THE CITY OF NEW YORK
OFFICE OF THE MAYOR
NEW YORK, NY 10007

Technical Memorandum for the Downtown Brooklyn Development Project[1]
BAM South Development (a.k.a. Site EE)

CEQR Number 03DME016K
Technical Memorandum 005 (Revised)

I. INTRODUCTION

The purpose of this Technical Memorandum is to determine whether the proposed changes to the previously approved Downtown Brooklyn Development project would result in any significant adverse environmental impacts that were not previously identified, either in the April 2004 *Downtown Brooklyn Development Final Environmental Impact Statement* (FEIS) or in the Technical Memorandum for BAM South issued on September 22, 2009, as appropriate.

The program originally analyzed for Site EE in the 2004 FEIS was for 140,000 zsf of community facility space (Visual and Performing Arts Library), 40,000 zsf of cultural space (theater), 15,000 zsf of retail, and a 466-space public parking facility below grade. The program and building envelope currently being proposed for Site EE (Block 2110, Lot 3) are different from the projected development analyzed for that site in the FEIS. Differences include a change in use from the community facility, cultural and local retail uses analyzed in the FEIS to a mixed-use building with residential rental units, retail, cinema and other cultural and community facility uses. In addition, the proposed building would have a maximum height of approximately 382 feet (32 stories plus mechanical penthouse), compared to the 6-story structure assumed in the FEIS. Whereas the project analyzed in the 2004 FEIS included a 466-space public parking garage on the site, the proposed building would include an up to 225-space below-grade garage, of which 64 spaces would be required accessory parking spaces. A detailed description of the proposed development, which is expected to be completed by the analysis year of 2015, is provided in Section II below.

This memorandum provides a description of the proposed modifications and requested approvals, as well as a detailed evaluation of the new incremental changes generated by the proposed modifications to the BAM South development, and assesses the resulting effects on the previous environmental analyses presented in the 2004 FEIS. The potential impacts of the modifications on each of the technical areas identified in the *CEQR Technical Manual* are discussed below. The memorandum uses the most current 2012 City Environmental Quality Review (CEQR) guidelines and thresholds to determine whether the proposed changes would result in significant adverse environmental impacts not already identified in the 2004 FEIS.

[1] This Technical Memorandum was prepared by Philip Habib & Associates, for Two Trees Management Corp.

As described in the New York State Department of Environmental Conservation's SEQRA regulations, 6 NYCRR Sections 617.9(a)(7)(i)(a), (b), and (c), and the 2012 *CEQR Technical Manual*, the lead agency may require the preparation of a supplemental EIS if there are significant adverse environmental impacts not addressed or inadequately addressed in the EIS that arise from changes proposed for the project, or newly discovered information; or a change in circumstances related to the project. This technical memorandum concludes that there would be no additional significant adverse impacts in any of the analyzed CEQR technical areas as a result of the development planned for this site.

II. PROJECT DESCRIPTION

2004 Project – Downtown Brooklyn Development

The Downtown Brooklyn Development project was a public planning effort to create opportunities for stimulating and integrating commercial, academic, cultural, and residential development in the Downtown Brooklyn area. The 2004 project required a number of discretionary actions that were subject to environmental review pursuant to CEQR. These actions included:

- Zoning map amendments and text changes to the Special Downtown Brooklyn District;
- Mapping actions to demap certain streets and widen others;
- Amendments to the Brooklyn Center Urban Renewal Plan, MetroTech Urban Renewal Plan, and Atlantic Terminal Urban Renewal Plan;
- Modification of the MetroTech General Large-Scale Development Special Permit;
- Disposition of City-owned property pursuant to urban renewal, including Block 2110, Lot 3;
- Site selection for a public library (Site EE); and
- Special permits for public parking facilities (including one on Site EE).

These actions were projected to stimulate approximately 6.7 million square feet of new development, including 4.6 million square feet of office space, 979,000 square feet of residential use (approximately 979 units), 844,000 square feet of retail, and 260,000 square feet of community facility and cultural space. The 2004 project also included provisions for approximately 1,617 public parking spaces, as well as new public open spaces at several locations.

