A. INTRODUCTION

In November 2006, the New York State Urban Development Corporation, a public benefit corporation of New York State doing business as Empire State Development (ESD), in cooperation with the Metropolitan Transportation Authority (MTA) and the City of New York (the City), issued the Final Environmental Impact Statement (FEIS) for the Atlantic Yards Arena and Redevelopment Project (the Project) in Brooklyn. The 2006 FEIS was prepared under the State Environmental Quality Review Act (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. At its December 2006 Board of Directors meeting, ESD adopted its SEQRA findings and affirmed a Modified General Project Plan (the 2006 MGPP) for the Project.

The 2006 MGPP and 2006 FEIS described and examined the Project in two phases (Phase I, assumed to be completed in 2010, and Phase II, assumed to be completed in 2016). Phase I includes 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 is comprised of 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 (DCP). 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 gross square feet, or 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 assumed schedule, and changes in background conditions, and (employing certain updated *City Environmental Quality Review (CEQR) Technical Manual* methodologies) assessed whether the Project as envisioned would result in any new or different significant adverse environmental impacts not previously disclosed in the 2006 FEIS. The 2009 Technical Memorandum discussed shifts in assumed 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 2006 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 2006 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 2006 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 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." The Court limited its order to Phase II 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.'" In 2012, the Court Order was affirmed by the Appellate Division of State Supreme Court.

As required by the Court Order, this SEIS has been prepared to examine the potential for impacts from the Project, accounting for a prolonged construction of Phase II. However, this SEIS

supplements the analysis of environmental impacts in the 2006 FEIS and would not preclude development of the Project pursuant to a schedule comparable to the schedule assumed in that document.

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. That manual has been revised since the 2006 FEIS was prepared. The analysis set forth in this SEIS utilizes the updated methodologies and criteria recommended in the most recent version of the manual.

The SEIS also examines 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 on Phase II to account for any new or different environmental impacts from the prolonged construction of Phase II.

In addition, the SEIS considers two proposed changes to the project program for Phase II: a proposed shift of up to approximately 208,000 gsf of floor area from Phase I of the Project to Phase II of the Project, and a reduction in 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 location, uses, size and form of the Phase II buildings as governed by the Project's Design Guidelines, nor would it change the maximum square footage of any of the individual Phase II buildings as set forth in Exhibit C of the 2009 MGPP that ESD approved for the Project in 2006. The proposed shift of floor area from Phase I to Phase II would not affect the affordable housing requirements for Phase I or the Project as a whole, and would not modify the maximum square footage permitted for the Project. The proposed change in the number of parking spaces reflects lower demand for on-site Arena parking than was assumed in the 2006 FEIS.

Because the July 13, 2011 Court Order directed ESD to prepare an SEIS "assessing the environmental impacts of delay in Phase II Construction," 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 Phase I parking plans—will be assumed to be part of the background condition. Thus, all Phase I elements of the Project, including associated mitigation measures as well as any recent changes to the traffic network, are accounted for in this SEIS as part of the baseline conditions for the Future Without Phase II (i.e., the No Build condition).

This SEIS assesses the environmental impacts of Phase II of the Project (including the proposed modifications) with a 2035 Build year (collectively, the "Extended Build-Out Scenario"). The analyses contained in this SEIS identify impacts resulting from Phase II of the Project under the Extended Build-Out Scenario in the same technical areas as those that were identified in the 2006 FEIS: community facilities (public school seats, the shortage of which would be reduced, but not eliminated by a public school within the Phase II site as proposed in both the 2006 FEIS and this SEIS), construction-period open space (which would gradually be eliminated through the incremental availability of the Phase II open space), transportation (both upon completion of Phase II in the assumed Build Year of 2035 and during construction), and construction noise. To the extent practicable, mitigation has been proposed for these identified significant adverse impacts. Since the type and nature of the impacts identified in this SEIS are comparable to those identified in the 2006 FEIS, the measures identified to address such impacts are also comparable. As in the 2006 FEIS, with respect to public schools, operational traffic and construction traffic and construction noise, the measures that have been identified only partially mitigate significant adverse impacts. In addition, practicable measures have not been identified to fully mitigate pedestrian impacts identified in this SEIS on one sidewalk.

With the longer construction period assumed in this SEIS, the significant adverse impacts identified in certain technical areas, such as construction-related noise, would last for a longer (and in some cases a considerably longer) duration. The discussion below in this Executive Summary identifies other differences between the findings of the 2006 FEIS and the analysis of the Extended Build-Out Scenario in this SEIS.

B. PROJECT BACKGROUND

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. 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 2006 FEIS.)

The 2006 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. As described in the 2006 FEIS, 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 2006 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 gsf of commercial office space, 165,000 gsf of hotel use (approximately 180 rooms), 247,000 gsf of retail space, and up to approximately 6.4 million gsf of residential use (approximately 6,430 units); and (2) a commercial mixed-use variation with more commercial office use in three buildings closest to Downtown Brooklyn and potentially containing up to approximately 1.6 million gsf of commercial office space, 247,000 gsf of retail space, and 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. 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 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 2006 FEIS also would include several roadway and pedestrian circulation changes near the project site. Finally, as mitigation, both variations

included, at the option of the New York City Department of Education (DOE), a 100,000 gsf public school on the Phase II 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 [FCRC]) 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 2006 FEIS), 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 the 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 2006 FEIS and the 2009 Amended 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 on September 28, 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 2006 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 Plan (TDM 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. Further information about the TDM Plan is provided in Chapter 4D," Operational Transportation."

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.

In addition to the above, the project sponsors are considering the construction and installation of a green roof on Barclays Center as a new sustainable feature of the Arena. If installed, it would consist of the construction of a secondary roof with a structural system to hold a green sedum tray system very similar to the sedum roof at the transit entrance in front of the Arena. It is expected to cover most of the roof and would consist of approximately 130,000 square feet of sedum, making it one of the largest green roofs in New York City. It is expected that installation of this Phase I component would commence in 2014.

Project-related agreements with public agencies are described in detail in Chapter 1, "Project Description," of the SEIS.

EXISTING CONDITIONS ON THE PROJECT SITE

The project site (Phase I and Phase II) is an approximately 22-acre area, 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. The portion of the project site comprising the Phase II development—the subject of this SEIS—includes the following parcels: Block 1120: Lots 1, 19, 28, 35; Block 1121: Lots 1, 42, 47; Block 1128: Lots 1, 4, 85-87; and Block 1129: Lots 1, 3-6, 13, 21, 25, 39, 43-46, 49, 50, 54, 62, 76, 81 **(see Figure S-1)**. Sections of Pacific Street between Vanderbilt and Carlton Avenues would also be incorporated as part of the Phase II project site.

The current status of the Phase II parcels is as follows:

Block 1120

- Lot 1 is owned by MTA. On March 10, 2010, an FCRC affiliate entered into a purchase and sale agreement with MTA to purchase the air space parcel over Lot 1.
- Lot 35 is owned by ESD (leased to the project sponsors) and is used by LIRR for access to the LIRR rail yard.
- Lots 19 and 28 are privately owned storage facilities; ESD has condemned certain below-grade easements to support rail yard improvements.

2.24.14

Source: AKRF, Inc.

Phase I Project Site Boundary

Phase II Project Site Boundary

1120 *Blocks*

7501 *Lots*

0 500 FEET

SCALE

Project Site Blocks and Lots

Figure S-1

Block 1121

- Lot 1 is owned by MTA. On March 10, 2010, an FCRC affiliate entered into a purchase and sale agreement with MTA to purchase the air space parcel over Lot 1.
- Lots 42 and 47 above an elevation approximately equal to the adjoining sidewalks are owned by ESD and leased to the project sponsors. Below such elevation, Lots 42 and 47 are owned by MTA, and they have been extensively excavated to meet rail yard elevations.

Block 1128

- Lot 1 (previously Lots 1, 2, 88, and 89) is owned by the project sponsors and is being used on an interim basis as a broadcasting lot for arena events.
- Lot 4 is privately owned and believed to be used for storage/warehousing.
- Lots 85–87 are privately owned and occupied by residential uses.

Block 1129

- All lots are owned by ESD (leased to the project sponsors); the existing building on Lot 13 is being used by the project sponsors on an interim basis as a construction field office; remaining lots are used for interim parking and there is a LIRR construction staging area fronting Vanderbilt Avenue.

The street bed on Pacific Street between Carlton and Vanderbilt Avenues has been acquired by ESD (and has been leased to the project sponsors). It is used as a construction staging area and for access and egress to the Block 1129 parking lot.

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 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 the joint venture "would develop the project consistent with the approved master plan [i.e., the 2009 MGPP and Design Guidelines]." The joint venture documentation includes a target development schedule for Phase II construction that is substantially shorter than the one being analyzed in this SEIS. The schedule is comparable in duration to the schedule studied in the 2006 FEIS.

C. DESCRIPTION OF THE PROJECT PROGRAM AND PROPOSED MODIFICATIONS

As discussed in more detail below, there are two proposed modifications to the Project under consideration: a proposed shift of up to approximately 208,000 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.

Because the July 13, 2011 Court Order directed ESD to prepare an SEIS "assessing the environmental impacts of delay in Phase II Construction," 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 part of the background 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 (i.e., the No Build condition). As noted above, this SEIS will assess the environmental impacts of Phase II of the Project (including the proposed modifications) with a 2035 Build year.

This section first describes in detail the proposed Project modifications, then provides a comparison of the Project components (both Phase I and Phase II) analyzed in the 2006 FEIS, with the Project components that form the basis of this SEIS analysis. Finally, this section provides a description of proposed Phase II residential, retail, open space, community facilities and parking uses.

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 up to 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 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. Records for the parking facility since May 4, 2013 have shown a decline in both the average and peak utilization. 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. This SEIS also assesses a Reduced Parking Alternative (in Chapter 6, “Alternatives”), under which the overall total parking proposed on the project site would be reduced to 1,200 spaces.

PROJECT COMPONENTS

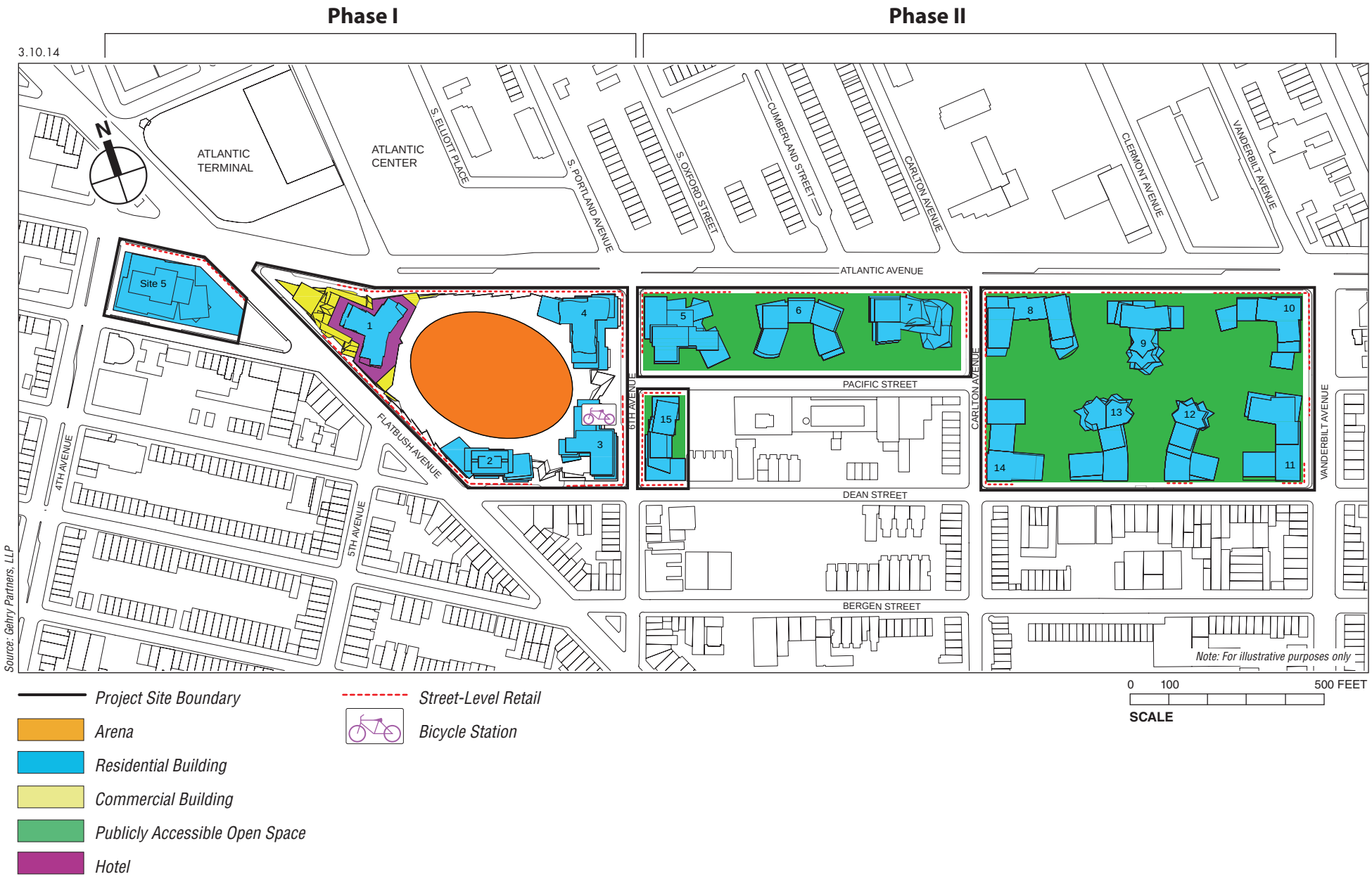
At the time of the 2006 FEIS, two variations of the project program were under consideration to allow for flexibility in the program of three of the proposed project's Phase I buildings: (1) a residential mixed-use variation and (2) a commercial mixed-use variation, which would allow for more commercial 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 2006 FEIS, the program for Building 2 (currently under construction) has been finalized to include only residential and retail uses. Therefore, for the purposes of this SEIS, the commercial mixed-use variation would apply only to Building 1 and Site 5 in the Phase I development (thus reducing the amount of commercial space and increasing the amount of residential space in the commercial mixed-use variation as compared with that assumed in the 2006 FEIS), because that variation now assumes a residential program for Building 2. In addition, in light of the reduction in the height of Building 1 after preparation of the 2006 FEIS and subsequent planning, the current program for Building 1 is expected to include a smaller residential program in the residential mixed-use variation than that assumed in the 2006 FEIS, but the office, hotel and retail components in Building 1 would be the same as proposed in the 2006 FEIS (see **Figures S-2 and S-3**). As mentioned above, Phase I is considered as part of baseline conditions for the Future Without Phase II (No Build condition).

Table S-1 provides a comparison of the 2006 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).

As shown in **Table S-1**, 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.

At the time of the 2006 FEIS, a 100-seat child care facility was planned as part of the Project. While the 2006 FEIS did not identify any significant adverse child care impacts, the analysis of publicly funded child care facilities in the 2009 Technical Memorandum found that the updated background conditions and updated methodologies would result in additional demand for publicly funded child care facilities in the study area, which could result in a future shortfall of child care slots. Therefore, the project sponsors have committed to monitor and, if necessary, work with the Administration for Children's Services (ACS) to provide up to approximately 250 additional child care slots either on-site or in the vicinity of the site to meet Project-generated demand. Chapter 4B, "Operational Community Facilities," of this SEIS updates the analysis of anticipated day care demand.

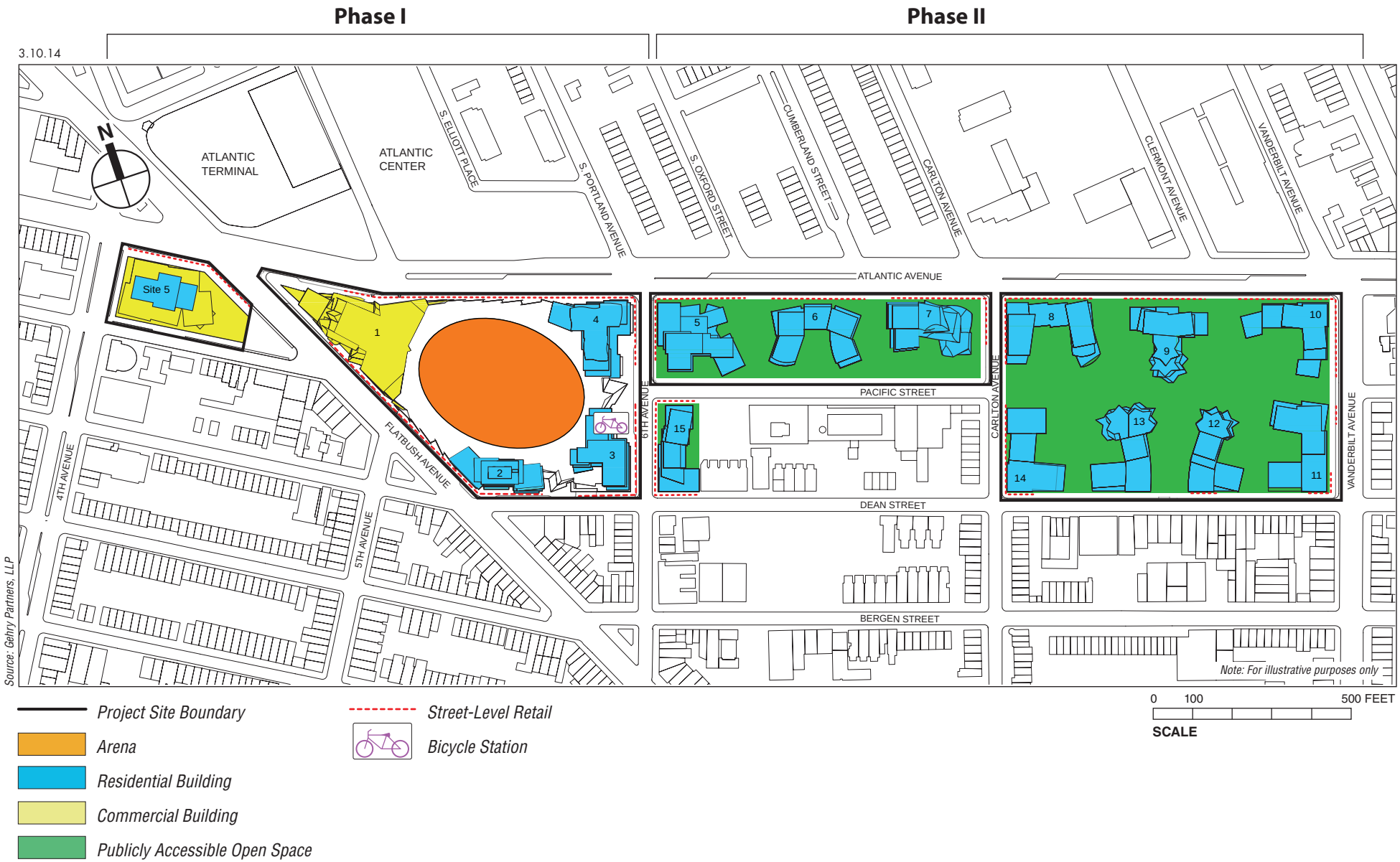
Additionally, to partially mitigate the significant adverse impact on public schools identified in the 2006 FEIS, the project sponsors have committed to provide, at the election of DOE, adequate space for the construction and operation of a 100,000 gsf elementary and intermediate school in the base of 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 the table (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).



SEIS • ATLANTIC YARDS ARENA AND REDEVELOPMENT PROJECT

Residential Mixed-Use Variation Site Plan

Figure S-2



SEIS • ATLANTIC YARDS ARENA AND REDEVELOPMENT PROJECT

Commerical Mixed-Use Variation Site Plan

Figure S-3

Table S-1
Comparison of 2006 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[2]	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.

PHASE II RESIDENTIAL USES

In Phase II of the Project, residential use is planned for each building. Of these, there would be a mix of market-rate condo units, and market-rate and affordable rental units. As per the Project commitments, Phase I and Phase II of the Project are to include a minimum of 2,250 units of affordable housing on site for low-, moderate-, and middle-income persons and families, and at

least 30 percent of the residential units built on the Arena Block (in buildings 1, 2, 3, and 4) in Phase I (but no fewer than 300 units) are to be affordable units. The remainder of the affordable units are to be built in Phase II or on Site 5. For the purposes of this SEIS analysis, it is assumed that no affordable units would be built on Site 5. Therefore, it is assumed that Phase II would include approximately 2,737 market-rate (condo and rental) units and approximately 1,771 affordable units (for a total of approximately 4,508 units) under the residential mixed-use variation, and approximately 3,132 market-rate (condo and rental) units, and up to approximately 1,800 affordable rental units (for a total of approximately 4,932 units) under the commercial mixed-use variation. Additionally, as per the Project documents, not more than 50 percent of the Phase II units are permitted to be built without completion of at least 50 percent of the Phase II affordable units. It should be noted that while the SEIS assumes for purposes of analysis the minimum required number of affordable units in Phase I, the project sponsors may elect to build more than this minimum, which would have the effect of increasing the number of affordable units in Phase I and decreasing the number of affordable units in Phase II.

As described in the 2006 FEIS, affordable units would be reserved for households making between 30 percent and 160 percent of citywide Area Median Income (AMI) for the New York City metropolitan area. The AMI is set annually for metropolitan areas and non-metropolitan counties by the U.S. Department of Housing and Urban Development (HUD), and varies according to family size. It is therefore referred to as the median family income (MFI). As of December 11, 2012, MFI for the New York, NY HUD Metro Fair Market Rent (FMR) Area for a family of four was $85,900. The affordable program would be subject to adjustment to accommodate the requirements of any city, state, or federal affordable housing program utilized for this housing.

Rent for all rental units introduced under the proposed project would be rent stabilized, and rent for the affordable units would be targeted at 30 percent of household income. **Table S-2** shows the distribution of the affordable housing units across household income bands, assuming a household size of four persons per household. If the household size were lower, the minimum and maximum incomes for each income band would be lower.[1]

The income bands outlined in **Table S-2** are based on the Mixed-Income Program administered by the New York City Housing Development Corporation (HDC). Under that program, low-income units can be rented to those earning at or below 50 percent of AMI and middle-income units can be rented to those earning at or below 175 percent of AMI.

Ten percent of the total rental units would be reserved for senior residents.

Additionally, it is a Project goal that 50 percent of the affordable units on a square foot basis would be two- and three-bedroom units, subject to the availability of programmatic support for larger affordable housing units by the city, state, and federal housing programs utilized for the affordable housing at the project site.

The affordable program would be subject to adjustment to accommodate the requirements of any city, state, or federal affordable housing program utilized for this housing. Notwithstanding such adjustments, income bands and distribution of units across income bands would be subject to applicable agency approval.

[1] Income limits were estimated based on the HUD-calculated Very Low-Income (50 percent) Limit.

Table S-2
Income Bands for Phase II under the Extended-Build-Out Scenario
Affordable Housing Units
(Based on Family Size of 4.0 Persons per Household)

Income Band[1]	AMI Income Range	Number of Affordable Units	Minimum Income for Family of 4[2]	Maximum Income for Family of 4
Income Band 1	30-40%	185	$25,770	$34,360
Income Band 2	41-50%	555	$35,219	$42,950
Income Band 3	60-100%	353	$51,540	$85,900
Income Band 4	101-140%	353	$86,759	$120,260
Income Band 5	141-160%	353	$121,119	$137,440

Notes: 1. Income limits were estimated based on the HUD-calculated Very Low-Income (50 percent) Limit.
2. All dollar values are presented in 2013 dollars. Income minimums and maximums are based on the median family income (MFI) which is set annually for metropolitan areas and non-metropolitan counties by HUD. As of December 11, 2012, MFI for the New York, NY HUD Metro FMR Area for a family of four was $85,900.
Sources: FCRC; HUD FY 2013 Income Limits; AKRF, Inc.

A small portion of the residential space could house community facilities.

PHASE II RETAIL USES

Consistent with the assumptions of the 2006 FEIS, the Phase II program under the Extended Build-Out Scenario would include an approximately 156,000 gsf retail component consisting of retail and eating establishments primarily serving the local population and tenants on the project site. As described above, a component of this retail space would also be for use as a community facility. These retail spaces would not have footprints large enough to house “big box” retail.

PHASE II OPEN SPACE AND COMMUNITY FACILITES

As described in the 2006 FEIS, when completed, Phase II of the Project under the Extended Build-Out Scenario would include eight acres of publicly accessible open space.

On Block 1120, the space between Pacific Street and the buildings would be landscaped, creating a green corridor along the Pacific Street block with the residential buildings serving as a backdrop to the landscaped edge. The open space would continue along the Pacific Street corridor eastward on Blocks 1121 and 1129 through the introduction of an undulating walking path, preserving this corridor as a pedestrian thoroughfare east of the arena block. The open space would have a variety of both active and passive spaces and planted and paved areas, and would incorporate features such as playing fields, water features, walking paths, seating areas, and extensive landscaping throughout. The open space has been planned, and the buildings around the open space have been arranged, to promote public access to and use of the space by the general public. In the north-south direction, the open space would extend to Atlantic Avenue across from the terminus of each of the neighborhood streets to the north, linking the site to the area to the north both visually, through the creation of landscaped view corridors at the end of each street, and functionally, through the introduction of walking paths into the park at each of these points. The publicly accessible open space would be available for public use from 7:00 AM to 10:30 PM from May through September, and from 7:00 AM to the later of 8:00 PM and sunset in other months, seven days a week. This open space would be owned by a conservancy or other not-for-profit entity established by the project sponsors, which would be responsible for maintenance,

operation and security of this public amenity. In addition, some of the residential buildings constructed during Phase II may have private rooftop open space.

It is anticipated that a dedicated southbound bicycle path would enter the project site along Atlantic Avenue at Cumberland Street and would continue southbound between Buildings 6 and 7 (see **Figure S-4**). The route would turn east running along Pacific Street where it would reenter the project site at a pedestrian pathway at Carlton Avenue. As presently conceived, it would continue southeast around Building 14 to Dean Street. The bike path would continue eastward along Dean Street toward Vanderbilt Avenue where it would connect with the larger city bicycle network. There would be a storage area for 400 bicycles on the Arena Block, anticipated to be located in the base of Building 3. The bicycle station would include space for supporting ancillary uses.

A central community facility element would be an intergenerational community center located in the base of one of the buildings on Block 1120 (programming and exact site location to be determined); this approximately 15,000-sf community center would replace a portion of the retail space. The intergenerational facility would consist of child care and youth and senior centers in one building with an atrium. The childcare center would accept Agency for Child Development (ACD) vouchers. Additionally, the Project would include, at the election of 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. As per the MEC, the location of the proposed school would be determined by the project sponsor and DOE; however for the purposes of this SEIS, it is assumed to be located within the base of either Building 6 or Building 15.

