

A. INTRODUCTION

The 2006 Final Environmental Impact Statement (FEIS) provided an environmental impact analysis of the Atlantic Yards Arena and Redevelopment Project (the Project) assuming a 10-year build-out. As described in Chapter 1, “Project Description,” this Supplemental Environmental Impact Statement (SEIS) has been prepared to comply with a Court Order dated July 13, 2011, requiring Empire State Development (ESD) to examine the potential environmental impacts of a prolonged delay in the completion of Phase II of the Project (the Extended Build-Out Scenario).

The SEIS has been prepared in accordance with the procedures and requirements of the State Environmental Quality Review Act (SEQRA) and its implementing regulations (6 NYCRR Part 617). Like the 2006 FEIS for the Project, the SEIS generally follows the guidelines set forth in the *City Environmental Quality Review (CEQR) Technical Manual* published by the City of New York to assist its agencies in complying with SEQRA and its City counterpart, known as CEQR. While this guidance is not binding on ESD, it will serve as a general guide as to the methodologies used in evaluating potential impacts in this SEIS, where appropriate. In some technical areas, there have been material changes to the *CEQR Technical Manual* since publication of the FEIS in 2006. The analyses presented in the DSEIS were generally conducted in accordance with the guidance outlined in the 2012 *New York City Environmental Quality Review (CEQR) Technical Manual*. Two weeks prior to the issuance of the DSEIS, an update to the 2012 *CEQR Technical Manual* was released by the New York City Mayor’s Office of Environmental Coordination. Because the DSEIS was already in production at the time of the release of the 2014 *CEQR Technical Manual*, after the release of the DSEIS, ESD prepared a Technical Memorandum to address the revisions to the *CEQR Technical Manual*. The Technical Memorandum is included in Appendix F which is new to the FSEIS. The Technical Memorandum considered whether one or more analyses contained in the DSEIS would need to be revised in this FSEIS in light of the updated guidance set forth in the 2014 *CEQR Technical Manual*. The Technical Memorandum determined that the analysis areas that would have the potential to be affected by the CEQR updates are limited to Transportation and Air Quality. For all other analysis areas, 2014 *CEQR Technical Manual* updates would not materially change the analyses or conclusions presented in the DSEIS.

As outlined in Chapter 1, “Project Description,” in addition to assessing the environmental impacts of a prolonged delay in the completion of Phase II of the Project, this SEIS assesses certain proposed modifications to the Phase II program that is set forth in the Modified General Project Plan affirmed by ESD in 2009 (the “2009 MGPP”). The changes under consideration and assessed in this SEIS include a shift of up to approximately 208,000 gross square feet (gsf) of floor area from Phase I of the Project to Phase II of the Project, and a reduction of the number of parking spaces on the project site from 3,670 spaces as analyzed in the 2006 FEIS to 2,896 spaces. The proposed increase in the aggregate floor area of Phase II of the Project would not

change the maximum square footage or bulk envelope of any of the individual Phase II buildings as set forth in the Design Guidelines that ESD approved for the Project in 2006. The proposed shift of floor area from Phase I to Phase II would not affect the affordable housing requirements for Phase I or the Project as a whole, and would not result in any change to the requirement that at least 8 acres of publicly accessible open space be included in the Phase II program upon full build-out.

This chapter outlines the specific analysis framework used to complete this SEIS. It describes the environmental review process as it applies to the SEIS, describes the reasoning behind the chosen analysis years and study area(s), and outlines the methodology used to establish baseline conditions from which the environmental impacts of completing Phase II of the Project at a later date have been evaluated. The chapter then describes the two project development variations and lays out the three illustrative construction phasing plans analyzed throughout the SEIS. Finally, the chapter provides a screening of those technical analysis areas that would not be affected by a prolonged delay in the completion of Phase II of the Project at a later date or the proposed modifications to the 2009 MGPP that are under consideration.

B. REQUIRED APPROVALS

The Project would require the following approvals, considered discretionary actions and thereby requiring review under the SEQRA as listed below.

1. Court-Ordered Findings with respect to Phase II at the completion of the SEIS.
2. Findings with respect to any proposed changes to the 2009 MGPP.
3. Potential provision of State and City funding for affordable housing bond financing.

C. ENVIRONMENTAL REVIEW PROCESS

ESD is following the environmental review procedures established under SEQRA in preparing this SEIS. The steps involved in this process are outlined below.

SCOPING

Scoping is the process of focusing the environmental impact analyses on the key issues that are to be studied. ESD issued and distributed for public review the *Draft Scope of Work for a Supplemental Environmental Impact Statement* on December 19, 2012. A public scoping session was held on February 27, 2013 in the Founders Hall of St. Francis College at 182 Remsen Street, in Brooklyn. Written comments were accepted from issuance of the Draft Scope of Work through the public comment period which ended March 14, 2013. A Final Scope of Work reflecting comments made during scoping and the identification of potential changes to the Phase II program as outlined above was issued on February 6, 2014 with a Response to Comments document. An amended Response to Comments document was made available on February 26, 2014.

PREPARATION OF THE DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

An SEIS typically provides an analysis of one or more significant environmental issues that were not adequately addressed in the original EIS prepared for a given project. As noted in Chapter 1, "Project Description," in 2011 the Supreme Court for New York County ordered

ESD to prepare an SEIS assessing the environmental impacts of a prolonged delay in the completion of Phase II of the Project.

Once the Draft SEIS (DSEIS) is prepared, the lead agency reviews all aspects of the document to determine its adequacy and adherence to the Final Scope of Work. Once the lead agency is satisfied that the DSEIS is adequate for purposes of public review, it issues a Notice of Completion and circulates the DSEIS for public review.

PUBLIC REVIEW

Publication of the DSEIS and issuance of the Notice of Completion signal the beginning of the public review period. During this time, which must extend for a minimum of 30 days, the public may review and comment on the DSEIS, either in writing or at a public hearing convened for the purpose of receiving such comments. All substantive comments received on the DSEIS, at the hearing or during the comment period, become part of the SEQRA record and will be summarized and responded to in the Final Supplemental Environmental Impact Statement (FSEIS).

PREPARATION AND COMPLETION OF THE FSEIS

Once the public comment period for the DSEIS has closed, the lead agency prepares the FSEIS. This document will include a summary of, and response to, each substantive comment made about the DSEIS. Once ESD determines that the FSEIS is complete, it will issue a Notice of Completion and circulate the FSEIS. The completed FSEIS will be available to agencies and the public for a minimum of 10 days before ESD will make its supplemental SEQRA findings and any additional findings with respect to Phase II of the 2009 MGPP.

STATEMENT OF FINDINGS

After completion of the FSEIS, ESD will adopt supplemental SEQRA findings in accordance with 6 NYCRR Part 617.11(d), which requires the findings to: (i) consider the relevant environmental impacts, facts, and conclusions disclosed in the FSEIS; (ii) weigh and balance relevant environmental impacts with relevant social, economic, and other considerations; (iii) provide the rationale for the agency's decision; (iv) certify that the requirements of 6 NYCRR Part 617 have been met; and (v) certify that, consistent with social, economic, and other essential considerations, and considering the reasonable alternatives available, the action is one that avoids or minimizes adverse environmental impacts to the maximum extent practicable, and that adverse environmental impacts will be avoided or minimized to the maximum extent practicable by incorporating as conditions to the decision those mitigation measures identified as practicable.