The New York City Office of the Deputy Mayor for Economic Development and Rebuilding (ODMEDR) served as the CEQR lead agency for the project's environmental review. A draft scope of work for the EIS was presented at a public scoping meeting held on May 20, 2003, and a final scope was issued on November 3, 2003 that incorporated relevant public comments. A Draft Environmental Impact Statement (DEIS) for the project was prepared, and the Notice of Completion for the DEIS was issued and the DEIS was certified and distributed on November 28, 2003. Subsequent to issuance of the Notice of Completion for the DEIS, it was determined that a Draft Supplemental Environmental Impact Statement (DSEIS) should be prepared to account for a potential major mixed-use development in the Atlantic Terminal area – referred to as the Atlantic Yards Arena and Redevelopment project (with Empire State Development Corporation as the lead agency) – in the future baseline condition. A Positive Declaration and notice of intent to prepare a DSEIS was issued on January 22, 2004, distributed, published and filed. A public meeting on the Draft Scope of Work for the DSEIS was held on February 23, 2004, and the Final Scope of Work for the DSEIS was issued on March 5, 2004. A joint public hearing was held on the DEIS and the DSEIS on March 24, 2004, in conjunction with the public hearing on the related Uniform Land Use Review Procedure (ULURP) applications. The Final Environmental Impact Statement (FEIS), incorporating the Final Supplemental Environmental Impact Statement, was completed, and a Notice of Completion for the FEIS was issued on April 30, 2004.

2004 Project – Project Site (Projected Development Site EE)

Although the actions proposed as part of the 2004 project affected the entire Downtown Brooklyn project area, the EIS analysis of changes to allowable use and bulk and other land use provisions was focused on those sites that were reasonably likely to undergo development within the foreseeable 10-year timeframe (by 2013). These sites were identified as "projected development sites." The current BAM South project site was analyzed as projected development site EE in the 2004 FEIS.

The BAM South project site is bounded by Flatbush and Lafayette Avenues, Ashland and Hanson Places, is across Ashland Place from the Brooklyn Academy of Music (BAM) Opera House and the Williamsburg Savings Bank, and is in a C6-1 zoning district within the Special Downtown Brooklyn District. The project site is identified as Block 2110, Lot 3, and is located within the Atlantic Terminal Urban Renewal Area in Downtown Brooklyn (Urban Renewal Site 20). As part of the 2004 project approvals, the amendment to the Atlantic Terminal Urban Renewal Plan revised the 'Commercial' land use designation on this site to allow community facilities and below-grade parking, and changed the FAR restriction to that permitted pursuant to zoning. As part of the 2004 project, this site was also the subject of an application for site selection for a new public library for the performing arts (C040185 PSK), as well as an application for a Special Permit for a below-grade public parking garage with 466 spaces (C040183 ZSK).

The reasonable worst case development scenario (RWCDS) program analyzed in the 2004 FEIS for this site consisted of 140,000 zsf of community facility space (Visual and Performing Arts Library), 40,000 zsf of cultural space (theater), 15,000 zsf of retail, and a 466-space public parking facility below grade (refer to Table 1). At the time, construction of a new six-story, public library for the performing arts, to be operated by the Brooklyn Public Library, was proposed. The new library would house reading rooms, archives, galleries, media labs, a 300-seat auditorium, a 99-seat performance space and a 24/7 multimedia lounge. The library would occupy the southern portion of the lot, with the northern portion of the lot developed separately as a performing arts building.

2008 Modified Project

As the Brooklyn Public Library advised the City in 2008 that it no longer intended to pursue previous plans to develop a 140,000 square foot Visual and Performing Arts Library on the site, the City began considering disposition of the site to a private developer, Two Trees Management Corp. In 2008, Two Trees proposed constructing a new mixed-use building on the southern portion of the block, with essentially the same footprint as the project evaluated in the 2004 FEIS, but with some changes in height as well as proposed uses. Several actions were planned in order to obtain the proposed mix of uses on the site, including an action to modify the Special Downtown Brooklyn District and/or other zoning actions, as well as to demap an unbuilt widening of Flatbush Avenue and to preserve an easement for New York City Department of Transportation use. These modifications were evaluated in a July 2008 Technical Memorandum, although the zoning actions were never filed.

The development evaluated in the 2008 Technical Memorandum included a total of approximately 374,864 zsf of development, and comprised new residential floor area (190 units) as well as a new hotel use (approximately 125,928 zsf, 220 rooms). The program also included a 15,000 zsf cinema (with approximately 600 seats), an approximately 15,000 zsf neighborhood branch library, approximately 12,681 zsf of retail use, and 20,000 zsf of space to be dedicated for cultural uses (art organizations, office, studio space, etc.). The 2008 program also included a public parking garage with 450 spaces. In addition, the 2008 program for Site EE included an approximately 25,590 sf public plaza on the northern portion of the block, which was not included in the 2004 FEIS.

