____ of ____

Made by ____

Date ____

Checked by ____

Date ____

Subject Noise Monitoring -

Receptor 5. West corner of Broadway & Lexington

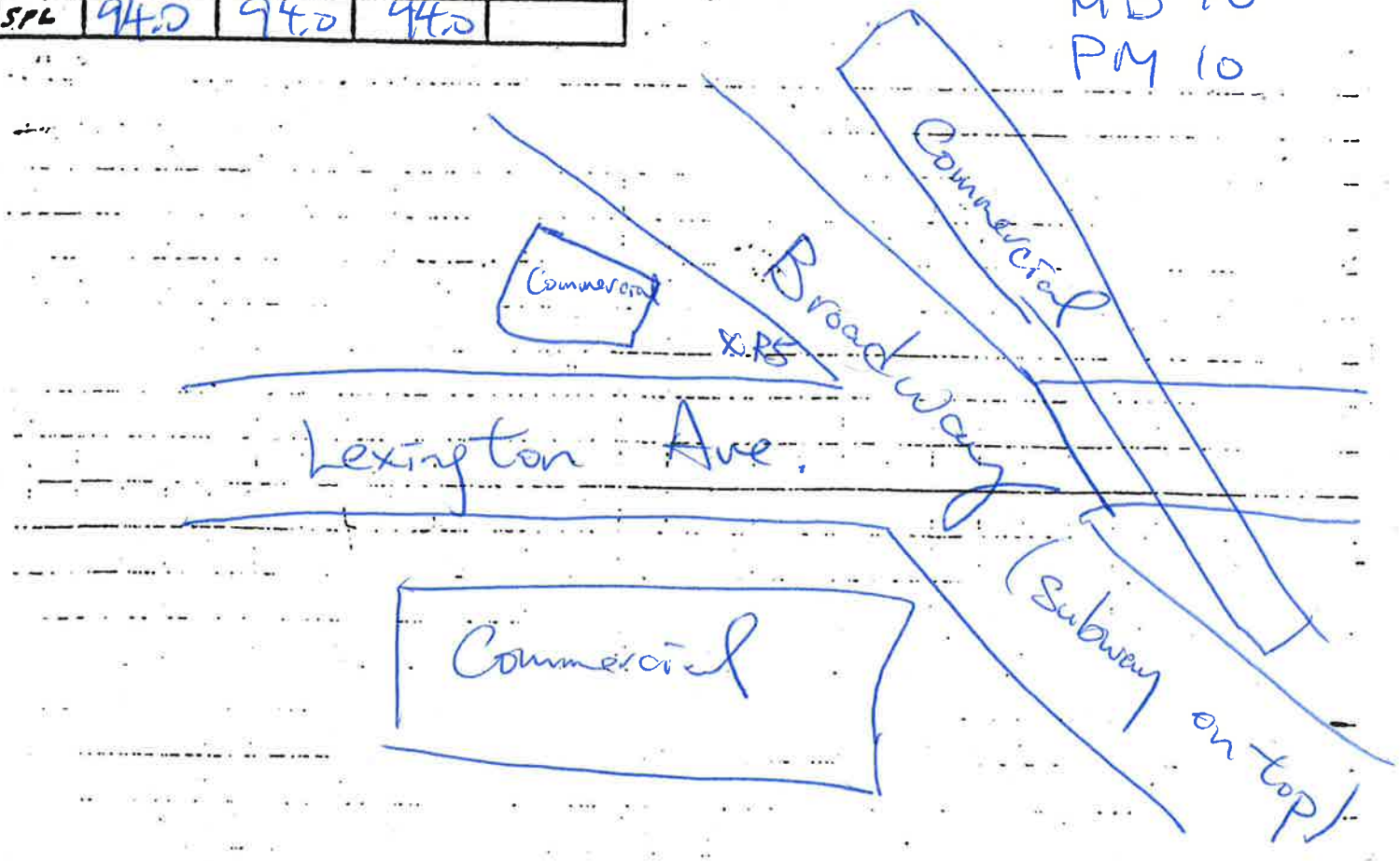
Weather:

Date →	3/27	3/21	3/21	
Time →	8:06am	11:00 am	4:18pm	
LEQ	81.1	77.9	81.3	
SEL				
L99				
L90	64.6	67.1	62.6	
L50	70.7	73.4	68.7	
L10	79.8	79.3	79.1	
L1	95.2	90.2	95.4	
INST				
MINL	56.7	63.9	58.4	
MAXL	96.6	94.6	96.9	
MAXF				
PEAK				
SPL	94.0	94.0	94.0	

TRAFFIC VOLUMES

ROADWAY	AUTO	LT	HT	BUS

Train count: AM 9
MD 10
PM 10



Parsons Brinckerhoff Computation Sheet

Page ____ of ____

Made by Ronald Tse

Date 3/22/12

Checked by ____

Date ____

Subject Noise Monitoring -

Receptor 6 Myrtle Ave Station (5,M,2)

Weather:

Date →	3/22	3/22	3/22	
Time →	8:14am	11:38am	4:39pm	
LEQ	74.8	73.9	74.6	
SEL				
L99				
L90	63.5	63.4	65.7	
L50	69.3	68.2	71.5	
L10	78.5	78.0	78.3	
L1	85.5	84.1	83.5	
INST				
MINL	60.3	58.7	62	
MAXL	86.9	91.9	86.4	
MAXF				
PEAK				
SPL	94.0	94.0	94.0	

TRAFFIC VOLUMES

ROADWAY	AUTO	LT	HT	BUS

Train Count:

AM: 20 PM: 23

MD: 16

Residential

track

R6

Queens Platform

Manhattan Platform

Table E-1 Windows Attenuation for Projected Site							
Site	**Block**	**Lot**	**Proposed Zoning**	**Projected Use**	**Projected Building Height**	**Governing Site**	**Recommended Windows Attenuation**
A	1912	3	C2-4/R7A IZ	Mix Use	80	1	28
B	1900	67	C2-4/R7A IZ	Mix Use	80	1	28
	1900	68	C2-4/R7A IZ	Mix Use	80	1	28
	1900	69					
	1900	70					
C	1928	34	C2-4/R7A IZ	Mix Use	80	1	28
			C2-4/R7A IZ	Mix Use	80	1	28
			R6B	Residential	50	1	28
D	1788	2	C2-4/R7A IZ	Mix Use	80	1	28
	1788	4					
	1788	5					
E	1954	22	C2-4/R7A IZ	Mix Use	80	1	28
F	1754	24	C2-4/R7D IZ	Mix Use	100	1	28
	1754	25					
	1754	26					
	1754	27					
	1754	28					
	1754	29					
	1754	30					
	1754	31					
	1754	32					
	1754	33					
	1754	34					
	1754	35					
G	1747	7	R6A	Residential	70	1	28
	1747	10					
	1747	19					
	1747	20					
	1747	21					
	1747	22					
	1747	23					
	1747	24					
	1747	51					
	1747	53A					
	1747	*53B*	C2-4/R7D IZ	Mix Use	100	1	28
	1747	62					
	1747	64					
	1747	67					
	1747	1	C2-4/R7D IZ	Mix Use	100	1	28
H	1740	1	C2-4/R6	Mix Use	120	1	28
I	1756	33	C2-4/R7D IZ	Mix Use	115	1	28
	1756	37					
	1756	42	C2-4/R6A	Mix Use	70	1	28
J	1585	31	C2-4/R7D IZ	Mix Use	100	2	31
	1585	32					
	1585	33					
	1785	3					
	1785	5					
M	1609	5	C2-4/R6A	Mix Use	70	1	28