Once the findings are adopted, the SEQRA process is completed. ESD will then adopt further findings with respect to Phase II of the 2009 MGPP, as required by the Court Order dated July 13, 2011, and any additional findings that may be required to modify the Phase II program set forth in the 2009 MGPP, if it is to be modified.

COORDINATION WITH OTHER REVIEW PROCESSES

The SEQRA environmental process is intended to provide decision-makers with an understanding of the environmental consequences of actions undertaken by an agency. The supplemental environmental review process will be integrated and coordinated with ESD's decision-making process under the Urban Development Corporation Act (UDC Act), which requires that ESD adopt

a general project plan for an ESD project, thereafter hold a duly noticed public hearing under the UDC Act, and then affirm the plan as adopted, affirm the plan with modifications, or determine not to affirm the plan. ESD generally follows these same procedures with respect to a major modification to a general project plan that it has previously affirmed. Here, it is anticipated that the public hearing to be held on the DSEIS would also serve as the public hearing under the UDC Act, to address the proposed amendments to the 2009 MGPP (see Chapter 1, “Project Description”).

D. FRAMEWORK FOR ENVIRONMENTAL ANALYSIS

For each technical analysis in the SEIS, presented in Chapters 3A through 3M (related to construction period impacts under the Extended Build-Out Scenario), and 4A through 4H (related to operational impacts in the Project’s assumed completion year under the Extended Build-Out Scenario) the assessment includes a description of (1) existing conditions, (2) an assessment of conditions in the future without Phase II of the Project (the Future without Phase II, or the No Build Condition), and (3) an assessment of conditions in the future with Phase II of the Project in the Extended Build-Out Scenario (the Future with Phase II, or the Build Condition). Potential impacts of the Phase II Project are based on a comparison between conditions in the Future with Phase II (the Build Condition) and conditions in the Future without Phase II (the No Build Condition). In addition, where appropriate, a comparison of the results of the environmental assessment in this SEIS is made to the conclusions of the 2006 FEIS, which assumed a 10-year build-out.

ANALYSIS YEAR

Since a proposed project, if approved, would take place in the future, the project’s environmental setting is not the current environment but the environment as it would exist at project completion. Therefore, future conditions must be projected for the purposes of technical analysis of potential project impacts. This prediction is made for a particular year, generally known as the “analysis year” or “build year,” which is the year when the project would be substantially operational.

The SEIS includes a detailed construction-period analysis for Phase II of the Project under the Extended Build-Out Scenario using three illustrative construction phasing plans (discussed below) that consider concentrated periods of construction as well as less concentrated but more continuous construction for an extended period of time. Phase II contains eleven buildings that may be built in a variety of different years and sequences in the Extended Build-Out Scenario. ESD has chosen the three illustrative construction phasing plans outlined in Chapter 3A, “Construction Overview,” to allow the SEIS to identify the impacts from a reasonable range of potential construction phasing schedules and sequences in the Extended Build-Out Scenario.

For technical areas that require particular analysis periods for quantification assessments, the identification of reasonable worst-case impacts are determined following the methodologies described in each chapter for that technical area (Chapters 3B through 3L). For example, for transportation systems, reasonable worst-case conditions are generally based on a combination of construction worker and truck traffic and expected periods with temporary lane or roadway closures. For the air quality analysis, assessments of the potential reasonable worst-case adverse impacts are determined based on the range of expected construction-related equipment, trucks, and workers over the anticipated construction period.

With respect to potential operational impacts, the SEIS assumes a 2035 analysis year as the year Phase II of the Project would be completed (the Build Year) under the Extended Build-Out Scenario, as required by the Court Order. As discussed above, a comparison of the results of the environmental assessment using the 2035 Build Year is made to the conclusions of the 2006 FEIS, which assumed a 2016 Build Year.

STUDY AREAS

Study areas relevant to each analysis category are defined. These are the geographic areas most likely to be potentially affected by the Project for a given category. Appropriate study areas differ depending on the type of analysis. Because of the size of the Project, it is appropriate for many analyses contained in this SEIS to use primary and secondary study areas: the primary study area is closer to the project site and therefore is more likely to be potentially affected. The primary study area receives the most thorough analysis. The secondary study area is farther away and, with respect to some technical areas, receives less detailed, more qualitative analysis. Generally, the Project's effects can be predicted with greater certainty in the primary study area, while the secondary study area could experience indirect effects, such as changes in trends. It is anticipated that the principal direct effects of the Project would occur within the project site. The specific methods and study areas are discussed in the individual technical analysis chapters.

BASELINE CONDITIONS

EXISTING CONDITIONS

For each technical area assessed in the SEIS, existing conditions in 2013, as described below, form a baseline from which future conditions are projected. The prediction of future conditions begins with an assessment of existing conditions because these can be measured and observed. The description of existing conditions for the SEIS relies on the most current information and available data regarding the surrounding study areas.

Since approval of the Project in December 2006, a number of Project-related construction and design tasks have been undertaken (see Chapter 1, "Project Description"). Key areas of construction include: clearance of most of the buildings on the project site; completion and opening of the Arena, which is now known as Barclays Center; completion and opening of the new subway entrance on the Arena Block; the re-routing of water, sewer and utility lines around the Arena Block; a new water main built on behalf of the City on Atlantic Avenue; roadway modifications; work on the new Long Island Rail Road (LIRR) rail yard and the new Carlton Avenue Bridge spanning the rail yard; construction of a surface parking lot on Block 1129; and commencement of construction of the first residential building (Building 2) on the Arena Block. (Chapter 1, "Project Description," includes a description of existing conditions on the project site itself.)

These and other Project-related changes have become part of existing conditions on and around the Project site and have been incorporated into the baseline conditions for the various technical analyses in this SEIS. To establish the most appropriate baseline, existing conditions are generally studied during the time periods that reasonable worst-case conditions would be expected with Phase II of the Project. For example, the transportation analysis baseline measures time periods when the greatest number of new vehicular, pedestrian, and transit trips to and from the Phase II project site would occur. The impacts of Phase II in the Extended Build-Out Scenario are then assessed for those same transportation peak periods.

FUTURE WITHOUT PHASE II, OR NO BUILD CONDITION

The Future Without Phase II (No Build Condition) provides a baseline against which incremental changes due to the Project can be compared. To help define the No Build Condition, observed existing conditions have been augmented with the following:

- The most recent available enrollment and capacity data for public schools and publicly funded day care centers and enrollment projections for public schools;
- An updated open space inventory and conditions survey as well as projected population demands for open space resources based on latest available 2010 Census data;
- New noise measurements at locations surrounding the project site, using L_{10} , and $Leq_{(1)}$ noise descriptors to assess changes in noise levels due to new traffic circulation patterns;
- New traffic counts (conducted in April and May 2013) at analyzed intersections and pedestrian counts at analyzed sidewalks, corner reservoir areas and crosswalks to account for the passage of time and for new vehicular and pedestrian demand and circulation patterns;
- New pedestrian counts (also conducted in April and May 2013) at analyzed subway station elements to account for the passage of time and operations at the Project's new subway entrance on the Arena Block; and
- Current subway and local bus line haul data from the Metropolitan Transportation Authority (MTA) to account for the passage of time and operations of the Project's new subway entrance.