The structure analyzed in the 2008 Technical Memorandum would have risen to a maximum height of approximately 495 feet, with a triangular shape reflecting the shape of the site. The lower floors of the building would have included the cinema, cultural and retail uses, while floors 5 through 12 were dedicated to the proposed hotel, with 24 floors of residential use above (floors 13 through 36).

A Technical Memorandum for the 2008 project was prepared and issued by the Office of the Deputy Mayor for Economic Development, the lead agency, on July 14, 2008. The 2008 Technical Memorandum assessed the environmental effects of the 2008 planned development, and concluded that those changes to the program for development on Site EE would not result in any significant adverse environmental impacts that were not identified in the 2004 FEIS.

2009 Modified Project

In 2009, a modified program and building envelope were proposed for Site EE. Several actions were planned in order to obtain the proposed mix of uses on the site, including an action to modify the Special Downtown Brooklyn District and other zoning actions, as well as a major modification of a special permit for a public parking garage, Mayoral approval of the disposition of City-owned property and an acquisition of real property to allow the City to acquire two portions of the project after construction for public purposes. These modifications were evaluated in a September 2009 Technical Memorandum.

The previously planned 2009 development included a total of approximately 347,786 zsf of development, and comprised new residential floor area (400 units). As shown in Table 1 below, the program also included a 15,000 zsf cinema (with approximately 600 seats), an approximately 15,000 zsf neighborhood branch library, approximately 25,000 zsf of retail use, and 18,500 zsf of space to be dedicated for additional cultural uses (art organizations, office, studio space, etc.). The 2009 program also included a public parking garage with 365 spaces, 101 fewer than what was analyzed in the 2004 FEIS. In addition, the 2009 program for Site EE included an approximately 13,450 sf public plaza on the northern portion of the block, which was not included in the 2004 FEIS.

The structure analyzed in the 2009 Technical Memorandum would have risen to a maximum height of approximately 385 feet, which would mostly occupy the southern portion of the triangular site. The lower floors of the building would have included the cinemas, cultural and retail uses, while floors 6 through 29 were dedicated to the residential units, with a mechanical penthouse above.

A Technical Memorandum for the 2009 project was prepared and issued by the Office of the Deputy Mayor for Economic Development, the lead agency, on September 22, 2009. The 2009 Technical Memorandum assessed the environmental effects of the 2009 planned development and concluded that those changes to the program for development on Site EE would not result in any significant adverse environmental impacts that were not identified in the 2004 FEIS. However, the rezoning action was never filed, and the development was not constructed, although the Mayoral Authorization was completed and related disposition occurred.

Current Project

The development currently planned for the project site would require a number of discretionary actions that were not considered in the 2004 FEIS, including:

- Zoning Map Amendment

  An amendment of the City's zoning map is being proposed for the subject block bounded by Lafayette Avenue, Flatbush Avenue, and Ashland Place (Brooklyn Block 2110), changing the

zoning from C6-1 to C6-2, as illustrated in Figure 1. Under this proposed rezoning, the zoning map change would expand the existing C6-2 district to the west of the project site one block to the east, thereby covering the project site in its entirety. The proposed rezoning from C6-1 to C6-2 would not increase the maximum allowable floor area ratio (FAR) for commercial uses, which would remain at 6.0 FAR with the proposed rezoning. Similarly, the maximum allowable FAR for community facility uses or mixed-use buildings would remain unchanged, at 6.5 FAR. However, the maximum allowable FAR for residential uses would increase from 3.44 under the current C6-1 zoning to 6.02 with the proposed C6-2 zoning.

- Zoning Text Amendment

  A zoning text amendment of the Special Downtown Brooklyn District (Article X, Chapter 1 of the NYC Zoning Resolution) to facilitate the BAM South project that would allow a special permit for increased floor area for Cultural Use in Certain C6-2 districts (Section 101-80). Specifically, the proposed special permit would apply only to buildings intended to be occupied in whole or in part by cultural uses in C6-2 districts east of Flatbush Avenue within the Downtown Brooklyn Special District. The proposed special permit would allow:

  - Maximum Community Facility FAR to be increased from 6.5 to 7.0;
  - Permit modifications of the special street wall location regulations of Section 101-41;
  - Permit modifications of the height and setback regulations of Section 23-632 as applied to the residential portion of a building;
  - Permit modification of signage regulation.

