Final Scope of Work for a Supplemental Environmental Impact Statement for the Atlantic Yards Arena and Redevelopment Project

A. INTRODUCTION

This document is the Final Scope of Work (Final Scope) for the Supplemental Environmental Impact Statement (SEIS) for the Atlantic Yards Arena and Redevelopment Project (the Project) in Brooklyn, New York. The SEIS is being 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).

This Final Scope has been prepared to describe Phase II of the Project, outline the proposed framework for the SEIS analysis, and discuss the procedures to be followed in the preparation of the SEIS. This SEIS will be prepared pursuant to the State Environmental Quality Review Act (SEQRA) and its implementing regulations. The 2012 *CEQR Technical Manual* will serve as a general guide on the methodologies and impact criteria for evaluating potential effects on the various environmental areas of analysis. ESD is serving as lead agency under SEQRA.

A Draft Scope of Work (Draft Scope) for the project was issued on December 19, 2012. Oral and written comments were received during a public scoping session held by ESD on February 27, 2013 at St. Francis College at 182 Remsen Street in Brooklyn. Written comments were accepted from the issuance of the Draft Scope through the public comment period, which ended on March 14, 2013.

Because the project sponsors have further developed the design of certain buildings, modifications to certain project elements are being proposed. The proposed modifications include:

- a shift of up to approximately 208,000 gross square feet (gsf) of floor area that was anticipated as part of the Phase I development program into the Phase II development program, thereby increasing the maximum total floor area of Phase II from approximately 4,434,000 gsf to approximately 4,642,000 gsf.
- modifications to the number of parking spaces and the location of parking facilities to be provided on the project site, reducing the total number of Project parking spaces from 3,670 spaces to 2,896 spaces.

The proposed modifications would not alter the maximum number of residential units and required affordable units of the Project, the maximum floor area for each building or the total floor area of the Project.

The proposed modifications would not change any of the uses of the Project buildings. Each Project building would remain subject to the Design Guidelines that have been approved for the Project. The Design Guidelines establish, among other things, the maximum height and bulk of each of the Project buildings. Each Project building would also remain subject to the individual building height and individual building maximum floor area limits specified in Exhibit C to the 2009 Modified General Project Plan (the 2009 MGPP). The existing approved bulk envelopments for the Phase II buildings in the Design Guidelines and the floor area limits for each of the Phase II buildings as set forth in Exhibit C to the 2009 MGPP could accommodate the proposed shift of 208,000 gsf of floor area to Phase II without being modified.

An alternative to be analyzed in the SEIS would assess the potential environmental impacts of a further reduction in the proposed number of parking spaces for the Project. The proposed modifications and this alternative are discussed in more detail below.

The Final Scope reflects changes made in response to relevant public comments on the Draft Scope, as well as the proposed modifications outlined above. The term "Extended Build-Out Scenario" as used herein refers to the Project with an assumed 2035 completion date pursuant to the Court Order referenced above, with the proposed modifications described above.

Deletions from the Draft Scope are not shown in this document. However, where relevant and appropriate, new text and editorial changes to the Draft Scope have been incorporated into the Final Scope.

B. PROJECT BACKGROUND

In November 2006, the New York State Urban Development Corporation, a public benefit corporation of New York State doing business as ESD, in cooperation with the Metropolitan Transportation Authority (MTA) and the City of New York (the City), prepared the Final Environmental Impact Statement (FEIS) for the Project. The FEIS was prepared under SEQRA, codified at New York Environmental Conservation Law Article 8, and its implementing regulations adopted by the New York State Department of Environmental Conservation (NYSDEC) and codified at Title 6 of the New York Code of Rules and Regulations (N.Y.C.R.R.) Part 617 (the SEQRA Regulations), with ESD as the lead agency. In December 2006, ESD adopted its SEQRA findings. In December 2006, ESD also affirmed a Modified General Project Plan (the 2006 MGPP) for the Project.

The 2006 MGPP and FEIS described and examined the Project in two phases (Phase I and Phase II). Phase I is comprised of an Arena, four other buildings (Buildings 1, 2, 3 and 4) and a new subway entrance on the Arena Block, which is located at the southeast corner of Atlantic and Flatbush Avenues, in the area bounded by Atlantic, Sixth and Flatbush Avenues and Dean Street. Phase I also includes a building on Site 5, which is located at the southwest corner of Atlantic and Flatbush Avenues, and a new rail yard and associated facilities for the Long Island Rail Road (LIRR) south of Atlantic Avenue in an area spanning portions of the Arena Block to Vanderbilt Avenue. In addition, Phase I includes parking facilities located on the Arena Block, Site 5 and south of Atlantic Avenue between Sixth and Vanderbilt Avenues, including temporary parking facilities on Block 1129, between Vanderbilt Avenue, Carlton Avenue, Pacific Street, and Dean Street. Phase II comprises a platform over the new LIRR yard, 11 buildings (Buildings 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 and 15) south of Atlantic Avenue between Sixth and Vanderbilt Avenues, below-grade parking facilities in that area, and 8

acres of publicly accessible open space in that area. Phase I includes all components of the Project west of 6th Avenue and some components east of 6th Avenue; all Phase II components are east of 6th Avenue.

In connection with the preparation of the 2006 FEIS and 2006 MGPP, Design Guidelines for the Project were prepared in close consultation with the New York City Department of City Planning. The Design Guidelines were annexed as Exhibit B to the 2006 MGPP and provide a design framework for the Atlantic Yards development. They establish "general goals and objectives" for the Project as a whole and provide specific design guidelines for each development parcel and the 8 acres of publicly accessible open space. The Design Guidelines also incorporate their own appendices that include drawings defining an envelope for each building, with dimensions establishing height limits and setback requirements.

The 2006 MGPP also included a one-page exhibit (Exhibit C) titled "Atlantic Yards Building Heights & Square Footages." This document contains a table with the maximum height and floor area (in gsf) for each building, as well as the maximum floor area for Phase I of the Project, for Phase II of the Project, and for the Project as a whole.

In June 2009, ESD approved a resolution adopting certain modifications to the 2006 MGPP as set forth in a second Modified General Project Plan (2009 MGPP). The 2009 MGPP did not modify the Design Guidelines, which were annexed as Exhibit B to the 2009 MGPP. The 2009 MGPP also did not modify Exhibit C to the 2006 MGPP, which was annexed as Exhibit C to the 2009 MGPP.

A Technical Memorandum (2009 Technical Memorandum) was prepared that described the proposed modifications, changes related to design development, changes to the Project's schedule, and changes in background conditions and (employing certain updated *CEQR Technical Manual* methodologies) assessed whether the Project as envisioned would result in any new or different significant adverse environmental impacts not previously identified in the FEIS. The 2009 Technical Memorandum discussed shifts in completion years for Phase I of the Project from 2010 to 2014, and full build-out from 2016 to 2019. In addition, the 2009 Technical Memorandum assessed the potential for a delayed completion of Building 1 (the commercial building on the Arena Block) as well as a post-2019 build-out scenario for the Project, for which 2024 was selected as a hypothetical completion year.

On the basis of the FEIS and 2009 Technical Memorandum ESD determined that an SEIS was not required or warranted in connection with the 2009 MGPP. However, that determination was challenged in a proceeding before the Supreme Court for New York County. In a Decision and Order dated November 9, 2010, the Court directed ESD to make additional findings on the effect of certain Project-related agreements on the schedule for construction of the Project, and on whether an SEIS should be prepared.

Thereafter, a second technical memorandum (the 2010 Technical Analysis) was prepared to comply with that order. The 2010 Technical Analysis evaluated the potential for new significant adverse environmental impacts not previously disclosed in the FEIS from a prolonged delay beyond the 2024 hypothetical completion year assessed in the 2009 Technical Memorandum. For analysis purposes, the potential post-2024 condition was assumed to extend to 2035. On the basis of the FEIS, the 2009 Technical Memorandum and the 2010 Technical Analysis, ESD determined that an SEIS was not warranted. That determination was subsequently challenged.

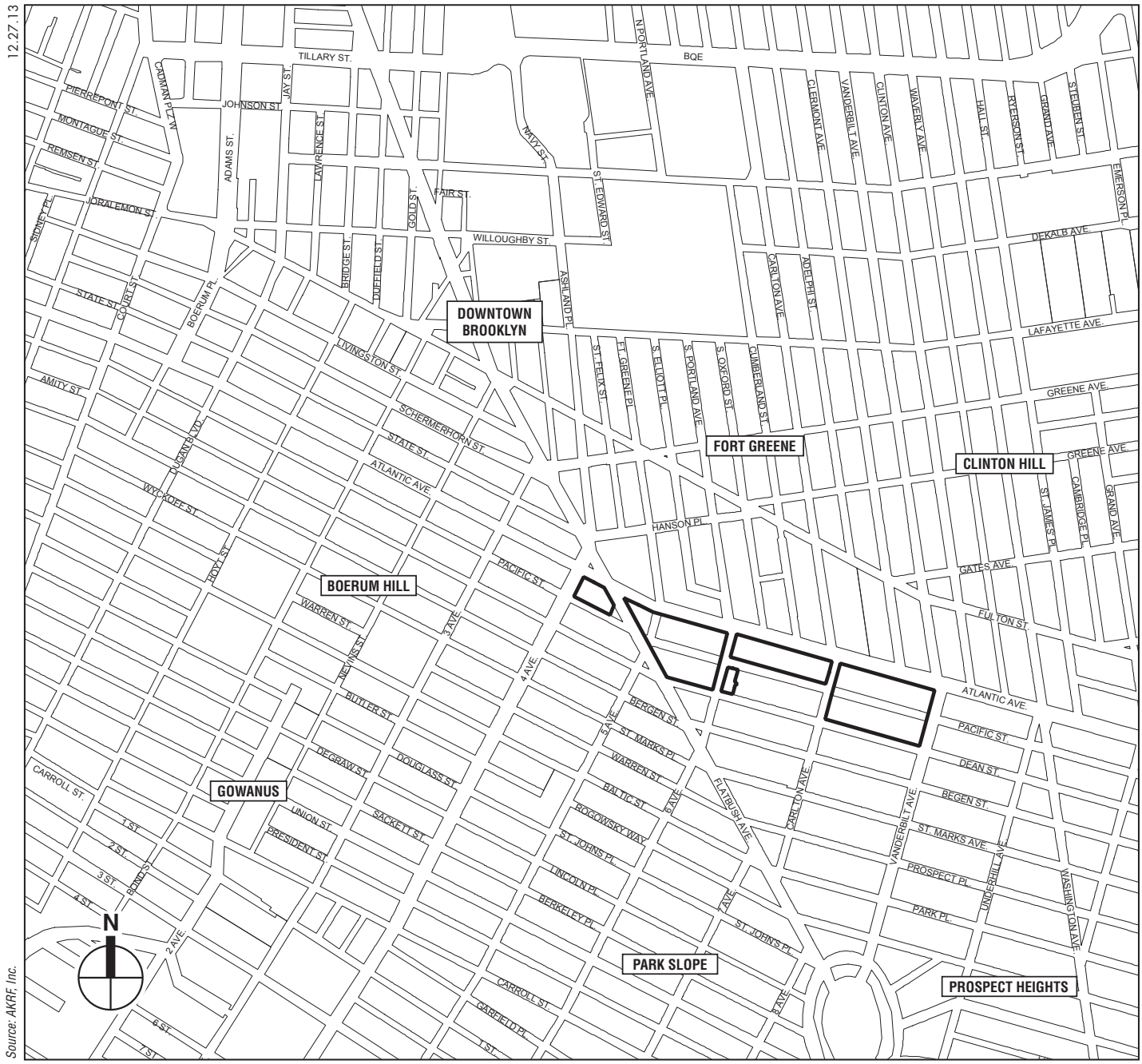
In an Order dated July 13, 2011, the Court rejected the SEQRA challenges to Phase I of the Project, "[g]iven the extent to which construction of Phase I has already occurred, under a plan which has been subjected to and withstood challenge," noting that "this is not a case in which the Project has been implemented without any prior 'valid environmental review.'" However, the Order, while allowing Phase I of the Project to proceed, remanded "the matter…to ESD for further environmental review consistent with this decision, including preparation of a Supplemental Environmental Impact Statement assessing the environmental impacts of delay in Phase II construction of the Project; the conduct of further environmental review proceedings pursuant to SEQRA in connection with the SEIS, including a public hearing if required by SEQRA; and further findings on whether to approve the MGPP for Phase II of the Project." In 2012, that Order was affirmed by the Appellate Division of State Supreme Court.