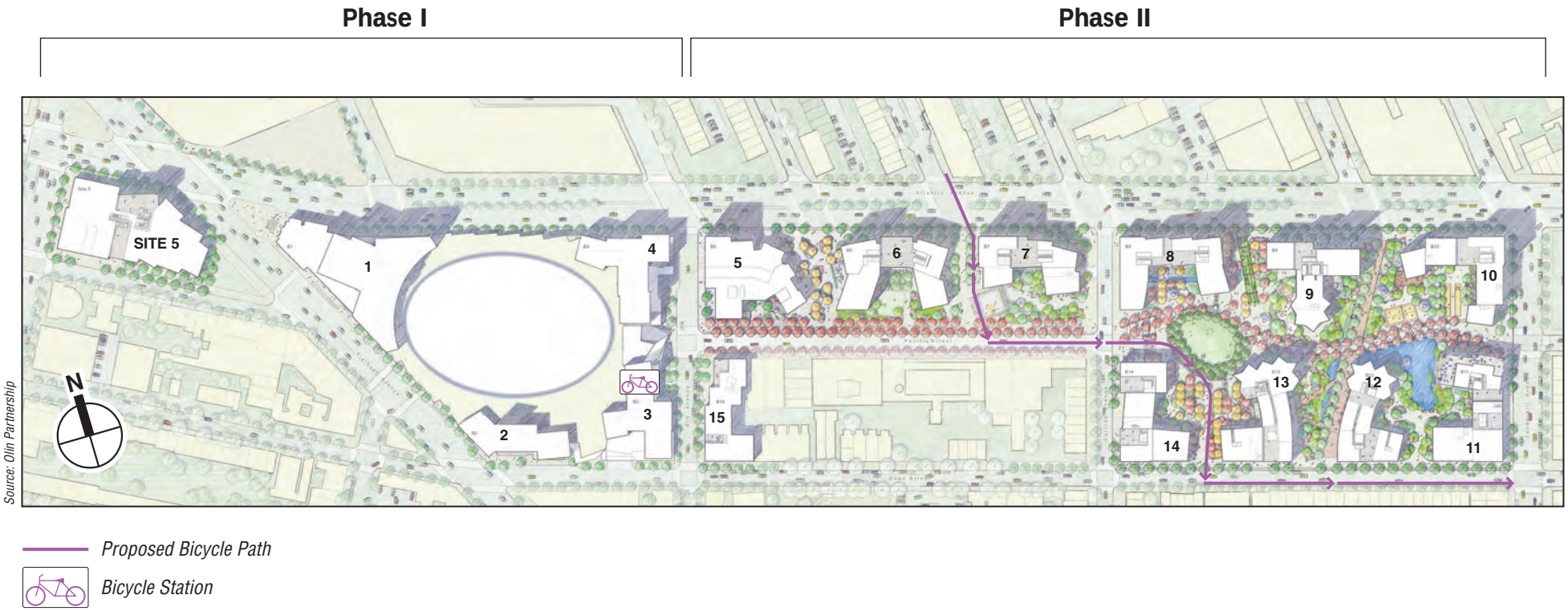
PHASE II PARKING

Upon Phase II completion, the Project (both Phases I and II) would provide up to 2,896 below-grade attended parking spaces on the project site. As currently envisioned, in Phase I, these would include: approximately 50–100 spaces in a below-grade facility on the Arena Block with access from Dean Street and 400 spaces in a below-grade facility on Site 5 with access from Pacific Street. In Phase II, these would include: 450 spaces in a below-grade facility on Block 1120 with access from Carlton Avenue; 150 spaces in a facility below Building 15 on Block 1128 with access from Pacific Street; and 1,796-1,846 below-grade spaces on Block 1129 with access from Dean Street and Carlton and Vanderbilt Avenues (see **Figure S-5**). As noted above, this SEIS also assesses a Reduced Parking Alternative (in Chapter 6, “Alternatives”), under which the overall total parking proposed on the project site would be reduced to 1,200 spaces.

D. CONSTRUCTION SCHEDULE

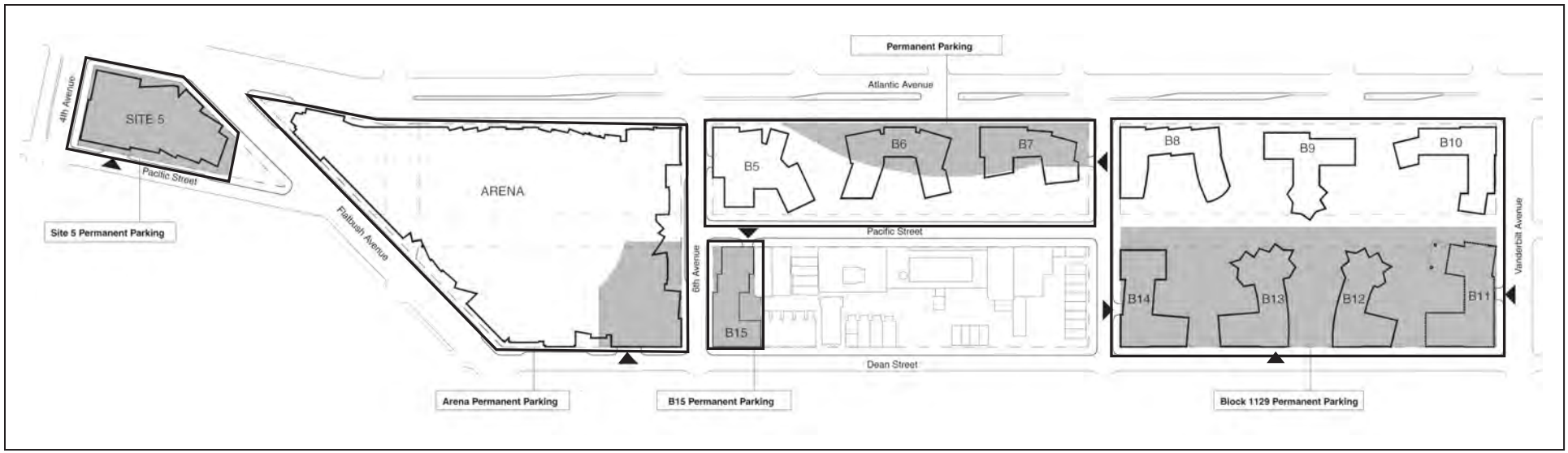
PHASE II CONSTRUCTION PHASING AND SCHEDULE

The Phase II construction activities would be located on the eastern portion of the project site on Blocks 1120, 1121, 1128, and 1129. Under the Extended Build-Out Scenario, 11 new buildings (Buildings 5 through 15) and the associated open spaces would be constructed over a period of approximately 18 years, from 2018 to 2035 (2035 is the Project’s Build year). As discussed in Chapter 2, “Analysis Framework,” the construction phasing sequences are partially guided by certain contractual agreements between the project sponsors and ESD as well as between the project sponsors and MTA, which dictate the outside dates for starting and completing certain project buildings and components. There are three illustrative construction phasing plans that



Conceptual Open Space and Streetscape Plan
Figure S-4

Phase I | **Phase II**



Source: Philip Habib and Associates

Project Site Boundary

Below-grade Parking Location

Vehicular Access

Proposed Parking Plan
Figure S-5

will be considered for the purpose of analyzing construction impacts under the Extended Build-Out Scenario:

- Construction Phasing Plan 1: Continuous Sequential Phasing with Block 1129 First;
- Construction Phasing Plan 2: Continuous Sequential Phasing with Building 15 on Block 1128 First; and
- Construction Phasing Plan 3: Start and Stop Sequential Phasing with Periods of More Intense Construction Activities.

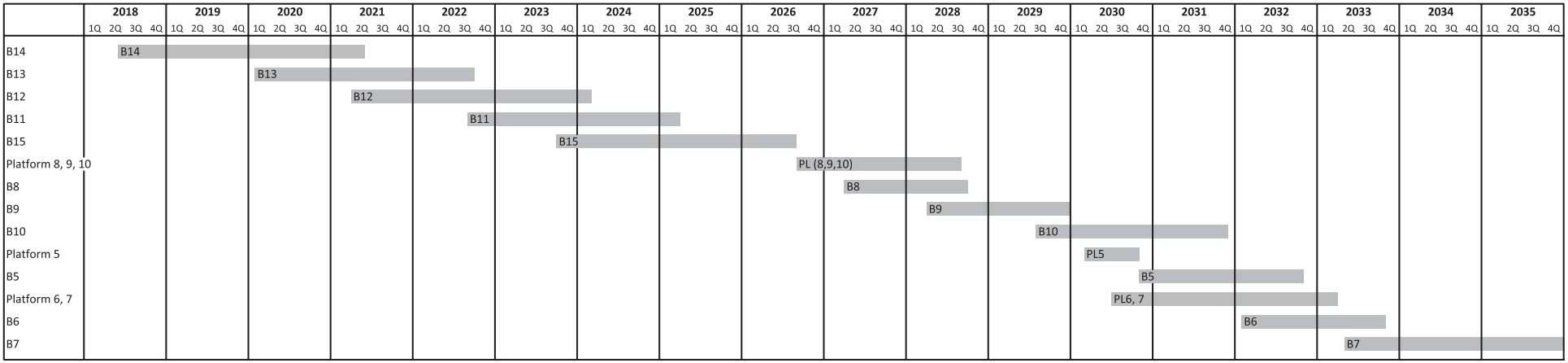
These illustrative phasing plans are not intended to serve as a prediction of the schedule and sequence of the Phase II construction. As noted above, the joint venture documentation with Greenland includes a target construction schedule that is comparable to the duration studied in the 2006 FEIS. Nevertheless, in accordance with the Court Order, the illustrative phasing plans 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 serve as the basis of analysis because they provide a range of potential impacts within the envelope of the reasonable worst-case construction schedule under the Extended Build-Out Scenario. All three illustrative construction phasing plans are designed to comply with all of the contractual agreements among the project sponsors, ESD and MTA.

It is possible that some or all of the buildings planned for Phase II would be constructed using prefabricated, or modular, construction techniques; however, the SEIS assumes that each building would be constructed using the conventional construction method. Where relevant, differences in potential impacts related to conventional and modular construction techniques are discussed qualitatively.

For each of the various technical areas presented in this SEIS, appropriate construction analysis years under the different construction sequences were selected to represent reasonable worst-case conditions relevant to that technical area and that can occur at different times for different analyses. For example, the noisiest part of the construction may not be at the same time as the heaviest construction traffic. Therefore, the analysis periods may differ for different analysis areas. Where appropriate, the effects of the Phase I and Phase II project elements that would be completed and operational during the selected construction analysis years were also accounted for. Neither the Project documents nor the SEIS preclude a more rapid project completion, which was analyzed in the 2006 FEIS.

CONSTRUCTION PHASING PLAN 1

The illustrative construction schedule for Construction Phasing Plan 1 is shown on **Figure S-6** and in **Table S-3**. Under Construction Phasing Plan 1, construction would be continuous and sequential, with the start time of each individual Phase II element generally a year apart from the start time of another Phase II element. Construction is assumed to begin on Block 1129, moving from west to east. Construction of Building 14 is assumed to commence in June 2018, which is two years from the deadline specified in the Development Agreement, followed by the construction of Buildings 13, 12, and 11. Building construction on Block 1129 is assumed to be completed by March 2025. In October 2023, construction of Building 15 on Block 1128 is assumed to commence, with all activities completed by August 2026.



Illustrative Construction Phasing Plan 1

Figure S-6

Table S-3
Phase II Illustrative Construction Phasing Plan 1

Building	Block	Start Month	Finish Month	Approximate duration (months)
Building 14	1129	June 2018	May 2021	36
Building 13	1129	February 2020	September 2022	31
Building 12	1129	April 2021	February 2024	34
Building 11	1129	September 2022	March 2025	31
Building 15	1128	October 2023	August 2026	34
Platform for Buildings 8, 9, and 10	1121	August 2026	August 2028	24
Building 8	1121	March 2027	September 2028	18
Building 9	1121	April 2028	December 2029	21
Building 10	1121	August 2029	November 2031	27[1]
Platform for Building 5	1120	March 2030	November 2030	8
Building 5	1120	November 2030	November 2032	24
Platform for Buildings 6 and 7	1120	July 2030	March 2033	32
Building 6	1120	January 2032	October 2033	21
Building 7	1120	May 2033	December 2035	32

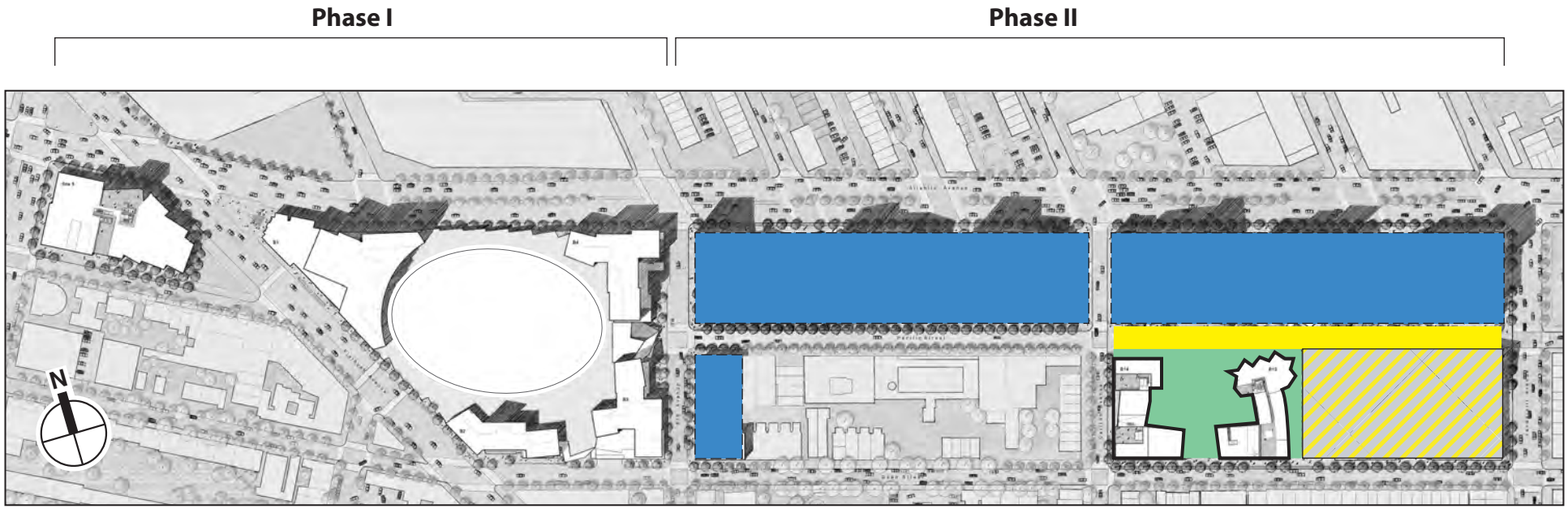
Note: [1] Includes 6 months of site and amenities work on Blocks 1121 and 1129.
Source: Hunt Construction Group

Construction is then assumed to proceed to Block 1121 in August 2026 where a platform would be constructed over the LIRR Vanderbilt Yard to provide a base for the Block 1121 buildings. Building construction on Block 1121 is assumed to move from west to east, starting with the construction of Building 8 in March 2027, followed by Building 9 in April 2028 and Building 10 in August 2029. Activities on Block 1121 are assumed to be completed by November 2031. Construction on Block 1120 is assumed to be the last component to commence under Construction Phasing Plan 1, starting with platform construction over the LIRR Vanderbilt Yard for Building 5, followed by Building 5 construction, platform construction for Buildings 6 and 7, Building 6 construction, and finally Building 7 construction. Block 1120 construction activities are assumed to take place from March 2030 through December 2035.

Figures S-7 through S-9 depict the Phase II project site through early, intermediate, and late stages of construction under Construction Phasing Plan 1.

CONSTRUCTION PHASING PLAN 2

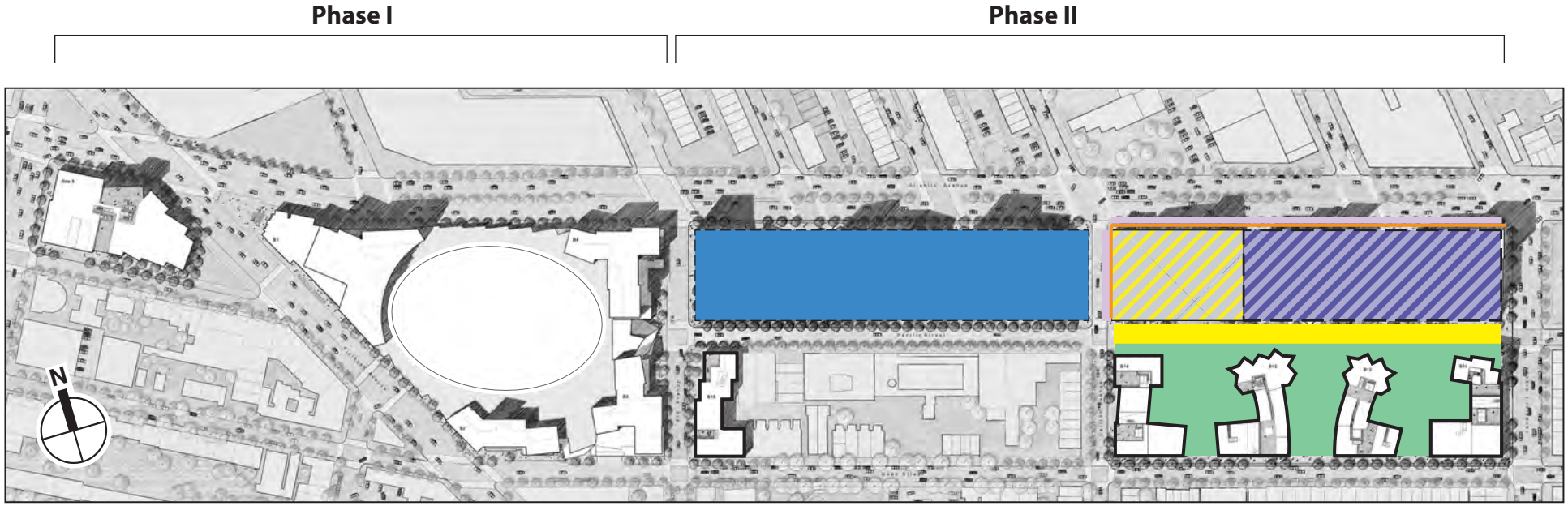
The illustrative construction schedule for Construction Phasing Plan 2 is shown on **Figure S-10** and in **Table S-4**. Similar to Construction Phasing Plan 1, Construction Phasing Plan 2 is designed to be continuous and sequential, with the start time of each individual Phase II element generally a year apart from the start time of another Phase II element. However, the construction sequence in Construction Phasing Plan 2 would differ from the construction sequence in Construction Phasing 1. This illustrative phasing plan begins with the construction of Building 15 on Block 1128, which like Construction Phasing Plan 1, takes advantage of the fact that Block 1128 is situated on land, i.e., would not require the construction of a platform before building construction can begin. Under Construction Phasing Plan 2, construction is assumed to begin at Building 15 on Block 1128 in June 2018, with all activities to be completed by March 2021. Construction is then assumed to proceed to Block 1120 with platform construction over



Source: Olin Partnership

- Building Complete
- Building Under Construction
- No Change from Existing Conditions
- Staging Area
- Open Space

Construction Phasing Plan 1 – Early Stage (Late 2022)
Figure S-7

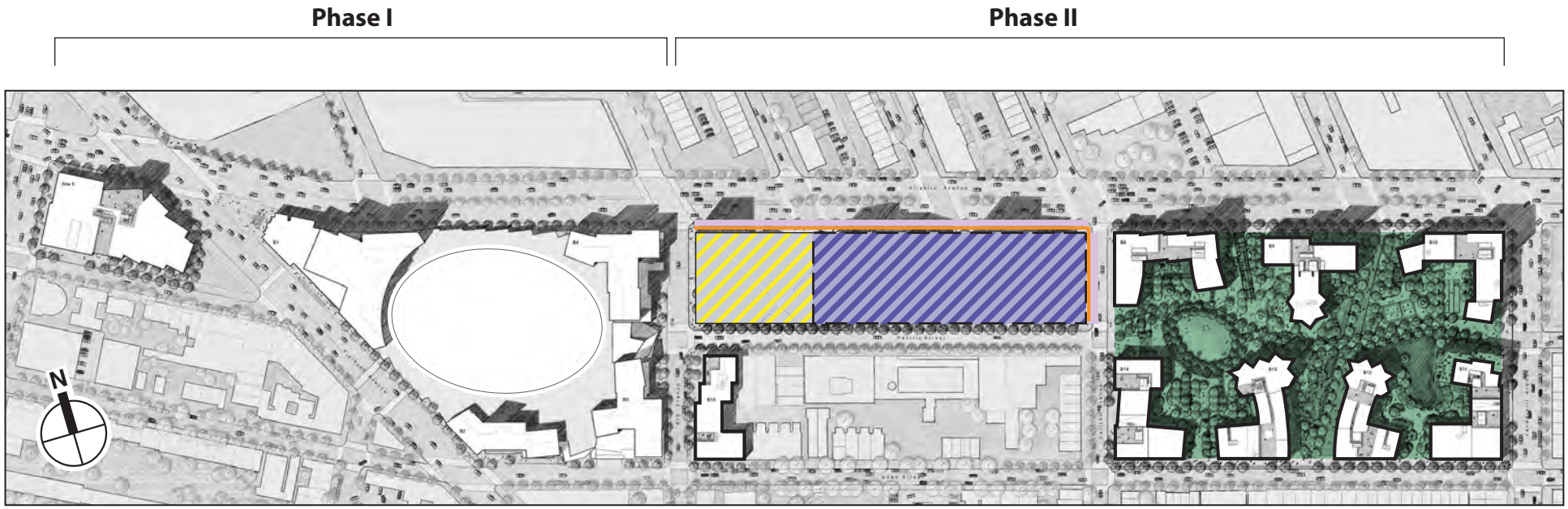


Source: Olin Partnership

- Building Complete
- Building Under Construction
- Platform Under Construction
- No Change from Existing Conditions
- Staging Area
- Sidewalk Closure
- Lane Closure
- Open Space

Construction Phasing Plan 1 – Intermediate Stage (Late 2027)

Figure S-8

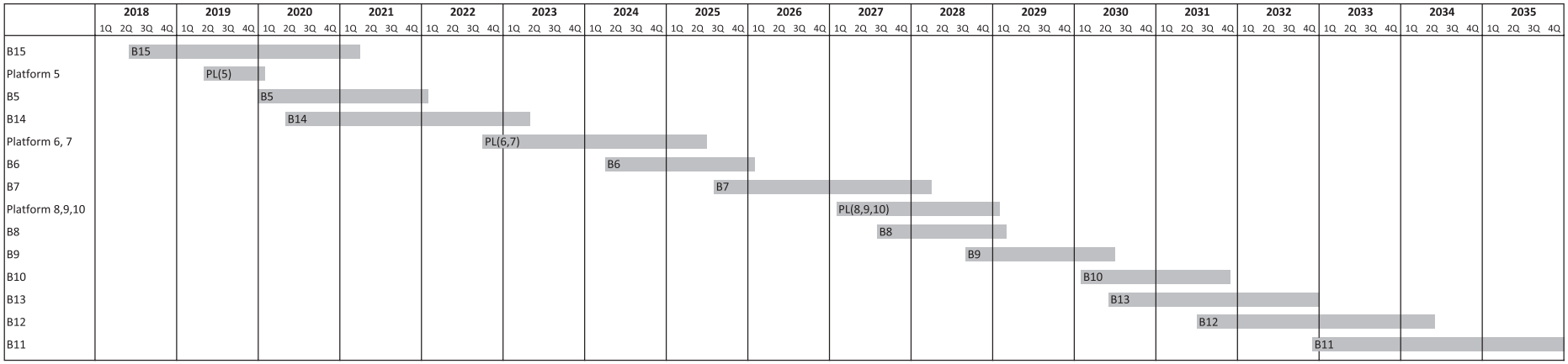


Source: Olin Partnership

- Building Complete
- Building Under Construction
- Platform Under Construction
- Staging Area
- Sidewalk Closure
- Lane Closure
- Open Space

Construction Phasing Plan 1 – Late Stage (Late 2031)

Figure S-9



Illustrative Construction Phasing Plan 2

Figure S-10

Table S-4
Phase II Illustrative Construction Phasing Plan 2

Building	Block	Start Month	Finish Month	Approximate duration (months)
Building 15	1128	June 2018	March 2021	34
Platform for Building 5	1120	May 2019	January 2020	8
Building 5	1120	January 2020	January 2022	24
Building 14	1129	May 2020	April 2023	36
Platform for Buildings 6 and 7	1120	October 2022	June 2025	32
Building 6	1120	April 2024	January 2026	21
Building 7	1120	August 2025	March 2028	32
Platform for Buildings 8, 9, and 10	1121	February 2027	January 2029	24
Building 8	1121	August 2027	February 2029	18
Building 9	1121	September 2028	June 2030	21
Building 10	1121	February 2030	November 2031	21
Building 13	1129	June 2030	December 2032	31
Building 12	1129	July 2031	May 2034	34
Building 11	1129	December 2032	December 2035	37[1]

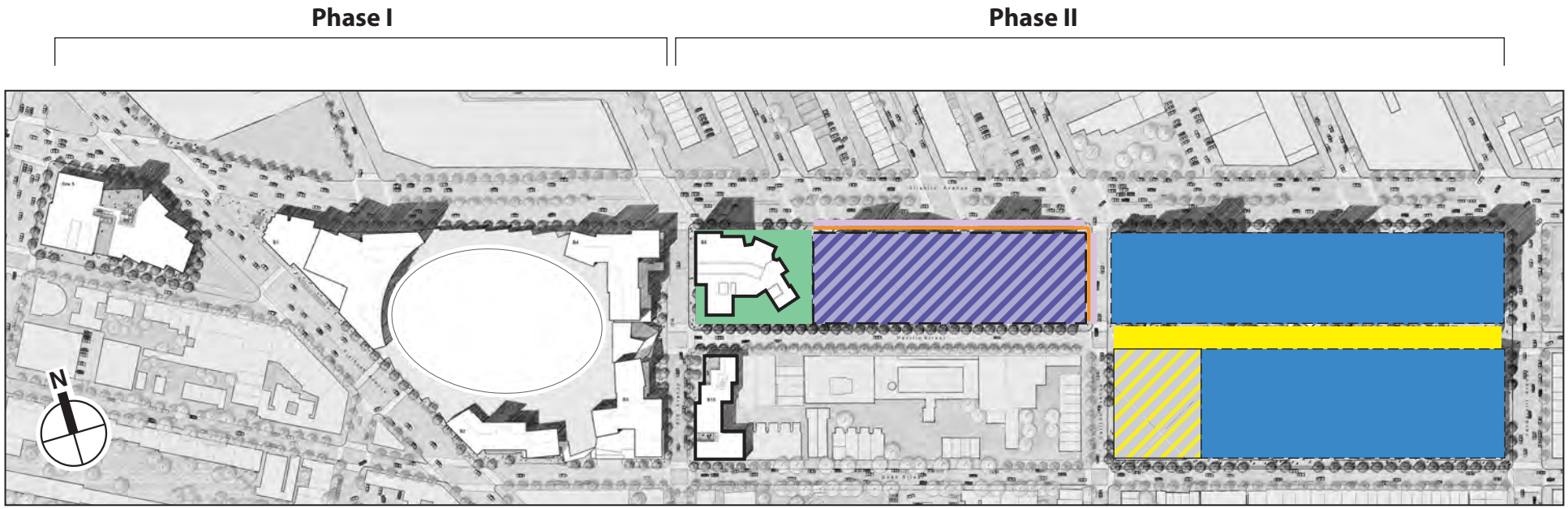
Note: [1] Includes 6 months of site and amenities work on Blocks 1121 and 1129.
Source: Hunt Construction Group

the Vanderbilt Yard for Building 5, followed by Building 5 construction, platform construction for Buildings 6 and 7, Building 6 construction, and finally Building 7 construction. Block 1120 construction activities are assumed to take place from May 2019 through March 2028. During construction of Building 5, construction of Building 14 on Block 1129 would also commence due to a contractual agreement that construction of at least one building on this block must begin by May 2020. Construction of Building 14 is assumed to take place from May 2020 through April 2023. Construction on Block 1121 is assumed to start in February 2027 where a platform would be constructed over a portion of the Vanderbilt Yard to provide a base for the Block 1121 buildings. Building construction on Block 1121 is assumed to move from west to east, starting with the construction of Building 8 in August 2027, followed by Building 9 in September 2028, and Building 10 in February 2030. Activities on Block 1121 are assumed to be completed by November 2031. The remaining portion of Block 1129 is assumed to be constructed starting in June 2030 with Building 13, followed by Buildings 12 and finally Building 11, with all activities completed by December 2035.

Figures S-11 through S-13 depict the Phase II project site through early, intermediate, and late stages of construction under Construction Phasing Plan 2.