- Zoning Special Permit

  A Zoning Special Permit pursuant to Section 101-80, as described above, to facilitate the BAM South project. The zoning special permit would allow additional floor area for cultural uses, allow waivers from the street wall requirements along Flatbush Avenue, allow height and setback waivers, and allow waivers of the underlying signage regulations related to number, size and location, all under specified conditions through a zoning special permit by the New York City Planning Commission.

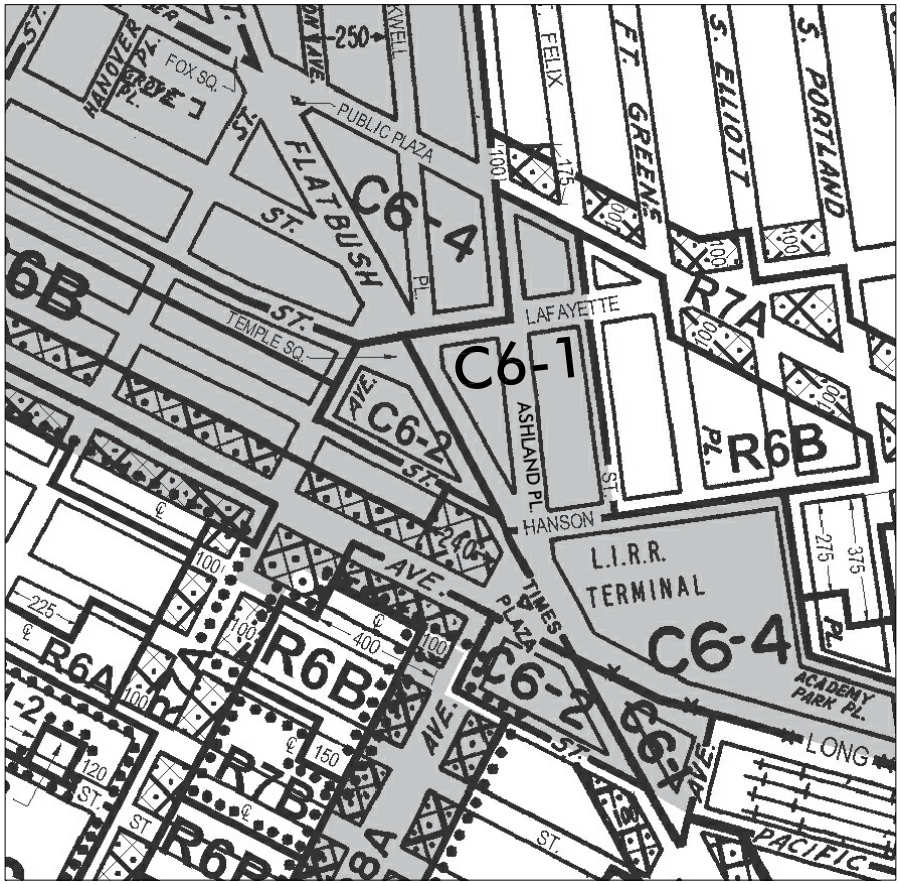
- Acquisition of Real Property

  An acquisition of real property approval would allow the City to acquire for public purposes two portions of this project after it is constructed. An approximately 50,000 gsf space within the building would be acquired to be used for cultural purposes. In addition, an approximately 10,000 sf street-level plaza (a.k.a. City-owned plaza) would be acquired for public use and access to the cultural uses within the building.