PROJECT ANALYZED IN THE 2006 FEIS

The Project analyzed in the 2006 FEIS involved the redevelopment of 22 acres in the Atlantic Terminal area of Brooklyn, New York. The project site is roughly bounded by Flatbush and 4th Avenues to the west, Vanderbilt Avenue to the east, Atlantic Avenue to the north, and Dean and Pacific Streets to the south (see **Figure 1)**. The Project is a land use improvement and civic project of ESD, and would eliminate blighted conditions in the area by implementing development that would include a new Arena for the New Jersey Nets National Basketball Association team (which is now completed), along with commercial office and retail, possible hotel, open space, and residential uses, including affordable housing. The Project would also partially relocate, platform over, and improve the LIRR Vanderbilt Yard (rail yard), which, together with a New York City Transit (NYCT) yard for retired buses, occupies approximately nine acres of the project site. (The buses have been removed since completion of the FEIS.)

The FEIS analyzed two build years for the Project: 2010 (assuming completion of Phase I), which included development of the entire program slated for the project site west of 6th Avenue, the new LIRR rail yard and new parking facilities; and 2016 (assuming completion of Phase II), when the buildings at the eastern end of the project site—together with the Phase I development—were assumed to be developed and occupied. At full Build-Out, the approved Project would comprise the 150-foot-tall Arena and 16 other buildings with maximum heights ranging from approximately 184 feet to approximately 620 feet.

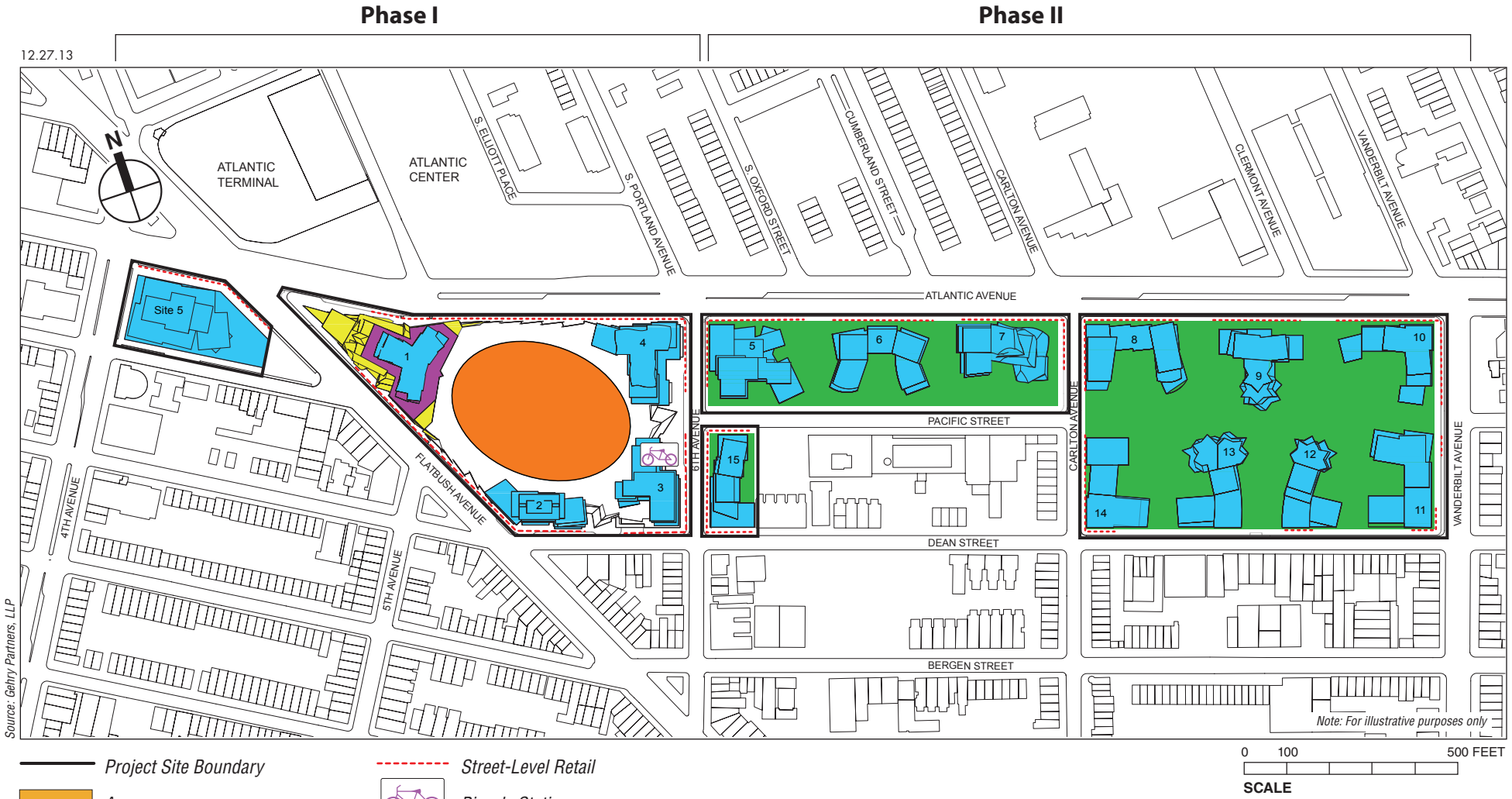
The FEIS examined two variations of the project program, reflecting what was anticipated as the range of reasonable worst-case development scenarios for the programming of three of the Project's 17 buildings: (1) a residential mixed-use variation containing approximately 336,000 gross square feet (gsf) of commercial office space, 165,000 gsf of hotel use (approximately 180 rooms), 247,000 gsf of retail space, and up to 6.4 million gsf of residential use (approximately 6,430 units); and (2) a commercial mixed-use variation, which would permit more commercial office use in three buildings closest to Downtown Brooklyn and would contain approximately 1.6 million gsf of commercial office space, 247,000 gsf of retail space, and up to approximately 5.3 million gsf of residential use (approximately 5,325 units). Both variations would provide eight acres of publicly accessible open space, and an enclosed, publicly accessible Urban Room. Both variations also assumed that community facility uses would occupy portions of the retail and residential space. In addition, both program variations included approximately 3,670 parking spaces (see **Table 1** and **Figures 2 and 3**). Finally, both variations included as part of the Project a new subway entrance at the southeast corner of Atlantic and Flatbush Avenues, which would provide direct pedestrian



SEIS - Atlantic Yards Arena and Redevelopment Project

Project Location

Figure 1



SEIS • ATLANTIC YARDS ARENA AND REDEVELOPMENT PROJECT

Residential Mixed-Use Variation Site Plan

Figure 2

SEIS • ATLANTIC YARDS ARENA AND REDEVELOPMENT PROJECT

Commerical Mixed-Use Variation Site Plan

Figure 3

Table 1
FEIS Residential and Commercial
Mixed-Use Variation Programs for 2010 and 2016

Uses†	Residential Mixed-Use Variation	Commercial Mixed-Use Variation
FEIS Analysis Year: 2010 (Phase I: Development of Arena Block and Site 5)		
Residential	2,085,000 gsf (2,110 units)	994,000 gsf (1,005 units)
Hotel (180 rooms)	165,000 gsf	0 gsf
Retail	91,000 gsf	91,000 gsf
Commercial	336,000 gsf	1,606,000 gsf
Arena	850,000 gsf	850,000 gsf
Parking (spaces)	2,346 spaces	2,346 spaces
Private Open Space	±1 acres	±1 acres
Publicly Accessible Open Space	0 acres	0 acres
FEIS Analysis Year: 2016 (Phase I and Phase II: Full Build-Out)		
Residential[1]	6,363,000 gsf (6,430 units)	5,272,000 gsf (5,325 units)
Hotel (180 rooms)	165,000 gsf	0 gsf
Retail[1]	247,000 gsf	247,000 gsf
Commercial	336,000 gsf	1,606,000 gsf
Arena	850,000 gsf	850,000 gsf
Parking (spaces)	3,670 spaces	3,670 spaces
Private Open Space	±1 acres	±1 acres
Publicly Accessible Open Space	8 acres	8 acres

Notes:
[1]A portion of the retail and residential space is expected to house community facilities.
†An additional 100,000 gsf, not included in this table, may be built for a public school at the project site.

access at the western end of the project site to the Atlantic Avenue/Pacific Street subway complex. In addition, the Project as described in the FEIS also would include several roadway and pedestrian circulation changes near the project site.