CONSTRUCTION PHASING PLAN 3

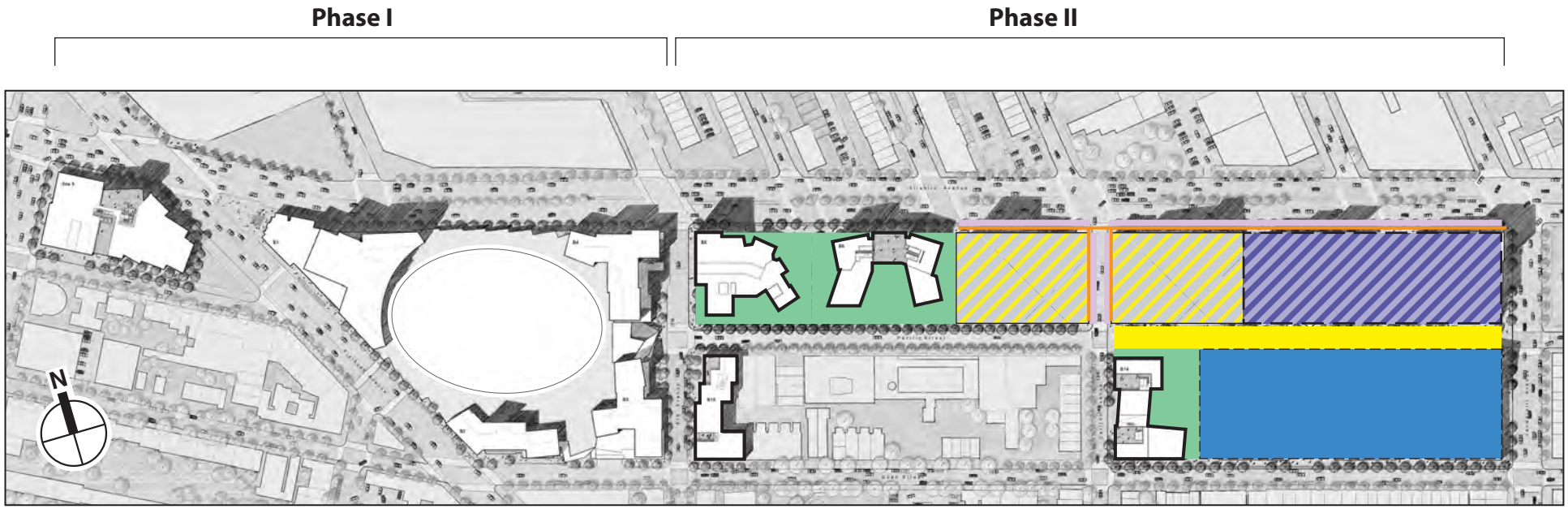
The illustrative construction schedule for Construction Phasing Plan 3 is shown on **Figure S-14** and in **Table S-5**. This third illustrative construction phasing plan is designed to illustrate construction that would start as described in Construction Phasing Plan 1, stop for a period of time for unforeseen reasons, and then restart with concentrated construction until project completion in 2035. The analysis of Construction Phasing Plan 3 is intended to assess the effects of stalled construction followed by a period of intense construction activities. Construction under this phasing plan would proceed in the same general sequence as described for Construction



Source: Olin Partnership

- Building Complete
- Building Under Construction
- Platform Under Construction
- No Change from Existing Conditions
- Staging Area
- Sidewalk Closure
- Lane Closure
- Open Space

Construction Phasing Plan 2 – Early Stage (Late 2022)
Figure S-11



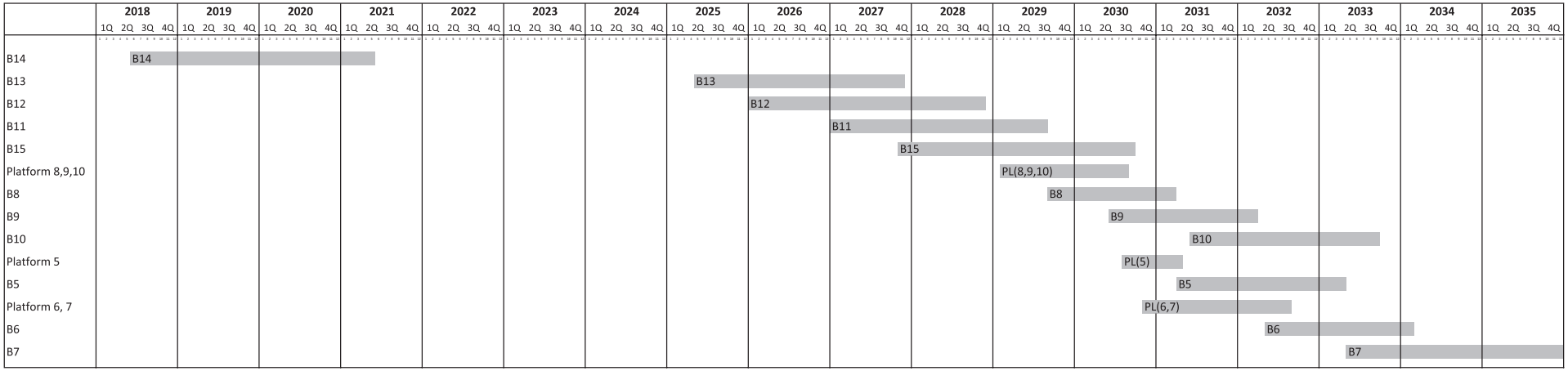
Source: Olin Partnership

- Building Complete
- Building Under Construction
- Platform Under Construction
- No Change from Existing Conditions
- Staging Area
- Sidewalk Closure
- Lane Closure
- Open Space

Construction Phasing Plan 2 – Intermediate Stage (Late 2027)
Figure S-12

Source: Olin Partnership

Construction Phasing Plan 2 – Late Stage (Late 2031)
Figure S-13



Illustrative Construction Phasing Plan 3

Figure S-14

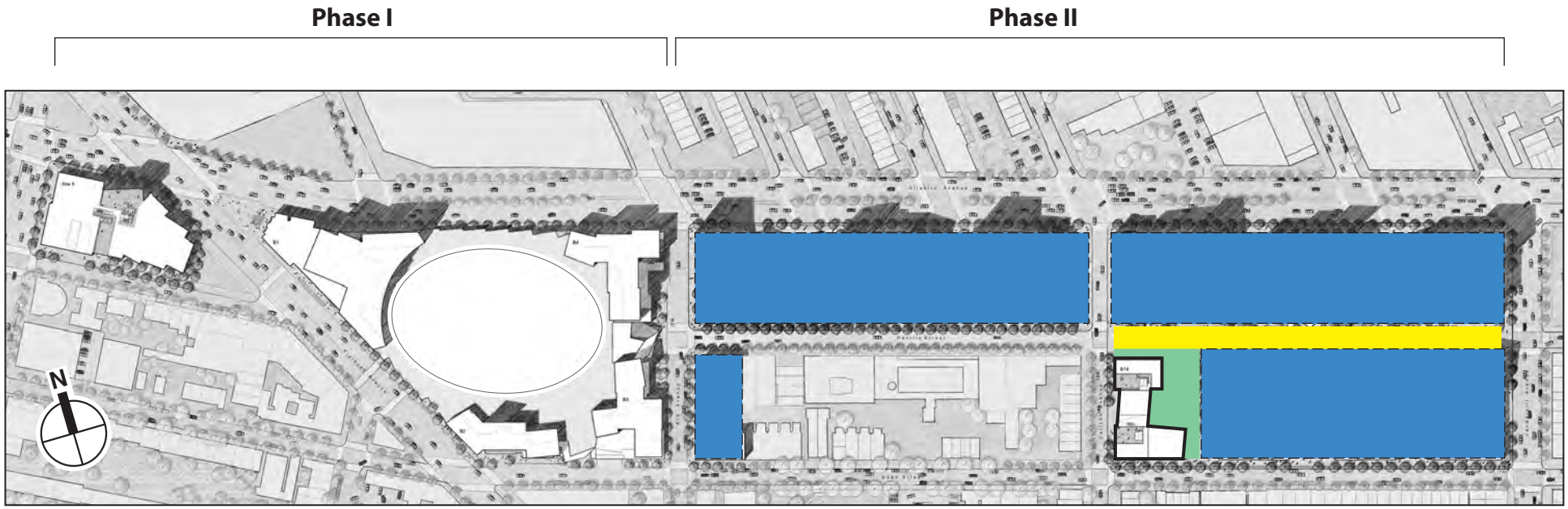
Table S-5
Phase II Illustrative Construction Phasing Plan 3

Building	Block	Start Month	Finish Month	Approximate duration (months)
Building 14	1129	June 2018	May 2021	36
Building 13	1129	May 2025	November 2027	31
Building 12	1129	January 2026	November 2028	34
Building 11	1129	January 2027	August 2029	31
Building 15	1128	November 2027	September 2030	34
Platform for Buildings 8, 9, and 10	1121	February 2029	August 2030	18
Building 8	1121	September 2029	March 2031	18
Building 9	1121	June 2030	March 2032	21
Building 10	1121	June 2031	September 2033	27[1]
Platform for Building 5	1120	August 2030	April 2031	8
Building 5	1120	April 2031	April 2033	24
Platform for Buildings 6 and 7	1120	November 2030	August 2032	21
Building 6	1120	May 2032	February 2034	21
Building 7	1120	May 2033	December 2035	32

Note: [1] Includes 6 months of site and amenities work on Blocks 1121 and 1129.
Source: Hunt Construction Group

Phasing Plan 1 above, with Block 1129 in an earlier build-out to fulfill the aforementioned contractual obligation. However, under this illustrative phasing plan, construction is assumed to stop for several years. Construction activities under illustrative Construction Phasing Plan 3 would be more staggered with more overlapping construction activities than the other two phasing plans. Under Construction Phasing Plan 3, construction is assumed to begin on Block 1129, moving from west to east. Construction of Building 14 is assumed to commence in June 2018 and would be completed by May 2021. No construction activities are anticipated between June 2021 and April 2025. Construction activities on Block 1129 are assumed to resume in May 2025 for the construction of Building 13, followed by the construction of Buildings 12 in January 2026 and finally Building 11 in January 2027. Building construction on Block 1129 is assumed to be completed by August 2029. In November 2027, construction of Building 15 on Block 1129 is assumed to commence, with all activities to be complete by September 2030. Construction is then assumed to proceed to Block 1121 in February 2029 where a platform would be constructed over a portion of the Vanderbilt Yard to provide a base for the Block 1121 buildings. Building construction on Block 1121 is assumed to move from west to east, starting with the construction of Building 8 in September 2029, followed by Building 9 in June 2030 and Building 10 in June 2031. Activities on Block 1121 are assumed to be completed by September 2033. While construction activities are occurring simultaneously for the Block 1121 platform, Building 8, and Building 9, activities on Block 1120 are assumed to commence. Platform construction for Building 5 is assumed to begin in August 2030 and would be completed by April 2031. Platform construction for Buildings 6 and 7 is assumed to soon follow and is assumed to take place between November 2030 and August 2032. Construction of Buildings 5, 6, and 7 is assumed to begin in April 2031, May 2032, and May 2033 respectively, with all activities on Block 1120 to be complete by December 2035.

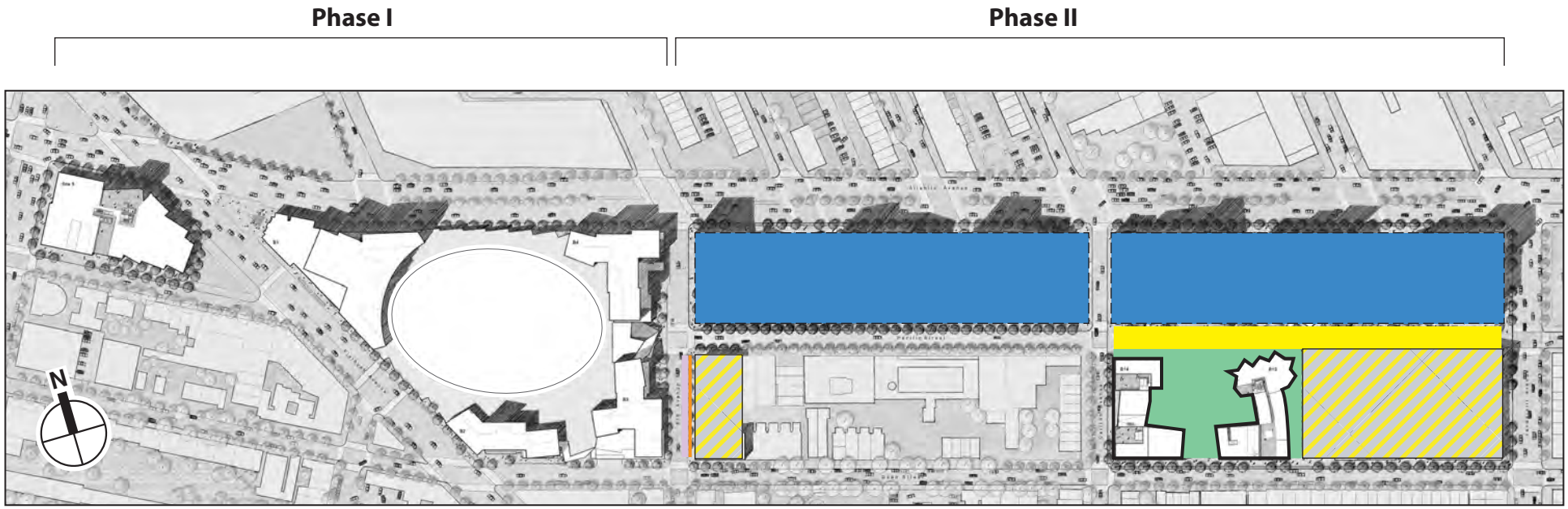
Figures S-15 through S-17 depict the Phase II project site through early, intermediate, and late stages of construction under Construction Phasing Plan 3.



Source: Olin Partnership

- Building Complete
- No Change from Existing Conditions
- Staging Area
- Sidewalk Closure
- Lane Closure
- Open Space

Construction Phasing Plan 3 – Early Stage (Late 2022)
Figure S-15

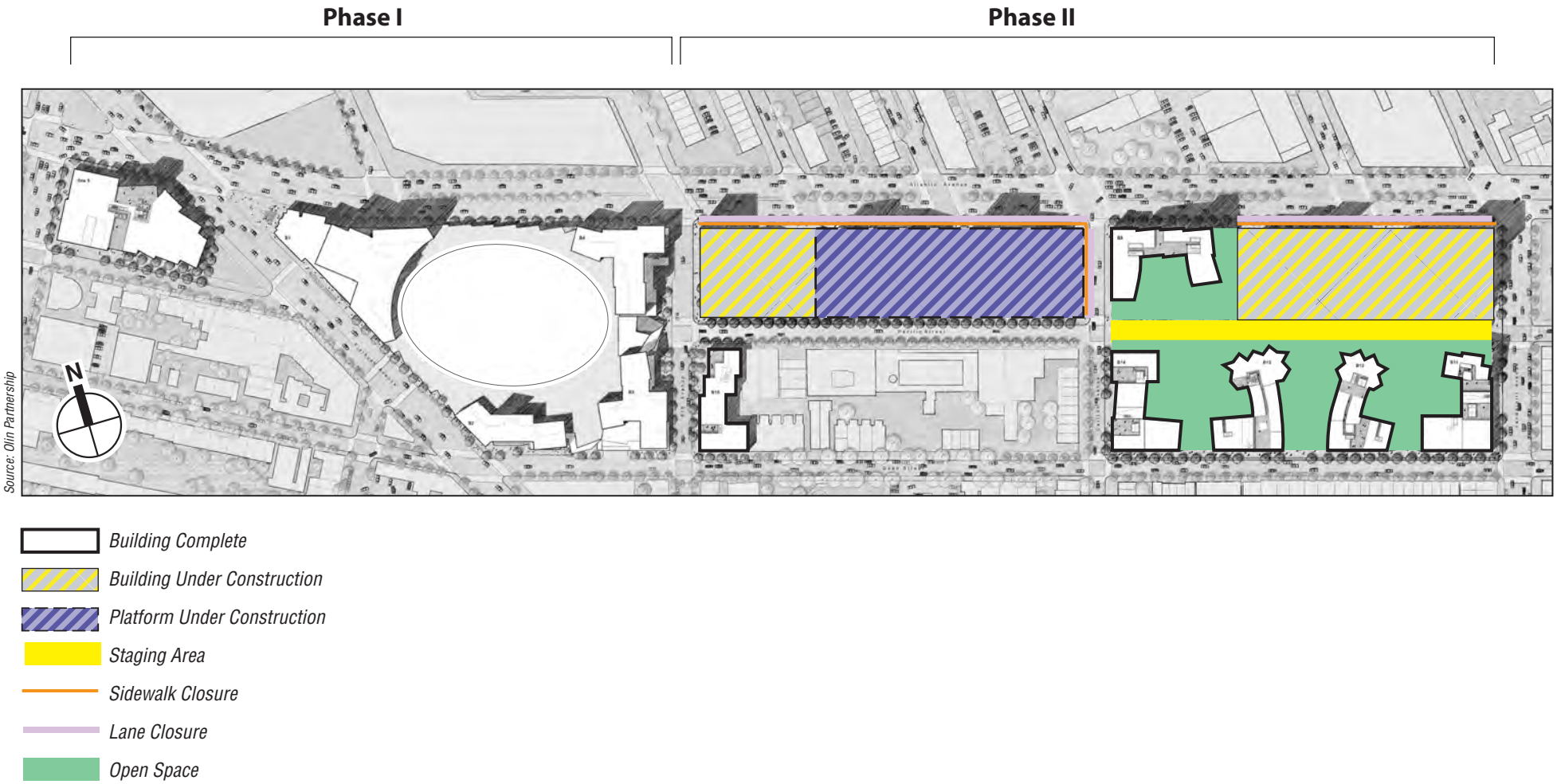


Source: Olin Partnership

- Building Complete
- Building Under Construction
- No Change from Existing Conditions
- Staging Area
- Sidewalk Closure
- Lane Closure
- Open Space

Construction Phasing Plan 3 – Intermediate Stage (Late 2027)
Figure S-16

2.24.14



Construction Phasing Plan 3 – Late Stage (Late 2031)
Figure S-17

E. POTENTIAL IMPACTS OF PHASE II OF THE PROJECT DURING CONSTRUCTION

INTRODUCTION

This SEIS includes a detailed analysis of the construction of Phase II of the Project under the Extended Build-Out Scenario using the three illustrative construction phasing plans identified above to evaluate the impacts of prolonged Phase II construction. However, there are technical areas of the construction analyses that would not be affected by the extended construction period for the Phase II development. The areas not affected by the extended construction period for the Phase II development are cultural resources, shadows, hazardous materials, and infrastructure, and these are not included in the discussion below.

CONSTRUCTION ZONING AND PUBLIC POLICY

The SEIS concludes that construction of Phase II of the Project under the Extended Build-Out Scenario would not result in significant adverse impacts with respect to Zoning and Public Policy.

The 2006 FEIS analyzed the consistency of the Project with zoning and public policy and found that, upon completion, the Project would not result in any significant adverse impacts associated with those categories. The 2006 FEIS found that the Project would offer the opportunity to further some of the City's policies for housing and commercial development in Brooklyn, including removing blight and eliminating negative environmental conditions; maximizing the development of appropriate land use; strengthening the tax base of the City by encouraging development and employment opportunities; providing affordable housing and market-rate housing of high quality; and providing appropriate community facilities, parks and recreational uses, retail shopping, and parking. The completion of Phase II of the Project at a later date would delay the delivery of some of the aforementioned Project benefits. Under the Extended Build-Out Scenario, Phase II would be completed by 2035, compared with the 2016 completion date assumed in the 2006 FEIS. However, none of the benefits related to Phase II would be achieved in the No Build condition (i.e., the Future Without Phase II). As Phase II of the Project, even under the Extended Build-Out Scenario, would provide numerous benefits related to public policies analyzed in the 2006 FEIS, it would not be inconsistent with the goals and objectives of those policies. In addition, as described below, construction of Phase II of the Project under the Extended Build-Out Scenario would not result in any conflicts with zoning or other public policy changes that have been implemented in the ¾-mile study area since the completion of the 2006 FEIS.

ZONING

Since the 2006 FEIS, three contextual rezonings within the study area have been approved: the Fort Greene/Clinton Hill Rezoning, the Boerum Hill Rezoning, and the Crown Heights West Rezoning. These contextual rezonings impose additional restrictions on development, as their objectives are to prevent out of scale development in those neighborhoods, match new zoning to existing built character and land uses, and incentivize the development of modest amounts of new affordable housing. Therefore, these rezonings would further strengthen the 2006 FEIS conclusion that the Project would not be expected to spur substantial changes in the firmly established neighborhoods that surround the project site. The completion of Phase II of the Project at a later date would not alter the conclusions of the 2006 FEIS.

As Phase II is incrementally constructed, it would also provide a higher proportion of affordable units than would the Inclusionary Housing Program in the designated areas under the Fort Greene/Clinton Hill Rezoning and Crown Heights West Rezoning. The affordable housing provided by Phase II would be targeted to a greater range of incomes than the Inclusionary Housing Program (which is targeted to households earning up to 80 percent Area Median Income [AMI]), because the affordable housing in Phase II, based on currently available programs, would be targeted towards five income bands (see **Table S-2**). Construction of Phase II of the Project would be supportive of the City's goal to create new units of affordable housing.

In 2012, the Downtown Brooklyn Parking Text Amendment was approved, which reduces parking requirements in Downtown Brooklyn, including portions of the Phase I project site. The text amendment is expected to result in the provision of parking supply that better reflects actual parking demand in Downtown Brooklyn, which—like the project site—features some of the best transit access in the city, including numerous subway and bus lines. Phase II of the Project is not within the area covered by the Downtown Brooklyn Parking Text Amendment, and therefore this text amendment is not relevant to the analysis of a delay in the construction of Phase II. However, since the project site exhibits many of the characteristics of Downtown Brooklyn, that text amendment is discussed in the assessment of a Reduced Parking Alternative in Chapter 6, "Alternatives."

PUBLIC POLICY

At the time of the publication of the 2006 FEIS, both the State and National Register (SN/R)-listed Prospect Heights Historic District and the New York City Landmark (NYCL)-eligible Prospect Heights Historic District were included in the analysis of impacts. Since the 2006 FEIS, the NYCL Prospect Heights Historic District has been designated by the New York City Landmarks Preservation Commission (LPC), and the boundaries have been defined slightly differently than those analyzed in the 2006 FEIS. Accordingly, the Construction Protection Plan (CPP) required under the Letter of Resolution with the New York State Office of Parks, Recreation and Historic Preservation (OPRHP) was modified to include new historic resources within the expanded boundaries of the Prospect Heights Historic District that are within 90 feet of future construction activity associated with the Project. In light of the adjustments made to the CPP, construction of Phase II under the Extended Build-Out Scenario would not have a significant adverse construction impact on the expanded district.

PlaNYC was established in 2007, and provides a policy framework for sustainable planning in New York City. Even with a prolonged period of construction, the Project would assist in meeting many of the goals and objectives established in PlaNYC, such as by providing new affordable and market-rate housing to meet the needs of current and future residents at a transit-accessible location, providing new open spaces, and utilizing public land to facilitate development that would eliminate blighted conditions. The completion of Phase II of the Project at a later date would delay the delivery of some of the Project benefits that would be supportive of PlaNYC, but would not conflict with the goals of PlaNYC. Under the Extended Build-Out Scenario, Phase II is assumed to be completed in 2035, compared with the 2016 completion date assumed in the 2006 FEIS. Thus, the full achievement of the Project's benefits related to PlaNYC would be delayed under the Extended Build-Out Scenario. However, none of the benefits related to Phase II would be achieved in the No Build condition (i.e., the Future Without Phase II). Because Phase II of the Project, even in the Extended Build-Out Scenario, would provide benefits related to PlaNYC, it would not be inconsistent with the goals and objectives of PlaNYC.

CONSTRUCTION SOCIOECONOMIC CONDITIONS

This analysis finds that construction activities of Phase II under the Extended Build-Out Scenario would not result in any significant adverse socioeconomic impacts. Based on *CEQR Technical Manual* criteria, the preliminary assessment does not indicate the potential for significant adverse socioeconomic impacts due to extended construction. Construction would not impede access to businesses surrounding the project site or reduce the visibility of their signage, and curbside deliveries to surrounding businesses are not expected to be significantly affected. It is possible that some limited reduction in pedestrian flow could occur along Vanderbilt Avenue at times during the construction period if some pedestrians choose alternate routes to avoid walking past the Phase II project site. However, any such reduction in pedestrian flow would be countered by the presence of construction workers and by new residential population as the Phase II buildings are completed, and would not substantially affect the vast majority of businesses or lead to business failures that could in turn affect neighborhood character.

While *CEQR Technical Manual* criteria do not indicate the potential for significant adverse socioeconomic impacts, a more detailed analysis was conducted in response to public concerns raised with respect to the effects of prolonged construction of Phase II of the Project on socioeconomic conditions in the area. This additional analysis of socioeconomic conditions surrounding the Atlantic Yards project site indicates that Project development to date has not led to business or residential disinvestment in the ¼-Mile Study Area around the project site. Residential trends in the ¼-Mile Study Area have generally followed trends in the surrounding neighborhoods, with average sales prices and rents increasing. For most property types between 2003 and 2012, increases in average residential sales prices in the ¼-Mile Study Area outpaced trends in the ¾-mile area surrounding the site (the Control Area).

Retail corridors closest to the Arena site have experienced increased investment since the announcement of the Project. While retail vacancy has increased, based on discussions with brokers these vacancies are the result of renovation of storefronts for new tenants rather than retail disinvestment. Increases in both retail employment and total employment in the ¼-Mile Study Area outpaced those in the ¾-Mile Control Area over the analysis period. Overall, demographic trends, real estate and employment data, and discussions with brokers in the area indicate that ongoing construction on the project site has not resulted in any substantial negative effect on neighborhood conditions or property values in the ¼-Mile Study Area as compared with the ¾-Mile Control Area.

Findings from case studies of other development sites in New York City that have experienced prolonged construction and/or periods of construction delay, including Riverside South, First Avenue Properties, Battery Park City, and Metro Tech, are consistent with findings on the effects of the Atlantic Yards Project to date. The case studies indicate that prolonged construction—in some cases construction that lasted for decades and is still ongoing—has not led to decreased property values or other signs of disinvestment in the ¼-Mile Study Area compared with the ¾-Mile Control Area for each of the case studies. Across all case studies, demographic and housing trends indicate that population and income growth and residential property values in the ¼-Mile Study Area kept pace with or exceeded growth in the ¾-Mile Control Areas over the course of the analysis period. Trends in commercial office and retail rents and sale values also indicate that prolonged construction or periods of delay for case study developments did not have any detrimental effect on commercial property values in the ¼-Mile Study Areas compared with the ¾-Mile Control Areas.

The construction of the Phase II development would generate substantial economic and fiscal benefits for the city and the state. Investment for construction of Phase II of the Project is estimated at approximately $2.43 billion in 2013 dollars, exclusive of financing, insurance, land value, and other costs that are not directly part of the expenditures for construction. Direct employment generated by construction of Phase II is estimated at 9,148 person-years of employment. Total employment, including jobs in business establishments providing goods and services to the contractors and jobs resulting from spending of construction wages, is estimated at 16,765 person-years of employment in New York State, of which 13,909 person-years would be in New York City. Construction activity would generate an estimated $173.41 million in tax revenues for New York City, the MTA, and New York State. New York State would receive about $109.54 million, the MTA would receive about $7.26 million, and New York City would receive about $56.61 million in tax revenues from construction of Phase II. In addition, New York City would receive revenue from the mortgage recording fees and real property transfer tax from the condominium units. The use of the modular construction method would result in different economic and fiscal benefits as discussed under "Modular Construction" below.

CONSTRUCTION COMMUNITY FACILITIES

The construction community facilities analysis in the SEIS considers the potential for indirect and direct effects on public schools and child care facilities. An "indirect impact" on such community facilities may occur if utilization of those facilities is expected to be in excess of available capacity and if a proposed action may result in an exceedance of school-seat or day-care capacity in the relevant study area by certain significance criteria recommended in the *CEQR Technical Manual*.

INDIRECT EFFECTS

Public Schools

As with the 2006 FEIS, this SEIS identifies a significant adverse impact on elementary and intermediate schools. Under the SEIS analysis, the significant adverse indirect impact on study area elementary schools would occur with the completion of the first Phase II building, under any of the three construction phasing plans. With regard to intermediate schools, a significant adverse impact would first occur beginning with the completion of the second Phase II building under both Construction Phasing Plan 1 and Construction Phasing Plan 3 and upon completion of the first Phase II building under Construction Phasing Plan 2. However, the delayed completion of Phase II of the Project would not itself create additional demand on schools, and the magnitude of the significant adverse impact identified in this SEIS reflects conservative methodology that does not account for long-term projections for increasing study area school capacity, possible future shifts in Community School District (CSD) boundaries or sub-district boundaries, or construction of additional school facilities. The impact to public school capacity would gradually increase over time until Phase II is completed, as additional students are introduced to the study area by additional Phase II buildings. The elementary and intermediate school seat shortfalls would be partially mitigated by the construction of a new public school on the Phase II project site, at the election of DOE. There would not be a shortfall of high school seats in Brooklyn under any of the construction phasing plans.