Table E-1 Windows Attenuation for Projected Site							
Site	**Block**	**Lot**	**Proposed Zoning**	**Projected Use**	**Projected Building Height**	**Governing Site**	**Recommended Windows Attenuation**
N	1971	28	C2-4/R7A IZ	Mix Use	80	1	28
O	1578	5	C4-4AL IZ	Commercial	100	3	41/38
P	1578	14	C4-4AL IZ	Commercial	100	3	41/38
Q	1579	50	C4-4AL IZ	Commercial	80	2	31
	1579	51					
R	1582	15	C4-4AL IZ	Commercial	100	3	41/38
S	1584	1	C4-4AL IZ	Commercial	80	2	31
	1584	4					
T	1584	11	C4-4AL IZ	Commercial	100	3	41/38
			C4-4AL IZ	Commercial	100	3	41/38
U	1586	12	C4-4AL IZ	Commercial	80	3	41/38
	1586	14	C4-4AL IZ	Commercial	80	3	41/38
	1586	24	C4-4AL IZ	Commercial	80	3	41/38
	1586	27					
	1586	51	R6B	Residential	50	3	41/38
	1586	52					
	1586	53					
	1586	56					
V	1586	8	C4-4AL IZ	Commercial	80	2	31
	1586	10					
	1586	11					
W	1593	23	C4-4AL IZ	Commercial	100	3	41/38
X	1600	1	C4-4AL IZ	Commercial	100	2	31
	1600	28					
Y	1613	9	C4-4AL IZ	Commercial	100	5	37/34
Z	1618	35	C4-4AL IZ	Commercial	80	2	31
			C4-4AL IZ	Commercial	80	2	31
AA	1623	73	C2-4/R6A	Mix Use	70	2	31
	1623	70					
BB	1628	21	C2-4/R6A	Mix Use	70	2	31
	1628	22					
	1628	23					
CC	1628	30	C2-4/R6A	Mix Use	70	2	31
	1791	19					

Table E-2 Windows Attenuation for Potential Site

Current Site #	Block	Lot	Prop. Zoning	Projected Use	Projected Building Height	Governing Site	Recommended Window Attenuation
1	1910	23	C2-4/R7A IZ	Mix Use	80	1	28
	1910	24					
	1910	25					
2	1914	22	C2-4/R7A IZ	Mix Use	80	1	28
3	1926	1	C2-4/R7A IZ	Mix Use	80	1	28
	1926	77					
	1926	78					
	1926	79					
	1926	80					
4	1926	74	C2-4/R7A IZ	Mix Use	80	1	28
	1926	75					
	1926	76					
5	1778	9	C2-4/R7A IZ	Mix Use	80	1	28
6	1783	8	C2-4/R7A IZ	Mix Use	80	1	28
	1783	9					
7	1950	30	C2-4/R7A IZ	Mix Use	80	1	28
	1950	31					
	1950	33					
8	1747	34	C2-4/R7D IZ	Mix Use	100	1	28
9	1756	23	C2-4/R7D IZ	Mix Use	100	1	28
	1756	24					
	1756	25					
10	1757	27	C2-4/R7D IZ	Mix Use	100	2	31
	1757	33					
	1757	34					
	1757	134					
	1757	35					
11	1580	1	C2-4/R7D IZ	Mix Use	110	2	31
14	1578	17	C4-4A IZ	Commercial	100	3	41/38
15	1579	22	C4-4A IZ	Commercial	100	3	41/38
	1579	25					
16	1584	39	C4-4A IZ	Commercial	80	2	31
	1584	50					
	1584	51					
17	1586	31	C4-4A IZ	Commercial	100	3	41/38
18	1586	6	C4-4A IZ	Commercial	80	2	31
19	1586	3	C4-4A IZ	Commercial	80	2	31

Table E-2 Windows Attenuation for Potential Site

Current Site #	Block	Lot	Prop. Zoning	Projected Use	Projected Building Height	Governing Site	Recommended Window Attenuation
20	1618	40	C4-4A IZ	Commercial	80	2	31
21	1600	13	C4-4A IZ	Commercial	100	3	41/38
	1600	14					
	1600	15					
22	1608	27	C4-4A IZ	Commercial	100	5	37/34
	1608	34					
23	1613	16	C4-4A IZ	Commercial	100	5	37/34
	1613	17					
	1613	23					
24	1618	22	C4-4A IZ	Commercial	100	5	37/34
25	1623	25	C4-4A IZ	Commercial	80	2	31
26	1623	41	C4-4A IZ	Commercial	100	5	37/34
	1623	42					
	1623	53					
27	1623	57	C2-4/R6A	Mix Use	70	2	31
28	1628	34	C4-4A IZ	Commercial	100	5	37/34
	1628	38					
	1628	42					
29	1479	8	C4-4A IZ	Commercial	100	5	37/34
	1479	11					
30	1480	16	C4-4A IZ	Commercial	100	2	31
	1480	17					
31	1480	23	C4-4A IZ	Commercial	80	5	37/34
	1480	55					
	1480	56					
32	1480	34					