As described in Chapter 4D, "Operational Transportation," some of the collected traffic and pedestrian data were further supplemented with data from surveys of Arena patrons.

Another component of establishing future No Build conditions is determining the growth the study area will experience in the Future without Phase II. To do this, the SEIS uses a No Build list which identifies known development projects anticipated for completion through 2035 (see **Table 2-1**); these projects would be built in the future with or without Phase II of the Project. The No Build list has been made through review of various sources, including New York City Department of Buildings (DOB) permits, identification of construction sites, and review of project lists compiled by various organizations and agencies including the Downtown Brooklyn Partnership, New York City Economic Development Corporation (EDC), New York City Department of City Planning (DCP), and New York City Department of Housing Preservation and Development (HPD).

Because the scope of the SEIS conforms to the Court Order identified above and focuses on the potential environmental impacts of a delay in the Phase II construction activity, Phase I of the Project—including the Arena, other Project buildings west of 6th Avenue, the new roadway configurations for the area, and the parking plans for Phase I of the Project—are assumed to be part of the background condition for the 2035 operational analysis Build Year. During the construction period, those Phase I Project elements that have already been completed and those that are anticipated to be completed by a particular construction period analysis year, are included as part of the background condition.

Table 2-1
Known development projects anticipated for completion through 2035

#	Project Name	Address	Dwelling Units	Hotel Rooms	Retail (sf)	Office (sf)	Community Facility (sf)	Manufacturing (sf)	Parking (spaces)	Additional Description
1	Atlantic Yards: Phase I		1,922	180	91,000	336,000			1,161-1,211	Residential Mixed-Use variation shown. Commercial mixed use variation would be: 1,498 DU; 0 Hotel Rooms; 91,000 gsf retail; 1,075,512 gsf commercial; 1,161-1211 parking spaces. 662,244 gsf Arena in both variations.
2	Theatre for a New Audience						27,500			New 27,500-sf facility will include a 299-seat theater and rehearsal studio
3	Visual Arts Plaza									New 16,000 sf public outdoor space that will link the surrounding buildings and provide a place for programming
4	BAM North Site II		100		17,000		12,500			85,000 residential sf, 17,000 retail and 12,500 cultural facility space
5	Strand Theatre	647 Fulton Street					40,000			Renovation of the Strand Theatre to a multi-disciplinary arts and media complex that will double BRIC's operating space to 40,000 square feet and modernize the 17,000-sf UrbanGlass glassworking facility and expand it by 3,300 sf.
6	BAM South Site		402		21,465		47,000		225	32-story mixed use development including 280,290 zsf residential use (up to 402 dwelling units including 20% affordable), 47,000 sf cultural and community space (15,000 zsf non profit cinema and 32,055 sf community facility/cultural), 21,465 zsf retail/restaurant use, a 225-space public parking garage
7	66 Rockwell	29 Flatbush Ave	327							44-story mixed use development including 327 dwelling units with ground-floor retail
8	The Hub	333 Schermerhorn Street	754		32,470				278	53-story mixed-use development - 600,632 (754 DU); 32,470 commercial sf (mostly retail); 278 accessory parking spaces
9	95 Rockwell Place	95 Rockwell Place		200						200 key hotel; approximately 30 stories; basement performance space and ground-floor restaurant
10	72 3rd Avenue	72 3rd Avenue					28,100			Church renovation - 28,100 gsf
11	Nevins Street Hotel	46 Nevins Street		182						12-story hotel building; 182 keys; 70,848 zsf
12	Holiday Inn	300 Schermerhorn Street		247						14-story hotel; 134' building height; 247 keys
13	Site S	395 Flatbush Avenue Ext.			51,000	33000				Downtown Brooklyn Rezoning - Projected Site S

Table 2-1 (cont'd)

Known development projects anticipated for completion through 2035

#	Project Name	Address	Dwelling Units	Hotel Rooms	Retail (sf)	Office (sf)	Community Facility (sf)	Manufacturing (sf)	Parking (spaces)	Additional Description
14	319 Schermerhorn Street	319 Schermerhorn Street	61							61 residential units; 18 stories
15	Willoughby Square Park: bet Gold and Duffield	Willoughby Square Park: bet Gold and Duffield							699	1-acre park with 699 parking spaces underneath
16	City Point	Willoughby Street, Flatbush Avenue, Fleet Street, Dekalb Avenue, and Gold Street	1,235		631,000	20,000				Per 2013 City Point EAS: 631,000 gsf retail podium with 20,000 gsf office; three towers with 250, 440, and 545 residential units
17	81 Fleet Place	81 Fleet Place	205		13,000				150	15-story mixed-use building - 159,785 sf residential; 13,000 sf commercial; 156' tall; 205 DU; 150 parking spaces
18	333 Atlantic Ave	333 Atlantic Ave	22		3,485					3,485 sf of commercial; 17,975 sf of residential (22 DU);
19	384-388 Bridge Street	384 Bridge Street	381		31,677				142	381 DU; 31,677 sf commercial, 142 parking spaces;
20	Avalon Willoughby West: 100 Willoughby Street	214 Duffield Street	861		20,000					861 DU; 57 stories; 20,000 sf of commercial; 738,080 sf of residential
21	Offerman Building	505 Fulton Street	571		53,000					571 DU; 53,000 sf retail
22	440 Atlantic Avenue	440 Atlantic Avenue	7		2,356					5-story building; 7 DU; 2,356 sf commercial; 7,866 sf residential
23	167 Lafayette Avenue	167 Lafayette Avenue	2							3-story, 2 DU; 9,912 sf residential
24	13 St. Marks Place	13 St. Marks Place					12,959			12,959 sf community facility;
25	316 Bergen Street	316 Bergen Street	84							8-story; 84 DU; 69,998 sf residential
26	210 Vanderbilt Avenue	210 Vanderbilt Avenue					29,072			3-stories; 29,072 sf community facility
27	301-309 State Street	301-309 State Street	9							9 DU
28	345-353 State Street	345-353 State Street	11							11 DU
29	225-233 Carlton Avenue	225-233 Carlton Avenue	10							10 DU
30	340 Dean Street	340 Dean Street	8							4 stories; 8 DU;

Table 2-1 (cont'd)
Known development projects anticipated for completion through 2035