Child Care

The SEIS concludes that construction of Phase II of the Project under the Extended Build-Out Scenario would not result in significant adverse impacts with respect to child care facilities. Utilization of publicly funded child care services would steadily increase until such time as the 100 slots that the project sponsors are obligated to provide, as per the MEC, become operational. Consistent with *CEQR Technical Manual* methodology, a significant adverse impact on child care facilities may result if, in the Future With Phase II, there would be a 5 percent increase in utilization, compared with the Future Without Phase II, and overall utilization is above 100 percent. Prior to the completion of the new child care facility, utilization could increase by up to 5.98 percent, in 2032 under Construction Phasing Plan 1 and 2033 under Construction Phasing Plan 3. Once the child care facility is provided, however, any increase in utilization would diminish. Upon completion of Phase II in 2035, the increase in child care utilization attributable to the Phase II would be 1.56 percent, well below the 5 percent significance threshold. During the construction of Phase II under the Extended Build-Out Scenario, there could be a temporary condition where the increase in child care utilization attributable to Phase II would exceed the *CEQR Technical Manual* threshold for a significant adverse impact of 5 percent, but due to the short duration of this shortfall (approximately two years, in the Extended Build-Out Scenario) and the 100 new child care slots that would be provided by the project sponsors, this temporary condition would not be considered a significant adverse impact. In addition, the project sponsors have committed to monitoring child care enrollment and capacity in the study area as the project progresses, and to the extent necessary to avoid a significant adverse impact, make arrangements with one or more duly licensed day care providers for the long-term operation of a duly licensed child care center (or centers) to provide up to approximately 250 additional child care slots, either on or in the vicinity of the project site.

DIRECT EFFECTS

With respect to direct effects on community facilities, the construction of Phase II under the Extended Build-Out scenario would not displace any existing community facilities. No significant adverse impacts to air quality would result from construction of Phase II of the Project at any sensitive receptor locations, including community facilities.

The proposed on-site school and intergenerational community center would be constructed with adequate noise attenuation, and therefore would not experience significant construction noise impacts.

One existing public school (P.S. 753, located at 510 Clermont Avenue) would be expected to experience significant adverse noise impacts during the construction of certain Phase II buildings. Under Construction Phasing Plan 1, one or more floors along the south and west facades of the school building would be expected to experience exterior noise level increments exceeding CEQR impact criteria for up to nine years. Under Construction Phasing Plan 2, one or more floors along the east, south and west facades of the school building would be expected to experience exterior noise level increments exceeding CEQR impact criteria for up to seven years. Under Construction Phasing Plan 3, one or more floors along the south and west facades of the school building would be expected to experience exterior noise level increments exceeding CEQR impact criteria for up to eleven years. P.S. 753 already has double-glazed windows and an alternate means of ventilation. In light of the noise levels predicted on the exterior of the school facades, and the typical noise attenuation provided by double-glazed windows and alternate ventilation, it is expected that the resulting interior noise levels in the

public school would be below 45 dBA $L_{10(1)}$ (the *CEQR Technical Manual*'s acceptable interior noise level criteria for schools), except during an approximately one year period under Construction Phasing Plans 1 and 3 or an approximately two year period under Construction Phasing Plan 2, when noise levels are predicted to slightly exceed this threshold. Because interior noise levels would be acceptable except during limited periods when the acceptable threshold would be slightly exceeded, the temporary construction noise impacts on P.S. 753 would not impair the operation of the school, and therefore would not be considered a significant adverse community facilities impact.

Construction of Phase II under the Extended Build-Out Scenario would not result in the temporary or permanent closure or displacement of any community facilities. During the construction of Phase II, construction activities would not be expected to adversely affect any libraries, police or fire stations, publicly funded day care facilities, or health facilities, as none are located in close proximity to the Phase II construction sites.

CONSTRUCTION OPEN SPACE

The construction open space analysis consists 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 first compares the duration of that impact under the Extended Build-Out Scenario with the duration that would have been expected under the schedule anticipated in the 2006 FEIS. The analysis then assesses the potential for impacts from construction activities during a prolonged construction period for Phase II under the Extended Build-Out Scenario, including potential direct and indirect effects on open space resources in the study area.

ANALYSIS OF TEMPORARY SIGNIFICANT ADVERSE IMPACT ON PASSIVE OPEN SPACE RESOURCES IN NON-RESIDENTIAL STUDY AREA IDENTIFIED IN THE 2006 FEIS

Under the Extended Build-Out Scenario, the temporary significant adverse impact on the ratio of acres of passive open space per 1,000 workers (the passive worker ratio) in the non-residential study area associated with Phase I of the Project would be eliminated during construction of Phase II by 2029 or 2031 (depending on the illustrative construction phasing plan being analyzed), when approximately 3.36 to 3.41 acres of new publicly accessible passive open space would be provided by the Phase II development.

Therefore, compared with the Phase II schedule analyzed in the 2006 FEIS, the Extended Build-Out Scenario would prolong the temporary significant adverse impact on the passive worker ratio in the non-residential study area that was identified in the FEIS by between approximately 7 and 9 years. The analysis uses the commercial mixed-use variation and assumes that all of the Phase I buildings are built by 2018, as it is the worker population in the Phase I buildings that would cause the Phase I impact identified in the 2006 FEIS.

ANALYSIS OF ADEQUACY OF OPEN SPACE RESOURCES DURING THE PHASE II CONSTRUCTION PERIOD UNDER THE EXTENDED BUILD OUT SCENARIO

There would be no significant adverse indirect or direct open space impacts due to the construction of Phase II.

Indirect Effects Within the ¼-Mile Non-Residential Study Area

Under all three construction phasing plans, the ratio of acres of passive open space in the non-residential study area per 1,000 workers (the passive worker ratio) would gradually increase as Phase II buildings come online and add new passive open space resources to the ¼-mile non-residential study area. Overall, Phase II of the Project would improve the passive worker ratio, and at no point during the build out of Phase II would the percentage change in the passive worker ratio from the Future Without Phase II to the Future With Phase II be negative. Therefore, there would be no significant adverse indirect impacts in the non-residential open space study area due to the construction of Phase II.

Indirect Effects Within the ½-Mile Residential Study Area

In the ½-mile residential study area, the ratio of total acres of open space (i.e., combined passive and active publicly accessible open space) in the residential study area per 1,000 residents (the total residential ratio) and the ratio of acres of passive open space in the residential study area per 1,000 residents (the passive residential ratio) would each gradually increase over time. By contrast, the ratio of acres of active open space in the residential study area per 1,000 residents (the active residential ratio) would gradually decrease with time.

At no point during the build out of Phase II under the Extended Build-Out Scenario would the percentage change in the total residential ratio from the Future Without Phase II to the Future With Phase II be negative, under Construction Phasing Plan 1 and 3. Under Construction Phasing Plan 2, there would be a 0.3 percent decrease in the total residential ratio after the completion of the first Phase II building (Building 15, which would provide 0.13 acres of open space) in 2021, after which the ratio would steadily increase. This temporary decrease of less than 1 percent in the total residential ratio would not be considered a significant adverse impact, due to the small size of the decrease, the relatively short duration of this condition, the new open space resources that would be provided as Phase II buildings are constructed, and the availability of open space resources not included in the quantitative analysis, including Prospect Park and Fort Greene Park.

The passive residential ratio would increase over the construction period of Phase II under the Extended Build-Out Scenario. Compared with the Future Without Phase II, at no point during the build out of Phase II would the percentage change in the passive residential ratio from the Future Without Phase II to the Future With Phase II be negative, under all three Construction Phasing Plans. Upon the completion of Phase II in 2035, the overall increase in the passive residential ratio would be 36 percent.

The active residential ratio would gradually decrease over the Phase II construction period under the Extended Build-Out Scenario, with a maximum decrease of approximately 6.9 percent under Construction Phasing Plans 1 and 3 (occurring after the completion of Building 9, the seventh Phase II building to be completed), and with a maximum decrease of approximately 10.4 percent under Construction Phasing Plan 2 (occurring after the completion of Building 12, the second to last Phase II building). However, as additional active features come online, the active residential ratio would improve slightly, and under all three construction phasing plans, at the completion of Phase II in 2035, would decrease by approximately 5.6 percent.

Residents would continue to have access to resources that are not included in the quantitative analysis, including two destination open space resources (Fort Greene Park and Prospect Park) that are within walking distance of the Phase II project site, but are not within the ½-mile study area.

The overall effect of Phase II of the Project would be to improve the availability of publicly accessible open space in the study area. Due to the new open space resources that would be provided by Phase II, and the availability of open space resources not included in the quantitative analysis (in particular, Prospect Park and Fort Greene Park, two destination parks within walking distance of the Project site), the decreases in the active residential ratio would not be considered a significant adverse impact. Overall, there would be no significant adverse indirect open space impacts associated with Phase II of the Project under the Extended Build-Out scenario, under any of the three construction phasing plans.

Direct Effects

Phase II would not result in any direct displacement of existing open space resources. No significant adverse impacts on existing open spaces due to air emissions, noise, or vibration are anticipated during the construction of Phase II. Therefore, there would not be any significant adverse impacts due to direct effects on study area open spaces during the Extended Build-Out Scenario under any of the illustrative construction phasing plans.

Noise levels in areas where new Project open spaces would be developed would exceed *CEQR Technical Manual* guidelines due to existing traffic noise from nearby roadways, with or without Phase II construction activities, but the Phase II construction activities under any of the three analyzed illustrative construction phasing plans would result in noise level increases at Project open space locations during certain time periods. Open space areas with a line of sight to active construction activities would experience more elevated noise levels during those activities. While these noise levels are not desirable, there is no effective practical mitigation that could be implemented to avoid these levels during construction. Noise levels in many of the city's parks and open space areas that are located near heavily trafficked roadways and/or near construction sites experience comparable and sometimes higher noise levels.

CONSTRUCTION URBAN DESIGN AND VISUAL RESOURCES

Construction activities of Phase II under the Extended Build-Out Scenario would not result in any significant adverse impacts on urban design and visual resources.

The Phase II project site does not include any visual resources. Construction of the Phase II buildings would not obstruct views to any identified visual resources in the area. Therefore the construction of Phase II of the Project would not result in significant adverse impacts to visual resources under the *CEQR Technical Manual* criteria.

The delayed completion of Phase II under the Extended Build-Out Scenario would prolong interim site conditions that were identified in the 2006 FEIS, including a surface parking lot on Block 1129 and the presence of the open rail yard. The surface parking spaces would be provided in a temporary condition until they are located below-grade in conjunction with the build-out of the project buildings (Buildings 11, 12, 13, and 14) on Block 1129. Views to surface parking areas are common in mixed-use neighborhoods in New York City. As per the MEC, the interim surface parking lot and construction staging area on Block 1129 would continue to be screened and landscaped around its perimeter under the Extended Build-Out Scenario, similar to its appearance in existing conditions. The design of the fence along with the landscaping would continue to provide a visual buffer for pedestrians and residents of the adjacent neighborhood. The approximately 10-foot tall metal fence is set back approximately four feet from the property line to establish a landscaping zone. The fence allows for some pedestrian visibility into the parking facility from the sidewalk. Blooming shrubs and evergreens are also located in the

landscape buffer to provide a soft edge and layers of screening. The existing directional lighting would continue to minimize off-site light intrusion into the surrounding neighborhood. Moreover, views of the parking lot would be limited to immediately proximate areas. Due to these factors, the prolonged presence of the interim parking use on Block 1129 under the Extended Build-Out Scenario would not result in significant adverse urban design impacts.

Under the Extended Build-Out Scenario, the prolonged construction of Phase II would delay the point at which views to Blocks 1120 and 1121 would include an active mixed-use development with open spaces and other amenities, as compared with the open rail yard that exists under current conditions. Therefore, a portion of—or the entire rail yard—on Blocks 1120 and 1121 would be visible for a longer period of time. As the rail yard is located below-grade, existing views are limited to immediately proximate areas. In addition, views to the open rail yard exist currently and will continue in the Future Without Phase II, and the elimination of these views is considered a benefit of the Project. Therefore, the delayed completion of the Phase II development on these blocks would not be considered a significant adverse urban design impact.

With regard to the assessment of views, at any moment in time during construction of Phase II under the Extended Build-Out Scenario, irrespective of the construction phasing plan, views of the Phase II project site would depend highly on the pedestrian's viewpoint. The Urban Design analysis considers the appearance of the project site from multiple pedestrian vantage points during an extended construction period.

From a pedestrian's perspective, the appearance of areas of the Phase II project site under active construction would be similar to other construction sites in the city. Portions of adjacent streets and sidewalks would be used for staging activities; active construction sites would be surrounded by protective fencing; and for periods of time, large pieces of construction equipment would be seen beyond the protective fencing, followed by building superstructures. Throughout the construction period, access to surrounding residences, businesses, and institutions in the study area would be maintained, and thus there would continue to be pedestrian activity around the Phase II project site. To the extent practicable, measures outlined in the Maintenance and Protection of Traffic (MPT) Plans would be designed so that vehicle lane and sidewalk closures are kept to a minimum and that adequate pedestrian access is provided subject to New York City Department of Transportation (NYCDOT) approval. Phase II sites would be maintained in their existing conditions until right before demolition. Further, the project sponsors are obligated under the 2009 MGPP and MEC to maintain the sites in a clean and secure manner.

Open space on the Phase II project site would be iteratively created as each proposed building is completed. Street trees would be provided along the perimeter of the site consistent with New York City Department of Parks and Recreation (DPR) requirements and regulations. The new Project open spaces in interim and permanent conditions and the replacement street trees would incrementally enhance the pedestrian experience.

VIEWS ANALYSIS FROM ONE BLOCK AWAY FROM THE PROJECT SITE

Other than from Atlantic Avenue east of the Phase II project site, street-level views to the Phase II project site from one city block away are highly constrained. Most eye-level views are limited to a narrow portion of the project site. Views of the project site along Atlantic Avenue from one block east show the Phase II building sites along Atlantic Avenue, which would be viewed in the context of the intensely urban and heavily trafficked character of Atlantic Avenue. Skyward views from the pedestrian perspective could include construction cranes and the superstructures

of Phase II buildings under construction and/or completed Phase II buildings, depending on the vantage point, the point in time, and the construction phasing plan. However, skyward views of these construction conditions would not adversely affect the pedestrian experience on these blocks as the changed views would not significantly affect the streetscape at the pedestrian level. Skyward views of cranes and construction would be temporary and would change as construction proceeds. While the duration of these views would be extended due to the prolonged construction period for Phase II, such views would be typical of skyward-facing views of construction sites for tall buildings in New York City, and would be similar in nature to views currently available, when looking up, of numerous construction sites in the downtown Brooklyn area. In addition, pedestrian views of the Phase II buildings under construction and associated construction equipment would not obstruct views of any visual resources in the area.

VIEWS ANALYSIS FROM 100 FEET OF THE PROJECT SITE

From many vantage points 100 feet from the project site, pedestrian views of Phase II construction activities would be highly constrained. These would include views from south along Carlton and 6th Avenues and views from the north along South Portland and South Oxford Streets and views from the east and west along Dean Street. More expansive views of the project site are available from the east and west along Atlantic Avenue as well as views to the south from 100 feet north of Atlantic Avenue along Carlton and Clermont Avenues. At any point these views are likely to include interim site conditions and a larger amount of construction activity than views from the narrower streets with more limited viewsheds. The more expansive views would include large portions of the Phase II project site, which could include conditions similar to existing conditions (including interim conditions), active construction, and completed buildings. Pedestrian-level views to the site would be mainly of completed buildings or sites remaining as in the Future Without Phase II, rather than active construction sites because active construction would take place at only a limited number of buildings sites at any one time under the Extended Build-Out Scenario. While views from locations along the Atlantic Avenue corridor, and some locations 100 feet north of Atlantic Avenue would include Phase II construction activity for a prolonged time period under the Extended Build-Out Scenario, these views are already intensely urban in character and are already heavily influenced by high volumes of traffic and activity. In addition, as Project buildings are completed, views to the project site will include those completed buildings, which will partially obscure construction activities and interim conditions located behind them.

VIEWS ANALYIS FROM ADJACENT SIDEWALK LOCATIONS

Pedestrian views from sidewalks on streets adjacent to active construction would consist of conditions that would be typical of any construction site in the City. Those views would include construction workers, equipment and activities taking place above the construction fence, truck traffic entering and leaving the project site, large pieces of equipment such as cranes, and the MPT elements including barriers and fences and sidewalk bridges. Prior to the start of construction activities, adjacent sidewalks would provide views to certain portions of the project site, depending on a pedestrian's vantage point. Construction fencing would be installed at the perimeter of the site under construction and would limit views into certain areas of the project site, while views to areas of the site not under construction would remain available. Once project site buildings are complete, views from adjacent sidewalks would include the nearest completed building, along with other more distant completed buildings, on-going construction activities elsewhere on the project site, and longer views that would include the surrounding streetscapes.

Under the Extended Build-Out Scenario, construction activities would be concentrated on some blocks and would be visible from certain adjacent viewpoints for an extended period of time. Views of the interim parking use would be screened by landscaping and fencing, until such time as the surface parking lot would be incrementally replaced with below-grade parking facilities. From sidewalks on the streets adjacent to the project site prior to the beginning of construction activities, a pedestrian would have expansive views of the project site, including of the open rail yard, which would extend to intervening buildings and the buildings adjacent to (or across the street from) the Phase II project site boundaries. These wide views would gradually be changed by construction activities (including, eventually, platforms over the rail yard) and then new Phase II buildings. As Phase II buildings are constructed, they would partially obscure views to other buildings under construction and other construction staging activities. Phase II construction activities, and new Phase II buildings, would also incrementally obscure or partially obscure views to buildings beyond the project site boundaries. Therefore, the existing wide views that are available from project site-adjacent locations would be reduced over time, as new construction activities and buildings are incrementally introduced to the Phase II project site.

Compared with views 100 feet from the project site, Phase II construction activities would have a substantial effect on views from locations adjacent to the project site, due to the close proximity and focused character of these views. Due to the localized nature of these views, a relatively low number of pedestrians would be affected by these changes. No unique views, or views of any important visual resources, would be impacted.

SUMMARY OF EFFECT OF PROLONGED PHASE II CONSTRUCTION ON VIEWS

Views of the project site from more than one block away are extremely limited and would not be significantly affected by extended construction activities. Views from 100 feet of the project site are generally constrained except along the Atlantic Avenue corridor and in certain locations from north of Atlantic Avenue. Views from these vantage points would be experienced in the context of the urban character of Atlantic Avenue. Construction activities would be visually prominent from sidewalk locations on streets adjacent to the project site. Although construction activities on individual building sites would be typical of those on numerous other construction sites throughout the City, the Phase II construction activity would occur at multiple building sites and would be visible for a prolonged duration from many nearby vantage points under the Extended Build-Out Scenario. However, as Project buildings are completed, views to the project site will include those completed buildings, which will partially obscure construction activities and interim conditions located behind them. No unique views, or views of any important visual resources, would be impacted, and the Phase II construction would incrementally replace views of the below-grade rail yard, interim surface parking lot and existing warehouse buildings and other structures as construction proceeds. Therefore, Phase II construction under the Extended Build-Out Scenario would affect views from areas with a limited geographic scope and would not adversely affect a large number of people. For these reasons, construction of Phase II of the Project under the Extended Build-Out Scenario would not result in significant adverse impacts to Urban Design. However, the visual effects of construction activities at sidewalks on streets adjacent to the project site would contribute to the localized significant adverse neighborhood character impacts discussed below.

CONSTRUCTION HAZARDOUS MATERIALS

The 2006 FEIS concluded that the Project would not result in significant adverse impacts with respect to hazardous materials. Construction activities on the project site since the 2006 FEIS

have been substantially consistent with the procedures set forth in the 2006 FEIS and MEC. The same procedures for assessing and managing contamination, and measures to avoid impacts, would be implemented during the Phase II work (with certain improvements to minimize noncompliance as discussed in Chapter 3A, "Construction Overview"), and the longer construction period assumed for the Extended Built-Out Scenario would not result in additional impacts with respect to hazardous materials. Therefore, no significant adverse impacts would occur for Phase II of the Project under the Extended Build-Out scenario.

CONSTRUCTION TRANSPORTATION

TRAFFIC

During peak construction under all three illustrative construction phasing plans, the project-generated trips would generally be fewer than the project-generated trips that would be expected upon the full build-out of Phase II of the Project. An exception would be during the peak construction periods for Construction Phasing Plan 3, when multiple buildings and certain railroad yard platform segments would be under concurrent construction at the project site and a number of the Phase II buildings would also be in operation. The detailed construction traffic analysis of two peak construction periods for Construction Phasing Plan 3, which represent the reasonable worst case periods for construction traffic impacts, shows that significant adverse traffic impacts would occur at numerous locations. While these analyses considered specific points in time during Phase II construction under Construction Phasing Plan 3 (primary worst-case in 2032 and secondary worst-case in 2027), the impact findings and determination of mitigation requirements would be applicable to other construction periods during which comparable activities would occur. Overall, significant adverse traffic impacts were identified at 36 intersections during the 1st quarter of 2032 (when Buildings 5, 9, and 10, and the platform segments for Buildings 6 and 7 are assumed to be under concurrent construction at the project site) and at 15 intersections during the 4th quarter of 2027 (when Buildings 11, 12, 13, and 15 are assumed to be under concurrent construction at the project site) under the illustrative construction schedule for Construction Phasing Plan 3. The proposed operational traffic mitigation measures as described in Chapter 5, "Mitigation," would mitigate most construction impacts during these peak periods. In some cases, variations of the operational mitigation measures or additional measures have been recommended to fully mitigate certain impacts during construction. Similar to the operational traffic impact analysis and findings from the 2006 FEIS, there would be locations where impacts could not be mitigated or could only be partially mitigated.

PARKING

In the Extended Build-Out Scenario, peak parking demand for construction workers is assumed to occur during the peak construction period under the illustrative construction schedule for Construction Phasing Plan 3 when, on average, 314 construction worker vehicles are projected to arrive at the project site during the 6 to 7 AM morning peak hour. Since this volume represents 80 percent of the total projected day shift vehicle trips for construction workers, the total peak parking demand would be 392 vehicles. As the 300 on-site parking spaces available to accommodate Arena demand would generally be available to construction workers, most of the projected peak construction worker parking demand could be accommodated by these 300 on-site parking spaces. While some construction workers are expected to find nearby on-street and off-street parking, the overall projected demand could be accommodated by the Project's on-site

parking facilities. Based on the off-street and on-street parking utilization in the ¼ mile study area of the Project, should fewer on-site parking spaces be provided for construction workers, the construction peak parking demand could be accommodated by the available off-street parking facilities in the ¼ mile study area of the Project. Since all projected construction worker parking demand would be met, no parking shortfall is anticipated during Phase II construction of the Project under the Extended Build-Out Scenario. These findings are generally consistent with those of the 2006 FEIS.

TRANSIT AND PEDESTRIAN

Construction workers who do not travel via auto would be distributed among the various subway and bus routes, station entrances, and bus stops near the project site. These trips would also occur predominantly during construction peak hours that are outside of the typical commuter peak periods. Furthermore, appropriate measures for maintaining temporary sidewalks and overhead protections would be provided throughout Phase II construction of the Project. However, during construction on Blocks 1120 and 1121, due to the anticipated staging areas and MPT plans, there may be times when pedestrian access along the south side of Atlantic Avenue east of 6th Avenue would be restricted to facilitate construction activity. Consultation with NYCDOT's OCMC would be undertaken to determine the feasibility of closing pedestrian access for the affected segments during periods of Phase II construction when Blocks 1120 and 1121 are under construction. Diverting pedestrian flow to other sidewalks in the area is not expected to result in a substantial increase in pedestrian traffic at those locations. At other sidewalks bordering the project site, more limited closures are anticipated and, where necessary, temporary sidewalks would be provided to maintain pedestrian flow. Therefore, no significant adverse construction-related transit or pedestrian impacts are expected to occur during Phase II construction of the Project under the Extended Build-Out Scenario. These findings are generally consistent with those of the 2006 FEIS.

CONSTRUCTION AIR QUALITY

Consistent with the conclusions of the 2006 FEIS, no significant adverse impacts on air quality are predicted during Phase II construction. Measures would be taken to reduce pollutant emissions during construction in accordance with applicable laws, regulations, and building codes, including dust suppression measures and the idling restriction for on-road vehicles. In addition, the project sponsors have committed to a robust emissions reduction program, including early electrification, the use of ultra-low sulfur diesel (ULSD) fuel, best available tailpipe reduction technologies, and utilization of newer equipment. With the implementation of these emission reduction measures, the analysis of construction-related air emissions determined that $PM_{2.5,}$ $PM_{10,}$ annual-average NO_2, and CO concentrations would be below their corresponding *de minimis* thresholds or National Ambient Air Quality Standards (NAAQS) respectively. Therefore, the construction of Phase II of the Project under the Extended Build-Out Scenario would not result in significant adverse air quality impacts due to construction sources.

CONSTRUCTION NOISE AND VIBRATION

NOISE

Consistent with the findings of the 2006 FEIS, construction of Phase II of the Project under the Extended Build-Out Scenario would have the potential to result in significant adverse impacts with respect to construction noise. This conclusion is based on an analysis of each of the three

illustrative construction phasing plans, using a modeling analysis that conservatively predicts noise levels by assuming that peak hourly noise levels represent the entire day of construction and peak monthly levels represent the entire year in most years. Since the results of this analysis reflect peak hourly noise levels during peak months of construction, the noise levels predicted by this analysis would not occur constantly throughout the predicted duration of impact.

Construction on the proposed building sites would include noise control measures beyond those required by the New York City Noise Control Code, including both path and source controls. With the implementation of these measures, and accounting for the assumptions mentioned above, the results of the detailed construction noise analysis indicates that of the 489 buildings in the study area, elevated noise levels are predicted to occur at one or more floors of approximately 124 buildings under Construction Phasing Plan 1, at one or more floors of approximately 160 buildings under Construction Phasing Plan 2, and at one or more floors of approximately 134 buildings under Construction Phasing Plan 3. This is as compared with the approximately 176 buildings predicted to experience significant adverse noise impacts resulting from construction of Phase II of the Project at one or more floors in the 2006 FEIS. Thus, certain buildings predicted to experience significant adverse construction noise impacts in the 2006 FEIS would not be predicted to experience impacts in this SEIS construction noise analysis under the Extended Build-Out Scenario. Most of the locations predicted to experience significant adverse construction noise impacts according to this SEIS analysis are the same as those predicted to experience impacts in the 2006 FEIS, but there are 15 buildings under Construction Phasing Plan 1, 21 buildings under Construction Phasing Plan 2, and 24 buildings under Construction Phasing Plan 3 predicted to experience significant adverse construction noise impacts at one or more floors that were not predicted to experience significant adverse construction noise impacts in the 2006 FEIS.

The Extended Build-Out Scenario would result in construction occurring over a longer overall period of time, and result in noise level increases occurring over a longer duration. In addition to resulting in significant adverse construction noise impacts at some locations not predicted to experience significant adverse construction noise impacts in the 2006 FEIS, this also would result in longer durations of impact at some locations that were predicted to experience significant adverse construction noise impacts in the 2006 FEIS. At locations with line of sight to several Phase II buildings the increased duration of construction at those building sites would extend the overall duration of construction noise level increases.

The elevated noise levels resulting from construction would be reduced at a receptor location as construction activities move out of the line of sight of that receptor location. The construction noise impacts described in this SEIS would not be expected to occur over the entire duration of construction at any noise receptor, because while construction activities are occurring at buildings to which a receptor does not have a direct line of sight, the receptor would tend not to experience the elevated noise levels due to construction. Furthermore, many of the loudest pieces of construction equipment, including excavators, asphalt paving equipment, concrete trowels, concrete trucks, portable cement mixers, etc., are mobile, and move about the site throughout the days and months of construction, resulting in a range of construction noise levels at a particular receptor location.