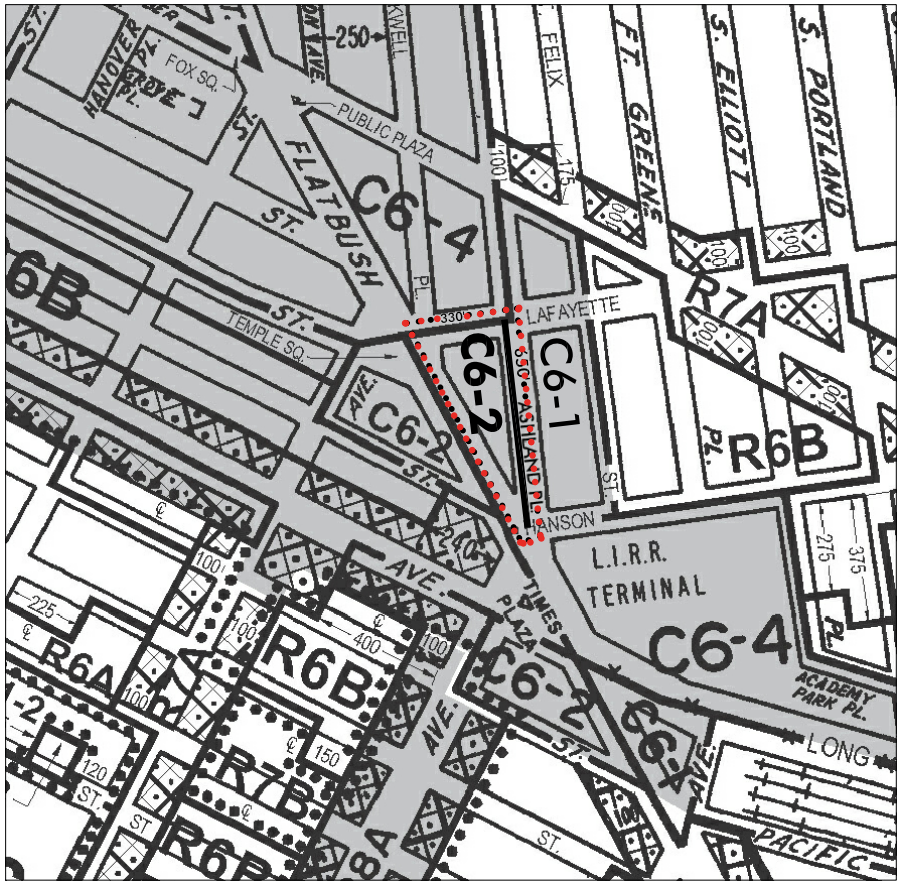
Possible future actions on the project site may include tax exempt financing from either the NYC Housing Development Corporation (NYCHDC) or NYS Housing Finance Agency (NYSHFA) for the residential component of the proposed development.

Project Site

The project site encompasses the entirety of a triangular property bounded by Flatbush and Lafayette Avenues and Ashland Place. The project site, which is denominated as Block 2110, Lot 3 in the Borough of Brooklyn, has a lot area of approximately 49,830 sf. The current uses located on the property are (i) a self-park public parking lot for 124 cars, and (ii) a currently vacant former plant and garden supply facility at the point of the triangle formed by Flatbush Avenue and Ashland Place. The open area at the



CURRENT ZONING MAP



PROPOSED ZONING MAP C6-1 DISTRICT IS REPLACED WITH C6-2 DISTRICT

LEGEND

C1-1 C1-2 C1-3 C1-4 C1-5 C2-1 C2-2 C2-3 C2-4 C2-5

NOTE: Where no dimensions for zoning district boundaries appear on the zoning maps, such dimensions are determined in Article VII, Chapter 6 (Location of District Boundaries) of the Zoning Resolution.

Area to be Rezoned

Source: TEN-Architectos

corner of Flatbush and Lafayette Avenues, owned by the City of New York and occupied by the MTA (Lot 103) through an easement agreement, although part of the zoning lot that is being rezoned, will remain in City ownership and is not part of the proposed development site being acquired by the applicant. There is also an illuminated revolving pylon sign and video screen announcing BAM presentations near the Flatbush and Lafayette Avenue corner. The curb cut for the parking lot, approximately 25 feet wide, is on Ashland Place over 120 feet from its intersection with Flatbush Avenue. The only structures on the project site are a small one-story building formerly associated with the now-vacant garden center and an attendant's booth in the parking lot. The FAR of these structures is approximately 0.04.

The project site was disposed by the City of New York, as authorized by Mayoral approval of business terms through Section 1802(6)(j) of the New York City Charter, and is now owned by the New York City Economic Development Corporation which has contracted to sell the site to the applicant. The City of New York will reacquire as condominium units, a 10,000 square foot plaza fronting on Lafayette Avenue and 50,000 gross square feet (47,055 zsf) of cultural space in the base of the proposed mixed-use building pursuant to the same contract of sale. There is an easement in favor of the MTA for an area at the corner of Flatbush and Lafayette Avenues (tax lot 103, which will remain in City ownership and is not part of the site being developed by the applicant). There are subway tunnels under Flatbush and Lafayette Avenues and Ashland Place complicating potential below grade development.

Proposed Program

The proposed zoning map and text amendments would allow the applicant, 20 Lafayette LLC, to construct a new 32-story mixed-use building on the block bounded by Flatbush and Lafayette Avenues and Ashland Place (the "project site") in the Downtown Brooklyn Cultural District. The proposed building would have essentially the same footprint and uses as the previous project evaluated in the 2009 Technical Memorandum, except for the size of the below grade garage.