#	Project Name	Address	Dwelling Units	Hotel Rooms	Retail (sf)	Office (sf)	Community Facility (sf)	Manufacturing (sf)	Parking (spaces)	Additional Description
31	79 4th Avenue	79 4th Avenue			3,287					2-story, 3,287 sf commercial
32	215 Flatbush Avenue	215 Flatbush Avenue	53		9,875					6-story; 53 DU; 9,875 sf commercial; 45,435 sf residential
33	346 Bergen St	346 Bergen St	24		62,085					3 story commercial/retail building plus cellar
34	Site P	Lots 2,11,12,15-18,23,34-37,41-43,46-48,50-52			36,644	777,676				Downtown Brooklyn Rezoning - Revised SF based on Projected Site P, minus Lot 29 (planned park), Lot 7 (planned hotel), and Lot 14 (already redeveloped)
35	218 Greene Ave	218 Greene Ave	1						1	3 story single family house
36	145 Gates Ave	145 Gates Ave	1							4 story single family house
37	85 Wyckoff St	85 Wyckoff St	1							4 story single family house
38	284 St James Place	284 St James Place	2							4 story two family house
39	270 Atlantic Ave	270 Atlantic Ave			28,425					2 story commercial building
40	238 Hall Street	238 Hall Street	10							4 story residential building
41	269 Washington Ave	269 Washington Ave	10							4 story residential building
42	267 Pacific Street	267 Pacific Street	60		2,728				30	7 story mixed use building
43	130 Adelphi Street	130 Adelphi Street	7							4 story masonry residential building
44	56 Cambridge Place	56 Cambridge Place	5							Rebuild of existing 5 unit 3 story building
45	47-49 Irving Place	49 Irving Place	4							Two 4-story 2-family houses
46	40 Putnam Ave	40 Putnam Ave	59							7 story residential building
47	40 St John's Place	40 St John's Place	1							1 story single family house
48	454 Carroll St	454 Carroll St	6							6 story residential building
49	265 1st Street	265 1st Street	3							4 story residential building
50	708A Degraw St	708A Degraw St	3							4 story residential building
51	449-453 Degraw St	449 Degraw St	4							4 X 4 story 1-family houses
52	65 Park Place	65 Park Place	17				5,226		20	5 story mixed use building
53	259 Hoyt St	259 Hoyt St	2							3-story 2-family house
54	411 Degraw Street	411 Degraw Street	2							4-story 2-family house
55	467 Union St	467 Union St	1							4 story single family house
56	330-332 Bond St	332 Bond St	3							4-story 2-family house, 4-story 1-family house

Table 2-1 (cont'd)

Known development projects anticipated for completion through 2035

#	Project Name	Address	Dwelling Units	Hotel Rooms	Retail (sf)	Office (sf)	Community Facility (sf)	Manufacturing (sf)	Parking (spaces)	Additional Description
57	468 Baltic St	468 Baltic St						17,000		3 story warehouse
58	441 Carroll Street	441 Carroll Street	2							3 story 2 family house
59	157 Lincoln Place	157 Lincoln Place	1							5 story single family house
60	747 Dean Street	747 Dean Street	1						1	3 story single family house
61	751 Dean Street	751 Dean Street	4						1	4 story residential building
62	954 Bergen Street	954 Bergen Street	38						19	6 story residential building
63	313 St Marks Ave	313 St Marks Ave	75						38	4 story residential building
64	828-832 Dean Street	828-832 Dean Street	9							3 X 3 story residential buildings
65	730 Franklin Ave	730 Franklin Ave	8		1,655		558			5 story mixed use building
66	800 Dean Street	800 Dean Street	8							4 story residential building
67	951 Pacific Street	951 Pacific Street	3							4 story residential building
68	622 Grand Ave	622 Grand Ave	10							4 story residential building
69	956 Dean Street	956 Dean Street	11							6 story residential building
70	505 St Marks Ave	505 St Marks Ave	128				5,077		84	7 story mixed use building
71	816 Washington Ave	816 Washington Ave	8		3,135					5 story mixed use building
72	609 Washington Ave	609 Washington Ave	2		1,898					4 story mixed use building
73	627 Franklin Avenue	627 Franklin Avenue	2		1,000					4 story mixed use building
74	648-652 Bergen Street	652 Bergen Street	9							3 X 3 story residential buildings
75	731 Dean Street	731 Dean Street	3							3 story residential building
76	618 Washington Ave	618 Washington Ave	10							6 story residential building
77	84A Lexington Ave	84A Lexington Ave	2							4 story 2 family house
78	1190 Bedford Ave	1190 Bedford Ave	6		1,000					5 story mixed use building
79	376 Franklin Ave	376 Franklin Ave	20							6 story residential building
80	315 Franklin Ave	315 Franklin Ave	8							6 story residential building
81	171 Lexington Ave	171 Lexington Ave	5							5 story residential building
82	178 Putnam Ave	178 Putnam Ave	14		1,200					5 story mixed use building
83	1192 Bedford Ave	1192 Bedford Ave	6		1,000					5 story mixed use building
84	170 Putnam Ave	170 Putnam Ave	3							3 story residential building

Table 2-1 (cont'd)
Known development projects anticipated for completion through 2035

#	Project Name	Address	Dwelling Units	Hotel Rooms	Retail (sf)	Office (sf)	Community Facility (sf)	Manufacturing (sf)	Parking (spaces)	Additional Description
85	135 Lefferts Place	135 Lefferts Place	8							4 story residential building
86	408 Franklin Ave	408 Franklin Ave	2							3 story 2-family house
87	1044 Bedford Ave	1044 Bedford Ave	10		734		2,660			6 story mixed use building
88	1046 Bedford Ave	1046 Bedford Ave	8		1,200		2,000			6 story mixed use building
89	438 Lafayette Ave	438 Lafayette Ave	3							4-story 3-family house
90	34 Claver Place	34 Claver Place	7		1,441					8 story mixed use building
91	482 Franklin Ave	482 Franklin Ave	100						33	7 story residential building
92	196 Lefferts Place	196 Lefferts Place	3							4 story residential building
93	33-39 Madison Street	33 Madison Street	32							4 X 4-story residential buildings
94	1058 Bedford Ave	1058 Bedford Ave	2		1,700					3 story mixed use building
95	Crown Heights West Rezoning: Projected Site 2	1046 Dean Street	107		48,183				48	
96	Crown Heights West Rezoning: Projected Site 3	922-924 Bergen St	97						44	
97	Whole Foods Market	214 3rd Street			76,627				169	
98	Lighthouse Site (old Toll Bros site)	363-365 Bond Street	700		2,600		2,250		316	Also: 0.8 acres open space
99	340 4th Avenue	340 4th Avenue			8,000		3,500		6	2 story building
100	563 Carroll Street	563 Carroll Street	4						2	4 story residential building
101	465 Carroll Street	465 Carroll Street	4							4 story residential building
102	470 Vanderbilt Ave	470 Vanderbilt Ave	85		17,343		2,000		302	
103	Best Western	55 Flatbush Ave		80						
104	Carlyle/Flank site	71 Smith Street	210	263						210,000 square feet of residential condos and a 105,000-square-foot hotel.
105	324 Schermerhorn Street	324 Schermerhorn	700							700 market rate rentals
106	Site M	Red Hook Lane and Boerum Place			160,000	640,000				
107	Atlantic Galleria	252 Atlantic Ave			13,344					2-story commercial building

Table 2-1 (cont'd)

Known development projects anticipated for completion through 2035

#	Project Name	Address	Dwelling Units	Hotel Rooms	Retail (sf)	Office (sf)	Community Facility (sf)	Manufacturing (sf)	Parking (spaces)	Additional Description
108	Hotel	237 Duffield St		130						
109	490 Myrtle Ave	490 Myrtle Ave	232		19,500					
110	BAM North Site I		586		15,500		12,000			
111	Site C					720,000	80,000			
112	Site G		71		10,000					
113	Site BB	254 Livingston St	186		21,000					
114	Site I(A)	86 Fleet Place	191							
115	172 Nassau Street	172 Nassau Street	128						32	12 story residential building
116	Oro II	311 Gold Street	208							35 story residential building
117	LodgeWorks	125 Flatbush Ave Ext		116						13 story hotel
118	85 Flatbush Ave Extension	85 Flatbush Ave Ext	108							21 story residential building
119	57 Flatbush Ave Extension	57 Flatbush Ave Ext		65						10 story hotel
120	CUNY City Tech Klitgord Academic Bldg	285 Jay Street					385,000		20	New academic building
121	NYU CUSP	370 Jay Street				310,000	150,000			Reuse of vacant MTA building
122	168 Nassau Street	168 Nassau Street	89							