Affected locations include residential and institutional areas adjacent or with a line of sight to the proposed development sites. However, most affected buildings have receptor noise control measures (i.e., double-glazed windows and air-conditioning) or have previously been offered receptor control noise measures by the project sponsors (in accordance with the mitigation

requirements stipulated in the 2006 FEIS and MEC). Buildings with double-glazed windows and air conditioners would be expected to experience interior $L_{10(1)}$ values less than 45 dBA during most of the construction period, which would be considered an acceptable level according to CEQR criteria. For example, of the up to 160 buildings where significant impacts are predicted to occur at one or more floors during some portion of the construction period (as with Construction Phasing Plan 2), 150 of these receptor buildings already have receptor control measures or previously have been offered receptor control measures by the project sponsors. As such, no additional mitigation would be warranted at these 150 buildings. Overall, there are up to 13 buildings represented by six noise receptors predicted to experience significant adverse noise impacts as a result of construction of Phase II of the Project under one or more of the three Construction Phasing Plans analyzed that do not have and have not previously been offered receptor control measures. These 13 locations may not have sufficient receptor controls to consistently provide interior noise levels during construction considered acceptable according to CEQR criteria. These include one church building whose windows and alternate means of ventilation cannot be confirmed, and 12 residential buildings whose alternate means of ventilation cannot be confirmed. Receptor controls that could be used to partially mitigate these impacts are discussed below under "Mitigation."

Additionally, there is one recently constructed residential building with outdoor balconies predicted to experience significant adverse noise impacts as a result of construction of Phase II of the Project under Construction Phasing Plan 1. At this location, there are no feasible or practicable mitigation to mitigate the construction noise impacts on the balconies.

As mentioned above, fewer buildings in the study area are predicted to experience significant impacts in this SEIS analysis compared with the number of buildings predicted to experience significant adverse impacts the 2006 FEIS construction noise analysis. The refinement of the analysis methodology for the SEIS, specifically using a greater number of receptor locations (instead of representing many buildings on one block by one receptor location, the methodology used in the 2006 FEIS) more precisely indicates which buildings and building façades would experience significant adverse construction noise impacts. Additionally, the refined analysis methodology more precisely calculated background (i.e., non-construction) noise levels at each noise receptor, particularly at the rear façades and upper elevations of buildings. This tended to indicate lower background noise levels at these locations, resulting in higher construction noise level increments at these receptor locations.

During certain Phase II construction activities, P.S. 753 (located at 510 Clermont Avenue), which was not predicted to experience a significant adverse construction noise impact in the 2006 FEIS analysis, would be expected to experience significant adverse noise impacts at one or more floors on the west and south façades under Construction Phasing Plans 1 and 3, and the west, south, and east façades under Construction Phasing Plan 2. The maximum impact duration at the school would be nine years under Construction Phasing Plan 1 (see Table 3J-3), seven years under Construction Phasing Plan 2 (see Table 3J-5), and eleven years under Construction Phasing Plan 3 (see Table 3J-7).

The school building has receptor control measures including double glazed windows and air conditioners. With these receptor control measures, interior L_{10} noise levels in rooms with windows along the east, south, and west façades of the school would be below the CEQR 45 dBA L_{10} recommended level during most periods of time (including most of the years in which the SEIS modeling analysis identifies significant adverse impacts on exterior facades). However, during some limited time periods, the school would experience exterior noise levels up to 77.7 dBA at

certain floors. This would result in interior noise levels in the high 40s dBA, which would be above the 45 dBA $L_{10(1)}$ noise level recommended by the *CEQR Technical Manual* for schools. The school is predicted to experience exterior noise levels greater than 75 dBA for no more than two years under Construction Phasing Plan 2 and no more than one year under Construction Phasing Plans 1 and 3.

Construction of the proposed project would not result in any significant adverse noise impacts at existing open spaces within the study area. The combination of background noise levels in the area and on-site construction activities under any of the three analyzed illustrative construction phasing plans would produce $L_{10(1)}$ noise levels at certain new Project open space areas up to approximately the low 80s dBA during certain periods of construction. These noise levels would exceed those recommended by the *CEQR Technical Manual* for passive open spaces (55 dBA L_{10}). (Noise levels in these areas exceed the recommended values for existing and Future Without Phase II conditions.) Noise levels in many of the city's parks and open space areas that are located near heavily trafficked roadways and/or near construction sites experience comparable and sometimes higher noise levels.

Generally, throughout the study area, the absolute noise levels during construction predicted in this SEIS construction noise analysis are comparable to those predicted in the 2006 FEIS. Absolute noise levels predicted to occur at the analyzed noise receptor locations in the study area would generally be in the mid 50s to 70s dBA. These noise levels are comparable to noise levels throughout residential areas of New York City. At the upper levels of certain buildings immediately adjacent to the construction of one or more Project buildings, during the one or two years of the peak construction activity adjacent to these receptors, noise levels in the low 80s dBA would be expected. These noise levels are comparable to those that occur at receptors adjacent to heavily trafficked multi-lane avenues or roadways in New York City.

VIBRATION

The buildings of most concern with regard to the potential for structural or architectural damage due to vibration are the Swedish Baptist Church and nearby row houses along Dean Street, which are immediately adjacent to the site of Building 15. The 2006 FEIS vibration analysis determined that there would be no potential for significant adverse vibration impacts at these locations, but that a vibration monitoring program should be implemented to ensure that no architectural or structural damage will occur from construction activities. As per the MEC, the vibration monitoring program would continue to be implemented for Phase II of the Project under the Extended Build-Out Scenario.

For limited periods of time due to certain infrequently occurring construction activities, vibration levels will be perceptible in the vicinity of the construction site but would not rise to the level that would have the potential to result in structural or architectural damage and would not be considered significant adverse impacts.

CONSTRUCTION PUBLIC HEALTH

Phase II of the Project would not result in significant adverse impacts with respect to air quality (during construction or operation of Phase II) or with respect to operational noise. Phase II of the Project would result in significant adverse construction noise impacts, as defined by the thresholds recommended in the *CEQR Technical Manual*. However, the predicted magnitude and duration of absolute noise levels (i.e., the sum of construction noise levels with ambient background noise levels) would not be at a level that significantly affects public health at any

receptor location. Therefore, Phase II of the Project under the Extended Build-Out Scenario would not result in significant adverse public health impacts.

CONSTRUCTION LAND USE AND NEIGHBORHOOD CHARACTER

LAND USE

Consistent with the 2006 FEIS, this SEIS finds that construction of Phase II of the Project under the Extended Build-Out Scenario would not result in significant adverse land use impacts. Construction of Phase II would affect land uses on the project site and in immediately adjacent areas, which would be affected during the construction period by intermittent sidewalk closures, travel lane closures, and relocation of bus stops in the vicinity of the Phase II project site. To facilitate pedestrian flow through these areas, temporary sidewalks or sidewalk bridges adjoining the project site would be maintained to the extent practicable. Sidewalk and travel lane closures and bus stop relocations would be intermittent and temporary and are not expected to result in any significant adverse impacts to the land uses surrounding the Phase II project site.

During the construction of Phase II, sites not under active construction would be maintained as under existing conditions, such as the continued existence of the open rail yard, or would have interim uses, such as for construction staging areas or surface parking for a prolonged period. The presence of these interim uses for an extended period of time would not be considered a significant adverse land use impact because these uses are not incompatible with surrounding land uses, and, in the case of the interim surface parking lot and open rail yard, would also be present in the Future Without Phase II condition. However, the Extended Build-Out Scenario would extend the duration of the surface parking lot and open rail yard compared with the construction schedule analyzed in the 2006 FEIS. The surface parking use that would be on Block 1129 for an extended period is a non-residential use, but the underlying manufacturing zoning that covers most of the block and most of the block immediately to the south allows a range of commercial and manufacturing uses. The surface parking use is also consistent with the mix of industrial, commercial and residential uses that are located on the block to the south. The perimeter of the surface parking lot on Carlton Avenue, Dean, Vanderbilt, would be fenced with a landscaped border, providing a visual buffer for pedestrians and residents.

Areas closest to the Phase II project site lack the cohesive character of the cores of their neighborhoods, indicative of the transitional character of these areas. As Phase II building are completed over the course of the Extended Build-Out Scenario, the existing uses on the Phase II project site (construction staging areas, interim parking areas, interim storage uses, and the open rail yard) would be replaced incrementally with permanent residential, commercial, community facility, open space, and below-grade parking uses. These new uses would incrementally integrate with adjacent neighborhoods, which include a mix of residential, commercial, community facility, open space, and parking uses, as well as some light industrial uses in certain areas.

Although Phase II under the Extended Build-Out scenario anticipates a prolonged construction schedule compared with the 2006 FEIS, the level of construction activity would vary and move throughout the Phase II project site, and no area would experience the immediate effects of the Project's construction activities for the full project construction duration. Since, overall, construction would not significantly change or affect land use or land use trends in the surrounding area, there would be no significant adverse impacts to land use.

NEIGHBORHOOD CHARACTER

Construction of Phase II of the Project under the Extended Build-Out Scenario is not expected to result in significant adverse neighborhood character impacts in neighborhoods surrounding the Phase II project site; however, increased traffic, noise, and views of construction activity would result in significant adverse localized neighborhood character impacts in the immediate vicinity of the Phase II project site. During construction, the project site and the immediately surrounding area would be subject to added traffic from construction trucks and worker vehicles and partial sidewalk and lane closures; in particular, construction traffic and noise would change the quiet character of Dean Street, Pacific Street and Carlton Avenue in the immediate vicinity of the project site. In addition, staging activities, temporary sidewalks, construction fencing, and construction equipment and building superstructure would be visible to pedestrians in the immediate vicinity of the Phase II project site. Consistent with the 2006 FEIS, this SEIS concludes that Phase II construction would result in significant adverse localized neighborhood character impacts in the immediate vicinity of the project site.

These impacts would occur for a longer period of time than what was contemplated in the 2006 FEIS, as the duration of construction activities for Phase II under the Extended Build-Out Scenario would be 18 years, compared with six years in the 2006 FEIS. The impacts would be localized, confined largely to Dean Street, Pacific Street, and Carlton Avenue, and no immediate area would experience the effects of the Project's construction activities for the full project construction duration. Measures to control noise, vibration, and dust on construction sites, including the erection of construction fencing, would reduce views of construction sites and buffer noise emitted from construction activities, and sound barriers would be used to reduce noise from particularly noisy activities where practicable. However, significant traffic and noise impacts and the effects of views of the construction sites would affect neighborhood character in the areas immediately adjacent to the Phase II project site for a prolonged period under the Extended Build-Out Scenario.

Consistent with the 2006 FEIS, this SEIS finds that construction of Phase II of the Project would not result in significant adverse neighborhood character impacts beyond the impacts in the immediate vicinity of the project site. Phase II construction is not expected to result in significant adverse impacts to socioeconomic conditions or open space, technical areas which based on the *CEQR Technical Manual* have the potential to affect neighborhood character. Similarly, Phase II construction is not expected to result in significant adverse impacts to urban design or visual resources. While the visibility of Phase II construction activity would be prolonged under the Extended Build-Out Scenario compared with the schedule analyzed in the 2006 FEIS, a pedestrian would experience positive changes to the urban design and visual character of the Phase II project site over the course of the construction period, and there would be measures in place to minimize noise, vibration, and dust on construction sites—and thus to minimize the potential effects of such construction elements on the pedestrian experience—as well as to reduce views of construction sites. Views of the project site from more than one block away are extremely limited and would not be significantly affected by extended construction activities. Traffic impacts could be mitigated at all but five intersections in the ¼-Mile Primary Study Area, and noise impacts would occur primarily on blocks immediately adjacent to the Phase II project site. The significant adverse passive open space impact from Phase I within the ¼-mile study area would be temporary, and would be alleviated as the Phase II open space comes on line.

As detailed in Chapter 3C, "Construction Socioeconomic Conditions," Project development to date has not led to disinvestment in the ¼-Mile Area, and case studies of other major multi-building development sites in New York City that have experienced prolonged construction and/or periods of construction delay indicate that such projects have not led to decreased property values or other signs of disinvestment in surrounding neighborhoods.

MODULAR CONSTRUCTION

The technical areas where differences in conventional and modular construction methods could result in different potential environmental impacts include socioeconomic conditions, transportation, air quality, and noise.

The construction of the Phase II development using modular techniques would generate substantial economic and fiscal benefits for the city and the state, though these benefits would be expected to be lower from modular construction than those from conventional construction. Based on the preliminary estimates, the investment for construction of Phase II of the Project using modular construction methods is estimated to equal about $1.90 billion in 2013 dollars. This would represent about a 22 percent reduction from costs using conventional construction methods. However, modular construction methods would allow for year-round (instead of seasonal) employment for construction workers and the opportunity for apprentices to receive training and practice in a controlled environment.

On-site building activities using modular techniques is expected to have shorter construction durations and fewer daily on-site workers and truck trips as compared with the use of conventional construction techniques, and would therefore be less disruptive overall. The MPT requirements for modular construction would be similar to the MPT requirements for conventional construction methods, although MPT areas for modular construction may be wider and longer than those for conventional construction methods in order to accommodate wide-load deliveries of modules. With respect to parking, transit, and pedestrians, no significant adverse impacts attributable to construction were identified for Phase II construction using conventional construction methods. Similarly, modular construction would not result in any significant adverse impacts in these areas. At intersections where Phase II of the Project is predicted to result in significant adverse construction traffic impacts, these impacts are expected to be less for construction under modular construction methods as compared with construction under conventional construction methods.

Demolition, excavation, and foundation activities under modular construction methods would be the same as those under conventional construction methods. Therefore, since the construction air quality analyses were conducted for the representative worst-case short-term and annual periods where demolition, excavation, and foundation activities would be the dominant activities at the project site, the maximum predicted air pollutant concentrations resulting from Phase II construction of the Project using modular construction methods would be similar to the results shown in the air quality analyses for conventional construction methods. Since no significant adverse construction-related air quality impacts were identified for conventional construction methods, no significant adverse construction-related air quality impacts are expected if Phase II of the Project is constructed using modular construction methods.

The construction tasks with the greatest potential to result in increased noise levels at most nearby noise receptors are the excavation and foundation tasks, which would occur in the same manner and over the same duration with either conventional or modular construction. With modular construction, less equipment would be used on-site and fewer trucks would travel to

and from each building site during the superstructure, exterior façade, and interior finishing tasks. Therefore, noise levels with modular construction during these construction tasks would be somewhat lower than those predicted for conventional construction. Consequently, the calculated noise levels and resultant predicted construction noise impacts shown in the analysis of conventional construction are conservatively representative of the noise conditions that would be expected with modular construction. Modular construction would result in a shorter overall duration of construction for each building built using these methods. If one or more buildings included in Phase II were constructed using modular construction rather than conventional construction, elevated noise levels resulting from construction activities for that building would be expected to last for a shorter duration. While night-time delivery of modules would occur, these deliveries would not be expected to result in a perceptible increase in noise levels (as measured by $L_{eq(1h)}$). Operation of the trucks used for night-time module deliveries in close proximity to noise receptors would result in increases in noise level for short periods of time. Such increases in noise level would occur only when the trucks would operate adjacent to the noise receptor and would be comparable in magnitude and duration to that which would result from operation of any heavy truck on the roadway adjacent to the receptor. Consequently, these short-term increases in noise level during night-time module deliveries would not constitute a significant adverse noise impact. Overall, it is not expected that the use of modular construction for the Phase II buildings would result in significant adverse noise impacts beyond those identified for conventional construction in Chapter 3J, "Construction Noise."

In summary, it is not expected that the use of modular construction for the Phase II buildings would result in significant adverse impacts in the relevant technical areas beyond those identified for conventional construction.

F. POTENTIAL IMPACTS OF PHASE II OF THE PROJECT DURING OPERATIONAL CONDITIONS

INTRODUCTION

A number of environmental impact analysis areas would not be affected by the operation of Phase II of the Project in the Extended Build-Out Scenario, as compared with the earlier completion date assumed in the 2006 FEIS. The analyses screened out on this basis and therefore not included for detailed assessment of the operational condition in the SEIS are land use, zoning, and public policy; cultural resources; urban design and visual resources; shadows; hazardous materials; and infrastructure.

OPERATIONAL SOCIOECONOMIC CONDITIONS

This analysis finds that the completion of Phase II by 2035 under the Extended Build-Out Scenario would not result in any new or different significant adverse socioeconomic impacts as compared with completion of Phase II by 2016, as assumed in the 2006 FEIS. The following summarizes the conclusions drawn from the analysis.

DIRECT RESIDENTIAL DISPLACEMENT

The 2006 FEIS analyzed the direct displacement of 171 residential units housing an estimated 410 residents. Of these 171 residential units, 137 were located on the Phase I project site, and 34 were located on the Phase II project site. The 2006 FEIS assumed that all of the direct residential displacement would occur during Phase I of the Project. Of the 171 residential units analyzed in

the 2006 FEIS, four units remain, and all four are located on the Phase II project site. These units are located on Block 1128, Lots 85, 86, and 87, and house approximately 10 residents. Residents of these units would be directly displaced from the project site at a later date than assumed in the 2006 FEIS. These residents would still be offered relocation assistance in connection with the acquisition of the properties for Phase II of the Project. Their displacement during Phase II under the Extended Build-Out Scenario would not significantly alter the socioeconomic conditions in the study area and would not result in any significant adverse socioeconomic impacts.

DIRECT BUSINESS AND INSTITUTIONAL DISPLACEMENT

The 2006 FEIS analyzed the direct displacement of 27 businesses and 2 institutions, all of which was assumed to occur during Phase I of the Project. Of these 29 businesses and institutions, 13 businesses and one institution were located on the Phase II project site. Of the 27 businesses and 2 institutions analyzed in the 2006 FEIS, 2 businesses remain on Site 5 of the Phase I project site, no businesses remain on the Arena Block of the Phase I project site, and 2 businesses (Global Exhibition Services and Warburg Storagemart) remain on Block 1120 of the Phase II project site, on Lots 19 and 28. These two businesses are believed to be currently using the buildings on these lots for storage. In addition, a building located on Lot 4 of Block 1128 of the Phase II project site is privately owned and is believed to be used for storage. Though none of the business activities that were analyzed in the 2006 FEIS remain on the lot, the ownership of the building has not changed since the 2006 FEIS.

Under the Extended Build-Out Scenario these three businesses would be directly displaced at a later date than assumed in the 2006 FEIS, but the timing of their displacement would not significantly alter the socioeconomic conditions in the area. The business owners would still be offered relocation assistance in connection with the acquisition of the properties for Phase II of the Project. Their displacement would not significantly alter the socioeconomic conditions in the area and would not result in any significant adverse impacts due to direct business and institutional displacement.

INDIRECT RESIDENTIAL DISPLACEMENT

Similar to the conclusions in the 2006 FEIS, this SEIS analysis finds that the Extended Build-Out Scenario would not result in significant adverse impacts due to indirect residential displacement. The 2006 FEIS conclusions (in italics, below), and their applicability to the Extended Build-Out Scenario, are as follows:

- *The 2006 FEIS stated that the number of at-risk households in the study area had been decreasing and would probably continue to do so without the Project, concluding that it was probable that the number of at-risk households in the study area in 2010 and 2016 would be substantially lower.* Based on the SEIS analysis of income, housing, and recent development, it is evident that this trend has continued since the 2006 FEIS, and it is reasonable to assume that the number of at-risk households in the study area has decreased, and will continue to decrease, in the future independent of the development of Phase II under the Extended Build-Out Scenario.
- *In 2006, similarities between the Project housing mix and the housing mix present in the ¾-mile study area indicated that the Project would not substantially change the socioeconomic profile of the study area.* While background income conditions have changed since the 2006 FEIS, and would be different in 2035 as compared with 2016, the SEIS analysis indicates that the housing stock introduced by the Extended Build-Out Scenario would continue to be

similar in tenure to the housing stock in the broader ¾-mile study area. Phase II under the Extended Build-Out Scenario would add a higher proportion of affordable units than would be expected to be added to the study area in the Future Without Phase II. The anticipated income distribution of households introduced by Phase II of the Project would not shift the distribution of households across income brackets such that the overall socioeconomic character of the study area would change significantly. Further, in the Future Without Phase II, no affordable units would be added to the Phase II project site.

- *The 2006 FEIS stated that the substantial number of housing units to be added by the Project could serve to relieve market pressure in the study area by absorbing housing demand that might otherwise be expressed through increases in rents.* The delay in the completion of Phase II housing under the Extended Build-Out Scenario would not, in the shorter term, provide a supply of housing that could serve to relieve this market pressure. However, this delay would not have short- or long-term significant adverse impacts on future housing market conditions in the study area. Additional housing supply reflecting residential market trends would reduce any adverse effects of the delay in completion of Phase II housing units, and the residential units added by the development of Phase II under the Extended Build-Out Scenario could still serve to relieve upward rent pressure in the study area.
- *The 2006 FEIS stated that most identified at-risk households were more than ½ mile from the project site, and separated from the project site by intervening established residential communities with upward trends in property values and incomes and active commercial corridors.* Current household income data suggest that incomes have increased throughout the study area since the 2006 FEIS; that there are fewer at-risk households in the study area; and that remaining at-risk households are still concentrated in the same census tracts identified in the 2006 FEIS. Trends indicate that intervening established neighborhood and commercial corridors cited in the 2006 FEIS have become even more established and would continue to limit the potential for the proposed residential development in Phase II of the Project to affect rental rates in tracts containing potentially vulnerable populations. The SEIS analysis indicates that many of the remaining at-risk households are still more than ½ mile from the project site and separated by more established residential neighborhoods and commercial trends.

INDIRECT BUSINESS AND INSTITUTIONAL DISPLACEMENT

The Extended Build-Out Scenario would not alter the conclusions of the 2006 FEIS in regards to indirect business and institutional displacement.

As predicted in the 2006 FEIS, increases in commercial property values have already led to some indirect business and institutional displacement along retail corridors closest to the project site. The retail turnover that has occurred since the 2006 FEIS is in part attributable to well-established residential development trends in the study area, as well as indirect displacement pressures in the ¼-mile study area, that were predicted as a result of Phase I of the Project.

The development of Phase II under the Extended Build-Out Scenario has the potential to result in indirect business and institutional displacement along certain corridors within ¼ mile of the project site. This displacement could be limited to an even smaller number of vulnerable businesses and institutions than described in the 2006 FEIS, and would primarily consist of neighborhood services stores, light industrial or auto-related uses, and a small number of institutions located on Vanderbilt Avenue, Flatbush Avenue, and 4th Avenue. The delay in the

completion of Phase II under the Extended Build-Out Scenario would not add any additional upward pressure on commercial rents beyond what was analyzed in the 2006 FEIS. The completion of Phase II over a longer time period would distribute its effects, potentially reducing the project-induced upward pressure on rents at any given point in time. Therefore, any indirect business and institutional displacement that may occur as a result of the development of Phase II under the Extended Build-Out Scenario would not result in adverse indirect business and institutional displacement effects beyond those disclosed in the 2006 FEIS.

ADVERSE EFFECTS ON SPECIFIC INDUSTRIES

The development of Phase II under the Extended Build-Out Scenario would not result in significant adverse impacts on any specific industries. As noted above, it is believed that the three businesses currently operating on the Phase II site are in the storage business, which is not an industry specific or unique to the Phase II site. The development of Phase II under the Extended Build-Out Scenario would not result in any additional direct business displacement beyond what was analyzed in the 2006 FEIS, and would therefore not alter the conclusion of the 2006 FEIS regarding adverse effects on specific industries.

OPERATIONAL COMMUNITY FACILITIES

PUBLIC SCHOOLS

The 2006 FEIS found that there would be a shortfall of seats at elementary and intermediate schools in the 2016 future with the Project, and that these shortfalls would constitute a significant adverse impact on elementary and intermediate schools within the ½-mile study area. To partially mitigate the significant adverse impact on public schools, the Project sponsors committed to provide 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. The 2006 FEIS stated that additional mitigation measures, such as shifting the boundaries of school catchment areas within the CSDs, creating new satellite facilities in less crowded schools, or building new school facilities off-site would be required to fully mitigate the significant adverse impacts on public schools identified in the 2006 FEIS.

Subsequent to completion of the 2006 FEIS, the methodology recommended by the *CEQR Technical Manual* was revised to analyze capacity at a smaller, sub-district level, which provides a more localized level of analysis and considers far fewer schools compared with the CSD level or ½-mile study area used in the 2006 FEIS. The multipliers provided in the *CEQR Technical Manual* to estimate students generated by new housing units were also changed such that the Project would be assumed to introduce a greater number of students using the current *CEQR Technical Manual* guidance than the number of students assumed in the 2006 FEIS analysis, which was prepared in conformance with the 2001 version of the *CEQR Technical Manual*. With regard to background conditions, current existing utilization data and enrollment projection data forecast a deficit of seats in the Future Without Phase II, unlike the 2006 FEIS (although the study areas considered differ, as noted above).

CEQR methodology also requires utilizing enrollment projections prepared by the New York City School Construction Authority (SCA) for DOE. The most recently prepared projections only estimate enrollment up to 2021, and therefore have been used in this analysis to represent student enrollment in 2035. The school seat capacity assumptions are based only on DOE's *2015-2019 Proposed Five-Year Capital Plan, February 2014*. The analysis for the capital plan includes a

multi-dimensional review and analysis of localized capacity and enrollment patterns within each CSD. This process results in a set of recommendations for each CSD that takes into account the needs within each area of the CSD. These recommendations are reviewed annually based on updated enrollment projections, capacity changes and housing information. Currently, DOE's 2015-2019 proposed capital plan is the most up to date document that has been reviewed to determine future capacity in CSD 13/Sub-District 1. In keeping with DOE's mandate to respond to local needs and provide new capacity where warranted, it is likely that new capacity would be created by 2035 to meet additional student demand that exceeds the 2019-based capacity assumptions used in this analysis. Each year, capital plan amendments are prepared, which allow DOE to reassess priorities, to take into account shifts in enrollments, variations in housing growth, changes in building conditions, new educational initiatives, and adjustments in the construction marketplace, and incorporate any impact from financial changes implemented by the City or State. In addition, DOE and SCA annually undertake a comprehensive assessment of conditions in order to determine the need for realignment strategies, such as increasing the utilization of existing facilities, changing grade configurations of schools, and adjustments to local school zones. The analysis does not account for future actions that could be taken by SCA and DOE to address capacity needs in the sub-district, such as possible future shifts in CSD boundaries or sub-district boundaries, or the construction of additional school facilities serving the sub-district through any of the four five-year capital plans that will be issued between the present day and the 2035 build year.

The Phase II project site is located in Sub-District 1 of CSD 13. Phase II of the Project would be expected to introduce approximately 2,712 students to the project site, comprising 1,430 elementary school students, 592 intermediate school students, and 690 high school students. As in the 2006 FEIS, Phase II of the Project would be expected to result in significant adverse impacts to elementary school and intermediate school capacities within Sub-District 1 of CSD 13. The Project would also create, at the election of DOE, a 100,000 gsf elementary and middle school public school on the project site that would be expected to accommodate a number of students equivalent to approximately one third of Phase II-generated demand, based on current projections.

Elementary Schools

Currently, CSD 13/Sub-District 1 contains two elementary schools with a combined capacity of 1,290 seats, which will increase by 326 seats to 1,616 seats in the Future Without Phase II. Based on current CEQR methodology, Phase II would introduce 1,430 elementary school students by 2035, increasing the elementary school utilization rate in CSD 13/Sub-District 1 by 88 percentage points, and bringing total utilization to 220 percent (assuming no new school capacity would be created between 2019 and 2035). Therefore, Phase II would exceed the *CEQR Technical Manual* threshold for a significant adverse impact on elementary schools. The 2006 FEIS also disclosed significant adverse impacts on elementary schools upon completion of the Project.

While the finding of a significant adverse school impact is consistent, the utilization and deficit of elementary school seats (which form the basis of the findings) are higher than was identified in the 2006 FEIS. These changes are due to changed *CEQR Technical Manual* methodology (e.g., the reduction in the size of the study area and changed multipliers for estimating school children), changed background conditions (which project a shortage of seats in the Future Without Phase II condition), and a shift of approximately 208,000 gsf of floor area from Phase I to Phase II of the Project. The delayed completion of Phase II of the Project would not itself create additional demand on elementary schools in the sub-district.

Intermediate Schools

Currently, CSD 13/Sub-District 1 contains three intermediate schools with a combined capacity of 850 seats, which is not assumed to change in the Future Without Phase II. Based on current CEQR methodology, Phase II would introduce 592 intermediate school students by 2035, increasing the intermediate school utilization rate in CSD 13/Sub-District 1 by 69 percentage points, and bringing total utilization to 160 percent (assuming no new school capacity would be created between 2019 and 2035). Therefore, Phase II would exceed the *CEQR Technical Manual* threshold for a significant adverse impact on intermediate schools. The 2006 FEIS also disclosed a significant adverse impact on intermediate schools.