MODIFICATIONS CONSIDERED IN THE 2009 TECHNICAL MEMORANDUM

In June 2009, ESD approved a resolution adopting certain modifications to the 2006 MGPP in a revised Modified General Project Plan (the 2009 MGPP). The 2009 MGPP allowed the project sponsors (affiliates of Forest City Ratner Companies) to acquire certain areas of the project site and the air rights over the rail yard in stages, rather than all at once at the outset of the Project. In addition, certain design changes were made to the Project. In a letter to the Speaker of the State Assembly dated December 20, 2006 (and thus after the FEIS), Forest City Ratner Companies (FCRC) stated that it would cap the height of the Project's tallest building (Building 1) at less than 512 feet so that the Williamsburgh Savings Bank building would remain the tallest building in Brooklyn. (Subsequently, new residential buildings at 388 Bridge Street and 111 Lawrence Street surpassed the height of the Williamsburgh Savings Bank building.) At that time, it was assumed that the floor area of Building 1 eliminated by a height reduction would be distributed to the other Phase I buildings within the Design Guideline bulk envelopes for those buildings.

Other design changes included the elimination of private open space on the roof of the Arena; changes to the arena footprint and design layout that resulted in a relocation of 100 parking spaces off the Arena Block; reconfiguration of the LIRR rail yard including a partial relocation of the LIRR drill track; retaining the existing 6th Avenue Bridge; and crosswalk widenings and other changes to lay-by lanes on the Arena Block.

CURRENT PROJECT STATUS

Since approval of the project in December 2006, a number of project-related construction and design tasks have been undertaken. 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 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 (on which ground was broken on December 18, 2012). Concurrently, ESD and the project sponsors have implemented many of the commitments and mitigation measures described in the FEIS and *Amended 2009 Memorandum of Environmental Commitments* (MEC) and have provided relocation assistance to residents and businesses displaced from the project site. ESD maintains an active website to provide updates on the Project and a venue for public information on the Project's construction.

Progress to date on key construction and mitigation tasks includes:

- **Site Clearance:** Abatement and demolition work has been completed across most of the project site.
- **Water and Sewer Improvements:** The water and sewer infrastructure work for Phase I of the Project has 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.
- **Street Network and Roadway Improvements:** Portions of Pacific Street and 5th Avenue have been permanently closed, and the new traffic flow has been implemented. Traffic flow on Pacific Street between 4th and Flatbush Avenues has been reversed from one-way westbound to one-way eastbound. The segment of 4th Avenue between Atlantic and Flatbush Avenues has been converted to one-way southbound to improve traffic flow at the Flatbush Avenue/Atlantic Avenue/4th Avenue intersection. Curb extensions have been completed at various locations along Atlantic Avenue, Flatbush Avenue, Dean Street, Pacific Street and 4th Avenue. Raised medians along Atlantic Avenue east of Flatbush Avenue are complete.
- **Rail Yard Reconfiguration:** Construction of the temporary LIRR rail yard has been completed. Work in anticipation of the new LIRR permanent rail yard is underway. Work related to the demolition and reconstruction of the Carlton Avenue Bridge, necessary for construction of the new yard, has been completed and the new bridge was opened to traffic in September 2012.
- **Subway Entrance:** The new subway entrance at the southeast corner of Atlantic and Flatbush Avenues has been completed and has been operational since September 2012.
- **Arena Construction:** Arena construction has been completed, and the arena was opened in September 2012.
- **Building 2 Construction**: Construction has commenced on Building 2, the first residential building on the Arena Block, and is expected to be completed in late 2014.

- **Building 4 Design**: On October 17, 2013, ESD approved certain minor modifications to setbacks along 6th Avenue at all levels of the building and at the upper portion of the southern façade of Building 4 as specified in revised Design Guideline Drawings SK-1935, SK-1943 and SK-1944.
- **Measures to reduce or Avoid Construction Impacts:** ESD has been monitoring the conformity of construction to the requirements of the MEC. MEC measures include the following items (among others): Maintenance and Protection of Traffic (MPT) Plans have been implemented to minimize traffic disruption during construction; New York City Department of Buildings (DOB)-approved rodent control measures have been implemented on the project site; measures such as vibration monitoring and Phase 1B archaeological studies have been taken to protect historic resources during construction; an emissions reduction program has been implemented, including the requirement to use ultra-low sulfur fuel and diesel particulate filters on certain construction equipment; and the project sponsors have offered double-glazed or storm windows and air conditioning units to all affected sensitive uses as identified in the FEIS (e.g., residential, community facility, houses of worship) to partially mitigate the project's noise impacts during construction.
- **Relocation:** Former project site residents and businesses have been provided with relocation offers by the project sponsors, and the majority of the buildings on the project site have been vacated.
- **Barclays Center Transportation Demand Management Final Plan (TDM Final Plan):** A draft TDM Plan was presented to the local community and public officials in late May 2012 in preparation for the opening of the Arena. The primary goals of the Plan are to encourage transit use and to reduce the use of automobiles for travel to Arena events. The Plan outlines measures to inform Arena patrons of mass transit options; enhance mass transit service during post-game peak hours; develop event day operational plans; reduce on-site parking on Block 1129 in the Arena-opening condition; encourage bicycling as a means to and from the Arena with the provision of free, secured bike parking for event ticket holders; and develop a coordinated parking system within the area. The public comment period on the draft TDM Plan closed on July 3, 2012 and a Final TDM Plan was accepted by ESD in August 2012. One element of the TDM Plan was the reduction of Arena-parking on Block 1129 from the 1,100 spaces assumed in the 2009 Technical Memorandum to 541 parking spaces for event-goers (and an additional 24 parking spaces on Block 1129 reserved for NYPD use) in the Arena opening condition; this is a reduction of 535 parking spaces from the 1,100 spaces assumed in the 2009 Technical Memorandum.

  Additionally, a program was undertaken to observe transportation conditions and to assess the effectiveness of the TDM Plan. This program included travel pattern surveys of event attendees. There was also a post-opening traffic study focused on approximately 56 intersections in the vicinity of the Arena in early 2013 as required by the 2006 FEIS. In June 2013, the results of the program were shared with the public and confirmed that the TDM Plan was successful in meeting the goals for the program established in the 2006 FEIS.

PROPOSED JOINT VENTURE

In December 2013, Forest City Enterprises, Inc. (FCE) announced that FCE and Shanghai-based Greenland Group Co. (Greenland) had signed an agreement for a joint venture to

develop portions of Phase I of the Project and all of Phase II of the Project. As described by FCE, Barclays Center and Building 2 would not be assigned to the joint venture, but the joint venture would: complete construction of the new LIRR rail yard; build the platform over the new rail yard; build Buildings 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 and 15 and Site 5; create the 8-acres of publicly accessible open space; and make certain modifications to the Barclays Center roof. It is expected that the joint venture transaction will close in 2014, but the closing of the agreement is subject to certain regulatory approvals, including the Committee on Foreign Investment in the United States and the government of China. As further described by FCE, under the proposed joint venture an affiliate of Greenland would acquire a 70 percent ownership interest in the Project (excluding the Arena and B2, as noted above), co-develop the Project with FCE and its affiliates, and pay for 70 percent of its development costs going forward. In its filing with the Securities and Exchange Commission on December 10, 2013, FCE stated that the creation of the proposed joint venture "will help accelerate vertical development of the project, including the delivery of affordable housing." The statement also noted that "Forest City would manage the day-to-day activities on behalf of the JV, which would develop the project consistent with the approved master plan [i.e., the 2009 MGPP and Design Guidelines]."

PROPOSED PROJECT MODIFICATIONS TO BE CONSIDERED IN THE SEIS

As project planning has progressed, the project sponsors have further developed the design of certain buildings and propose modifications to certain project elements. None of the proposed uses of the project buildings would change; in addition, they would all still need to conform with the Design Guidelines and the maximum square footages for each building and for the overall Project as detailed in Exhibit C of the 2009 MGPP. The maximum number of residential units and required affordable units would not be altered by the proposed modifications. At this time the project sponsors are proposing two modifications: a shift in approximately 208,000 gsf of floor area from Phase I to Phase II; and a reduction in the number of on-site parking spaces, as described further below:

PROPOSED SHIFT OF FLOOR AREA FROM PHASE I TO PHASE II

The 2006 FEIS analyzed a Phase I program that anticipated a certain amount of programming to be developed within the maximum building envelopes for each of the development sites on both the Arena Block and on Site 5. As described in the 2009 Technical Memorandum, it is assumed that the height of Building 1 would be reduced from 620 feet (as analyzed in the 2006 FEIS) to 511 feet, so that this structure would be less than the height of the nearby Williamsburgh Savings Bank building. In December 2006, when the project sponsors agreed to limit the height of Building 1 to 511 feet, it was anticipated that the floor area that would be lost in Building 1 could be accommodated within the maximum design envelopes of the other proposed buildings on the Arena Block (Buildings 2 through 4). At the time, these buildings were designed to be integrated with the Arena, with portions of their envelopes extending above the arena. Because the Arena has been developed as a stand-alone building, it is no longer feasible to utilize the full envelope of Buildings 2 through 4 as set forth in the Design Guidelines and as a result, it is likely that the Phase I program will be slightly less than as described in the 2006 FEIS. Therefore, the project sponsors propose to shift up to approximately 208,000 gsf of floor area that was anticipated as part of the Phase I development program into the Phase II development program. This shift in floor area would be distributed among the Phase II residential buildings and is anticipated to be allocated to the

buildings proposed for Block 1129 (Buildings 11, 12, 13 and 14), Block 1128 (Building 15) and Block 1120 (Building 6). The maximum building envelopes for the Phase II buildings as set forth in the Design Guidelines and the maximum square footages for each building and for the overall Project as detailed in Exhibit C of the 2009 MGPP would not be affected by this proposed shift in floor area.