Table E-2 Windows Attenuation for Potential Site							
Current Site #	**Block**	**Lot**	**Prop. Zoning**	**Projected Use**	**Projected Building Height**	**Governing Site**	**Recommended Window Attenuation**
	1480	36	C4-4A IZ	Commercial	100	5	34/37
	1480	38					
	1480	40					
	1480	41					
	1480	42					
33	1791	42	C2-4/R6B	Commercial	55	1	28
	1791	43					
	1791	44					
	1791	45					
	1791	47					
	1791	48					
	1791	51					
	1791	52					
	1791	53					
	1791	54					

Receptor	Site	Hour	Existing Condition								No Build 2022					Build 2022							
			Volume	% Auto	%Medium	% Heavy	% Bus	PCE	Leq	L_{10}	Volume	PCE	Leq	L_{10}	Change over existing	Auto Volume Increment	Medium Truck Volume Increment	Heavy Truck Volume Increment	Bus Volume Increment	Total PCE	Leq	L_{10}	Change over No Build
Vacant Lot between 774 Myrtle Ave and 810 Myrtle Ave	1	Weekday AM	1208	86.2%	6.2%	1.8%	5.8%	4314.8	68.0	70.8	1329	4746.3	68.4	71.3	0.4	-116				4630.3	68.3	71.1	-0.1
		Weekday MD	1227	87.3%	8.3%	1.8%	2.5%	4021.9	68.4	71.2	1350	4424.1	68.8	71.6	0.4	-83				4341.1	68.7	71.6	-0.1
		Weekday PM	1566	91.6%	4.2%	0.3%	3.9%	3609.4	69.7	69.6	1722	3970.4	70.1	70.0	0.4	-57				3913.4	70.1	69.9	-0.1
Sumner Houses, NW Corner of Myrtle Ave and Lewis Ave	2	Weekday AM	795	87.9%	3.0%	1.8%	7.2%	2726.3	69.7	72.8	875	2998.9	70.1	73.2	0.4	-84				2914.9	70.0	73.1	-0.1
		Weekday MD	787	90.0%	6.0%	0.9%	3.1%	2085.6	70.7	73.0	866	2294.2	71.1	73.4	0.4	-80				2214.2	71.0	73.3	-0.2
		Weekday PM	862	91.0%	4.4%	0.4%	4.2%	2093.6	68.7	70.9	948	2303.0	69.1	71.3	0.4	-54				2249.0	69.0	71.2	-0.1
943B Broadway	3	Weekday AM	1432	88.3%	4.9%	1.7%	5.1%	4648.7	80.8	84.6	1575	5113.6	81.2	85.0	0.4	-52				5061.6	81.2	84.9	0.0
		Weekday MD	1330	87.5%	7.2%	1.8%	3.4%	4371.9	79.0	82.8	1463	4809.1	79.4	83.3	0.4	-56				4753.1	79.4	83.2	-0.1
		Weekday PM	1598	91.9%	3.3%	0.9%	3.9%	3939.7	80.4	83.5	1758	4333.7	80.8	83.9	0.4	-36				4297.7	80.8	83.8	0.0
61 Patchen Ave	4	Weekday AM	476	93.2%	2.1%	0.5%	4.2%	1034.6	63.5	66.2	524	1138.1	63.9	66.6	0.4	-1				1137.1	63.9	66.6	0.0
		Weekday MD	351	92.3%	4.4%	3.0%	0.3%	1038.2	65.4	67.7	386	1142.0	65.8	68.1	0.4	-8				1134.0	65.8	68.0	0.0
		Weekday PM	438	95.3%	2.6%	0.6%	1.5%	808.9	65.6	68.2	482	889.8	66.0	68.6	0.4	-8				881.8	66.0	68.6	0.0
West Corner of Broadway and Lexington Ave	5	Weekday AM	998	87.0%	5.9%	1.6%	5.6%	3375.3	81.1	79.8	1098	3712.8	81.5	80.3	0.4	-75				3637.8	81.4	80.2	-0.1
		Weekday MD	845	86.3%	7.9%	2.0%	3.7%	2982.7	77.9	79.3	930	3281.0	78.3	79.8	0.4	-60				3221.0	78.2	79.7	-0.1
		Weekday PM	1002	91.0%	3.8%	1.0%	4.2%	2652.7	81.3	79.1	1102	2918.0	81.7	79.5	0.4	-39				2879.0	81.7	79.4	-0.1