While the finding of a significant adverse school impact is consistent, the utilization and deficit of intermediate school seats (which form the basis of the findings) are higher than was identified in the 2006 FEIS. These changes are due to changed *CEQR Technical Manual* methodology (e.g., the reduction in the size of the study area and changed multipliers for estimating school children), changed background conditions (which project a shortage of seats in the Future without Phase II condition), and a shift of approximately 208,000 gsf of floor area from Phase I to Phase II of the Project. The delayed completion of Phase II of the Project would not itself create additional demand on intermediate schools in the sub-district.

Elementary and Intermediate School Effects with the Proposed School

The Project would include the provision, at the election of DOE, of an approximately 100,000 gsf elementary and intermediate public school to partially mitigate the significant adverse impacts on elementary and intermediate school capacity in the study area. DOE's 2015-2019 proposed Capital Plan allocates funds towards the development of this new public school on the Phase II project site. Although the grade-level mix has not yet been determined, the capital plan assumes that 757 seats will be created through the opening of this new school. Thus, the proposed school would be expected to accommodate a number of students equivalent to over one third of Phase II-generated demand for elementary and intermediate school seats, based on current projections and assumptions. These new school seats have not been included in the quantitative assessment of future school utilization provided above.

High Schools

In the Future With Phase II, Brooklyn high schools would operate with surplus capacity. As Phase II would not result in a collective utilization rate equal to or greater than 100 percent at the borough level, Phase II would not result in any significant adverse impacts on high schools. The 2006 FEIS also found no significant adverse high school impacts.

CHILD CARE SERVICES

At the time of the 2006 FEIS, a 100-seat child care facility was planned as part of the Project. The 2006 FEIS did not identify any significant adverse child care impacts. However, the analysis of publicly funded child care facilities in the 2009 Technical Memorandum found that the updated background conditions and updated methodologies (i.e., new *CEQR Technical Manual* generation rates for child care eligible children) would result in additional demand for publicly funded child care facilities in the study area, which could result in a shortfall of child care slots in the 2019 future with the Project. Therefore, in addition to the 100-seat facility that was planned as part of the Project and included in the 2006 FEIS, the Project sponsors are obligated to assess child care enrollment and capacity in the study area as the Project progresses

and, if necessary, work with ACS to provide up to approximately 250 additional child care slots either on-site or in the vicinity of the site to meet Project-generated demand.

This SEIS considers whether changed background conditions or changed methodologies since the 2006 FEIS and 2009 Technical Memorandum would result in any new or changed significant adverse impacts resulting from construction of Phase II of the Project under the Extended Build-Out Scenario. The prolonged build-out of the Project to 2035 would not create additional demand on public child care services upon completion of the Project, compared with the construction duration assumed in the previous environmental analyses, as the delayed completion of Phase II would not increase the number of children eligible for public child care services introduced by the Project. Changed background conditions include new enrollment data and updated enrollment projections. With regard to methodology, the *CEQR Technical Manual* calls for an analysis for a 1.5 mile study area, whereas the 2006 FEIS and 2009 Technical Memorandum analyzed child care facilities within a 1-mile study area. The current multiplier for calculating demand for child care slots has also been changed. As a result of this change, the number of eligible children that would be introduced by Phase I and Phase II of the Project is lower than the number projected in the 2006 FEIS and the 2009 Technical Memorandum.

The SEIS analysis indicates that under the revised methodology, Phase II would introduce 160 children under the age of 6 who are eligible for public child care services. The addition of the these children is projected to increase in the utilization rate by 1.58 percentage points over the Future Without Phase II condition. *CEQR Technical Manual* guidelines indicate that a demand for slots greater than the remaining capacity of child care facilities and an increase in demand of 5 percent of the study area capacity could result in a significant adverse impact. Thus, the increase in the utilization rate attributable to Phase II of the Project would not exceed the *CEQR Technical Manual*'s 5 percent threshold for a significant adverse impact.

Moreover, CEQR methodology does not provide a basis for estimating new child care capacity in the Future Without Phase II. It is likely that new capacity would be created by 2035 to meet additional child care demand, although no new capacity is assumed in the SEIS analysis.

As noted above, the Project sponsor will monitor child care enrollment and capacity in the study area as the Project progresses, and to the extent necessary to avoid a significant adverse impact, make arrangements with one or more duly licensed day care providers for the long-term operation of a duly licensed child care center (or centers) that shall accommodate approximately 250 additional children, either on or in the vicinity of the project site. In light of the small, less than two percent increase in child care utilization attributable to Phase II identified in this SEIS, and the Project sponsor's commitment to monitor and, if necessary, provide approximately 250 additional child care slots, there would be no new significant adverse impacts on publicly funded day care facilities in the study area.

OTHER COMMUNITY FACILITIES

The 2006 FEIS found that the Project would not result in any significant adverse impacts with respect to police/fire protection services, health care facilities and libraries.

Although the construction of Phase II of the Project would be prolonged under the Extended Build-Out Scenario, and a shift of 208,000 gsf of residential space has been proposed from Phase I to Phase II, no changes to the Project have been proposed that would have the potential to affect police/fire protection services and health care facilities. Furthermore, background conditions have not changed such that they would materially affect the 2006 FEIS conclusions

and from each building site during the superstructure, exterior façade, and interior finishing tasks. Therefore, noise levels with modular construction during these construction tasks would be somewhat lower than those predicted for conventional construction. Consequently, the calculated noise levels and resultant predicted construction noise impacts shown in the analysis of conventional construction are conservatively representative of the noise conditions that would be expected with modular construction. Modular construction would result in a shorter overall duration of construction for each building built using these methods. If one or more buildings included in Phase II were constructed using modular construction rather than conventional construction, elevated noise levels resulting from construction activities for that building would be expected to last for a shorter duration. While night-time delivery of modules would occur, these deliveries would not be expected to result in a perceptible increase in noise levels (as measured by $L_{eq(1h)}$). Operation of the trucks used for night-time module deliveries in close proximity to noise receptors would result in increases in noise level for short periods of time. Such increases in noise level would occur only when the trucks would operate adjacent to the noise receptor and would be comparable in magnitude and duration to that which would result from operation of any heavy truck on the roadway adjacent to the receptor. Consequently, these short-term increases in noise level during night-time module deliveries would not constitute a significant adverse noise impact. Overall, it is not expected that the use of modular construction for the Phase II buildings would result in significant adverse noise impacts beyond those identified for conventional construction in Chapter 3J, "Construction Noise."

In summary, it is not expected that the use of modular construction for the Phase II buildings would result in significant adverse impacts in the relevant technical areas beyond those identified for conventional construction.

F. POTENTIAL IMPACTS OF PHASE II OF THE PROJECT DURING OPERATIONAL CONDITIONS

INTRODUCTION

A number of environmental impact analysis areas would not be affected by the operation of Phase II of the Project in the Extended Build-Out Scenario, as compared with the earlier completion date assumed in the 2006 FEIS. The analyses screened out on this basis and therefore not included for detailed assessment of the operational condition in the SEIS are land use, zoning, and public policy; cultural resources; urban design and visual resources; shadows; hazardous materials; and infrastructure.

OPERATIONAL SOCIOECONOMIC CONDITIONS

This analysis finds that the completion of Phase II by 2035 under the Extended Build-Out Scenario would not result in any new or different significant adverse socioeconomic impacts as compared with completion of Phase II by 2016, as assumed in the 2006 FEIS. The following summarizes the conclusions drawn from the analysis.

DIRECT RESIDENTIAL DISPLACEMENT

The 2006 FEIS analyzed the direct displacement of 171 residential units housing an estimated 410 residents. Of these 171 residential units, 137 were located on the Phase I project site, and 34 were located on the Phase II project site. The 2006 FEIS assumed that all of the direct residential displacement would occur during Phase I of the Project. Of the 171 residential units analyzed in

the 2006 FEIS, four units remain, and all four are located on the Phase II project site. These units are located on Block 1128, Lots 85, 86, and 87, and house approximately 10 residents. Residents of these units would be directly displaced from the project site at a later date than assumed in the 2006 FEIS. These residents would still be offered relocation assistance in connection with the acquisition of the properties for Phase II of the Project. Their displacement during Phase II under the Extended Build-Out Scenario would not significantly alter the socioeconomic conditions in the study area and would not result in any significant adverse socioeconomic impacts.

DIRECT BUSINESS AND INSTITUTIONAL DISPLACEMENT

The 2006 FEIS analyzed the direct displacement of 27 businesses and 2 institutions, all of which was assumed to occur during Phase I of the Project. Of these 29 businesses and institutions, 13 businesses and one institution were located on the Phase II project site. Of the 27 businesses and 2 institutions analyzed in the 2006 FEIS, 2 businesses remain on Site 5 of the Phase I project site, no businesses remain on the Arena Block of the Phase I project site, and 2 businesses (Global Exhibition Services and Warburg Storagemart) remain on Block 1120 of the Phase II project site, on Lots 19 and 28. These two businesses are believed to be currently using the buildings on these lots for storage. In addition, a building located on Lot 4 of Block 1128 of the Phase II project site is privately owned and is believed to be used for storage. Though none of the business activities that were analyzed in the 2006 FEIS remain on the lot, the ownership of the building has not changed since the 2006 FEIS.

Under the Extended Build-Out Scenario these three businesses would be directly displaced at a later date than assumed in the 2006 FEIS, but the timing of their displacement would not significantly alter the socioeconomic conditions in the area. The business owners would still be offered relocation assistance in connection with the acquisition of the properties for Phase II of the Project. Their displacement would not significantly alter the socioeconomic conditions in the area and would not result in any significant adverse impacts due to direct business and institutional displacement.

INDIRECT RESIDENTIAL DISPLACEMENT

Similar to the conclusions in the 2006 FEIS, this SEIS analysis finds that the Extended Build-Out Scenario would not result in significant adverse impacts due to indirect residential displacement. The 2006 FEIS conclusions (in italics, below), and their applicability to the Extended Build-Out Scenario, are as follows:

- *The 2006 FEIS stated that the number of at-risk households in the study area had been decreasing and would probably continue to do so without the Project, concluding that it was probable that the number of at-risk households in the study area in 2010 and 2016 would be substantially lower.* Based on the SEIS analysis of income, housing, and recent development, it is evident that this trend has continued since the 2006 FEIS, and it is reasonable to assume that the number of at-risk households in the study area has decreased, and will continue to decrease, in the future independent of the development of Phase II under the Extended Build-Out Scenario.
- *In 2006, similarities between the Project housing mix and the housing mix present in the ¾-mile study area indicated that the Project would not substantially change the socioeconomic profile of the study area.* While background income conditions have changed since the 2006 FEIS, and would be different in 2035 as compared with 2016, the SEIS analysis indicates that the housing stock introduced by the Extended Build-Out Scenario would continue to be

similar in tenure to the housing stock in the broader ¾-mile study area. Phase II under the Extended Build-Out Scenario would add a higher proportion of affordable units than would be expected to be added to the study area in the Future Without Phase II. The anticipated income distribution of households introduced by Phase II of the Project would not shift the distribution of households across income brackets such that the overall socioeconomic character of the study area would change significantly. Further, in the Future Without Phase II, no affordable units would be added to the Phase II project site.

- *The 2006 FEIS stated that the substantial number of housing units to be added by the Project could serve to relieve market pressure in the study area by absorbing housing demand that might otherwise be expressed through increases in rents.* The delay in the completion of Phase II housing under the Extended Build-Out Scenario would not, in the shorter term, provide a supply of housing that could serve to relieve this market pressure. However, this delay would not have short- or long-term significant adverse impacts on future housing market conditions in the study area. Additional housing supply reflecting residential market trends would reduce any adverse effects of the delay in completion of Phase II housing units, and the residential units added by the development of Phase II under the Extended Build-Out Scenario could still serve to relieve upward rent pressure in the study area.
- *The 2006 FEIS stated that most identified at-risk households were more than ½ mile from the project site, and separated from the project site by intervening established residential communities with upward trends in property values and incomes and active commercial corridors.* Current household income data suggest that incomes have increased throughout the study area since the 2006 FEIS; that there are fewer at-risk households in the study area; and that remaining at-risk households are still concentrated in the same census tracts identified in the 2006 FEIS. Trends indicate that intervening established neighborhood and commercial corridors cited in the 2006 FEIS have become even more established and would continue to limit the potential for the proposed residential development in Phase II of the Project to affect rental rates in tracts containing potentially vulnerable populations. The SEIS analysis indicates that many of the remaining at-risk households are still more than ½ mile from the project site and separated by more established residential neighborhoods and commercial trends.

INDIRECT BUSINESS AND INSTITUTIONAL DISPLACEMENT

The Extended Build-Out Scenario would not alter the conclusions of the 2006 FEIS in regards to indirect business and institutional displacement.

As predicted in the 2006 FEIS, increases in commercial property values have already led to some indirect business and institutional displacement along retail corridors closest to the project site. The retail turnover that has occurred since the 2006 FEIS is in part attributable to well-established residential development trends in the study area, as well as indirect displacement pressures in the ¼-mile study area, that were predicted as a result of Phase I of the Project.

The development of Phase II under the Extended Build-Out Scenario has the potential to result in indirect business and institutional displacement along certain corridors within ¼ mile of the project site. This displacement could be limited to an even smaller number of vulnerable businesses and institutions than described in the 2006 FEIS, and would primarily consist of neighborhood services stores, light industrial or auto-related uses, and a small number of institutions located on Vanderbilt Avenue, Flatbush Avenue, and 4th Avenue. The delay in the

completion of Phase II under the Extended Build-Out Scenario would not add any additional upward pressure on commercial rents beyond what was analyzed in the 2006 FEIS. The completion of Phase II over a longer time period would distribute its effects, potentially reducing the project-induced upward pressure on rents at any given point in time. Therefore, any indirect business and institutional displacement that may occur as a result of the development of Phase II under the Extended Build-Out Scenario would not result in adverse indirect business and institutional displacement effects beyond those disclosed in the 2006 FEIS.

ADVERSE EFFECTS ON SPECIFIC INDUSTRIES

The development of Phase II under the Extended Build-Out Scenario would not result in significant adverse impacts on any specific industries. As noted above, it is believed that the three businesses currently operating on the Phase II site are in the storage business, which is not an industry specific or unique to the Phase II site. The development of Phase II under the Extended Build-Out Scenario would not result in any additional direct business displacement beyond what was analyzed in the 2006 FEIS, and would therefore not alter the conclusion of the 2006 FEIS regarding adverse effects on specific industries.

OPERATIONAL COMMUNITY FACILITIES

PUBLIC SCHOOLS

The 2006 FEIS found that there would be a shortfall of seats at elementary and intermediate schools in the 2016 future with the Project, and that these shortfalls would constitute a significant adverse impact on elementary and intermediate schools within the ½-mile study area. To partially mitigate the significant adverse impact on public schools, the Project sponsors committed to provide 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. The 2006 FEIS stated that additional mitigation measures, such as shifting the boundaries of school catchment areas within the CSDs, creating new satellite facilities in less crowded schools, or building new school facilities off-site would be required to fully mitigate the significant adverse impacts on public schools identified in the 2006 FEIS.

Subsequent to completion of the 2006 FEIS, the methodology recommended by the *CEQR Technical Manual* was revised to analyze capacity at a smaller, sub-district level, which provides a more localized level of analysis and considers far fewer schools compared with the CSD level or ½-mile study area used in the 2006 FEIS. The multipliers provided in the *CEQR Technical Manual* to estimate students generated by new housing units were also changed such that the Project would be assumed to introduce a greater number of students using the current *CEQR Technical Manual* guidance than the number of students assumed in the 2006 FEIS analysis, which was prepared in conformance with the 2001 version of the *CEQR Technical Manual*. With regard to background conditions, current existing utilization data and enrollment projection data forecast a deficit of seats in the Future Without Phase II, unlike the 2006 FEIS (although the study areas considered differ, as noted above).

CEQR methodology also requires utilizing enrollment projections prepared by the New York City School Construction Authority (SCA) for DOE. The most recently prepared projections only estimate enrollment up to 2021, and therefore have been used in this analysis to represent student enrollment in 2035. The school seat capacity assumptions are based only on DOE's *2015-2019 Proposed Five-Year Capital Plan, February 2014*. The analysis for the capital plan includes a

multi-dimensional review and analysis of localized capacity and enrollment patterns within each CSD. This process results in a set of recommendations for each CSD that takes into account the needs within each area of the CSD. These recommendations are reviewed annually based on updated enrollment projections, capacity changes and housing information. Currently, DOE's 2015-2019 proposed capital plan is the most up to date document that has been reviewed to determine future capacity in CSD 13/Sub-District 1. In keeping with DOE's mandate to respond to local needs and provide new capacity where warranted, it is likely that new capacity would be created by 2035 to meet additional student demand that exceeds the 2019-based capacity assumptions used in this analysis. Each year, capital plan amendments are prepared, which allow DOE to reassess priorities, to take into account shifts in enrollments, variations in housing growth, changes in building conditions, new educational initiatives, and adjustments in the construction marketplace, and incorporate any impact from financial changes implemented by the City or State. In addition, DOE and SCA annually undertake a comprehensive assessment of conditions in order to determine the need for realignment strategies, such as increasing the utilization of existing facilities, changing grade configurations of schools, and adjustments to local school zones. The analysis does not account for future actions that could be taken by SCA and DOE to address capacity needs in the sub-district, such as possible future shifts in CSD boundaries or sub-district boundaries, or the construction of additional school facilities serving the sub-district through any of the four five-year capital plans that will be issued between the present day and the 2035 build year.

The Phase II project site is located in Sub-District 1 of CSD 13. Phase II of the Project would be expected to introduce approximately 2,712 students to the project site, comprising 1,430 elementary school students, 592 intermediate school students, and 690 high school students. As in the 2006 FEIS, Phase II of the Project would be expected to result in significant adverse impacts to elementary school and intermediate school capacities within Sub-District 1 of CSD 13. The Project would also create, at the election of DOE, a 100,000 gsf elementary and middle school public school on the project site that would be expected to accommodate a number of students equivalent to approximately one third of Phase II-generated demand, based on current projections.

Elementary Schools

Currently, CSD 13/Sub-District 1 contains two elementary schools with a combined capacity of 1,290 seats, which will increase by 326 seats to 1,616 seats in the Future Without Phase II. Based on current CEQR methodology, Phase II would introduce 1,430 elementary school students by 2035, increasing the elementary school utilization rate in CSD 13/Sub-District 1 by 88 percentage points, and bringing total utilization to 220 percent (assuming no new school capacity would be created between 2019 and 2035). Therefore, Phase II would exceed the *CEQR Technical Manual* threshold for a significant adverse impact on elementary schools. The 2006 FEIS also disclosed significant adverse impacts on elementary schools upon completion of the Project.

While the finding of a significant adverse school impact is consistent, the utilization and deficit of elementary school seats (which form the basis of the findings) are higher than was identified in the 2006 FEIS. These changes are due to changed *CEQR Technical Manual* methodology (e.g., the reduction in the size of the study area and changed multipliers for estimating school children), changed background conditions (which project a shortage of seats in the Future Without Phase II condition), and a shift of approximately 208,000 gsf of floor area from Phase I to Phase II of the Project. The delayed completion of Phase II of the Project would not itself create additional demand on elementary schools in the sub-district.

Intermediate Schools

Currently, CSD 13/Sub-District 1 contains three intermediate schools with a combined capacity of 850 seats, which is not assumed to change in the Future Without Phase II. Based on current CEQR methodology, Phase II would introduce 592 intermediate school students by 2035, increasing the intermediate school utilization rate in CSD 13/Sub-District 1 by 69 percentage points, and bringing total utilization to 160 percent (assuming no new school capacity would be created between 2019 and 2035). Therefore, Phase II would exceed the *CEQR Technical Manual* threshold for a significant adverse impact on intermediate schools. The 2006 FEIS also disclosed a significant adverse impact on intermediate schools.

While the finding of a significant adverse school impact is consistent, the utilization and deficit of intermediate school seats (which form the basis of the findings) are higher than was identified in the 2006 FEIS. These changes are due to changed *CEQR Technical Manual* methodology (e.g., the reduction in the size of the study area and changed multipliers for estimating school children), changed background conditions (which project a shortage of seats in the Future without Phase II condition), and a shift of approximately 208,000 gsf of floor area from Phase I to Phase II of the Project. The delayed completion of Phase II of the Project would not itself create additional demand on intermediate schools in the sub-district.

Elementary and Intermediate School Effects with the Proposed School

The Project would include the provision, at the election of DOE, of an approximately 100,000 gsf elementary and intermediate public school to partially mitigate the significant adverse impacts on elementary and intermediate school capacity in the study area. DOE's 2015-2019 proposed Capital Plan allocates funds towards the development of this new public school on the Phase II project site. Although the grade-level mix has not yet been determined, the capital plan assumes that 757 seats will be created through the opening of this new school. Thus, the proposed school would be expected to accommodate a number of students equivalent to over one third of Phase II-generated demand for elementary and intermediate school seats, based on current projections and assumptions. These new school seats have not been included in the quantitative assessment of future school utilization provided above.

High Schools

In the Future With Phase II, Brooklyn high schools would operate with surplus capacity. As Phase II would not result in a collective utilization rate equal to or greater than 100 percent at the borough level, Phase II would not result in any significant adverse impacts on high schools. The 2006 FEIS also found no significant adverse high school impacts.

CHILD CARE SERVICES

At the time of the 2006 FEIS, a 100-seat child care facility was planned as part of the Project. The 2006 FEIS did not identify any significant adverse child care impacts. However, the analysis of publicly funded child care facilities in the 2009 Technical Memorandum found that the updated background conditions and updated methodologies (i.e., new *CEQR Technical Manual* generation rates for child care eligible children) would result in additional demand for publicly funded child care facilities in the study area, which could result in a shortfall of child care slots in the 2019 future with the Project. Therefore, in addition to the 100-seat facility that was planned as part of the Project and included in the 2006 FEIS, the Project sponsors are obligated to assess child care enrollment and capacity in the study area as the Project progresses

with respect to police/fire protection services and health care facilities; the same police/fire protection and health care facilities are expected to continue to serve the project site. Therefore, Phase II under the Extended Build Out Scenario would not result in any significant adverse impacts to police and fire protection services and health care facilities.

With respect to libraries, while there may be changes in the locations of libraries in the study area by 2035, none have been proposed at this time, and background population growth in the study area would not be expected to adversely affect library resources in the study area. Therefore, Phase II under the Extended Build Out Scenario would not result in any significant adverse impacts to libraries.

OPERATIONAL OPEN SPACE

Consistent with the 2006 FEIS, the SEIS finds that Phase II of the Project would not result in significant adverse impacts related to open space upon the Project's completion (assumed to be 2035 in the Extended Build-Out Scenario). Open space impacts during the construction period are discussed above under "Construction Open Space."

Phase II of the Project would not result in direct impacts on open space resources, because there are no existing open space resources on the Phase II site. With respect to indirect impacts, while Phase II would introduce large new residential and non-residential (worker) populations, upon completion it would also provide eight acres of new publicly-accessible open space.

NON-RESIDENTIAL (¼-MILE) STUDY AREA

In the Future With Phase II, the passive open space ratio would increase by 181.4 percent as compared with the Future Without Phase II, from 0.237 acres to 0.667 acres per 1,000 workers. Therefore, Phase II of the Project would not result in any significant adverse impacts to open space resources in the non-residential study area upon completion of Phase II. The passive open space ratio would continue to exceed the city's recommended guideline minimum of 0.15 acres of passive open space per 1,000 workers.

RESIDENTIAL (½-MILE) STUDY AREA

In the Future With Phase II, the total open space ratio would increase by 17.5 percent as compared with the Future Without Phase II, from 0.308 acres to 0.362 acres per 1,000 residents. The active open space ratio would decrease by 5.6 percent as compared with the Future Without Phase II, from 0.144 to 0.136 acres per 1,000 residents. The passive open space ratio would increase by 37.7 percent as compared with the Future Without Phase II, from 0.164 to 0.226 acres per 1,000 residents.

Although the total open space ratio would remain below the city's recommended guideline of 2.5 acres per 1,000 residents, this ratio would increase as a result of Phase II of the Project, due to the eight acres of new publicly-accessible open space that would be created. Likewise, although the passive open space ratio would remain below the city's recommended guideline of 0.5 acres per 1,000 residents, Phase II of the Project would have a beneficial impact on this ratio by providing new publicly-accessible open space. With regard to active open space, Phase II of the Project would result in a decrease of 5.6 percent, compared with the Future Without Phase II, and the active open space ratio would remain below the City's guideline. As noted in the *CEQR Technical Manual*, the city guidelines are seldom achieved in densely built portions of New York City, and therefore do not constitute impact thresholds. While the total, passive, and active open

space ratios would be below city guidelines in the Future With Phase II, the overall effect of Phase II of the Project on the availability of open space resources in the study area would be beneficial. Therefore, Phase II of the Project under the Extended Build-Out Scenario would not result in any significant adverse open space impacts in the ½-mile study area upon completion of Phase II.

In addition, numerous open space resources that have not been included in the quantitative analysis would be expected to provide additional opportunities for active and passive recreation in the Future With Phase II. Such resources include community gardens, school yards that are not consistently open to the public, resources associated with private developments that could offset demand on public open space resources, and Prospect and Fort Greene Parks (totaling over 615 acres of active and passive open space), which are located just outside the open space study area boundary. Prospect Park and Fort Greene Park are flagship resources that draw residents from the study area, despite being located outside of the study area.

OPERATIONAL TRANSPORTATION

TRAFFIC

The traffic analysis in the 2006 FEIS analyzed conditions at a total of 93 intersections along local streets proximate to the project site or that would be affected by Project-related changes to the street network, as well as along arterials that would provide access to and from the site. Intersections analyzed in the 2006 FEIS were selected for analysis in this SEIS if they were locations where development of Phase II is expected to result in the addition of 50 or more peak hour vehicle trips based on the FEIS, or they were identified in the FEIS as being significantly adversely impacted by project-generated traffic in one or more of the peak hours included for analysis in this SEIS. Based on these criteria, a total of 71 of the 93 intersections analyzed in the 2006 FEIS were selected for detailed analysis.

The peak hours selected for analysis in this SEIS include the weekday 8-9 AM and 5-6 PM commuter periods, as well as the weekday 12-1 PM midday (lunch time) period. Although the substantial amount of travel demand generated by the Arena itself is reflected in the Future Without Phase II condition, an analysis of the weekday 7-8 PM and Saturday 1-2 PM pregame peak hours is included to assess the potential effects of Phase II residential and retail demand during periods of peak Arena activity. To be conservative, the traffic analysis for the Saturday pregame peak hour assesses conditions resulting from Phase II with an afternoon Nets game at the Arena, even though other types of events with lower attendance than a Nets game are typically scheduled on a Saturday afternoon and Nets games rarely occur at that time. All of these peak hours are consistent with those analyzed in the 2006 FEIS. The weekday and Saturday post-game peak hours for Arena demand that were analyzed in the 2006 FEIS are not included, as Project demand during these periods is primarily Arena-related and they are not typically considered peak travel periods for the residential, retail and public school uses that comprise Phase II of the Project.

Travel Demand

Vehicle trips generated by Phase II development would total approximately 519, 338, 446, 281 and 689 during the analyzed weekday AM, midday, PM and pregame and Saturday pregame peak hours, respectively. Auto trips during these periods would range from 200 (in the weekday midday peak hour) to 609 (in the Saturday pregame peak hour), while taxi trips would range from 18 (in the weekday pregame peak hour) to 102 (in the weekday midday peak hour). Truck

trips would range from none (in the weekday pregame PM peak hour) to 42 (in the weekday AM peak hour).

Impact Analyses

Of the 71 intersections analyzed, a total of 56 intersections would have significant adverse impacts in one or more peak hours in the Future With Phase II under the Extended Build-Out Scenario. A total of 41 intersections would have significant adverse impacts in the weekday AM peak, 21 in the midday, 38 in the PM, 28 in the 7-8 PM pregame peak hour, and 47 in the Saturday 1-2 PM pregame peak hour. As discussed in detail in Chapter 5, "Mitigation," with implementation of the Project's traffic mitigation plan, unmitigated impacts would remain in one or more peak hours at a total of ten intersections in the Future With Phase II With Mitigation. There would be four intersections with unmitigated significant adverse impacts in the weekday 8-9 AM peak hour, none in the midday, seven in the 5-6 PM, none in the weekday 7-8 PM pregame peak hour, and eight in the Saturday pregame peak hour.