PROPOSED REDUCTION IN ON-SITE PARKING

With respect to on-site parking, the data collected from the opening of the Barclays Center on September 28, 2012 through the last day of the first Nets season on May 4, 2013 show that during this time period there were an average of 122 automobiles parked on Block 1129 for an Arena event, and an average of 160 automobiles parked on Block 1129 for a Nets game. Only six events at the Arena during this time period resulted in more than 300 event-related automobiles using the parking lot on Block 1129. Consequently, as project planning has progressed, the project sponsors have proposed modifications to the number of parking spaces and the location of parking facilities to be provided on the project site.

The 2006 FEIS analyzed a parking plan that anticipated a total of 3,670 parking spaces on the project site. These spaces included: a below-grade parking facility with approximately 350 parking spaces below Building 2 and Building 3 on the Arena Block; a below-grade parking facility with approximately 350 spaces in the southwest corner of Block 1120; a below-grade parking facility with approximately 450 spaces in the northeast portion of Block 1120; a below-grade parking facility with approximately 150 spaces below Building 15; a below grade parking facility with approximately 400 spaces below Site 5; and a below-grade parking facility with approximately 1,970 spaces on Block 1129.

Subsequently, in 2009 (as analyzed in the 2009 Technical Memorandum), due to the reconfiguration of below-grade space on the Arena Block, up to 100 spaces of the 350 spaces of parking that would have been provided under Building 2 were relocated from the Arena Block to Block 1129.

Building 2 is currently under construction and does not provide for any below-grade parking in its footprint.

The current proposed parking plan for the project site proposes between 50 and 100 parking spaces to be located below Building 3 on the Arena Block; the elimination of the below-grade parking facility on the southwest corner of Block 1120; and reducing the size of the below-grade parking facility on Block 1129 to account for the lower anticipated demand for on-site Arena parking.

Under this proposal, the overall total parking proposed on the project site would be reduced from 3,670 spaces as analyzed in the 2006 FEIS to 2,896 spaces. As discussed below, an alternative to be analyzed in the SEIS would further reduce the proposed number of parking spaces on the project site.

C. PROJECT COMPONENTS

As described in the FEIS, to allow the project to respond to market forces and to address needs for housing and commercial office space, the project would permit some flexibility in the development program for portions of the site within or close to the Special Downtown Brooklyn District. Therefore, at the time of the FEIS, two variations of the project program were under consideration to allow for flexibility in the program of three of the proposed

project's Phase I buildings: (1) a residential mixed-use variation and (2) a commercial mixed-use variation, which would allow for more commercial office use in the 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 FEIS, the program for Building 2 (currently under construction) has been finalized to include only residential and retail uses. Therefore, for the purposes of the 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 to that assumed in the 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 preparation of the 2006 FEIS and subsequent planning, the current program for Building 1 would include a smaller residential program in the residential mixed-use variation than that assumed in the FEIS, but the office, hotel and retail components in Building 1 would be the same as proposed in the FEIS. As mentioned above, Phase I is to be considered as part of baseline conditions for the Future Without Phase II (No Build condition).

Table 2 provides a comparison of the FEIS and SEIS residential and commercial mixed-use programs. As shown in the table, the Project would introduce a maximum total of 6,430 dwelling units (Phases I and II). The Phase II development 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, such as the intergenerational community center planned for Phase II of the Project which would include space for a child care facility.

Additionally, to partially mitigate the significant adverse impact on public schools identified in the 2006 FEIS, the project sponsors have committed to provide, at the election of the New York City Department of Education (DOE), adequate space for the construction and operation of a 100,000 gsf elementary and intermediate school in the base of one of the Phase II residential buildings. Therefore, the proposed program for the SEIS includes the development of the proposed 100,000 gsf school. The floor area for the proposed school would be in addition to the floor area indicated in **Table 2** (i.e., the proposed school would not replace any of the floor area dedicated to residential use in the Phase II building in which it would be located).

Table 2
Comparison of FEIS and SEIS Residential and Commercial Mixed-Use Variation Programs

Proposed Uses	2006 FEIS		SEIS	
	Residential Mixed-Use Variation	Commercial Mixed-Use Variation	Residential Mixed-Use Variation	Commercial Mixed-Use Variation
Phase I[1] : Development of Arena Block and Site 5				
Residential[3]	2,085,000 gsf (2,110 units)	994,000 gsf (1,005 units)	1,890,000 gsf (1,922 units)	1,329,000 gsf (1,498 units)
Hotel (180 rooms)	165,000 gsf	0 gsf	165,000 gsf	0 gsf
Retail[3]	91,000 gsf	91,000 gsf	91,000 gsf	91,000 gsf
Commercial	336,000 gsf	1,606,000 gsf	336,000 gsf	1,076,000 gsf
Arena[7]	850,000 gsf	850,000 gsf	662,000 gsf	662,000 gsf
Parking (spaces)	2,346 spaces[4]	2,346 spaces[4]	1,161-1,211 spaces[5]	1,161-1,211 spaces[5]
Private Open Space	±1 acres	±1 acres	0 acres	0 acres
Publicly Accessible Open Space	0 acres	0 acres	0 acres	0 acres
Phase II[2]: Development East of 6th Avenue[6]				
Residential[3]	4,278,000 gsf (4,320 units)	4,278,000 gsf (4,320 units)	4,486,000 gsf (4,508 units)	4,486,000 gsf (4,932 units)
Retail[3]	156,000 gsf	156,000 gsf	156,000 gsf	156,000 gsf
Parking (spaces)	2,920 spaces	2,920 spaces	2,396-2,446 spaces	2,396-2,446 spaces
Publicly Accessible Open Space	8 acres	8 acres	8 acres	8 acres
Phase I and Phase II: Full Build-Out[6]				
Residential[3]	6,363,000 gsf (6,430 units)	5,272,000 gsf (5,327 units)	6,376,000 gsf (6,430 units)	5,815,155 gsf (6,430 units)
Hotel (180 rooms)	165,000 gsf	0 gsf	165,000 gsf	0 gsf
Retail[3]	247,000 gsf	247,000 gsf	247,000 gsf	247,000 gsf
Commercial	336,000 gsf	1,606,000gsf	336,000 gsf	1,076,000 gsf
Arena[7]	850,000 gsf	850,000 gsf	662,000 gsf	662,000 gsf
Parking (spaces)	3,670 spaces	3,670 spaces	2,896 spaces	2,896 spaces
Private Open Space	±1 acres	±1 acres	0 acres	0 acres
Publicly Accessible Open Space	8 acres	8 acres	8 acres	8 acres

Notes: All gross square foot numbers are rounded to the nearest thousand.
[1] For the purposes of this SEIS, the Phase I program is considered as part of baseline conditions for the Future Without Phase II condition (No Build condition).
[2] For the purposes of this SEIS, the Phase II program is considered the Extended Build-Out Scenario, for the Future With Phase II condition (Build condition).
[3] A portion of the retail and residential space is anticipated to house community facilities. Approximately 13,000 gsf of retail space is located in the Arena.
[4] Includes 1,596 temporary spaces.
[5] Includes 711 temporary spaces that will be eliminated through the development of Phase II.
[6] Phase II (and thus the Full Build-Out) may also contain a 100,000 gsf public school at the option of DOE.
[7] The 662,000 gsf of Arena floor area does not include the approximately 13,000 gsf of retail space in the Arena.

D. PREPARATION OF THE SEIS

As required by the Court Order, the SEIS will be prepared to examine the potential environmental impacts of a prolonged delay in the completion of Phase II of the Project (i.e., the Extended Build-Out Scenario). The *CEQR Technical Manual* will serve as a general guide on the methodologies and impact criteria for evaluating potential effects on the various environmental areas of analysis. The SEIS will examine whether the mitigation for Phase II

imposed by ESD in 2006 (based on the 2006 FEIS and its 2016 build year) should be adjusted in light of the conclusions of the SEIS, and whether any additional mitigation should be imposed to account for any new or different environmental impacts from the prolonged construction of Phase II.

In addition, the SEIS will consider two proposed changes to the project program for Phase II: a proposed shift of approximately 208,312 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.

TASK 1. PROJECT DESCRIPTION

The first chapter of the SEIS will provide background information on the Project and steps taken by ESD and the project sponsors to implement the Project to date. The chapter will then describe Phase I and Phase II of the Project and review Project modifications and timeline changes since issuance of the 2006 FEIS. This chapter will discuss the Court Order, described above, allowing Phase I of the Project to proceed and ordering the preparation of an SEIS to assess the environmental impacts of a delay in the completion of Phase II. The chapter will explain that the purpose of the SEIS is to determine whether construction of Phase II (including the proposed modifications since the 2009 MGPP) with a potential 2035 "build year" (the year of assumed construction completion is called the "build year" in SEQRA documents) would have new or different significant environmental impacts than construction of Phase II with the 2016 build year that had been used in the FEIS.

TASK 2. ANALYSIS FRAMEWORK

This chapter will outline the specific analysis framework used to prepare the SEIS. The chapter will describe the environmental review process as it applies to the SEIS, describe the reasoning behind the chosen analysis years and study area(s), and outline 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 will then describe the two project development variations and lay out the three construction phasing plans analyzed the SEIS. Finally, the chapter will provide a screening of those technical analysis areas that would not be affected by a delay in Phase II construction or the proposed modifications to the 2009 MGPP that are under consideration.

The Project would introduce a maximum total of 6,430 dwelling units (Phases I and II). The Phase II development 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, and Phase II may also include a New York City public school.

With respect to potential operational impacts, the SEIS will assume the outside 2035 analysis year as the Phase II Build Year. In addition, the SEIS will include a detailed construction-period analysis for Phase II 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.

DEFINING THE BASELINE CONDITIONS

Future background conditions used for analysis in each technical area of the SEIS will be projected from existing conditions in 2013. Since the approval of the Project in 2006, a number of Project-related construction and design tasks have been undertaken. These Project-related changes have become part of the existing conditions on and around the Project site and will be incorporated into the analysis baseline.

Because the Court's Order is limited to the consideration of a delay in the Phase II construction activity, Phase I of the Project—including the Arena and the other Project buildings west of 6th Avenue and the new roadway configurations for the area and the parking plans for Phase I of the Project—will be assumed to be constructed in the background condition (the Future Without Phase II condition). Thus, all Phase I elements of the Project, including associated mitigation measures as well as any recent changes to the traffic network, will be assumed as part of the baseline conditions for the Future Without Phase II (2035).