Receptor	Site	Hour	NB Delta	Existing L_{10}	Existing Category	NB L_{10}	No Build Category	Build Delta	NB L_{10}	Build L_{10}	Build Category	CEQR criteria dB(A)	Building Attenuation Required
Vacant Lot between 774 Myrtle Ave and 810 Myrtle Ave	1	Weekday AM	0.4	70.8	MARGINALLY UNACCEPTABLE	71.3	MARGINALLY UNACCEPTABLE	-0.1	71.3	71.1	MARGINALLY UNACCEPTABLE	45	28
		Weekday MD	0.4	71.2	MARGINALLY UNACCEPTABLE	71.6	MARGINALLY UNACCEPTABLE	-0.1	71.6	71.6	MARGINALLY UNACCEPTABLE	45	28
		Weekday PM	0.4	69.6	MARGINALLY ACCEPTABLE	70.0	MARGINALLY ACCEPTABLE	-0.1	70.0	69.9	MARGINALLY ACCEPTABLE	45	25
Sumner Houses, NW Corner of Myrtle Ave and Lewis Ave	2	Weekday AM	0.4	72.8	MARGINALLY UNACCEPTABLE	73.2	MARGINALLY UNACCEPTABLE	-0.1	73.2	73.1	MARGINALLY UNACCEPTABLE	45	31
		Weekday MD	0.4	73.0	MARGINALLY UNACCEPTABLE	73.4	MARGINALLY UNACCEPTABLE	-0.2	73.4	73.3	MARGINALLY UNACCEPTABLE	45	31
		Weekday PM	0.4	70.9	MARGINALLY UNACCEPTABLE	71.3	MARGINALLY UNACCEPTABLE	-0.1	71.3	71.2	MARGINALLY UNACCEPTABLE	45	28
943B Broadway	3	Weekday AM	0.4	84.6	CLEARLY UNACCEPTABLE	85.0	CLEARLY UNACCEPTABLE	0.0	85.0	84.9	CLEARLY UNACCEPTABLE	45	41
		Weekday MD	0.4	82.8	CLEARLY UNACCEPTABLE	83.3	CLEARLY UNACCEPTABLE	-0.1	83.3	83.2	CLEARLY UNACCEPTABLE	45	39
		Weekday PM	0.4	83.5	CLEARLY UNACCEPTABLE	83.9	CLEARLY UNACCEPTABLE	0.0	83.9	83.8	CLEARLY UNACCEPTABLE	45	40
61 Patchen Ave	4	Weekday AM	0.4	66.2	MARGINALLY ACCEPTABLE	66.6	MARGINALLY ACCEPTABLE	0.0	66.6	66.6	MARGINALLY ACCEPTABLE	45	25
		Weekday MD	0.4	67.7	MARGINALLY ACCEPTABLE	68.1	MARGINALLY ACCEPTABLE	0.0	68.1	68.0	MARGINALLY ACCEPTABLE	45	25
		Weekday PM	0.4	68.2	MARGINALLY ACCEPTABLE	68.6	MARGINALLY ACCEPTABLE	0.0	68.6	68.6	MARGINALLY ACCEPTABLE	45	25
West Corner of Broadway and Lexington Ave	5	Weekday AM	0.4	79.8	MARGINALLY UNACCEPTABLE	80.3	CLEARLY UNACCEPTABLE	-0.1	80.3	80.2	CLEARLY UNACCEPTABLE	45	36
		Weekday MD	0.4	79.3	MARGINALLY UNACCEPTABLE	79.8	MARGINALLY UNACCEPTABLE	-0.1	79.8	79.7	MARGINALLY UNACCEPTABLE	45	35
		Weekday PM	0.4	79.1	MARGINALLY UNACCEPTABLE	79.5	MARGINALLY UNACCEPTABLE	-0.1	79.5	79.4	MARGINALLY UNACCEPTABLE	45	35