Bicycles

In the Future With Phase II under the Extended Build-Out Scenario, it is anticipated that the residential, retail and public school uses that would be built on the project site would likely generate some new trips by bicycle in the weekday peak commuter periods, as well as recreational and discretionary trips during other weekday periods and on weekends. Phase II of the Project would also generate new vehicular traffic along many study area roadways, including those used by bicyclists. In addition, a bicycle path would be provided through portions of the Project's open space under Phase II to improve connections between existing and planned north-south and east-west bike lanes.

TRANSIT

Subway

The analysis of subway station conditions in this SEIS focuses on the Atlantic Avenue – Barclays Center station as well as the Bergen Street station, with conditions at these stations analyzed for the weekday 8-9 AM, 5-6 PM and 7-8 PM (pregame) peak hours, consistent with the subway station analysis in the 2006 FEIS. The analysis assesses conditions at those station elements (stairways, escalators, ramps, and fare arrays) analyzed in the 2006 FEIS. The Fulton Street and Lafayette Avenue subway stations analyzed in the 2006 FEIS are not included in the SEIS analysis as Phase II demand at these stations is not expected to total 200 or more trips (the *CEQR Technical Manual* threshold for detailed analysis) in any analyzed peak hour. The analysis of the potential for crowding on the platforms at the Atlantic Avenue – Barclays Center subway station during the weekday 10-11 PM and Saturday 4-5 PM peak hours following a Nets game or other major event at the Arena that was provided in the 2006 FEIS is also not included as these are not considered peak periods for Phase II residential, retail and public school demand.

The findings of this SEIS analysis of Future With Phase II conditions under the Extended Build-Out Scenario are that all analyzed stairways, escalators, ramps and fare arrays at the Atlantic Avenue – Barclays Center and Bergen Street subway stations would operate at acceptable levels of service and would not be considered significantly adversely impacted by Phase II demand with the exception of escalator ES359X at the Barclays Center entrance to the Atlantic Avenue – Barclays Center subway station. This up escalator is expected to operate at a v/c ratio of 1.13

(level of service, or LOS D) in the 7-8 PM pregame peak hour, compared with a v/c ratio of 0.79 (LOS C) in the Future Without Phase II, and would therefore be considered significantly impacted under current *CEQR Technical Manual* criteria. This impact would be fully mitigated by operating adjoining escalator ES358X in the up direction during the pregame period when there is a Nets game or other major event at the Arena. (Escalator ES358X currently operates in the down direction in all periods.)

It should be noted that much of the pregame peak hour demand on escalator ES359X is the result of trips exiting the subway en route to a basketball game or other event at the Arena. The analysis results reflect the fact that most pedestrians would select to use the escalator for convenience (as they do now), resulting in capacity conditions on the escalator during periods of peak demand even with uncongested LOS A conditions on adjacent 24-foot-wide stair S1. It is therefore expected that, as queuing at this escalator increased, pedestrian demand would increasingly shift to uncongested stair S1. As the two escalators and stair S1 at this entrance operate as a combined system, and as stair S1 is projected to have substantial available capacity in the pregame peak hour in the Future with Phase II, the projected LOS D condition at up escalator ES359X is not necessarily considered an unacceptable condition for a special event condition such as the pregame peak hour prior to a Nets basketball game. (This was also acknowledged in the 2006 FEIS which projected LOS E conditions on this escalator during the weekday pregame peak hour.)

With respect to subway line haul conditions, all subway routes through Downtown Brooklyn are expected to continue to operate below their practical capacity in the peak direction in each peak hour in the Future With Phase II, and the Project would not generate more than an average of 3.7 new subway riders per car on any one route, less than the *CEQR Technical Manual* impact threshold of five new trips per car per hour. Development of Phase II under the Extended Build-Out Scenario is therefore not expected to result in significant adverse impacts to subway line haul conditions in Downtown Brooklyn under *CEQR Technical Manual* guidelines.

Local Bus

This SEIS analyzes conditions on the 11 MTA New York City Transit (NYCT) local bus routes operating within ¼-mile of Phase II developments sites. The analysis focuses on the weekday 8-9 AM and 5-6 PM commuter peak hours under the Project's commercial mixed-use variation, consistent with the analysis in the 2006 FEIS. Development of Phase II of the Project under the Extended Build-Out Scenario would add up to 11 peak direction passengers to each analyzed bus route in the AM peak hour, and up to 12 additional passengers in the PM peak hour. With this added demand, all analyzed local bus routes would continue to operate with available capacity at their peak load points in both the weekday AM and PM peak hours in 2035, and therefore, development of Phase II under the Extended Build-Out Scenario is not expected to result in any significant adverse impacts to local bus conditions.

Long Island Rail Road

In the Future With Phase II under the Extended Build-Out Scenario, the proposed residential buildings located on Blocks 1120 and 1121 would be constructed on a platform that would be built over the below-grade Long Island Rail Road (LIRR) yard on these blocks. Operation of this yard would otherwise remain unchanged from conditions in the Future Without Phase II. Development associated with Phase II of the Project is expected to generate an estimated 43 new trips on the LIRR in the AM peak hour, 17 trips in the midday, 36 trips in the PM peak hour, 26 trips in the weekday pregame peak hour and 30 trips in the Saturday pregame peak hour. Most if

not all of these Phase II LIRR trips are expected to utilize existing entrances to the LIRR's Atlantic Terminal located on the north side of Atlantic Avenue as there is no direct access to the LIRR platforms (without paying a subway fare) from the new on-site entrance to the Atlantic Avenue – Barclays Center subway station. The relatively small numbers of new LIRR trips that would be generated by development of Phase II are not expected to adversely affect LIRR line haul conditions.

PEDESTRIANS

Pedestrian trips generated by Phase II under the Extended Build-Out Scenario are expected to be most concentrated on those sidewalks, corner areas and crosswalks located immediately adjacent to the Phase II development sites as well as along pathways between these sites and the new entrance to the Atlantic Avenue – Barclays Center subway station. The pedestrian analysis in this SEIS therefore focuses 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 the majority of Phase II subway trips. Pedestrian facilities adjacent to Site 5 and along 6th Avenue on the Arena Block that were analyzed in the 2006 FEIS are not analyzed in this SEIS, as Phase II pedestrian trips are not expected to be as concentrated along these facilities. Sidewalks along 6th Avenue between Dean Street and Flatbush Avenue were also included in the 2006 FEIS to assess the effects of a proposed narrowing under the Project in order to better accommodate two-way traffic flow along the adjacent roadway. As NYCDOT subsequently decided not to implement this widening, these sidewalks are also not analyzed in this SEIS.

The peak hours selected for analysis include the weekday 8-9 AM and 5-6 PM commuter periods. Although the substantial amount of travel demand generated by the Arena itself is reflected in the Future Without Phase II condition, an analysis of the weekday 7-8 PM and Saturday 1-2 PM pregame peak hours is also included to assess the potential effects of Phase II residential and retail demand during periods of peak Arena activity. To be conservative, the pedestrian analysis for the Saturday pregame peak hour assesses conditions resulting from Phase II with an afternoon Nets game at the Arena, even though other types of events with lower attendance than a Nets game are typically scheduled on a Saturday afternoon, and Nets games rarely occur at that time. All of these peak hours are consistent with those analyzed in the 2006 FEIS.

The findings of this SEIS analysis are that Phase II demand under the Extended Build-Out Scenario would significantly adversely impact four crosswalks in one or more peak hours under current *CEQR Technical Manual* impact criteria for a central business district (CBD) area, and that two sidewalks and one additional crosswalk would be considered impacted if non-CBD criteria were used. Impacted pedestrian facilities would include:

- The south sidewalk on Atlantic Avenue west of 6th Avenue in the weekday PM and pregame and Saturday pregame peak hours (non-CBD criteria only);
- The north sidewalk on Dean Street between 6th and Carlton Avenues in the weekday PM and Saturday pregame peak hours (non-CBD criteria only);
- The west crosswalk on Atlantic Avenue at 6th Avenue in the weekday PM and Saturday pregame peak hours (CBD and non-CBD criteria);
- The south crosswalk on 6th Avenue at Atlantic Avenue in the weekday AM and PM and Saturday pregame peak hours (CBD and non-CBD criteria), and the weekday pregame peak hour (non-CBD criteria only);

- The east crosswalk on Atlantic Avenue at 6th Avenue in the weekday PM peak hour (non-CBD criteria only);
- The north crosswalk on Carlton Avenue at Dean Street in the weekday PM peak hour (non-CBD criteria) and Saturday pregame peak hour (CBD and non-CBD criteria); and
- The north crosswalk on 6th Avenue at Dean Street in all periods (CBD and non-CBD criteria).

Given that Atlantic Avenue is a major retail and commercial corridor, and a pedestrian access route for both the Barclays Center Arena and a major intermodal transit hub, the *CEQR Technical Manual* CBD impact criteria should be considered applicable for the analyzed sidewalks and crosswalks along this corridor. Under the CBD impact criteria, neither the south sidewalk on Atlantic Avenue west of 6th Avenue nor the east crosswalk on Atlantic Avenue at 6th Avenue would be considered significantly adversely impacted. Therefore, Phase II of the Project would not result in significant adverse impacts to the south sidewalk on Atlantic Avenue west of 6th Avenue and the east crosswalk on Atlantic Avenue at 6th Avenue.

PEDESTRIAN AND VEHICULAR SAFETY

Development of Phase II under the Extended Build-Out Scenario would increase vehicular, pedestrian, and bicycle traffic in the vicinity of the project site. The combination of new pedestrian trips on crosswalks and new vehicular and bicycle traffic may increase the potential for conflicts between these modes at intersections in proximity to the project site, and thereby potentially increase vehicular and pedestrian exposure to accidents.

The Project incorporates a number of design features that enhance overall safety, many of which have already been implemented as part of Phase I. These have included the elimination of several roadway segments through the project site; a major new on-site entrance to the Atlantic Avenue – Barclays Center subway station to eliminate the need for subway riders en route to and from the south to cross Atlantic Avenue; a major restructuring of the Atlantic Avenue/Flatbush Avenue/4th Avenue intersection designed to improve traffic flow and reduce the potential for vehicle/pedestrian conflicts; a new traffic signal and crosswalk on Flatbush Avenue at Pacific Street; and new high visibility crosswalks at key intersections in the vicinity of the project site. A new off-street bike route segment through the project site would be implemented under Phase II to more safely connect existing and planned on-street bike routes. Additional measures would likely be implemented in consultation with NYCDOT-School Safety to enhance safety in the vicinity of the public school proposed as part of Phase II, such as the installation of designated school crossings with high visibility crosswalks and additional school crossing pavement markings and signage.

PARKING

As described in Chapter 1, “Project Description,” a total of approximately 2,896 parking spaces are proposed on the project site to accommodate the parking demand from the residential and commercial uses developed under Phase I, New York City Police Department (NYPD) demand from the nearby 78th Precinct station house (24 spaces), the parking demand from the residential, retail, and public school uses that would be developed under Phase II, and a portion of the demand generated by the Arena. This would include a 400-space parking garage beneath Site 5 and a parking garage with 50 to 100 spaces beneath Building 3 on the Arena block (both to be provided in Phase I), along with a 450-space below-grade garage on Block 1120, a 150-

space below-grade garage beneath Building 15 on Block 1128, and a 1,846-space below-grade garage on Block 1129 (to be provided in Phase II).

The findings of this SEIS analysis are that the proposed 2,896 on-site parking spaces provided with full build-out of the Project would be sufficient to accommodate all of the demand generated by the Project's residential, commercial and public school uses plus NYPD parking under both the residential mixed-use and commercial mixed-use variations of the Project. In addition, the projected amount of parking capacity available at off-street public parking facilities within ½-mile of the Barclays Center Arena in 2035 is expected to be sufficient to accommodate all of the demand generated by a Nets game at the Arena irrespective of the amount of parking provided for Arena patrons on the project site. Therefore, no significant adverse parking impacts would occur in the Future With Phase II under the Extended Build-Out Scenario.

COMPARISON OF SEIS FINDINGS AND PREVIOUS FINDINGS

Traffic

Forty-one of the 71 intersections analyzed for this SEIS would experience one or more significant adverse impacts in the AM peak hour with development of Phase II under the Extended Build-Out Scenario. By contrast, the 2006 FEIS disclosed a total of 46 impacted intersections in the AM peak hour with full build-out of the project in 2016 out of the 70 intersections common to both the SEIS and the FEIS analyses.[1] There would be 21 impacted intersections in the midday peak hour (27 in the FEIS), 38 in the PM peak hour (45 in the FEIS), 27 in the weekday pregame peak hour (39 in the FEIS) and 47 in the Saturday pregame peak hour (41 in the FEIS).

The results of the analysis of traffic conditions and potential significant impacts in this SEIS are not directly comparable to the findings of the 2006 FEIS as this SEIS examines only the incremental effects of Phase II of the Project under the Extended Build-Out Scenario, with Phase I of the Project reflected in the background condition. By contrast, the 2006 FEIS assessed the incremental effects of Phase I and Phase II combined. In addition to the proposed shift in residential floor area and proposed reduction in parking spaces (as described in Chapter 1, "Project Description"), the traffic analyses also differ with respect to travel demand factors, background conditions and growth rates, impact criteria and the Project development program. The differences between the findings of this SEIS and previous environmental reviews with respect to traffic conditions are generally related to these variables and are not directly attributable to the delay in the Project under the Extended Build-Out Scenario. It should also be noted that the amount of traffic generated by the Project (Phase I and Phase II) is not dependent upon the year of completion of the Project.

Transit

Subway

The conditions projected in this SEIS at the Atlantic Avenue – Barclays Center and Bergen Street subway stations for the Future With Phase II under the Extended Build-Out Scenario are

[1] The intersection of Flatbush Avenue and Pacific Street was uncontrolled in 2006 and was therefore not included as an analysis location in the FEIS. This intersection was subsequently signalized as part of the Project, and is therefore included in the SEIS analysis.

generally consistent with those projected in the previous environmental reviews. They reflect acceptable levels of service at all analyzed elements with the exception of congestion on up escalator ES359X at the Atlantic Avenue – Barclays Center subway station during the pregame peak hour. Although identified in this SEIS as a significant adverse impact under current *CEQR Technical Manual* guidelines, this impact would not be the result of any delay in constructing Phase II of the Project. This escalator was built as part of Phase I of the Project, and consequently the LOS E condition projected in the 2006 FEIS for the pregame peak hour with full build-out of the Project was not considered a significant adverse impact. This SEIS analysis actually projects a better level of service (LOS D) at escalator ES359X during the pregame period than was projected in the 2006 FEIS (LOS E). Both the SEIS and the 2006 FEIS also show adjacent stair S1 operating at an uncongested LOS B or better in the pregame peak hour, reflecting the fact that substantial additional capacity would be available on this stair to relieve any future queuing at escalator ES359X.

The SEIS analysis of subway line haul conditions shows that full build-out of the Project would not result in significant adverse impacts in the peak direction in the AM and PM peak hours on any subway route serving Downtown Brooklyn. These findings are also consistent with those disclosed in the 2006 FEIS.

The results of the analyses of subway station and line haul conditions and potential significant impacts in this SEIS are not directly comparable to the findings of previous environmental reviews as this SEIS examines only the incremental effects of Phase II of the Project under the Extended Build-Out Scenario, with Phase I of the Project reflected in the background condition. By contrast, previous reviews assessed the incremental effects of Phase I and Phase II combined. In addition to the proposed shift in residential floor area and proposed reduction in parking spaces (as described in Chapter 1, "Project Description"), the subway analyses also differ with respect to travel demand factors, analysis methodologies, background conditions and growth rates, and the Project development program.

Local Bus

The analysis of local bus conditions in the 2006 FEIS identified a significant adverse impact to westbound B38 buses in the AM peak hour. The findings of this SEIS analysis—that development of Phase II under the Extended Build-Out Scenario would not result in any significant adverse local bus impacts—are, however, generally consistent with those of the 2006 FEIS. The one route projected to be impacted in the 2006 FEIS as a result of full build-out of the Project—the westbound B38—is not expected to experience appreciable numbers of new trips in either the AM or PM peak hours as a result of Phase II demand under the Extended Build-Out Scenario.

The findings of this SEIS with respect to local bus conditions and potential significant impacts are not directly comparable to those of the 2006 FEIS as this SEIS examines only the incremental effects of Phase II of the Project under the Extended Build-Out Scenario, with Phase I of the Project reflected in the background condition. By contrast, the 2006 FEIS assessed the incremental effects of Phase I and Phase II combined. In addition to the proposed shift in residential floor area and proposed reduction in parking spaces (as described in Chapter 1, "Project Description"), the local bus analyses also differ with respect to travel demand factors, analysis methodologies, background conditions (including changes in bus routes and service levels since 2006), background growth rates, and changes to the Project development program.

Long Island Rail Road

Under the Extended Build-Out Scenario, the relatively small numbers of new LIRR trips generated by Phase II of the Project (17 to 43 in any one peak hour) are not expected to adversely affect LIRR line haul conditions, and the development of Phase II is not expected to adversely affect operations at the upgraded Vanderbilt Yard. These findings are generally consistent with those of the 2006 FEIS.

Pedestrians

The analysis of pedestrian conditions in the 2006 FEIS identified significant adverse impacts to two crosswalks – on 6th Avenue at Dean Street and on Carlton Avenue at Dean Street – in the weekday and/or Saturday pregame peak hours with full build-out of the Project. Widening these crosswalks by one foot and four feet, respectively, was recommended in the 2006 FEIS to fully mitigate these impacts.

The findings of this SEIS analysis are that Phase II demand under the Extended Build-Out Scenario would significantly adversely impact four crosswalks in one or more peak hours under current *CEQR Technical Manual* impact criteria for a central business district (CBD) area, and that two sidewalks and one additional crosswalk would be considered impacted if non-CBD criteria are used. However, these findings are not directly comparable to those of the previous environmental reviews as this SEIS examines only the incremental effects of Phase II of the Project under the Extended Build-Out Scenario with Phase I of the Project reflected in the background condition. By contrast, the 2006 FEIS assessed the incremental effects of Phase I and Phase II combined. In addition to the proposed shift in residential floor area and proposed reduction in parking spaces (as described in Chapter 1, "Project Description"), the pedestrian analyses also differ with respect to analysis methodologies, impact criteria, the Project development program, travel demand factors, background conditions and annual growth rates. (These include substantially lower impact thresholds for this SEIS analysis than were required under the *CEQR Technical Manual* guidelines used for the 2006 FEIS). The differences between the findings of this SEIS and the previous environmental reviews with respect to pedestrian conditions are generally related to these variables and are not directly attributable to the delay in the Project under the Extended Build-Out Scenario.

Pedestrian and Vehicular Safety

In general, the findings of this SEIS with regard to pedestrian and vehicular safety are comparable to those of the 2006 FEIS, in that both assessments disclosed the potential for increased conflicts between motorists, cyclists and pedestrians at high crash locations in proximity to the project site as a result of increased travel demands associated with full build-out of the Project. The delay in Phase II of the Project under the Extended Build-Out Scenario is not expected to result in a substantially greater number of vehicle, pedestrian and bicycle trips through high crash locations. This SEIS recommends additional potential pedestrian safety measures (i.e., installation of designated school crossings) that were not recommended in the 2006 FEIS.

Parking

The 2006 FEIS assessed future parking conditions with a total of 3,670 parking spaces on the project site and concluded that sufficient off-street parking capacity would be available both on-site and at existing public off-street facilities within ½-mile of the Arena to fully accommodate peak demand from full build-out of either of the Project's two variations (residential mixed-use

and commercial mixed-use), and that no significant adverse impacts to off-street or on-street parking conditions would result from the Project.

Compared with the 2006 FEIS, this SEIS analysis reflects a proposed reduction (to 2,896 spaces) in the amount of on-site parking capacity that would be provided with full build-out of the Project. In addition, this SEIS analysis differs from the 2006 FEIS analysis with respect to travel demand factors, analysis methodologies, impact criteria, background conditions, background growth rates, and the Project development program. For example, the forecasts of residential parking demand in the 2006 FEIS assumed an overnight rate of 0.4 spaces per dwelling unit whereas this SEIS analysis assumes an overnight rate of 0.2 spaces per dwelling unit, consistent with recent survey data which indicate lower levels of residential parking demand in Downtown Brooklyn.

The results of the analysis in this SEIS are that the on-site parking capacity now proposed with full build-out of the Project would be sufficient to accommodate all non-Arena Project demand in the Future With Phase II, and that the projected amount of parking capacity available at off-street public parking facilities under the Extended Build-Out Scenario would be sufficient to accommodate parking demand from a Nets game at the Arena irrespective of the amount of on-site parking provided for Arena patrons. Therefore, the findings of this SEIS are that no significant adverse parking impacts would occur in the Future With Phase II under the Extended Build-Out Scenario, consistent with the findings of the 2006 FEIS.

OPERATIONAL AIR QUALITY

As discussed below, the maximum predicted pollutant concentrations and concentration increments from mobile sources with Phase II of the Project would be below the corresponding ambient air quality standards and guidance thresholds. The Phase II development's parking facilities would also not result in any significant adverse air quality impacts. Therefore, Phase II of the Project would not have significant adverse impacts from mobile source emissions.

Delayed completion of Phase II of the Project would not increase air emissions from any of the Project buildings. Based on a quantitative air dispersion modeling analysis, the 2006 FEIS analysis of air quality impacts concluded that because of the low emissions from Phase II of the Project, which has committed to the use of natural gas as its boiler fuel and the use of burners with low emissions of nitrogen oxides (NO_x), the impacts of emissions of particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), carbon monoxide (CO), annual average nitrogen dioxide (NO_2) and sulfur dioxide (SO_2) would be insignificant. In the Extended Build-Out Scenario, the proposed gas-fired Phase II boilers would each be smaller in capacity than the boiler capacities modeled in the 2006 FEIS, even after accounting for the proposed shift in floor area from Phase I to Phase II. Therefore no additional quantitative air dispersion modeling analysis of these pollutants was performed in the SEIS. A new quantitative air dispersion modeling analysis of the emissions and dispersion of 1-hour average NO_2 from the Project's stationary sources indicate that such emissions would not result in violation of the 1-hour average NO_2 NAAQS that was promulgated after the publication of the 2006 FEIS. Therefore, no significant adverse air quality impacts are anticipated from the stationary sources from Phase II of the Project under the Extended Build-Out Scenario.

GREENHOUSE GAS EMISSIONS

Phase II of the Project upon completion under the Extended Build-Out Scenario would result in annual GHG emissions of approximately 82,163 metric tons of CO_2 equivalent (CO_2e) from the

operation of the buildings. Of that amount, approximately 72,840 metric tons of CO_2e would be emitted as a result of grid electricity use and natural gas consumption on-site, while the remainder would be emitted as a result of project-generated vehicle trips. During the construction period and as a result of off-site production of construction materials for Phase II of the Project an estimated 195,785 metric tons of CO_2e would be emitted.

As per the MEC, all Phase II buildings would obtain the United States Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED) certification for new construction with the goal of achieving a Silver rating for each proposed building. Specific sustainable measures would be incorporated into the design and construction of the Project, which would decrease the potential GHG emissions. Based on the sustainable measures that would be included, Phase II of the Project would be consistent with the City's emissions reduction goal, as defined in the *CEQR Technical Manual*. In addition, as discussed in the 2006 FEIS, the project site is located at one of the largest transportation hubs in the City and construction of this high density transit-oriented development at this location would encourage use of mass transit, thereby reducing GHG emissions from automobile travel. The Project would also promote non-motorized modes of transportation, including cycling and walking. This assessment concludes that Phase II of the Project would be consistent with the City's GHG emission reduction goal.

OPERATIONAL NOISE

The analysis concludes that traffic generated by Phase II of the Project upon completion under the Extended Build-Out Scenario would not be expected to result in any significant increases in noise levels. Furthermore, the building attenuation specified in the 2006 FEIS for the Phase II buildings would continue to be adequate. Consistent with the findings of the 2006 FEIS, noise levels in the newly created open spaces would be greater than the 55 dBA $L_{10(1)}$ prescribed by CEQR criteria, but would be comparable to other parks around New York City, and would not constitute a significant impact.

OPERATIONAL NEIGHBORHOOD CHARACTER

Consistent with the 2006 FEIS and 2009 Technical Memorandum, this SEIS analysis finds that while Phase II of the Project would result in localized adverse neighborhood character impacts along Dean Street due to increased activity and significant adverse traffic and pedestrian condition impacts, and along Bergen Street due to significant adverse traffic impacts, these impacts would be highly localized and would not result in significant adverse neighborhood character impacts. While a delay in construction of Phase II of the Project under the Extended Build-Out Scenario would defer temporarily the benefits of Phase II, the benefits would nevertheless improve the character of the neighborhood when construction is completed. Overall, Phase II of the Project under the Extended Build-Out Scenario would have a beneficial effect on neighborhood character, creating a vibrant mixed use area, improving the streetscape in and around the project site and knitting together the neighborhoods north and south of the rail yard.

G. MITIGATION

This SEIS identifies significant adverse impacts in the areas of community facilities (public schools), construction-period open space, transportation (operational and during construction) and construction noise.

COMMUNITY FACILITIES

Phase II of the Project under the Extended Build-Out Scenario would result in a significant adverse impact on elementary and intermediate schools upon the completion of the first or second Phase II building. More rapid construction of the Phase II buildings would result in the significant adverse impact occurring earlier.

Mitigation for the projected shortfall in school seats for elementary and intermediate schools in CSD 13/Sub-District 1 could consist of one or a combination of the following measures:

- Building a new school on the project site;
- Shifting the boundaries of school catchment areas within the CSDs to move students to schools with available capacity;
- Creating new satellite facilities in less crowded schools; and/or
- Building new school facilities off-site.

To partially mitigate the significant adverse impact on public schools, the project sponsors have committed to provide adequate space for the construction and operation of a 100,000 gsf elementary and intermediate school facility on the Phase II project site. The project sponsors' obligation to provide space for an elementary and intermediate public school on the Phase II project site was included in 2006 and 2009 MGPP and the MEC.

If built at the election of DOE, the new school facility on the Phase II project site would partially mitigate the projected shortfall in school seats for elementary and intermediate schools located within CSD 13/Sub-District 1. While the final school program and capacity would be developed at a later date, based on DOE's 2015-2019 Proposed Capital Plan, it is anticipated that this school would provide approximately 757 seats for elementary and/or intermediate students.

The other potential mitigation measures identified above—shifting the boundaries of school catchment areas within the CSDs; creating new satellite facilities in less crowded schools; and building new school facilities off-site—could be implemented at the discretion of DOE. If not implemented, the significant adverse impacts on elementary schools within CSD 13/Sub-District 1 would remain.

OPEN SPACE

Phase II of the Project under the Extended Build-Out Scenario would not result in significant adverse impacts related to open space upon the Project's completion. However, the 2006 FEIS identified a temporary significant adverse impact on passive open space resources in the non-residential (¼-mile) study area during Phase II construction. This impact would continue until a portion of the Phase II open space is phased in. The Extended Build-Out Scenario would prolong the temporary significant adverse impact on the passive worker ratio in the non-residential study area that was identified in the 2006 FEIS by between approximately 7 and 9 years, compared with the Phase II schedule analyzed in the 2006 FEIS.

In response to this finding, the project sponsors and ESD will explore additional mitigation measures between the Draft and Final Supplemental Environmental Impact Statement, which could be implemented to improve passive open space conditions in the non-residential study area in the event there is a prolonged delay in construction. Such mitigation is being considered for one of the following plaza or open space areas:

- Times Plaza: currently an approximately 0.17-acre triangle formed by Flatbush Avenue, Atlantic Avenue, and 4th Avenue is occupied by a paved sidewalk area, bike racks, and the Times Plaza Control House (an MTA structure, built in 1908 as a subway entrance, which today functions as a skylight for the Atlantic Avenue-Barclays Center subway station).
- Lowry Triangle: this 0.11-acre New York City Department of Parks and Recreation (DPR) open space is bounded by Atlantic Avenue, Underhill Avenue, Washington Avenue, and Pacific Street. It contains passive open space features such as seating and plantings.
- Cuyler Gore Park: this 1.16-acre DPR open space is bounded by Fulton Street, Carlton Avenue, and Greene Avenue. It contains passive open space features such as seating and plantings.