A key component in the formulation of background conditions will be future development in area. Accordingly, the status of known development projects anticipated for completion through 2035 will be updated for the study areas examined in the FEIS. Updates to the No Build list (that is, the list of development projects that would be built with or without the Project) will be made through review of various sources, including DOB permits, identification of construction sites, and review of information provided by various organizations and agencies including the Downtown Brooklyn Partnership, New York City Economic Development Corporation, New York City Department of City Planning, and New York City Department of Housing Preservation and Development.

In addition, background conditions will be updated to include 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 the latest available 2010 Census data;
- New traffic counts 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 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;
- Current subway and local bus line haul data from the MTA to account for the passage of time and operations of the Project's new subway entrance;
- New noise measurements at locations surrounding the project site, using L_{10}, and $L_{eq(1)}$ noise descriptors to assess changes in noise levels due to new traffic circulation patterns.

Background conditions related to transportation analyses will be supplemented with data from surveys of Barclays Center patrons.

OPERATIONAL IMPACTS ASSESSMENT

The SEIS chapters examining the relevant technical areas will provide a description of existing conditions for 2013 and assessments of future conditions in 2035 without Phase II

(Future Without Phase II or the No Build condition) and with Phase II under the Extended Build-Out Scenario (Future With Phase II). The SEIS will assess the environmental impacts of the Future With Phase II compared to the Future Without Phase II, assuming a 2035 Build Year. Mitigation measures proposed for the Extended Build-Out Scenario will be compared to those identified in 2006 FEIS for full Build-Out (discussed below in Task 3). Differences between the two will be discussed including the need for new measures or adjustments to the FEIS mitigation.

Analysis Areas Not Included For Detailed Impact Assessment

There are technical areas of analyses that would not be affected by the completion of Phase II of the Project at a later date or the proposed modifications to the 2009 MGPP. 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 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 approximately 208,000 gsf of floor area from the Arena Block in Phase I to Phase II parcels would increase the floor area of Phase II. However, the location, uses and form of the Phase II buildings 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 the Design Guidelines and Exhibit C of the 2009 MGPP which details the maximum envelopes for each of the Phase II buildings approved by ESD in 2006. 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. Although the proposed reduction in the number of on-site parking spaces does not require a new analysis of land use, zoning and public policy for the Project, the SEIS Transportation Chapter will include a full assessment of the potential for adverse parking impacts as a result of the proposed reduction in the number of on-site parking spaces. Changes in zoning and public policy that have occurred since the 2006 FEIS will be assessed in the Construction section of the SEIS.

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 that were not previously identified in the FEIS. Neither the 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 New York State Office of Parks, Recreation and Historic Preservation. Therefore, 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 completion of Phase II of the Project at a later date would not affect the conclusions of the 2006 FEIS with respect to urban design or visual resources upon Project completion, because a delay in completing Phase II of the Project would not affect the bulk, uses, nor 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 approximately 208,000 gsf of floor area from the Arena Block to Phase II would increase the floor area of Phase II, but the location, uses and form of the Phase II buildings would not change. The Phase II buildings would continue to 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.

Shadows—The FEIS identified significant adverse shadow impacts on an open space resource at the Atlantic Terminal Houses and mitigation was developed to improve that open space. Also, incremental shadows on the Church of the Redeemer from the Project building on Site 5 would 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 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 and the maximum square footages for each building and for the overall Project as detailed in Exhibit C of the 2009 MGPP, but 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 FEIS and Amended Memorandum of Environmental Commitments. However, 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 infrastructure demands of the Project, 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. However, this section of the Analysis Framework chapter will assess whether conditions resulting from a delayed completion of the Phase II program—in combination with changes to background conditions throughout New York City, recently adopted New York City Department of Environmental Protection regulations and long-term plans, and infrastructure improvements already made as part of previous Project commitments—would warrant any additional stormwater analysis.

Public Health—The SEIS will evaluate the potential for air quality and noise operational impacts from the completion of Phase II of the Project in 2035. If these analyses determine that the Extended Built-Out Scenario would result in any unmitigated significant adverse impacts, a public health analysis will be undertaken. If no unmitigated significant adverse impacts are found in the above-mentioned analysis areas, a public health assessment in the SEIS is not warranted.

CONSTRUCTION PERIOD IMPACTS ASSESSMENT

The SEIS will include a detailed analysis of the construction of Phase II of the Project under the Extended Build-Out Scenario using three illustrative construction phasing plans (discussed below in Task 4) that consider concentrated periods of construction as well as less concentrated but more continuous construction for an extended period of time.

Analysis Areas Not Included For Detailed Assessment

There are technical areas of the construction analyses that would not be affected by the extended construction period for the Phase II development. Those 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. 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 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 FEIS and Amended Memorandum of Environmental Commitments. 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 FEIS. As noted above, the SEIS will include 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 will be reviewed and updated if necessary, 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. However, as noted above under the Operational Impact Assessment, this section of the Analysis Framework chapter will assess whether conditions resulting from a prolonged construction of the Phase II program would warrant any additional stormwater analysis.

Public Health—— The SEIS will evaluate potential air quality and noise impacts from the prolonged construction of the Phase II of the Project. If the air quality, noise, or hazardous materials technical analyses determine that the Extended Built-Out Scenario would result in any unmitigated significant adverse impacts, a public health analysis will be undertaken. If no unmitigated significant adverse impacts are found in the above-mentioned analysis areas, a public health assessment in the SEIS is not warranted.

TASK 3. OPERATIONAL ANALYSIS

SOCIOECONOMIC CONDITIONS

The analysis will consider whether the completion of Phase II by 2035 (under the Extended Build-Out Scenario) would result in new or different socioeconomic impacts, as compared to the completion of Phase II by 2016 (as analyzed in the 2006 FEIS). The analysis will focus on whether changes in background condition by 2035 and the introduction of the Phase II Program over an extended period of time would result in new or different significant adverse socioeconomic impacts as a result of direct displacement of residential population from the project site; indirect displacement of residential population in the study area; direct displacement of existing businesses from the project site; indirect displacement of businesses in the study area; or adverse effects on specific industries. The updated analyses will be conducted pursuant to the 2012 *CEQR Technical Manual* methodology.

COMMUNITY FACILITIES AND SERVICES

The Community Facilities and Services chapter will assess the potential impacts of Phase II of the Project on community facilities and services under the Extended Build-Out Scenario. The chapter will provide an updated detailed analysis of public schools and publicly funded day care facilities. These facilities are analyzed in detail in the chapter because the Extended Build-Out Scenario could affect the timing of significant adverse impacts relating to public schools and the potential for Phase II to result in significant adverse impacts to child care facilities. Therefore, an updated analysis of public schools and publicly funded day care facilities is warranted. To partially mitigate the significant adverse impacts on public schools, the Project sponsors committed to offer space for the construction of an elementary and intermediate public school in one of the Phase II buildings at the election of DOE. Additionally, it is anticipated that the project will include a 100-seat child care facility. As described in the MEC prepared in 2009, the project sponsors are also obligated to assess child care enrollment and capacity in the study area as the Project progresses, and, if necessary, work with the Administration for Children's Services to provide approximately 250 additional child care slots either on-site or in the vicinity of the site.

The updated analyses of both public schools and publicly funded child care centers will compile the most recent available enrollment and capacity data and will project conditions in the Future With Phase II based on the updated list of development projects and, in the case of public schools, the most recent available enrollment projections. The updated analyses will be conducted pursuant to the 2012 *CEQR Technical Manual* methodology.

The updated analyses will determine whether the changed background conditions and the Extended Build-Out Scenario would result in any significant adverse impacts not previously disclosed and whether any additional mitigation measures beyond those identified in the FEIS and the Amended Environmental Commitments Memorandum would be warranted.

The SEIS will also assess the need to address other community facilities, such as libraries, health care facilities, and fire and police protection.

OPEN SPACE

This chapter will assess the potential impacts of Phase II of the Project on open space resources under the Extended Build-Out Scenario to determine if completion of the Project in 2035 would result in new or different impacts not disclosed in the 2006 FEIS. The FEIS identified a temporary significant adverse open space impact on the ratio of acres of passive open space per 1,000 workers in the non-residential (¼-mile) study area during Phase II construction. This temporary open space impact would continue for a longer duration under the Extended Build-Out Scenario but would be addressed by the creation of the Phase II open space. Moreover, as each of the Phase II buildings is completed, the adjacent open space would be provided in conformance with the 2006 Design Guidelines, thereby gradually reducing and offsetting this temporary open space impact. An analysis of the duration of this temporary impact is presented in the Construction Open Space section of the SEIS. The operational SEIS analysis will include updates to the area's open space inventory and conditions, and project new population demands for open space resources. The updated baseline conditions established in this chapter are also needed for the analysis of potential impacts during construction of the Phase II development, as described under Task 4, "Construction."

TRANSPORTATION

The Transportation analyses will focus on the effects of the Phase II development with a 2035 completion year. As noted above, the Phase II development would include up to 4,932 dwelling units, 156,000 square feet of local retail and a public school in 11 buildings to be located on blocks 1120, 1121, 1128, and 1129 to the east of 6th Avenue. The Phase I development on the Arena Block and Site 5 is expected to be completed prior to the completion year and will be reflected in the future baseline condition with updated programming information for the B2 building currently under construction. Two program variations for Phase I development were assessed in the 2006 FEIS; a residential mixed-use scenario with 2,110 dwelling units, 336,000 gsf of office space, and an 180-room hotel, and a commercial mixed-use scenario with 1,005 dwelling units and 1,606,000 gsf of office space. Both of these scenarios would also include the arena, 91,000 gsf of local retail space and 3,670 on-site parking spaces. The commercial mixed-use variation was analyzed for the weekday peak hours in the FEIS as it would generate a greater amount of travel demand during these periods, whereas the residential mixed-use variation was analyzed for the Saturday peak periods. The SEIS Future Without Phase II transportation analyses will

therefore reflect the commercial mixed-use variation for weekday peak hours and the residential mixed-use variation for any Saturday peak hours analyzed, consistent with the FEIS analyses. The SEIS analyses will conform to the methodologies and criteria in the 2012 *CEQR Technical Manual*.

Traffic

The Phase II development program being analyzed would primarily consist of residential, local retail and community facility uses. As per typical *CEQR Technical Manual* requirements for this type of development, the SEIS traffic analysis will focus on the weekday AM and PM residential commuter peak periods as well as the weekday midday period, which is a peak period for retail activity. Although the substantial amount of travel demand generated by the Arena itself will be reflected in the Future Without Phase II condition, an analysis of the weekday pre-game and Saturday pre-game peak hours will also be included to assess the potential effects of Phase II residential and retail demand during periods of peak arena activity. The weekday and Saturday post-game peak periods for arena demand that were analyzed in the FEIS will not be included.