Note: The SEIS analyses will evaluate the sizes and locations of these No Build projects and account for them either in background growth or as specific population/trip generators in accordance with currently accepted practices.
 DU = dwelling unit(s); sf = square feet; gsf = gross square feet; zsf = zoning square feet;

DEVELOPMENT PROGRAM VARIATIONS AND CONSTRUCTION PHASING

As described in Chapter 1, at the time of the 2006 FEIS, two variations of the project program were under consideration to allow for flexibility in the program of three of the Project's Phase I buildings: (1) a residential mixed-use variation and (2) a commercial mixed-use variation, which would permit more commercial office use in three buildings closest to Downtown Brooklyn. The differences between the residential and commercial mixed-use variations applied only to the proposed development programs of Buildings 1 and 2 and on Site 5 in Phase I. Since the 2006 FEIS, the program for Building 2 (currently under construction) has been finalized to include only residential and retail uses. Therefore, for the purposes of this SEIS, the commercial mixed-use variation would apply only to Building 1 and Site 5 in the Phase I development (thus reducing the amount of commercial space and increasing the amount of residential space in the commercial mixed-use variation as compared with that assumed in the 2006 FEIS), because that variation now assumes a residential program for Building 2. In addition, in light of the reduction in the height of Building 1 after the preparation of the 2006 FEIS and subsequent planning, the current program for Building 1 is expected to include a smaller residential program in the residential mixed-use variation than that assumed in the 2006 FEIS, but the office, hotel and retail components in Building 1 would be the same as proposed in the 2006 FEIS. As mentioned above, Phase I of the Project is considered as part of baseline condition for the Future Without Phase II (No Build condition).

As described in Chapter 1, "Project Description," the Project would introduce a maximum total of 6,430 dwelling units (Phases I and II). With the proposed shift of up to approximately 208,000 gsf of floor area from the Arena Block in Phase I to Phase II parcels, the residential mixed-use variation could include up to 1,922 units in Phase I, and up to 4,508 units in Phase II, and the commercial mixed-use variation could include up to 1,498 units in Phase I and up to 4,932 units in Phase II. The total number of units built at the completion of the Project would not exceed 6,430 (the same number of residential units analyzed in the 2006 FEIS). Therefore, for the purposes of the Phase II analysis, the development under the Extended Build-Out Scenario could include up to 4,932 dwelling units and approximately 156,000 square feet of local retail in 11 buildings to be located on Blocks 1120, 1121, 1128 and 1129 to the east of 6th Avenue. The local retail space may also house community facility uses.

As detailed further in Chapter 3A, "Construction Overview," the SEIS construction analyses assess the potential for significant adverse construction impacts with the prolonged construction of Phase II under three illustrative construction phasing plans. The construction phasing plans are partially guided by certain contractual agreements between the project sponsors and ESD as well as between the project sponsors and MTA, which dictate the outside dates for starting and completing certain project buildings and components. The illustrative construction phasing plans are not intended to serve as a prediction of the exact sequence of the Phase II construction, but rather have been developed to illustrate how the timing of the construction of certain project components may vary and to provide for a reasonably conservative analysis of the range of environmental effects associated with a prolonged build-out of Phase II. Although (as described in Chapter 3A, "Construction Overview"), it is possible that some or all of the buildings planned for Phase II would be constructed using prefabricated, or modular, construction techniques, the SEIS assumes that each building would be constructed using conventional construction methods, as such methods generally involve more on-site construction activity and would be the reasonable worst case scenario for the purpose of analyzing potential construction impacts. Where relevant, differences in potential impacts related to conventional and modular

construction techniques are discussed qualitatively. For all construction phasing plans, it is assumed that all required infrastructure and open space would be provided with the building being constructed, although the programming of certain open space may differ during the construction period from the programming envisioned upon completion of Phase II. The three illustrative construction phasing plans are designed to comply with all of the contractual agreements among the project sponsors, ESD and MTA.

CONSTRUCTION PHASING PLAN 1: CONTINUOUS SEQUENTIAL PHASING WITH BLOCK 1129 FIRST

Under this phasing plan, construction is assumed to begin on Block 1129 with Building 14. Construction would then generally proceed west to east, with Buildings 13, 12, and 11. Building 15 on Block 1128 would be completed before construction begins on Block 1121 on the first portion of the platform over the LIRR Vanderbilt Yard. Buildings 8, 9, and 10 would be constructed on that platform while construction begins on the platform over the western portion of Block 1120 on which Building 5 would be built. Construction on the eastern portion of the platform over Block 1120 will also begin as Buildings 9 and 10 are constructed. Buildings 5, 6, and 7 would be constructed last.

CONSTRUCTION PHASING PLAN 2: CONTINUOUS SEQUENTIAL PHASING

This construction phasing plan begins with the construction of Building 15 on Block 1128. Similar to Construction Phasing Plan 1, this phasing plan takes advantage of the fact that Block 1128 is situated on land, i.e., would not require the construction of a platform before building construction can begin. The construction of the platform over the western portion on Block 1120 would begin generally at the same time, followed by Building 5 on top of the platform. Construction would continue with Building 14 on Block 1129, which is subject to a contractual agreement that construction on this block must begin by May 2020. After Building 14, construction would proceed generally clockwise: the portions of LIRR platform on Block 1120 under Buildings 6 and 7, followed by each building, respectively; and the platform over Block 1121, with Buildings 8, 9, and 10 being constructed as each portion of the platform is complete. The remainder of Block 1129 (Buildings 13, 12, and 11) would be completed last under this phasing plan.

CONSTRUCTION PHASING PLAN 3: START AND STOP SEQUENTIAL PHASING WITH INTENSE CONSTRUCTION ACTIVITIES

The third illustrative construction phasing plan was designed to illustrate construction that would start as described in Construction Phasing Plan 1, stop for a period of time for unforeseen reasons, and then restart with concentrated construction until project completion in 2035.

Construction under this phasing plan would proceed in the same general sequence as Construction Phasing Plan 1 above. However, after the construction of Building 14 on Block 1129 to fulfill the aforementioned contractual obligation, construction is assumed to stop for several years. The remainder of the site would be completed when construction resumes; construction would end in 2035.

MITIGATION

SEQRA requires that any significant adverse environmental impacts identified in an EIS be minimized or avoided to the maximum extent practicable, given costs and other factors. Where no

practicable mitigation is available, an EIS must disclose the potential for unmitigated significant adverse impacts. The 2006 FEIS identified significant adverse impacts resulting from the Project for which specific mitigation measures were proposed. This SEIS analyzes the potential for significant adverse impacts from Phase II of the Project under the Extended Build-Out Scenario, and determines whether additional mitigation measures beyond those proposed in the 2006 FEIS would be required.