Table 1 below shows the proposed project program compared to the program for Site EE analyzed in the 2004 FEIS; the program in the 2009 Technical Memorandum is also provided for reference. As shown in the table, the proposed mixed-use development would include a total of approximately 348,810 zsf of development, compared to approximately 195,000 zsf analyzed for Site EE in the 2004 FEIS. As shown in Table 1, the proposed development would reduce the amount of cultural and community facility floor area on the site by approximately 107,945 zsf compared to the 2004 plan, and would introduce new residential floor area. Up to a maximum of 402 rental units are conservatively assumed for environmental analysis purposes, of which approximately 20%, or up to 80 units, are assumed to be affordable.

Similar to the 2009 development, the proposed program is expected to include a 15,000 zsf cinema (with approximately 600 seats), compared to a 40,000 zsf theater analyzed in the 2004 FEIS. The proposed program is also expected to include approximately 32,055 zsf of community facility uses including a neighborhood branch library and space to be dedicated for additional cultural uses (art organizations, office, studio space, etc.). The amount of retail square footage being proposed is approximately 6,465 zsf more than what was analyzed in the 2004 FEIS, and the proposed public parking garage would include 241 fewer spaces than what was previously analyzed in the FEIS. In addition, 16,000 sf of publicly-accessible open space (10,000 sf of which would be City-owned), which were not included in the 2004 FEIS program, would be located on the northern portion of the block.

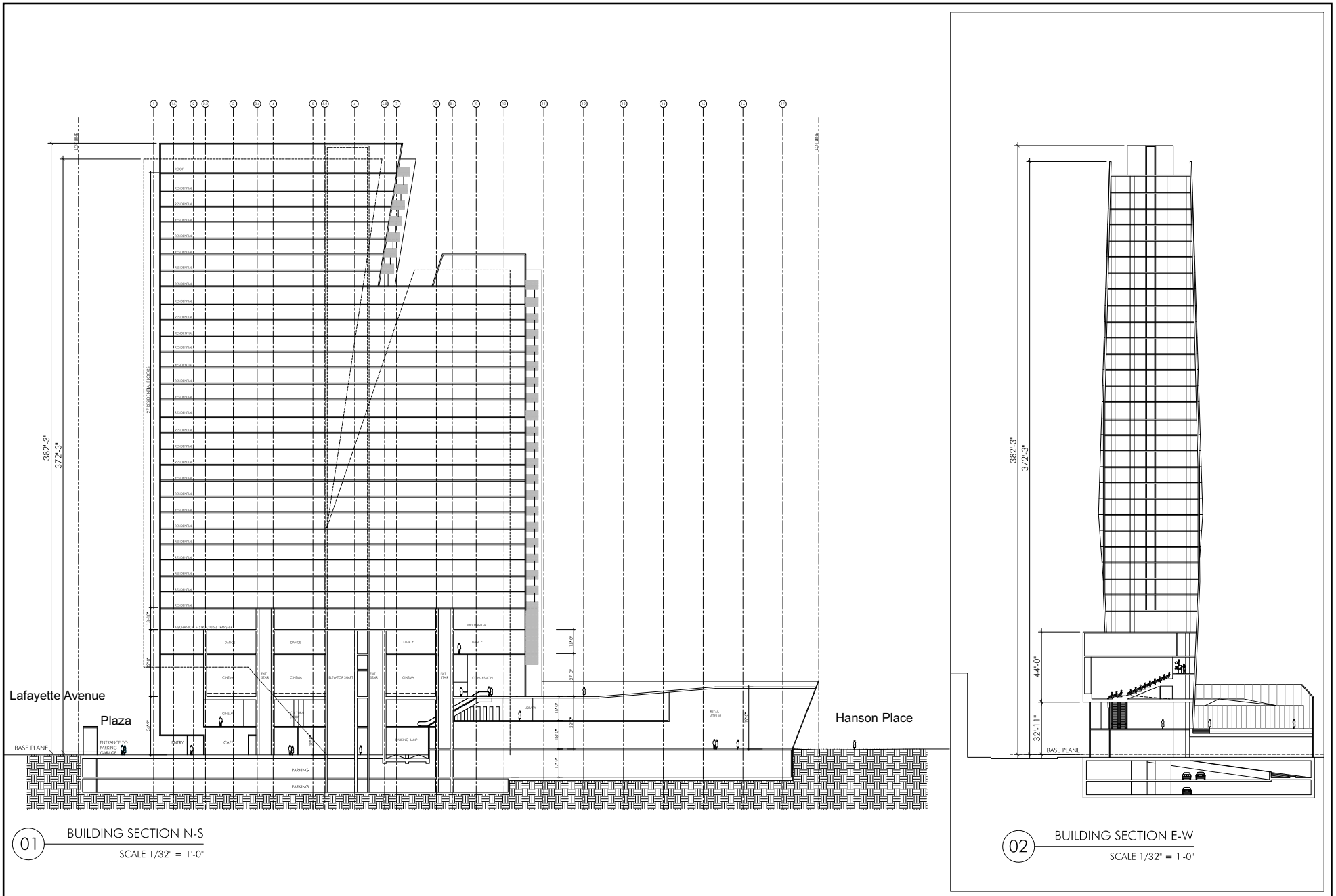
TABLE 1
Site EE Program – 2004 FEIS and 2009 Programs vs. 2012 Proposed Development