- The traffic analysis study area will consist of those intersections analyzed in the 2006 FEIS at which the development of Phase II is expected to (based on the 2006 FEIS) result in the addition of 50 or more peak hour vehicle trips, as well as any other intersections analyzed in the 2006 FEIS that were identified as being significantly adversely impacted by project-generated traffic in one or more peak hours in the FEIS. The specific number of intersections to be analyzed for the SEIS will be determined based on the assignment of Phase II vehicle trips and a review of the impact assessment in the FEIS.
- Travel demand that would be generated by the Arena in the Future Without Phase II will be based on the travel demand forecast in the 2006 FEIS and validated/refined using survey data collected during the first Nets season played at the Arena. Current census and *American Community Survey* data, and standard references including the 2012 *CEQR Technical Manual*, will be used to update the travel demand forecast for other Phase I components (residential and commercial) as well as forecast demand from other significant development sites planned in the vicinity of the study area by the 2035 analysis year. The Future Without Phase II traffic network will also reflect all changes to the street network, including project site street closures, planned as part of the Phase I development. Mitigation measures accepted for all Future Without Phase II projects and other NYCDOT initiatives will be included in the Future Without Phase II network, as applicable. The on-going event day traffic program will also be discussed.
- Along with demand from Phase I development and any other significant Future Without Phase II development projects, the 2035 Future Without Phase II traffic network will also include background growth based on a rate of 0.25 percent per year for years one through five, and 0.125 percent per year for subsequent years, as recommended in the 2012 *CEQR Technical Manual* for areas in the vicinity of Downtown Brooklyn. New vehicle trips from Phase II development will be applied to this 2035 Future Without Phase II baseline condition to assess the potential for significant adverse traffic impacts.

Transit

The subway station analysis in the 2006 FEIS examined conditions at six stations where project-generated demand is expected to exceed the *CEQR Technical Manual* analysis threshold of 200 trips per hour: the Atlantic Avenue IRT (2,3,4,5), Atlantic Avenue BMT

(B,Q) and Pacific Street BMT (D,N,R) stations (collectively referred to in the FEIS as the Atlantic Avenue/Pacific Street station complex); the Bergen Street IRT (2,3) station; the Lafayette Avenue IND (C) station; and the Fulton Street IND (G) station. The project sponsors, subsequent to the FEIS, made arrangements to have the Atlantic Avenue/Pacific Street station renamed Atlantic Avenue – Barclays Center station. Conditions at each of these stations were analyzed in the FEIS for the weekday 8–9 AM and 5–6 PM commuter peak periods, and the weekday 7–8 PM (pre-game) peak hour for an event at the arena.

Phase I development in the Future Without Phase II condition includes construction of a major new on-site street-level entrance and other internal circulation improvements at the southern end of the Atlantic Avenue – Barclays Center station complex. These improvements are expected to attract the majority of new project-generated demand from both Phase I and Phase II development, as well as some non-project demand that would otherwise have used existing subway station stairways, corridors and fare arrays. Along with demand from the Phase I development and any other significant Future Without Phase II development projects, the 2035 Future Without Phase II transit (subway and bus) analyses will also include background growth based on a rate of 0.25 percent per year for years one through five, and 0.125 percent per year for subsequent years, as recommended in the 2012 *CEQR Technical Manual* for areas in the vicinity of Downtown Brooklyn.

- Based on the updated travel demand for Phase II, the residential and local retail development associated with Phase II would not result in the addition of 200 or more trips per hour in any peak period at the Lafayette Avenue IND and Fulton Street IND stations. Therefore, the analysis of subway station conditions in the SEIS will focus on the Atlantic Avenue – Barclays Center station complex and the Bergen Street Station, with conditions at these stations analyzed for the weekday 8–9 AM and 5–6 PM commuter peak hours and the weekday 7–8 PM (pre-game) peak hour, consistent with the subway station analysis in the FEIS. An analysis of subway line haul conditions during the weekday AM and PM peak hours will also be provided, consistent with the line haul analysis in the FEIS.
- Analysis of local bus conditions in the SEIS will include those bus routes located within ¼ mile of the Phase II development sites. The analysis will focus on conditions in the peak direction at the maximum load point for each route during the weekday 8–9 AM and 5–6 PM commuter peak hours, consistent with the analysis in the FEIS.

Pedestrians

- Pedestrian demand generated by Phase II development is expected to be most concentrated on those sidewalks, corner areas and crosswalks located immediately adjacent to the development sites as well as along pathways between these sites and the new entrance to the Atlantic Avenue–Barclays Center station complex. The pedestrian analysis in the SEIS will therefore focus on sidewalks, corner areas and crosswalks adjacent to blocks 1120, 1121, 1128, and 1129, as well as those adjacent to the Arena Block that would be used by Phase II subway users. The pedestrian facilities adjacent to Site 5 and those along the Sixth Avenue corridor on the Arena Block or south of Dean Street and that were analyzed in the FEIS will not be analyzed in the SEIS, as these facilities are not expected to be used by appreciable numbers of Phase II pedestrians and/or were included in the FEIS to assess the effects of a planned widening of the 6th Avenue roadway that is no longer being considered for implementation. The SEIS analysis of pedestrian conditions will focus on the weekday AM and PM commuter peak

periods. Although the substantial amount of travel demand generated by the arena itself will be reflected in the Future Without Phase II condition, an analysis of the weekday 7–8 PM pre-game and Saturday 1–2 pre-game peak hours will also be included to assess the potential effects of Phase II residential and retail demand during a period of peak arena activity.

- Along with the Phase I improvements to the Atlantic Avenue–Barclays Center station complex, demand from Phase I development and any other significant Future Without Phase II development projects, the 2035 Future Without Phase II pedestrian analysis will also include background growth based on a rate of 0.25 percent per year for years one through five, and 0.125 percent per year for subsequent years, as recommended in the 2012 *CEQR Technical Manual* for areas in the vicinity of Downtown Brooklyn. Pedestrian demand from Phase II development will be applied to this 2035 Future Without Phase II baseline condition to assess the potential for significant adverse pedestrian impacts.

Parking

Under both the commercial and residential variations, sufficient parking spaces will be provided on-site to accommodate all of the anticipated demand from the Atlantic Yards Project's commercial and residential components, as well as a portion of the demand from the Arena. Updated parking forecasts for the Project will be prepared to document that on-site parking capacity would remain sufficient to accommodate this demand during the overnight peak period for residential demand and the weekday and Saturday midday peak periods for retail demand.

In addition, as the number of on-site parking spaces now expected to be provided for Arena patrons may be fewer than the 541 spaces currently provided for this purpose on Block 1129 and the 1,100 spaces that were assumed in the 2006 FEIS, the SEIS will also examine future off-street public parking conditions within ½ mile of the Arena (this being the maximum distance that Arena patrons would likely walk to access parking) to assess whether there would continue to be sufficient parking capacity in off-site public parking facilities to accommodate Arena demand in 2035. This analysis will focus on the weekday pregame and Saturday pregame (midday) periods, which are the peak periods for Arena demand.

AIR QUALITY

Operational analyses will generally be limited to potential impacts that may be worse than presented in the 2006 FEIS.

Compared to the FEIS, emissions from on-road (mobile sources) due to changes in the project's construction schedule are not anticipated to be significant. If potential increases in concentrations relative to the FEIS analysis are expected or if locations with potentially higher traffic volumes than the reasonable worst-case analyses presented in the FEIS are identified, a detailed mobile source microscale analyses will be prepared for carbon monoxide (CO) and/or particulate matter (PM), as necessary, at the affected intersection(s). Cumulative effects of the Project's parking facilities and on-street traffic will be evaluated, and an analysis will be performed as necessary.

An analysis of the Phase II development's stationary emissions sources will be performed to determine whether the air quality analysis in the FEIS requires updating. The stationary source air quality impact analysis will determine the effects of emissions from the Phase II

development's heating, ventilation and air conditioning (HVAC) systems on criteria pollutant levels. With respect to the pollutants that were assessed in the 2006 FEIS, a screening analysis will be prepared to determine whether a delay in Phase II construction, the proposed shift in floor area from Phase I to Phase II of the Project, or any other relevant changes to the Project, would result in emissions from the Phase II buildings that exceed the emission levels used to prepare the air quality analysis presented in the FEIS. The need for a detailed dispersion analysis will be determined based on this screening.

In addition to the analyses in the FEIS, this SEIS also considers the 1-hour average concentrations of nitrogen dioxide (NO_2) from the Project's HVAC systems under the current National Ambient Air Quality Standard (NAAQS) for 1-hour NO_2 concentrations. Accordingly, the 1-hour NO_2 concentrations of the Phase II buildings will be modeled on other project components (project-on-project impacts) and existing sensitive uses within the surrounding area (project-on-existing impacts). The SEIS will assess the use of specific fuel types based on design information from the project sponsors. The analysis will be performed using the EPA-developed AERMOD model and will consider plume impingement conditions (i.e., when the wind blows from the stacks toward buildings) and wake effects (i.e., when the wind blows from buildings toward the stacks). Recent available five years of meteorological data (LaGuardia Airport, 2008–2012) will be used for these simulation analyses. Potential cumulative impacts from stationary source associated with the Phase I and Phase II development programs will also be determined. Maximum total 1-hour concentrations of NO_2 will be compared with NAAQS.