ALTERNATIVES

SEQRA requires that a description and evaluation of the range of reasonable alternatives to a project be included in an EIS at a level of detail sufficient to allow a comparative assessment of the significant environmental impacts of these alternatives. If the environmental assessment and consideration of alternatives identify a feasible alternative that eliminates or minimizes significant adverse impacts while substantially meeting the project goals and objectives, the lead agency considers whether to adopt that alternative. This chapter evaluates Project alternatives as and to the extent appropriate in light of the findings of the SEIS and the 2006 FEIS. The chapter:

- Examines a Reduced Parking Alternative that considers modified parking requirements that would reduce the amount of accessory parking provided for the Project. As noted in above, the SEIS analyzes a Phase II program that reduces the number of parking spaces provided by the Project from the 3,670 spaces analyzed in the 2006 FEIS to 2,896 spaces. The “Reduced Parking Alternative” would further reduce on-site parking to reflect the recent zoning changes for Downtown Brooklyn, which eliminated accessory parking requirements for affordable housing units and reduced accessory parking requirements for market-rate housing. Updated forecasts of the Project’s parking demand are evaluated in Chapter 4D, “Operational Transportation,” and this analysis will inform ESD’s consideration of whether and to what extent the parking requirements for the Project should be modified.
- Assesses the feasibility of requiring Phase II of the Project to be constructed by multiple developers. This assessment also evaluates whether such an approach to the Project, if determined to be feasible, would be effective in speeding the construction of Phase II.
- Discusses whether any other alternatives that would avoid or minimize any identified new or additional significant adverse impacts of the Extended Build-Out Scenario beyond those identified in the 2006 FEIS should be analyzed, taking into account other analyses previously performed over the course of the environmental review of the Project.

E. SCREENING ANALYSES

CONSTRUCTION PERIOD IMPACTS

The SEIS includes a detailed analysis of the construction of Phase II of the Project under the Extended Build-Out Scenario using the three illustrative construction phasing plans identified above to evaluate the impacts of prolonged Phase II construction. As with potential operational impacts, there are technical areas of the construction analyses that would not be affected by the extended construction period for the Phase II development. The analyses not included for detailed construction assessment in the SEIS, and the rationales for screening out these analysis areas are noted below.

CULTURAL RESOURCES

The construction of Phase II of the Project under the Extended Build-Out Scenario would not result in different effects to archaeological or architectural resources that were not previously identified in the 2006 FEIS. Delayed construction and modifications to the construction sequencing would not change the stipulations in the Letter of Resolution among ESD, the project sponsors, and the New York State Office of Parks, Recreation and Historic Preservation. The project sponsors would continue to implement a Construction Protection Plan (CPP) to avoid construction-related impacts on historic resources within 90 feet of Project construction.

At the time of the publication of the 2006 FEIS, both the SN/R-listed Prospect Heights Historic District and the New York City Landmarks (NYCL)-eligible Prospect Heights Historic District were included in the analysis of impacts. A CPP was prepared in consultation with the New York State Office of Parks, Recreation and Historic Preservation (OPRHP) to avoid adverse demolition/construction-related impacts to buildings within the Prospect Heights Historic District that were identified as being within 90 feet from the project site. Vibration monitoring at these sensitive resources commenced in 2008. Since the 2006 FEIS, the NYCL Prospect Heights Historic District has been designated by the New York City Landmarks Preservation Commission, which defined the boundaries slightly differently than those analyzed in the 2006 FEIS. As a result, the CPP has been amended to include additional historic resources within the expanded boundaries of the Prospect Heights Historic District that are within 90 feet of the project site where construction activity associated with the Atlantic Yards project has or will occur. In a letter dated May 5, 2013, the OPRHP accepted the CPP revisions and found the CPP appropriate to protect historic resources. As per the updated CPP, future vibration monitoring will include these additional resources.

Therefore, construction of the Extended Build-Out Scenario would not have any significant adverse construction impacts on cultural resources that were not previously identified in the 2006 FEIS.

SHADOWS

The construction of Phase II of the Project under the Extended Build-Out Scenario would not result in any new shadows during the construction period.

HAZARDOUS MATERIALS

The construction of Phase II of the Project under the Extended Build-Out Scenario would not affect the conclusions in the 2006 FEIS for hazardous materials impacts from construction activities. Construction and development of the Phase II components would have the same potential for exposure and require the same commitments as described in the 2006 FEIS and the Amended Memorandum of Environmental Commitments (MEC). While the Extended Build-Out Scenario would affect the timing of the construction of the buildings, it would not result in changes to the footprint of the project site or commitments to implement a Construction Health and Safety Plan, community air monitoring plan during excavation, and other remediation measures; and thus, the delayed construction would not affect the analysis presented in the 2006 FEIS. However, Chapter 3G, "Construction Hazardous Materials," includes updated information regarding hazardous materials identified on the project site since 2006 and/or encountered during the construction of Phase I project elements. The list of site remediation and post-construction measures identified in the 2006 FEIS are also reviewed and evaluated to ensure that no significant adverse impacts would occur with respect to hazardous materials.

INFRASTRUCTURE

The construction of Phase II of the Project under the Extended Build-Out Scenario would not affect the Project's Phase II programming in a manner that would alter the infrastructure demands of the Project during construction, nor would it obviate the project sponsors' obligations for the provision of adequate infrastructure including water supply, sanitary sewerage, measures to control stormwater runoff, solid waste management, and energy during construction.

In terms of stormwater specifically, impervious surface coverage on the project site would remain the same throughout the construction period as under existing conditions and therefore stormwater flows from the project site would also remain unchanged until building construction begins on any given portion of the site. A large portion of the site as it exists now is taken up by Vanderbilt Yard which is largely unpaved and represents a pervious surface through which stormwater can percolate. As the project introduces more impervious surfaces into the project site, stormwater flow will have to become more controlled. Stormwater would be captured and detained through the stormwater detention/retention measures outlined in the Amended Memorandum of Environmental Commitments; these measures will be constructed as each building goes online. Furthermore, as described in Chapter 3A, "Construction Overview," the construction of each building and surrounding amenities will be conducted in accordance with a stormwater pollution prevention plan (SWPPP) which would include fully designed and engineered stormwater management practices to be followed during construction.

Overall sewer infrastructure demand throughout the Project's construction will be controlled through the stormwater and sewage minimization measures outlined in the Amended Memorandum of Environmental Commitments (i.e. detention and retention facilities, stormwater recycling, high-efficiency/low-flow fixtures), as well as implementation of any other Best Management Practice (BMP) measures to minimize stormwater and sanitary flow that may be incorporated during design. These measures would be brought on line as each Phase II building is constructed to satisfy the requirements of the aforementioned New York City Department of Environmental Protection (NYCDEP) Site Connection Proposal for each building.

A delayed construction of Phase II would not change the methods for disposing of construction-generated waste, which would be disposed of off-site at appropriate landfills by private carters. Similarly, a delay in construction of Phase II of the Project under the Extended Build-Out Scenario would not alter the requirements for energy for construction activities; energy would be provided to the construction site through grid-power and, if necessary, on-site generators.

PUBLIC HEALTH

The SEIS evaluates potential air quality and noise impacts from the prolonged construction of Phase II of the Project under the Extended Build-Out Scenario. As described in Chapters 3I and 3J, the construction of Phase II of the Project would not result in significant adverse air quality impacts but would result in unmitigated significant adverse construction noise impacts. Therefore, a public health analysis is presented to address these unmitigated significant adverse construction noise impacts.