Land Use	Development Program Analyzed for Projected Development Site EE in FEIS (ZSF)	Development Program in Previous Technical Memorandum – 09/09 (ZSF)	Current Development Program (ZSF)	Net Difference – Current Program Vs. 2004 FEIS Program (ZSF)
Theater	40,000 zsf (performing arts)	15,000 zsf (600-seat non-profit cinema)	15,000 zsf (600-seat non-profit cinema)	-25,000 zsf
Community Facility/Cultural	140,000 zsf (library)	33,500 sf (15,000 zsf library and 18,500 zsf of additional cultural uses, TBD)	32,055 sf (including a library and additional cultural uses, TBD)	-107,945 zsf
Retail/Restaurant	15,000 zsf	25,000 zsf	21,465 zsf	6,465 zsf
Residential	-	274,286 zsf (up to a maximum of 400 dwelling units)	280,289 zsf (up to a maximum of 402 rental dwelling units)	280,289 zsf (up to a maximum of 402 dwelling units)
Parking	466-space public parking garage	365-space public parking garage	Up to 225-space public parking garage (and up to 121 bicycle parking spaces)	- 241 parking spaces
Open Space	-	An approximately 13,450 sf public plaza on northern portion of block	An approximately 16,000 sf publicly-accessible open space on northern portion of block	16,000 sf publicly-accessible open space

As noted above, the current plan calls for approximately 15,000 zsf to be occupied by a neighborhood branch library, and the environmental assessment in this Technical Memorandum assumes that the Brooklyn Public Library (BPL) is the most likely user for this space. This assumption is based on ongoing discussions with the BPL, and the fact that the project site has a long history of being considered for a potential library use, including in the 2004 FEIS (see Table 1 above). However, should this limited amount of space ultimately be used for another cultural use, the findings of this Technical Memorandum would not change, as the potential environmental effects of such uses would be essentially the same. As an example, a library use has a high daily travel demand (40.24 trips per 1,000 sf), which is more than twice that of cultural/community office space (18 trips per 1,000 sf).

In terms of density, the proposed development would result in a built FAR of approximately 7.0, which would maximize the development potential of the project site. As such, for environmental analysis purposes, the proposed development represents the reasonable worst case development scenario associated with the proposed rezoning.