NOISE

A summary of the environmental analysis findings to date as they relate to operational noise impacts will be provided. This chapter of the SEIS will be updated to account for the passage of time and changes to the traffic network configuration. The analysis for Phase II will address: 1) the effect of Phase II on noise levels in the adjacent community and 2) noise levels in the Phase II buildings. The analysis will include the following tasks:

- *Noise descriptors and Noise Receptors.* Consistent with CEQR requirements, the L_{10} and $L_{eq(1)}$ noise descriptors will be used for the noise analysis. The 12 noise receptors used for the detailed noise analysis in the FEIS will again be used for the SEIS analysis. In addition, noise receptor locations have been included on Atlantic Avenue between 6th and Carlton Avenues, and Dean Street between 6th and Carlton Avenues.
- *Determine existing noise levels.* Existing noise levels will be determined primarily by field measurements. Measurements will be made during five time periods—the weekday AM peak, weekday midday, weekday PM peak, weekday evening, and Saturday midday periods. At some locations continuous 24-hour noise measurements, rather than spot 20-minute measurements will be made. Measurements will be made using a Type I noise analyzer and will include measurements of L_{eq}, L_1, L_{10}, L_{50}, and L_{90} noise levels. Where necessary, measurements will be supplemented by mathematical model results to determine an appropriate base of existing noise levels.
- *Determine future noise levels with and without Phase II for 2035.* Future noise levels at each of the receptor locations will be determined using the Traffic Noise Model (TNM) as part of a detailed mobile source noise analysis. The predicted future noise levels will be compared to CEQR noise impact criteria to determine whether Phase II has the potential to result in significant adverse noise impacts at any of the receptor locations in the study area.

- *Determine compliance with CEQR interior noise level requirements.* An analysis will be performed based on predicted future noise levels to determine the level of building attenuation necessary for Phase II buildings to achieve compliance with CEQR interior level requirements.
- *Examine mitigation measures.* Recommendations of measures to attain acceptable interior noise levels and to reduce noise impacts to within acceptable levels (during operation of Phase II of the Project) will be made, if practicable. The SEIS will identify the potential conditions for which mitigation would not be practicable, if any.

This chapter will also compare any proposed mitigation measures for the operation of Phase II in the Extended Build-Out Scenario to the noise mitigation identified in the FEIS.

NEIGHBORHOOD CHARACTER

A summary of the environmental analysis findings to date as they relate to operational impacts on neighborhood character will be provided.

This chapter will review findings from relevant technical areas addressed in the SEIS to determine whether changed background conditions and the Extended Build-Out Scenario would result in any impacts not previously disclosed, and whether any mitigation measures would be required.

GREENHOUSE GASES AND CLIMATE CHANGE

The SEIS will include a greenhouse gas (GHG) emissions assessment, which will be performed in accordance with the *CEQR Technical Manual.* Such an analysis was not required at the time that the 2006 FEIS was completed; a GHG analysis is now typically conducted for larger projects undergoing an EIS. The GHG analysis will begin by quantifying project-generated GHG emissions and will assess the Project's consistency with the City's established GHG reduction goal. Operational emissions will be estimated for the 2035 analysis year and reported as carbon dioxide equivalent (CO_2e) metric tons per year. GHG emissions from construction will also be quantified. GHG emissions other than carbon dioxide (CO_2) will be included if they would account for a substantial portion of overall emissions, adjusted to account for the global warming potential. Relevant measures to reduce energy consumption and GHG emissions that could be incorporated into the proposed project will be discussed.

TASK 4: CONSTRUCTION IMPACTS

The 2006 FEIS found that construction would be disruptive to the surrounding area and nearby residential buildings during the period of construction. Overall, the 2006 FEIS analysis found that there would be significant adverse impacts during Phase II construction with respect to construction-related traffic impacts on the local street network, construction-related noise impacts, the demolition of an historic building, the former LIRR Stables at 700 Atlantic Avenue (the former Ward Bread Bakery complex at 800 Pacific Street has already been demolished), open space, and local neighborhood character.

The SEIS will assess the potential for impacts during the Phase II construction period through 2035 under the following illustrative construction phasing plans. These have been designed to consider concentrated periods of construction, as well as less concentrated but more continuous construction for an extended period of time. These illustrative phasing plans are

not intended to serve as a prediction of the exact schedule and 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 delayed build-out of Phase II. The three illustrative construction phasing plans will be as follows:

A. Construction Phasing Plan 1—Continuous sequential phasing with Block 1129 First;

B. Construction Phasing Plan 2—Continuous sequential phasing with Building 15 on Block 1128 first;

C. Construction Phasing Plan 3—Start and stop sequential phasing with periods of more intense construction activities.

For each illustrative construction phasing plan, an illustrative construction schedule will be provided, identifying the construction durations for each building and estimated construction start and stop dates. Construction staging plans and temporary parking areas, site access and delivery access points, sidewalk and lane closures, and other construction site procedures and controls (including monitoring and oversight for construction mitigation commitments) will be described.

Representative snap shots of the development area over the course of the construction period will be prepared to show locations of completed/occupied sites, locations and logistics of on-going construction activities, and access/egress locations of permanent and temporary parking facilities. For the purposes of analyzing the reasonable worst-case development scenarios for construction, construction impacts will be evaluated for the periods when maximum potential impacts are expected during construction activity, within each construction phasing plan. Although it is possible that some or all of the buildings planned for Phase II would be constructed using prefabricated, or modular, construction techniques, the detailed construction analysis will assume that each building will be constructed using conventional construction techniques. However, the construction analysis will, where relevant, discuss differences in potential impacts related to on-site standard and modular construction techniques. These areas include socioeconomic conditions, transportation, air quality and noise.

Technical areas that will be the focus of the analysis include:

ZONING, AND PUBLIC POLICY

This section will assess the potential effects of the construction period for Phase II (under the Extended Build-Out Scenario) on zoning and applicable public policy. The analysis will provide an update of applicable major public policy initiatives that have been implemented since the completion of the 2006 FEIS and will evaluate the project's consistency of Phase II with these policies under the Extended Build-Out Scenario.

SOCIOECONOMIC CONDITIONS

This section will provide a summary of the environmental analysis findings to date as they relate to construction impacts on socioeconomic conditions and an analysis of whether the Phase II construction period under the Extended Build-Out Scenario could affect socioeconomic conditions in the area surrounding the project site.

Based on *CEQR Technical Manual* guidelines, construction period conditions that can have the potential to affect socioeconomic conditions will be described, and the Phase II Extended Build-Out Scenario construction plans will be discussed in that context.

Next, the section will describe for a ¼-mile study area changes in socioeconomic conditions that have taken place over the course of project development between 2003 and 2013. Indicators to be examined include retail composition and vacancy rates, demographic indicators such as population, household income, and poverty rate, commercial and residential property values obtained from New York City Department of Finance, and commercial and residential property rental rates obtained through real estate market reports and online property listings. Indicators for the ¼-mile study area will be compared with an approximate ¾-mile area to determine whether construction activities to date have led to residential or commercial disinvestment in the immediate vicinity of the project site compared to surrounding neighborhoods. The assessment will be supported by case studies of other locations within New York City that have experienced extended construction activities and/or construction delays in order to determine whether such activities led to changes in property values or neighborhood conditions that in turn resulted in significant adverse socioeconomic impacts due to disinvestment in the immediately surrounding neighborhoods. To the extent practicable, data sources and study areas will be similar to those used for the description of Project construction period effects to date.

This section will also provide an analysis of the Phase II construction period benefits for both the residential mixed-use and commercial mixed-use scenarios, as well as any potential changes in construction benefits due to the incorporation of modular construction techniques. The results of this analysis will be compared to the analysis presented in the FEIS.

COMMUNITY FACILITIES

A summary of the environmental analysis findings to date as they relate to construction impacts on existing community facilities in the study area will be provided. This section will assess the availability and adequacy of community facilities during the construction period for Phase II under the Extended Build-Out scenario. The analysis will consider whether and when impacts on community facilities could occur during the prolonged build-out of Phase II, as new buildings come online and add new populations that would create additional demands on public schools and child care services. Phase II of the Project includes a public child care facility, and, if requested by DOE, would include space for a public school. This section will examine whether the timing of the construction of these facilities under the extended construction scenarios could affect the adequacy of public school seats and public child care spots in the study areas specified in the *2012 CEQR Technical Manual*.

OPEN SPACE

A summary of the environmental analysis findings to date as they relate to construction impacts on open space will be provided. The construction open space analysis will assess the effects of Phase II of the Project under the Extended Build-Out Scenario on open space conditions in the study area during the construction period. The analysis will consist of two components. Since the 2006 FEIS identified a temporary significant adverse impact on passive open space resources in the non-residential study area upon the completion of Phase I, the analysis will first compare the estimated duration of that impact under the Extended

Build-Out Scenario with the estimated duration that would have been expected under the schedule anticipated in the 2006 FEIS.

The analysis will then address the requirement of the Court Order to assess the potential for impacts from a prolonged construction of Phase II under the Extended Build-Out Scenario, including the direct and indirect effects on open space resources in the study area. The analysis will assess the effects of the Phase II open space that would be constructed adjacent to each building (as required by the MGPP and Design Guidelines) as the building comes online .

This second section of the analysis will analyze the impacts of construction phasing on the provision of on-site open space, including any proposed interim open space. Using the 2012 *CEQR Technical Manual* methodologies for indirect assessment of open space, a quantitative analysis of the potential impacts of the various construction phasing scenarios on study area open space ratios will be conducted. The quantified analysis will account for conditions upon completion of construction on each of the buildings on the Phase II site and will estimate changes in open space ratios for each building for the three illustrative construction phasing plans. Descriptions of proposed interim open spaces will also be provided. The effect of construction activities (i.e., air emissions and noise) on nearby open spaces will be analyzed.

URBAN DESIGN AND VISUAL RESOURCES

A summary of the environmental analysis findings to date as they relate to construction impacts on urban design and visual resources will be provided. The FEIS characterized the Project site as an area with a below-grade open rail yard, commercial/warehousing uses, bus storage, and low-rise building forms that differed from the surrounding area. Since the FEIS, most of the buildings on the Project's Phase II footprint have been removed but the below-grade open rail yard still comprises a significant area of the Phase II Project site. Under the Extended Build-Out Scenario construction phasing plans, there would be incremental realization of the Project as buildings are completed. Nonetheless, sites not under active construction would be maintained under existing conditions such as the continued existence of the open rail yard or would have interim uses such as for construction parking and staging or surface parking for an extended period. A preliminary assessment of urban design and visual resources will be prepared for the Phase II construction period, following the guidelines of the 2012 *CEQR Technical Manual.* The preliminary assessment will evaluate whether any of the potential illustrative construction phasing plans under the Extended Build-Out Scenario would create a change to the pedestrian experience that is sufficiently significant—in comparison with the Project construction period as defined in the FEIS—to require greater explanation and further study. If warranted based on the preliminary assessment, a detailed analysis of urban design and visual resources will also be prepared. The study area for this analysis will be appropriate for the construction period. If required, the detailed analysis will include photographs of existing conditions within the study area, and illustrative representations of the construction period scenarios. The proposed visual aesthetic treatments on and around the Project site will be discussed. The analysis will consider the degree to which the Extended Build-Out Scenario construction phasing plans with extended interim uses on the Project site, in combination with changes in background conditions since the FEIS, would result in a change to the built environment's arrangement, appearance, or functionality in comparison to the construction scenario analyzed in the FEIS, such that the change would negatively affect a pedestrian's experience of the area. The analysis of urban design and visual resources will be organized around snapshots depicting conditions at various stages of construction.