Improvements at the selected plaza or open space could include seating, plantings and other open space amenities.

In addition, if a Phase II building construction site were to remain undeveloped for an extended period of time, if practicable, the project sponsors would arrange for its utilization as temporary open space, until such time as construction is ready to resume, in accordance with the MEC.

OPERATIONAL TRANSPORTATION

TRAFFIC

With development of Phase II under the Extended Build-Out Scenario, a total of 56 intersections are expected to have one or more movements that would experience significant adverse impacts in one or more of the five peak hours analyzed. A range of operational changes to the surrounding street network are recommended to mitigate the significant adverse traffic impacts. These measures typically include signal phasing and timing modifications, parking regulation modifications, and changes to lane striping and pavement markings. Significant adverse operational traffic impacts would remain unmitigated at four of the 41 intersections impacted in the weekday AM peak hour, seven of the 38 intersections impacted in the PM peak hour, and eight of the 47 intersections impacted in the Saturday pregame peak hour. The recommended traffic mitigation measures will be further reviewed with NYCDOT between the Draft SEIS (DSEIS) and the Final SEIS (FSEIS) potentially resulting in elimination or modification of certain mitigation measures. Additional measures will also be explored between the DSEIS and FSEIS in coordination with NYCDOT to reduce or eliminate any unmitigated significant impacts. In the absence of NYCDOT approval and implementation of mitigation measures, additional unmitigated conditions would remain.

TRANSIT

Phase II of the Project under the Extended Build-Out Scenario would result in a significant adverse impact with respect to up escalator ES359X at the Barclays Center entrance of the Atlantic Avenue—Barclays Center Subway Station. The impact would be fully mitigated by

operating adjoining escalator ES358X in the up direction during the pregame period when there is a Nets game or other major event at the Arena.

PEDESTRIANS

Phase II demand under the Extended Build-Out Scenario would significantly adversely impact four crosswalks in one or more peak hours under current CEQR Technical Manual impact criteria for a CBD area, and one additional sidewalk (along Dean Street) if non-CBD criteria were used. (Sidewalks and crosswalks along the Atlantic Avenue corridor that would be impacted only under the non-CBD criteria are not considered significantly adversely impacted as Atlantic Avenue is a major retail and commercial corridor where the CBD criteria should be considered applicable.) Standard mitigation for projected significant pedestrian impacts can include providing additional signal green time or new signal phases; widening crosswalks; relocating or removing street furniture; providing curb extensions, neck-downs or lane reductions to reduce pedestrian crossing distance; sidewalk widening; and providing direct pedestrian connections from adjacent transit stations.

With the recommended mitigation measures, all significant adverse impacts under the CBD criteria would be fully mitigated, while the significant adverse sidewalk impacts along Dean Street (in the PM and Saturday pregame peak hours) would remain unmitigated.

The recommended pedestrian mitigation measures will be further reviewed with NYCDOT between the DSEIS and the FSEIS potentially resulting in elimination or modification of certain mitigation measures. Additional measures will also be explored between the DSEIS and FSEIS in coordination with NYCDOT to reduce or eliminate any unmitigated significant impacts. In the absence of NYCDOT approval and implementation of mitigation measures, additional unmitigated conditions would remain.

CONSTRUCTION TRAFFIC

The recommended operational traffic mitigation measures would be able to mitigate most construction impacts at the 36 intersection at which significant adverse traffic impacts were identified during peak construction periods. In some cases, variations of the operational mitigation measures or additional measures have been recommended to fully mitigate certain impacts during construction. However, there would be seven intersections—one during the 6-7 AM and six during the 3-4 PM construction traffic analysis peak hours—where impacts could not be mitigated or could only be partially mitigated.

CONSTRUCTION NOISE

Overall, there are approximately 13 buildings predicted to experience significant adverse noise impacts as a result of construction of Phase II of the Project under one or more of the three Construction Phasing Plans analyzed that may not have and have not previously been offered receptor control measures. Some potential receptor controls that could be used to partially mitigate the impacts at these 13 buildings include the provision of air-conditioning so that the impacted structures can maintain a closed-window condition and the provision of storm windows to a building without double-glazed windows to increase the amount of noise attenuation provided by the building façades.

Additionally, there is one recently constructed residential building with outdoor balconies predicted to experience significant adverse noise impacts as a result of construction of Phase II

of the Project under Construction Phasing Plan 1. At this location, there are no feasible or practicable mitigation to mitigate the construction noise impacts.

H. ALTERNATIVES

Project alternatives that are assessed in the SEIS include:

- Reduced Parking Alternative—This alternative would consider modified parking requirements that would reduce the amount of accessory parking provided for the Project's residential uses. As noted in Chapter 1, "Project Description," ESD is evaluating a proposed reduction in the parking requirements for the Project from the 3,670 spaces analyzed in the 2006 FEIS to 2,896 parking spaces, and this proposal is included in the program for Phase II analyzed in the Extended Build-Out Scenario. The "Reduced Parking Alternative" would be an alternative that 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.
- A No Unmitigated Significant Adverse Impact Alternative—This alternative considers development that would not result in any identified unmitigated significant adverse impacts.

In addition, in response to public comments, this SEIS assesses the feasibility of requiring Phase II of the Project to be constructed by multiple developers. This assessment also evaluates whether such an approach to the Project, if determined to be feasible, would be effective in speeding the construction of Phase II.

REDUCED PARKING ALTERNATIVE

Under the Reduced Parking Alternative, with respect to operational traffic, there would be one additional impacted intersection in the AM peak hour as compared with Phase II under the Extended Build-Out Scenario. Overall, the numbers and locations of impacted intersections and the types of impacts that would occur under the Reduced Parking Alternative would generally be similar to those under Phase II of the Project under the Extended Build-Out Scenario. The Reduced Parking Alternative would impact the same sidewalks and crosswalks as the Phase II of the Project under the Extended Build-Out Scenario; however, two of the impacted crosswalks would also be impacted in additional peak hours.

With respect to construction transportation, the Reduced Parking Alternative would result in significant impacts at the same locations identified with Phase II of the Project under the Extended Build-Out Scenario; however, at one location additional mitigation would be required to fully mitigate the impacts.

Impacts of the Reduced Parking Alternative in all other analyzed technical areas would be comparable to those identified for Phase II of the Project under the Extended Build-Out Scenario.

OPERATIONAL TRANSPORTATION

Traffic

There would be no change in the amount of travel demand or the numbers of vehicle trips generated by Phase II or the Project as a whole under the Reduced Parking Alternative compared with the Future With Phase II conditions under the Project. Rather, the amount of on-site parking

capacity would be reduced to a total of approximately 1,200 permanent spaces compared with 2,896 spaces with the Project. As a consequence, under the Reduced Parking Alternative there would be some localized redistribution of auto trips at intersections in the immediate vicinity of the project site compared with the Project.

With development of Phase II under the Project, 41 of the 71 analyzed intersections would have significant adverse impacts in the weekday AM peak hour, 21 in the midday, 38 in the PM, 28 in the weekday pregame peak hour, and 47 in the Saturday pregame peak hour. By comparison, under the Reduced Parking Alternative there would be one additional impacted intersection in the AM peak hour (42 total). The numbers of intersections operating at LOS E or F would total 36, 17, 31, 19 and 38 in the weekday AM, midday, PM and pregame and Saturday pregame peak hours under the Reduced Parking Alternative, a decrease of one in the PM peak hour compared with future conditions with the Project. Overall, the numbers and locations of impacted intersections and the types of impacts that would occur under the Reduced Parking Alternative would generally be similar to those under the Project.

Like conditions for the Future With Phase II under the Project, many of the significant adverse traffic impacts that would occur with development of Phase II under the Reduced Parking Alternative could be fully mitigated. Recommended operational improvements would fully mitigate all significant adverse traffic impacts from the Reduced Parking Alternative at a total of 46 out of 56 impacted intersections, the same as for the Project. Compared with the traffic mitigation plan recommended for the Future With Phase II under the Project, the mitigation plan recommended for the Reduced Parking Alternative would include implementation of an additional curbside parking restriction at the intersection of Atlantic Avenue and Fort Greene Place, additional lane restriping at the intersection of Atlantic and Clermont Avenues, and modifications to the recommended signal timing changes at these and seven other intersections.

Transit

There would be no change in the amount of travel demand generated by Phase II or the Project as a whole under the Reduced Parking Alternative compared with the conditions analyzed for the Future With Phase II under the Project. While there may be some potential for a shift from the auto mode to the transit modes as a result of the reduction of on-site parking under this alternative, any such shift, should it occur, is expected to be relatively minor and unlikely to result in material changes in the numbers of trips to individual subway stations and station elements, and subway and bus routes. Therefore, subway station, subway line haul and local bus conditions under the Reduced Parking Alternative would be similar to those disclosed for the Future With Phase II under the Project.

Pedestrians

The elimination of the proposed parking garages on Blocks 1120 and 1128 and the reduction in parking capacity at other on-site facilities under the Reduced Parking Alternative would likely result in an increase in pedestrian trips on analyzed sidewalks and crosswalks since persons traveling by auto who would otherwise have parked on-site would need to walk between the project site and off-site parking facilities.

In the Future With Phase II under the Project, Phase II demand would significantly adversely impact four crosswalks in one or more peak hours under current *CEQR Technical Manual* impact criteria for a CBD area, and two sidewalks and one additional crosswalk would be

considered impacted if non-CBD criteria were used. Impacted pedestrian facilities would include:

- The south sidewalk on Atlantic Avenue west of 6th Avenue in all but the weekday AM peak hour (non-CBD criteria only);
- The north sidewalk on Dean Street between 6th and Carlton Avenues in the weekday PM and Saturday pregame peak hours (non-CBD criteria only);
- The west crosswalk on Atlantic Avenue at 6th Avenue in the weekday PM and Saturday pregame peak hours (CBD and non-CBD criteria);
- The south crosswalk on 6th Avenue at Atlantic Avenue in the weekday AM and PM and Saturday pregame peak hours (CBD and non-CBD criteria), and the weekday pregame peak hour (non-CBD criteria only);
- The east crosswalk on Atlantic Avenue at 6th Avenue in the weekday PM peak hour (non-CBD criteria only);
- The north crosswalk on Carlton Avenue at Dean Street in the weekday PM peak hour (non-CBD criteria) and Saturday pregame peak hour (CBD and non-CBD criteria); and
- The north crosswalk on 6th Avenue at Dean Street in all periods (CBD and non-CBD criteria).

These same impacts would occur under the Reduced Parking Alternative, and two of the impacted crosswalks would also be impacted in additional peak hours—the west crosswalk on Atlantic Avenue at 6th Avenue in the weekday pregame peak hour (under CBD and non-CBD criteria) and the east crosswalk on Atlantic Avenue and 6th Avenue in the Saturday pregame peak hour (non-CBD criteria-only).

Given that Atlantic Avenue is a major retail and commercial corridor, and a pedestrian access route for both the Barclays Center Arena and a major intermodal transit hub, the *CEQR Technical Manual* CBD impact criteria should be considered applicable for the analyzed sidewalks and crosswalks along this corridor. Under the CBD impact criteria, neither the south sidewalk on Atlantic Avenue west of 6th Avenue nor the east crosswalk on Atlantic Avenue at 6th Avenue would be considered significantly adversely impacted. Therefore, Phase II of the Project would not result in significant adverse impacts to the south sidewalk on Atlantic Avenue west of 6th Avenue and the east crosswalk on Atlantic Avenue at 6th Avenue under both the Project and the Reduced Parking Alternative. Consequently, the Reduced Parking Alternative would not result in any significant adverse impacts at additional pedestrian facilities compared with the Project.

As was the case for Future With Phase II conditions under the Project, mitigating the significant crosswalk impacts under the Reduced Parking Alternative would typically involve widening the impacted crosswalk, combined in some cases with minor signal timing changes. Recommended mitigation measures under this alternative would include:

- Widening the west crosswalk on Atlantic Avenue at 6th Avenue from 12 feet to 14 feet in width (the same as for the Project);
- Widening the south crosswalk on 6th Avenue at Atlantic Avenue from 18 feet to 28 feet in width (versus 27 feet with the Project);

- Widening the north crosswalk on Carlton Avenue at Dean Street from 17 feet to 19 feet in width (versus 18 feet with the Project) along with signal timing changes of four seconds in the PM and three seconds in the Saturday pregame period; and
- Widening the north crosswalk on 6th Avenue at Dean Street from 17 feet to 28 feet in width (versus 27 feet with the Project) along with one second of signal timing change in the AM and four seconds in the PM and Saturday pregame periods.

These recommended measures would fully mitigate all of the significant crosswalk impacts under the Reduced Parking Alternative.

Signal timing changes associated with traffic mitigation under the Reduced Parking Alternative would result in a new significant impact to the west crosswalk on Atlantic Avenue at Vanderbilt Avenue in the Saturday pregame peak hour under the non-CBD criteria. As discussed previously, the CBD criteria should be considered applicable for pedestrian facilities along the Atlantic Avenue corridor. Based on the CBD criteria, this crosswalk would not be considered significantly adversely impacted in any peak hour under both the Project and the Reduced Parking Alternative.

Lastly, no mitigation is proposed for the non-CBD criteria impacts to the north sidewalk on Dean Street between 6th and Carlton Avenues as it is expected that mitigating these impacts would require relocating existing tree pits along the block which would likely not be practicable. The impacts to this sidewalk under the non-CBD criteria would therefore remain unmitigated in the Future With Phase II under both the Project and the Reduced Parking Alternative.

Pedestrian and Vehicular Safety

The Reduced Parking Alternative is not expected to result in substantial changes to vehicular or pedestrian flow at two of the three intersections in proximity to the project site identified as high crash locations—Flatbush Avenue/Atlantic Avenue and Atlantic Avenue/4th Avenue—and would likely result in an overall reduction in the numbers of turning vehicles at the third high crash intersection—Atlantic Avenue and Vanderbilt Avenue—compared with the Future With Phase II condition under the Project. Therefore, compared with the Project, there would likely be a reduced potential for conflicts between turning vehicles and pedestrians and cyclists at this latter intersection under the Reduced Parking Alternative.

The numbers of turning vehicles at the Dean Street/6th Avenue intersection adjacent to the potential location of a proposed public school in Building 15 would likely be slightly higher under the Reduced Parking Alternative than under the Project. The measures to enhance safety at this intersection recommended for the Project (i.e., the installation of designated school crossings including high visibility crosswalks and additional school crossing pavement markings and signage) are expected to be similarly effective at enhancing safety at this location under the Reduced Parking Alternative.

Parking

Under the Reduced Parking Alternative, a total of 1,200 parking spaces would be provided on-site in 2035 compared with the 2,896 parking spaces analyzed for the Project. This would include approximately 876 spaces of accessory parking for demand from the residential, commercial, retail, hotel and public school uses (i.e., non-Arena uses) on the project site, 300 spaces to accommodate a portion of the demand from the Barclays Center Arena, and 24 spaces allocated to the NYPD's 78th Precinct station house. The lower number of on-site parking

spaces provided for non-Arena uses compared with the Project would be consistent with the parking required under zoning for the Special Downtown Brooklyn District.

In the Future With Phase II under the Project, on-site parking capacity would be more than sufficient to accommodate all of the Project's parking demand from non-Arena uses under both the residential mixed-use and commercial mixed-use variations. Under the Reduced Parking Alternative, parking demand from non-Arena uses that would need to be accommodated off-site during the weekday evening and overnight periods would total approximately 307 and 446 spaces, respectively, under the residential mixed-use variation and approximately 283 and 410 spaces, respectively, under the commercial mixed-use variation. (On-site capacity is expected to be sufficient to accommodate all non-Arena Project parking demand in the weekday midday and Saturday midday periods under both variations.) Available capacity at off-street public parking facilities within ¼-mile of the project site during the weekday evening and overnight periods would be sufficient to accommodate all non-Arena Project demand expected to park off-site during these periods under both variations. Therefore, under the Reduced Parking Alternative, no shortfalls in off-street public parking capacity are expected to occur as a result of demand from the residential, commercial, retail, hotel and public school uses developed under either Project variation.

Under both the Project and the Reduced Parking Alternative, a total of 300 on-site parking spaces would be provided on the project site to accommodate a portion of the demand from a Nets game or other major event at the Barclays Center Arena. Remaining Arena demand would park at off-site public parking facilities or on-street, as occurs at present. Therefore, off-street parking conditions during a weekday evening and a Saturday afternoon Nets game at the Arena are also assessed to determine the potential combined effects of demand from both Arena and non-Arena Project uses on the off-street public parking supply within a ½-mile study area (considered the maximum distance that persons en route to and from an event at the Arena would likely walk to access parking.)

Under both Project variations, off-site parking demand from a Nets game at the Barclays Center Arena is expected to total approximately 1,231 spaces and 1,289 spaces during the weekday evening and Saturday midday periods, respectively. Accounting for non-Arena parking demand that would also need to be accommodated off-site under the Reduced Parking Alternative, off-street public parking facilities are expected to operate with available capacity during both the weekday evening and Saturday midday periods when there is a Nets game scheduled at the Arena during these periods, irrespective of the Project variation. Therefore, under the Reduced Parking Alternative, no shortfalls in off-street public parking capacity are expected to occur as a result of demand from a Nets game at the Arena and other non-Arena uses at the project site.

As was the case for the Future With Phase II condition under the Project, the traffic mitigation plan for the Reduced Parking Alternative incorporates modifications to curbside regulations that would potentially affect existing curbside parking at a total of 28 locations throughout the traffic study area. Depending on the peak hour, it is estimated that the net number of on-street parking spaces within ½-mile of the Arena that would be displaced by the traffic mitigation measures recommended for the Reduced Parking Alternative would represent from 0.4 percent to 1.1 percent of the existing 9,395 on-street parking spaces in this area, the same as for the Project's traffic mitigation plan. It is estimated that a total of approximately 107, 53, 69, 36, and 58 on-street parking spaces would be displaced during the weekday AM, midday, PM and pregame and Saturday pregame peak periods, respectively. Compared with the Project's traffic mitigation plan, this would represent a total of two additional on-street parking spaces displaced during

each peak period with the exception of the weekday PM which would remain unchanged. Approximately seven on-street parking spaces would potentially be created as a result of a lane re-striping recommended for Dean Street at Vanderbilt Avenue under both the Project and the Reduced Parking Alternative.

It is expected that drivers currently parking in the on-street spaces that would be displaced under both the Project and the Reduced Parking Alternative would need to find other on-street spaces or park in off-street public parking facilities in the vicinity. However, on-street parking capacity is expected to remain available in the overall study area with implementation of the traffic mitigation plan under the Project and the Reduced Parking Alternative.

OPERATIONAL AIR QUALITY

With the Reduced Parking Alternative, the Project's parking facilities would be smaller in overall capacity. Since there would be fewer on-site parking spaces available, there would be some localized redistribution of operational auto trips at intersections in the immediate vicinity of the Project site. However, as shown above in the "Transportation" section, this would result in similar traffic operations at the analyzed intersections presented in Chapter 4D, "Operational Transportation." Therefore, like the Project, no significant adverse operational-related air quality impacts would result from the Reduced Parking Alternative.

OPERATIONAL NOISE

Traffic levels during operation of the Reduced Parking Alternative would be comparable to those during operation of the Project on roadways adjacent to each of the noise receptor locations analyzed in Chapter 4G, "Noise" during each of the analyzed time periods. Based on the traffic levels associated with the Reduced Parking Alternative, the differences in noise levels at affected locations as compared with those with the Project would be minimal and would be less than the levels that would have the potential to result in a significant adverse impact. Consequently, as with the Project, the Reduced Parking Alternative would not be expected to result in any significant adverse operational noise impacts.

OPERATIONAL NEIGHBORHOOD CHARACTER

The Reduced Parking Alternative, like the Project, would not result in significant adverse neighborhood character impacts. The Reduced Parking Alternative and the Project would both result in significant adverse traffic impacts at 56 intersections in one or more peak hours, and the locations of the impacted intersections would be the same. Compared with the Project, the Reduced Parking Alternative would result in one additional impacted intersection in the AM peak hour (42 in the AM peak hour under the Reduced Parking Alternative compared with 41 under the Project). As with the Project, mitigation measures for the Reduced Parking Alternative would fully mitigate significant adverse traffic impacts at 46 of the 56 impacted intersections. Compared with the traffic mitigation plan recommended for the Future With Phase II under the Project, the mitigation plan recommended for the Reduced Parking Alternative would include implementation of an additional curbside parking restriction at the intersection of Atlantic Avenue and Fort Greene Place, additional lane restriping at the intersection of Atlantic and Clermont Avenues, and modifications to the recommended signal timing changes at these and seven other intersections. Under the Reduced Parking Alternative, compared with the Project, there would be one additional intersection with unmitigated traffic impacts in the AM peak hour and in the Saturday pregame peak hour, and one fewer in the PM peak hour.

In terms of pedestrians, two of the crosswalks identified as being impacted by the Project would, under the Reduced Parking Alternative, be impacted in additional peak hours. Under either the Project or the Reduced Parking Alternative, all pedestrian impacts to crosswalks could be fully mitigated through a combination of signal timing changes and crosswalk widening. Under both the Project and the Reduced Parking Alternative, there would be unmitigated sidewalk impacts on Dean Street between 6th and Carlton Avenues. It is expected that mitigating these impacts would require relocating existing tree pits along the block which would likely not be practicable.

No shortfalls in off-street public parking capacity are expected to occur as a result of either the Project or the Reduced Parking Alternative. The traffic mitigation plan for either the Project or the Reduced Parking Alternative would incorporate modifications to curbside regulations that would potentially affect existing curbside parking at a total of 28 locations throughout the traffic study area. Compared with the Project's traffic mitigation plan, the Reduced Parking Alternative would displace two additional on-street parking spaces during each peak period with the exception of the weekday PM which would remain unchanged. It is expected that drivers currently parking in the on-street spaces that would be displaced under both the Project and the Reduced Parking Alternative would need to find other on-street spaces or park in off-street public parking facilities in the vicinity. However, on-street parking capacity is expected to remain available in the overall study area with the implementation of the traffic mitigation plan under either the Project or the Reduced Parking Alternative.

The minor differences in traffic and pedestrian impacts and on-street parking availability associated with the Reduced Parking Alternative compared with the Project would not affect conclusions regarding neighborhood character; neither the Project nor the Reduced Parking Alternative would result in significant adverse neighborhood character impacts.

CONSTRUCTION TRANSPORTATION

Traffic

Under this alternative, the 300 on-site Arena parking spaces would also be available to accommodate construction worker parking demand. Therefore, there would be no change in the construction vehicle trip assignments. With respect to construction transportation, the Reduced Parking Alternative would result in significant impacts at the same locations identified with Phase II of the Project under the Extended Build-Out Scenario; however at one location additional mitigation would be required to fully mitigate the impacts. Accounting for the localized redistribution of operational auto trips during the construction peak hours in the 1st quarter of 2032 under Construction Phasing Plan 3, an additional shift of one second of green time would be needed to fully mitigate the construction-related significant adverse impacts at one intersection during the 3 to 4 PM construction analysis peak hour, as compared with the recommended mitigation measures presented in Chapter 3H, "Construction Transportation." At other analysis intersections, the measures presented in Chapter 3H, "Construction Transportation," would also mitigate the construction impacts that could occur during the same construction quarters under this alternative.

Parking

Accounting for the parking supply and demand generated by the completed Project buildings, construction worker parking demand from Site 5 and Building 1 construction, and the Phase II peak construction worker parking demand during the 1st quarter of 2032 under Construction Phasing Plan 3, there would be sufficient off-street public parking spaces to accommodate the

anticipated future parking demand such that there would be no shortfall during Phase II construction of the Project under this alternative.

CONSTRUCTION AIR QUALITY

There would be no change to the number of construction vehicle trips generated by the Project or to the construction vehicle trip assignments under the Reduced Parking Alternative. Since there would be fewer on-site parking spaces available, there would be some localized redistribution of operational auto trips at intersections in the immediate vicinity of the Project site. However, as shown above in the "Transportation" portion of the "Construction" section, this would result in the same or comparable traffic operations at the analyzed intersections presented in Chapter 3H, "Construction Transportation." Therefore, like the Project, no significant adverse construction-related air quality impacts would result from the Reduced Parking Alternative.

CONSTRUCTION NOISE AND VIBRATION

As described in Chapter 3J, "Construction Noise," the primary source of noise and vibration associated with construction of Phase II of the Project would be the operation of on-site equipment, rather than construction-related vehicle trips, including construction trucks and construction worker autos, traveling to and from the project site. The types and amount of on-site construction equipment under the Reduced Parking Alternative would be comparable to that analyzed for construction of Phase II of the Project because the structures to be constructed under the Reduced Parking Alternative would be the same as those to be constructed as part of Phase II of the Project, with the exception of some of the parking structures, which would not be constructed. Consequently, the Reduced Parking Alternative would be expected to result in the same or fewer significant adverse construction noise impacts as described for Phase II of the Project in Chapter 3J, "Construction Noise." Additionally, as with construction of Phase II of the Project, construction of the Reduced Parking Alternative would not result in any significant adverse vibration impacts.

CONSTRUCTION PUBLIC HEALTH

As described above under Construction Noise and Vibration, the Reduced Parking Alternative would be expected to result in the same or fewer significant adverse construction noise impacts as described for Phase II of the Project in Chapter 3J, "Construction Noise." Therefore, the Reduced Parking Alternative would not affect the conclusions of the public health analysis presented in Chapter 3K, "Construction Public Health."

CONSTRUCTION NEIGHBORHOOD CHARACTER

As described in Chapter 3L, "Construction Land Use and Neighborhood Character," Construction of Phase II of the Project under the Extended Build-Out Scenario is not expected to result in significant adverse neighborhood character impacts in neighborhoods surrounding the Phase II project site; however, increased traffic, noise, and views of construction activity would result in significant adverse localized neighborhood character impacts in the immediate vicinity of the Phase II project site.

The Reduced Parking Alternative would result in some localized redistribution of operational auto trips during peak construction compared with the Project; however this would not alter the analysis conclusions presented in Chapter 3H, "Construction Transportation." There would be

no material change in the number of construction workers using transit or how they would be distributed among the available transit options under the Reduced Parking Alternative, and there would be no material change in construction worker pedestrian trips. Similar to the peak construction parking analysis presented in Chapter 3H, "Construction Transportation," there would be no shortfall of off-street parking anticipated during Phase II construction of the Project under the Reduced Parking Alternative. Likewise, the Reduced Parking Alternative would be expected to result in the same or fewer significant adverse construction noise impacts as described for Phase II of the Project in Chapter 3J, "Construction Noise." Views of construction activities during the Phase II construction period would be materially the same under both the Reduced Parking Alternative and the Project.

As the construction period effects with respect to transportation, noise, views of construction activity and the other technical areas considered in a neighborhood character analysis would be materially the same under both Phase II of the Project and the Reduced Parking Alternative, the neighborhood character impacts would be the same. Like Phase II of the Project during the construction period, construction under the Reduced Parking Alternative would result in a significant adverse localized neighborhood character impact in the immediate vicinity of the Phase II project site, but would not alter the character of the larger neighborhoods surrounding the project site.

NO UNMITIGATED SIGNIFICANT ADVERSE IMPACT ALTERNATIVE

The No Unmitigated Significant Adverse Impact Alternative would avoid some of the adverse environmental impacts of Phase II of the Project under the Extended Build-Out Scenario. However, the analysis of this alternative concludes that the alternative would fail to realize the Project's goals.

MULTIPLE DEVELOPER ALTERNATIVE

The analysis of the multi-developer alternative concludes that the alternative would not be practicable, and would not be effective in accelerating construction of Phase II of the Project.

I. UNAVOIDABLE SIGNIFICANT ADVERSE IMPACTS

As with the Project analyzed in the 2006 FEIS, Phase II of the Project under the Extended Build-Out Scenario would result in significant adverse impacts with respect to community facilities (public schools), construction-period open space, transportation (operational and during construction) and construction noise. To the extent practicable, mitigation has been proposed for these identified significant adverse impacts. However, with respect to public schools, operational traffic and pedestrians, construction traffic and construction noise, no practicable mitigation was identified to fully mitigate significant adverse impacts, and there are no reasonable alternatives to the Project that would meet its purpose and need, eliminate its impacts, and not cause other or similar significant adverse impacts. Therefore, Phase II of the Project under the Extended Build-Out Scenario would result in unavoidable impacts with respect to these technical areas. ✷