OPERATIONAL IMPACTS IN THE BUILD YEAR

A number of environmental impact analysis areas would not be affected by the delayed completion of Phase II of the Project, or the proposed modifications to the 2009 MGPP outlined

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above. The analyses not included for detailed assessment in the SEIS and the rationales for screening out these analysis areas are noted below.

LAND USE, ZONING, AND PUBLIC POLICY

Because the Phase II program remains substantially unchanged from that assessed in the 2006 FEIS and there are no new or proposed modifications to the previous land use, zoning, and public policy determinations, there would be no changes to the 2006 FEIS conclusion that upon completion, the Project would not result in significant adverse impacts with respect to land use, zoning, and public policy as a result of the Extended Build-Out Scenario. The proposal to shift up to approximately 208,000 gsf of floor area from the Arena Block in Phase I to Phase II parcels (described in detail in Chapter 1, “Project Description,”) would increase the floor area of Phase II from approximately 4,434,000 gsf as studied in the 2006 FEIS to approximately 4,642,090 gsf (an increase of 4.7 percent), but the location, uses, size and form of the Phase II buildings as governed by the Project’s Design Guidelines would not change nor would the shift introduce new land uses or zoning on the project site or increase the overall size of the Project. The Phase II buildings would continue to conform to Exhibit C of the 2009 MGPP which details the maximum permitted square footage for each of the Phase II buildings approved by ESD in 2006. The shift in floor area from Phase I to Phase II would not affect the analysis of land use, zoning, and public policy presented in the 2006 FEIS. Similarly, the proposed reduction in on-site parking would not affect this analysis, as the Project’s non-Arena parking demand would continue to be satisfied on the Project site, as discussed in Chapter 4D, “Operational Transportation.”

With respect to conditions in the study area, most public policy and zoning initiatives anticipated in the 2006 FEIS have been implemented. The 2006 FEIS found that the Project would offer the opportunity to further some of the City’s policies for housing and commercial development in Brooklyn, including removing blight and eliminating negative environmental conditions; maximizing the development of appropriate land use; strengthening the tax base of the City by encouraging development and employment opportunities; providing affordable housing and market-rate housing of high quality; and providing appropriate community facilities, parks and recreational uses, retail shopping, and parking. The completion of Phase II of the Project at a later date would delay the delivery of some of the aforementioned Project benefits. Under the Extended Build-Out Scenario, Phase II would be completed by 2035, compared to the 2016 completion date assumed in the 2006 FEIS. Nevertheless, none of the benefits related to Phase II would be achieved in the Future Without Phase II. As Phase II of the Project, even under the Extended Build-Out Scenario, would provide numerous benefits related to public policies analyzed in the 2006 FEIS, it would not be inconsistent with the goals and objectives of those policies.

Several additional zoning and public policy initiatives have been implemented since completion of the 2006 FEIS, including PlaNYC, contextual rezonings, historic district designations, and other changes. Contextual rezonings include the Fort Greene/Clinton Hill Rezoning (2007), the Boerum Hill Rezoning (2011) and the Crown Heights West Rezoning (2013). These contextual rezonings impose additional restrictions on development in those neighborhoods and would further strengthen the 2006 FEIS conclusion that the Project would not be expected to spur substantial changes in the firmly established neighborhoods that surround the Project Site.

Phase II of the Project would also be consistent with the goals of the Inclusionary Housing Program and the City’s policies to encourage the construction of affordable housing.

Other zoning changes include the Downtown Brooklyn Parking Text Amendment (2012) and the Special 4th Avenue Enhanced Commercial District (2011). The Special 4th Avenue Enhanced Commercial District is not expected to be affected by the completion of Phase II of the Project under the Extended Build-Out Scenario. Phase II of the Project is not within the area covered by the Downtown Brooklyn Parking Text Amendment, and therefore this text amendment is not relevant to the analysis of a delay in the construction of Phase II. However, this text amendment and the rationale for the amendment are considered in the assessment of the parking demand of the Project and in the Reduced Parking Alternative.

With regard to public policy, the Project would assist in meeting many of the goals and objectives established in PlaNYC, by providing new housing (including affordable housing), providing new open spaces, developing an underused area to knit neighborhoods together, fostering transit-oriented development, providing new subway access, greening underutilized street and sidewalk space, and incorporating responsible design in terms of water utilization, stormwater management, transportation efficiency, energy demand, air quality emissions (including use of natural gas), and effects on and from climate change. In addition, the Project is registered with the United States Green Building Council (USGBC) as a Leadership in Energy and Environmental Design (LEED) project, and has been accepted into the LEED-Neighborhood Development pilot program. The completion of Phase II of the Project at a later date would delay the delivery of some of the Project benefits that would be supportive of PlaNYC, but would not conflict with the goals of PlaNYC. In addition, none of the benefits related to Phase II would be achieved in the Future Without Phase II. Because Phase II of the Project, even in the Extended Build-Out Scenario, would provide numerous benefits related to PlaNYC, as described above, it would not be inconsistent with the goals and objectives of PlaNYC.

In addition, the Prospect Heights Historic District was established in 2006. The 2006 FEIS identified the Prospect Heights Historic District as an eligible historic resource. At the time the district was designated by the New York City Landmarks Preservation Commission (LPC), the boundaries of the district were expanded slightly from the boundaries assumed in the 2006 FEIS. Accordingly, the CPP required under the Letter of Resolution with the OPRHP was modified to assure the protection of the resources within such expanded area during Project construction. In light of the adjustments made to the CPP, construction for Phase II under the Extended Build-Out Scenario would not have a significant adverse impact on the expanded district.

Overall, as described above and consistent with the 2006 FEIS, upon completion of the Project under the Extended Build-Out Scenario, there would be no significant adverse impacts on land use, zoning, and public policy, and therefore an operational analysis of land use, zoning, and public policy is not warranted. However, zoning and public policy during the construction period is addressed in Chapter 3B, "Construction Zoning and Public Policy."

CULTURAL RESOURCES

The completion of Phase II of the Project at a later date and the proposed changes to the 2009 MGPP would not result in different effects to archaeological or architectural resources than those that were previously identified in the 2006 FEIS. Neither delayed Phase II completion nor the proposed modifications since the 2009 MGPP would change the stipulations in the Letter of Resolution among ESD, the project sponsors, and the OPRHP.

For these reasons, the Extended Build-Out Scenario would not have any significant adverse impacts on cultural resources that were not previously identified in the 2006 FEIS.

URBAN DESIGN AND VISUAL RESOURCES

The prolonged completion of Phase II of the Project would not affect the conclusions of the 2006 FEIS with respect to urban design or visual resources, because a delay in completing Phase II of the Project would not affect the bulk, uses, the type or arrangement of the Phase II buildings. The open space layout would also remain unchanged from that assessed in the 2006 FEIS. The proposed shift of up to approximately 208,000 gsf of floor area from the Arena Block to Phase II would increase the floor area of Phase II from approximately 4,434,000 gsf as studied in the 2006 FEIS to 4,642,090 gsf (an increase of 4.7 percent), but the location, uses and form of the Phase II buildings would not change. The Phase II buildings would continue conform to the Design Guideline maximum envelopes for each of the Phase II buildings approved by ESD in 2006 and that formed the basis for the description of the Phase II buildings in the 2006 FEIS. Similarly, the proposed reduction in on-site parking would reduce the size of below-grade parking facilities, and would not affect urban design or visual resources. For these reasons, a new analysis of urban design and visual resources in the SEIS is not warranted for the completion of Phase II of the Project under the Extended Build-Out Scenario. Chapter 3F, "Construction Urban Design and Visual Resources," assesses the urban design and visual resource impacts of a prolonged construction period for Phase II.