TRANSPORTATION

Detailed weekday and weekend construction trip estimates and daily profiles will be developed based on the construction schedules and worker/truck delivery projections. Anticipated construction logistics, site access, general maintenance and protection of traffic, and construction worker parking accommodations will be discussed and considered in the evaluation of potential transportation impacts during construction, including differences between on-site standard and modular construction techniques.

Traffic

Peak construction traffic scenarios will be selected for analysis based on the trip estimates discussed above, considering varying roadway conditions, worker parking, truck access, and operational traffic expected from completed components of the Phase II project. A comparison of the cumulative construction-generated and operational traffic for various analysis snap shots to the operational traffic expected from the completion of the Phase II project will also be provided. Assignment of the projected construction and operational trips will be prepared and compared to the Phase II completion traffic analysis results to determine the appropriate study areas for the construction traffic impact analysis. Using the assumptions and methodology detailed in the FEIS, updated where appropriate for background growth and 2012 *CEQR Technical Manual* guidance, significant adverse traffic impacts anticipated to occur during construction will be identified. Mitigation measures recommended as part of the operational analysis or other practicable improvement measures (including those identified in the FEIS) will be examined for their appropriateness to mitigate traffic impacts during construction.

Transit

Similar to the FEIS, a qualitative assessment of construction worker trip-making via transit will be provided. Temporary relocation of area bus stops will also be addressed.

Pedestrians

A qualitative assessment of pedestrian trips generated by the projected construction workers will be provided. In addition, the potential effects of reduced walkway capacities on pedestrian flow along key pedestrian corridors during critical periods (e.g., when Arena patrons are leaving events and are en route to nearby parking facilities) will be assessed qualitatively.

Parking

An estimate of construction worker parking demand and a description of available permanent and temporary parking resources for various stages of Phase II construction will be developed and compared to the amount of parking provided by the project sponsors, to determine the potential effects the construction worker parking demand may have on the area's parking resources.

AIR QUALITY

A quantitative air quality analysis will be conducted to determine the potential for air quality impacts due to on-site construction activities and project-generated traffic (mobile sources) on local roadways. Differences in air quality emissions and potential impacts between on-site

standard and modular construction techniques will be discussed. The analysis will include the following tasks:

Mobile Source Analysis

- The mobile source analysis will be performed for nearby roadway intersections using information provided in the traffic analysis. The concentration increments are expected to be less than those predicted in the FEIS. Screening and/or detailed dispersion modeling will be prepared as necessary. The pollutants of concern include CO and PM. Nitrogen dioxide (NO_2) will be discussed qualitatively.

On-Site Analysis

- *Identify Scenarios for Analysis*. A detailed profile of emissions throughout project construction will be prepared, including all on-site engines averaged on an annual and short term (24 hours or less) basis for each of the three construction scenarios identified in the framework for analysis. Reasonable worst-case analysis periods will be determined based on the highest emissions and accounting for the location of sources and sensitive receptors in all construction periods. The effects of construction activities on occupied/completed sites will also be examined for each of the worst-case analysis periods.
- *Dispersion Analysis*. For each reasonable worst-case period identified for analysis, a dispersion analysis will be prepared, and the resulting worst-case concentrations will be presented. Air pollutant sources will include non-road engines (e.g., cranes, excavators) and on-road engines operating on-site, as well as on-site activities that generate fugitive dust (e.g., excavation, demolition). The pollutants of concern include CO, PM, and NO_2. Annual average NO_2 will be included in the quantitative analysis, and 1-hour average NO_2 will be discussed qualitatively.

Impact Determination

- *Total Combined Impact.* For pollutants subjected to quantitative analysis, the combined air quality impact from both mobile and stationary sources will be determined by combining results from both analyses by time period and location. In determining total pollutant concentrations, operational effects from occupied/completed sites will also be considered.
- *Analysis of Results*. For pollutants subjected to quantitative analysis, the potential for significant impacts will be determined by a comparison of the combined total concentrations to the National Ambient Air Quality Standards (NAAQS), and by comparison of the predicted increase in concentrations to applicable *CEQR Technical Manual* thresholds.
- *Mitigation*. If new significant adverse impacts are identified, mitigation measures will be identified and analyzed.

NOISE

The analysis will include the following tasks:

- *Noise descriptors and Noise Receptors.* Consistent with the methodology of the *CEQR Technical Manual*, the $L_{eq(1)}$ noise descriptors will be used for the construction noise analysis. The area covered by the 25 noise receptors previously used for the detailed construction noise analysis in the FEIS will again be used as the study area for this

supplement analysis, although more calculation points within the area will be used to capture the range of construction noise levels throughout the study area.

- *Determine existing noise levels.* Existing noise levels will be determined primarily by field measurements. Measurements will be made during the quietest weekday daytime period at 22 locations in the study area (which include the 18 measurement locations used in the 2006 FEIS construction noise analysis, and additional locations at Atlantic Avenue between 6th and Carlton A venues, 6th Avenue between Bergen and Dean Streets, Carlton Avenue between Bergen and Dean Streets, and Bergen Street between 6th and Carlton Avenues) will be used for the analysis. At some locations continuous 24-hour noise measurements, rather than spot 20-minute measurements, will be made. Measurements will be made using a Type I noise analyzer and would include measurements of L_{eq}, L_1, L_{10}, L_{50}, and L_{90} noise levels. Where necessary, measurements will be supplemented by mathematical model results to determine an appropriate base of existing noise levels.

- *Determine future noise levels with construction.* Detailed noise analyses will be performed using the same modeling approach used in the FEIS to determine noise levels with construction activities. Detailed noise calculations will be performed for each of the three construction phasing plans. At least one time period (i.e., day) in each year of construction will be selected for analysis for each of these build scenarios. Typically, the selected time period is during the 3-month span during which the most construction equipment is expected to be operating on site. This determination will be based on a detailed construction equipment and activity schedule. The detailed calculations will include predictions at multiple elevations at each of the receptors. The detailed analyses will be performed using the Cadna and TNM models.

- *Compare the change in predicted noise levels with impact criteria.* The change in noise levels during the construction period for each of the various build scenarios to be subject to detailed construction noise analyses will be compared to *CEQR Technical Manual* noise impact criteria to determine the locations where significant construction noise impacts are predicted to occur. For each receptor site, the duration of predicted significant impacts for each of the construction scenarios will be determined.

- *Examine mitigation measures.* The assessment will consider the FEIS noise commitments and mitigation measures and identify recommendations regarding any further mitigation measures that may be warranted to address any significant adverse construction noise impacts identified in the analysis and that are effective, feasible and practicable.

Lastly, differences in potential noise impacts between on-site standard and modular construction techniques will be discussed.

LAND USE AND NEIGHBORHOOD CHARACTER

This section will assess whether Phase II construction activities related to the various Extended Build-Out scenarios would result in any land use and neighborhood character impacts not previously disclosed in the FEIS, and whether any additional or different mitigation measures would be required.

The section will begin with a description of existing land use and neighborhood character conditions, highlighting defining characteristics of the study area. The section will then describe the progression of land use changes on the Phase II project site under the three

illustrative construction phasing plans, and will compare the peak construction activity periods from the SEIS with the Phase II construction schedule analyzed in the FEIS. Next, the section will describe anticipated land use and neighborhood character changes that will take place in the future without Phase II construction. Finally, the section will analyze the potential for significant adverse land use and neighborhood character impacts due to the delay in completion of Phase II and the prolonged construction period under the Extended Build-Out Scenario. Any impacts not previously disclosed in the FEIS will be identified, along with any additional or different mitigation measures.

At the time that the FEIS was published, the project site still largely reflected its early industrial character with its below-grade open rail yard, commercial/warehousing uses, bus storage, and low-rise buildings that differed from the surrounding neighborhoods with their more active mixed-use developments. The FEIS concluded that the Project's construction activities would have significant adverse localized neighborhood character impacts in the immediate vicinity of the project site, particularly the quiet character of Dean and Pacific Streets directly across from the project site. Those impacts would be localized and would not alter the character of the larger neighborhoods surrounding the Project site. A number of mitigation measures to reduce the construction impacts were imposed as part of the Project's Environmental Commitments.

Under the Extended Build-Out construction scenarios, there would be incremental realization of the Project as buildings are completed and occupied by its permanent intended uses. Construction activities would not occur on every Project block at the same time and concurrent construction activities would be of varying intensities. Nonetheless, under the Extended Build-Out Scenario, sites not under active construction would be maintained under existing conditions such as the continued existence of the open rail yard or would have interim uses such as for construction parking and staging areas or surface parking for a prolonged period. Pulling from other construction analysis areas (including the socioeconomic conditions analysis which will be supported by case studies of other locations within New York City that have experienced extended construction activities and/or construction delays), this section will provide a determination of whether construction activities occurring in connection with the illustrative construction phasing plans under the Extended Build-Out scenarios would result in any land use or neighborhood character impacts not previously disclosed in the FEIS, and whether any additional or different mitigation measures would be required. The duration and geographical extent of any identified impacts from the Extended Build-Out scenarios will be provided.

TASK 5: ALTERNATIVES

This chapter will evaluate Project alternatives as and to the extent appropriate in light of the findings of the SEIS and the 2006 FEIS. The chapter will:

- Examine a Reduced Parking Alternative—This alternative would consider modified parking requirements that would reduce the amount of accessory parking provided for the Project. As noted above, the SEIS will analyze 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 and this analysis will inform ESD's consideration of whether and to what extent the parking requirements for the Project should be modified.

- Assess the feasibility of requiring Phase II of the Project to be constructed by multiple developers. This assessment will also evaluate whether such an approach to the Project, if determined to be feasible, would be effective in speeding the construction of Phase II.
- Discuss 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 FEIS should be analyzed, taking into account other analyses previously performed over the course of the environmental review of the Project. ✶