Construction Noise PCE Calculation for Worse Case Hours in 2016

Receptor	Site	Hour	Existing Condition								No Build 2016					Construction 2016							
			Volume	% Auto	%Medium	% Heavy	% Bus	PCE	Leq	L_{10}	Volume	PCE	Leq	L_{10}	Change over existing	Auto Volume Increment	Medium Truck Volume Increment	Heavy Truck Volume Increment	Bus Volume Increment	Total PCE	Leq	L_{10}	Change over No Build
Vacant Lot between 774 Myrtle Ave and 810 Myrtle Ave	1	Weekday AM	1208	86.2%	6.2%	1.8%	5.8%	4314.8	68.0	70.8	1268	4530.6	68.2	71.1	0.2	13		14		5201.6	68.8	71.7	0.6
		*Weekday MD	1227	87.3%	8.3%	1.8%	2.5%	4021.9	68.4	71.2	1288	4223.0	68.6	71.4	0.2	0		6		4505.0	68.9	71.7	0.3
		Weekday PM	1566	91.6%	4.2%	0.3%	3.9%	3609.4	69.7	69.6	1644	3789.9	69.9	69.8	0.2	13		0		3802.9	69.9	69.8	0.0
Sumner Houses, NW Corner of Myrtle Ave and Lewis Ave	2	Weekday AM	795	87.9%	3.0%	1.8%	7.2%	2726.3	69.7	72.8	835	2862.6	69.9	73.0	0.2	4		6		3148.6	70.3	73.4	0.4
		*Weekday MD	787	90.0%	6.0%	0.9%	3.1%	2085.6	70.7	73.0	826	2189.9	70.9	73.2	0.2	0		2		2283.9	71.1	73.4	0.2
		Weekday PM	862	91.0%	4.4%	0.4%	4.2%	2093.6	68.7	70.9	905	2198.3	68.9	71.1	0.2	4		0		2202.3	68.9	71.1	0.0
943B Broadway	3	Weekday AM	1432	88.3%	4.9%	1.7%	5.1%	4648.7	80.8	84.6	1504	4881.1	81.0	84.8	0.2	12		17		5668.6	81.7	85.4	0.6
		*Weekday MD	1330	87.5%	7.2%	1.8%	3.4%	4371.9	79.0	82.8	1397	4590.5	79.2	83.1	0.2	0		5		4825.5	79.4	83.3	0.2
		Weekday PM	1598	91.9%	3.3%	0.9%	3.9%	3939.7	80.4	83.5	1678	4136.7	80.6	83.7	0.2	12		0		4148.7	80.6	83.7	0.0
61 Patchen Ave	4	Weekday AM	476	93.2%	2.1%	0.5%	4.2%	1034.6	63.5	66.2	500	1086.4	63.7	66.4	0.2	0		4		1274.4	64.4	67.1	0.7
		*Weekday MD	351	92.3%	4.4%	3.0%	0.3%	1038.2	65.4	67.7	369	1090.1	65.6	67.9	0.2	0		1		1137.1	65.8	68.0	0.2
		Weekday PM	438	95.3%	2.6%	0.6%	1.5%	808.9	65.6	68.2	460	849.4	65.8	68.4	0.2	3		0		852.4	65.8	68.4	0.0
West Corner of Broadway and Lexington Ave	5	Weekday AM	998	87.0%	5.9%	1.6%	5.6%	3375.3	81.1	79.8	1048	3544.1	81.3	80.1	0.2	4		4		3736.1	81.5	80.3	0.2
		*Weekday MD	845	86.3%	7.9%	2.0%	3.7%	2982.7	77.9	79.3	887	3131.8	78.1	79.5	0.2	0		1		3178.8	78.2	79.6	0.1
		Weekday PM	1002	91.0%	3.8%	1.0%	4.2%	2652.7	81.3	79.1	1052	2785.4	81.5	79.3	0.2	3		0		2788.4	81.5	79.3	0.0