SHADOWS

The 2006 FEIS identified significant adverse shadow impacts on an open space resource at the Atlantic Terminal Houses and mitigation measures were developed to improve that open space. Also, incremental shadows on the Church of the Redeemer from Site 5, were determined to reduce light through its stained glass windows. The project sponsors and the Church reached an agreement to undertake measures to offset and address the shadow impacts.

As described in the 2006 FEIS, the Design Guidelines envelopes were developed to provide flexibility and allow for the final design of the individual buildings to evolve as the Project is built out. The 2006 FEIS shadows analysis was prepared using a 3D model of the Project that depicted building forms that were guided by the Design Guideline envelopes. As mentioned above, proposed modifications to the Phase II program are under consideration, including a shift of up to approximately 208,000 gsf of floor area from the Arena Block to certain Phase II parcels. This shift in floor area would not require modification of the Design Guidelines or the maximum square footages for each building or for the overall Project as detailed in Exhibit C of the 2009 MGPP; however this shift would increase the potential for several of the Phase II buildings to be built up to the maximum floor area and bulk permitted by those Design Guidelines. Therefore, a screening assessment examining the effects of additional bulk that would maximize the build-out of certain Phase II building forms as per the Design Guideline envelopes was prepared, and concluded that even with the proposed shift in floor area from Phase I to Phase II, as described above, the Extended Build-Out Scenario would not change the conclusions of the 2006 FEIS with respect to potential shadows impacts. Moreover, an assessment of the area within the shadow sweep of the Phase II buildings and examination of the list of No Build projects in this area establish that no new sun-sensitive resources have been identified in this area since preparation of the 2006 FEIS. The stipulations in the MEC with respect to the Atlantic Terminal Houses open space and the Church of Redeemer would not be affected by a prolonged Phase II completion or the proposed changes to the 2009 MGPP.

HAZARDOUS MATERIALS

The completion of Phase II of the Project at a later date would not affect the conclusions in the 2006 FEIS for hazardous materials. Construction and development of the Phase II components would have the same potential for exposure and require the same commitments as described in the 2006 FEIS and Amended Memorandum of Environmental Commitments. However, Chapter 3G, “Construction Hazardous Materials,” of the SEIS will provide an update of conditions with respect to hazardous materials on the Project site since the 2006 FEIS.

INFRASTRUCTURE

Neither a delay in the completion of Phase II of the Project nor the proposed modifications to the 2009 MGPP described above would affect the Project’s Phase II programming in a manner that would alter the water and sewer infrastructure demands of the Project. Many of the water and sewer infrastructure improvements required for the completion of the Project have been completed, including new sewer pipe installation along Flatbush Avenue, installation of a new water main on the west side of Flatbush Avenue, installation of a new trunk water main and associated distribution main along Atlantic Avenue, and the relocation of certain storm water drains and discharges.

While the Extended Build-Out Scenario would delay the construction of the remaining off-site infrastructure improvements and infrastructure on the site itself (such as new site-sewer connections and stormwater controls), it would also result in a delay in additional demand for water and sewer service. Additionally, the delay in completing Phase II of the Project under the Extended Build-Out Scenario would not result in increased stormwater runoff and associated sewer system impacts since the existing conditions on the site would remain unchanged.

While continued development within the Red Hook Pollution Control Plant drainage area where the project site is located may add demand for sewer infrastructure capacity, ongoing NYCDEP infrastructure improvements and recently enacted NYCDEP regulations would ensure that this continued development, in combination with the Project’s infrastructure demand, would not overload sewer infrastructure.

NYCDEP is continuing work to upgrade sewer infrastructure in the area around the project, including upgrades to the Gowanus Canal Pump Station, which pumps sanitary and stormwater flows to the Red Hook Water Pollution Control Plant. Additionally, since the publication of the 2006 FEIS, the City released its Green Infrastructure Plan (*NYC Green Infrastructure Plan: A Sustainable Strategy for Clean Waterways, 2010*) which presents an approach to improving water quality by reinforcing public and government support for green infrastructure to control stormwater runoff, in addition to building targeted traditional infrastructure. A critical goal of the Green Infrastructure Plan is to manage runoff from impervious surfaces through detention and infiltration source controls. In support of this goal, in 2012 NYCDEP released a new stormwater performance standard: new developments applying for NYCDEP site connection approvals must design stormwater controls and apply BMPs so that the rate of stormwater flowing from the site to sewers must not exceed 10 percent of the allowable flow or 0.25 cubic feet per second, whichever is less. (Allowable flow is the stormwater flow from a development that can be released into existing storm or combined sewer based on the drainage plan for the area and built sewers.) The intended result of this standard is to slow the flow of stormwater to the sewers in order to decrease the stress on the sewer infrastructure during rain events and to reduce the incidence of combined sewer overflows. The performance standard, which is

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applicable city-wide, is more stringent than what was analyzed in the 2006 FEIS; all buildings constructed as part of the Project would be required to conform to this standard.

Going forward, in the 20 years from the release of the 2010 Green Infrastructure Plan, DEP is planning for \$2.4 billion in public and private funding for targeted green infrastructure installations, as well as \$2.9 billion in cost-effective grey infrastructure upgrades to reduce combined sewer overflows (CSOs) in the city overall. The City estimates that approximately 1.5 billion gallons of CSO flows will be removed annually by 2030 through the application of green infrastructure alone.

In terms of the Project, specifically, the completion of Phase II of the Project at a later date would not obviate the project sponsors' obligations for the provision of adequate infrastructure on and around the site, including water supply and sewer infrastructure and measures to control stormwater runoff. The stormwater and sewage minimization measures outlined in the Amended Memorandum of Environmental Commitments would be constructed as previously agreed upon, and the required stormwater controls and BMPs to minimize stormwater and sanitary flow would be brought on line as each Phase II building is constructed to satisfy the requirements of the aforementioned NYCDEP Site Connection Proposal for each building.

Neither a delay in the completion of Phase II of the Project nor the proposed modifications to the 2009 MGPP would affect the Project's Phase II programming in a manner that would alter the solid waste and energy demands of the Project. The solid waste generated by development associated with Phase II of the Project would be accommodated by The New York City Department of Sanitation (DSNY) solid waste collection services (for solid waste generated from residential uses) and private contractors (for solid waste generated by commercial users) at the completion of the Project. Similarly, a delay in the completion of Phase II of the Project would not obviate the need for localized upgrades in electrical and gas transmission lines; these would be completed at the appropriate time to support Phase II development.

PUBLIC HEALTH

The SEIS evaluates potential air quality and noise impacts from the prolonged delay in the completion of Phase II of the Project under the Extended Build-Out Scenario. As described in Chapters 4E and 4G, Phase II of the Project would not result in significant adverse air quality or noise impacts in the operational condition. Therefore, a public health analysis of the operational condition is not warranted. *