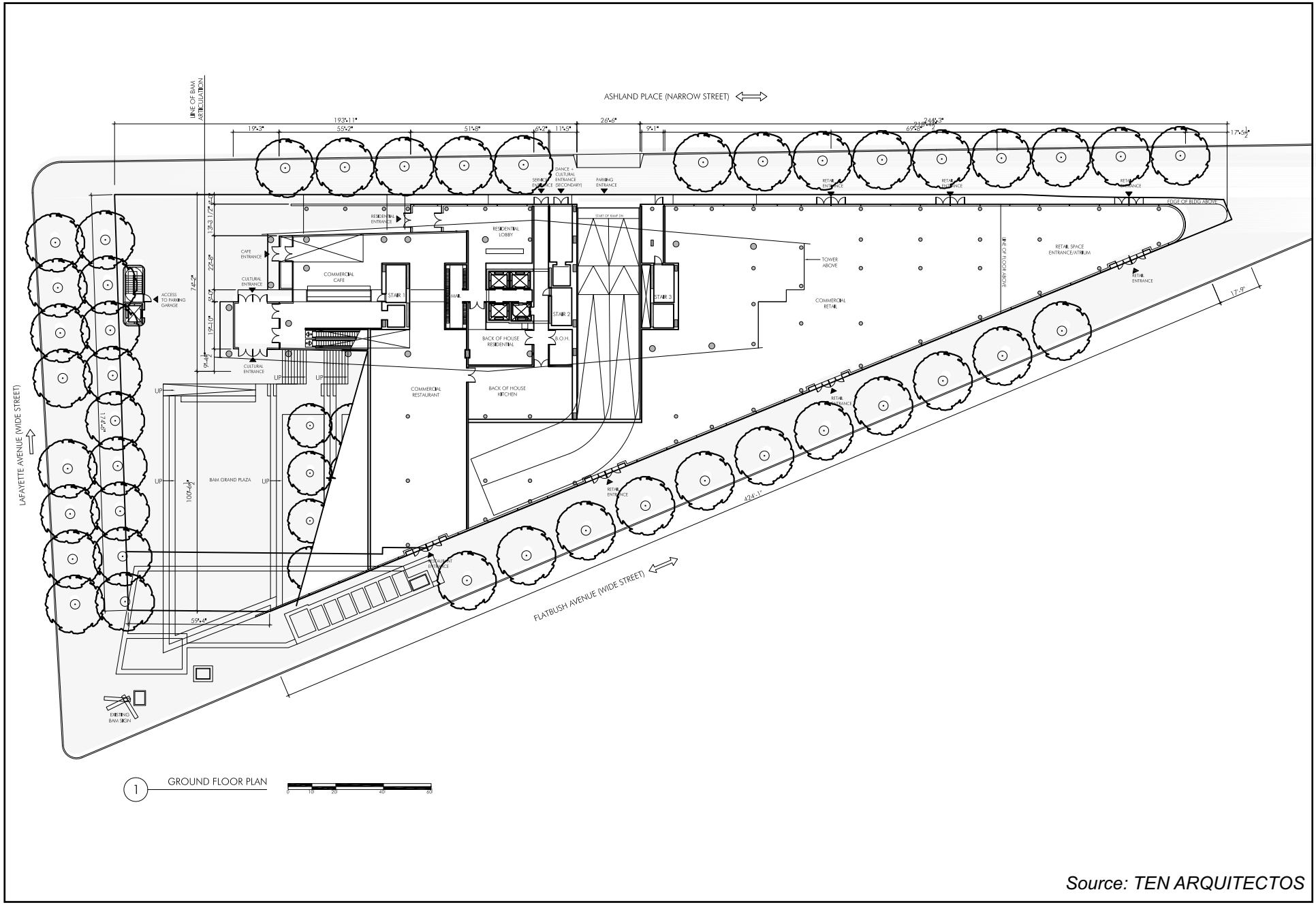
Current preliminary plans for the building being proposed call for a structure that would rise to a maximum height of approximately 382 feet (see building section in Figure 2). As shown in Figure 2, the lower floors of the proposed building would include the cinema, cultural and retail and restaurant uses, while floors 6 through 32 would accommodate the residential units, with a mechanical penthouse above. The building's ground floor would house commercial uses, the residential lobby and cultural use entry. The tower portion of the building would be set on the eastern portion of the triangular site. The tower's footprint is approximately 12,570 square feet.



Source: TEN ARQUITECTOS

2012 Modification Technical Memorandum for BAM South Development **Figure 2**

BAM South Proposed Development - North-South (View Looking East) and East-West (View Looking South) Building Sections



Source: TEN ARQUITECTOS

2012 Modification Technical Memorandum for BAM South Development

Figure 3
BAM South Proposed Development - Ground Floor Plan

As shown in the ground floor plan in Figure 3, the entrance/egress to the proposed below-grade garage would be located on Ashland Place, which is a two-way street with a mapped width of 70 feet (a narrow street for zoning purposes). Ashland Place would also accommodate the service entrance to the proposed development, as well as the entrance to the residential component, several retail entrances, as well as a secondary entrance to the cultural space. The main entrance to the cinema/cultural space would be located within the proposed plaza along Lafayette Avenue, which would lead to the cultural lobby on the second floor of the building. The site's Flatbush Avenue frontage would include retail entrances as well as an entrance to a restaurant space.

Table 2 below shows the estimate of users (residents and workers) anticipated to be generated by the proposed development, compared to the estimates assumed in the 2004 FEIS for Site EE and the 2009 Technical Memorandum for the BAM South development. As shown in the table, the proposed development on Site EE would introduce a total of 119 employees and 844 residents to the site, compared to 223 employees and no residents for the Site EE program analyzed in the 2004 FEIS, and 132 employees and 840 residents for the 2009 project analyzed in 2009.

TABLE 2
Site EE Occupants – 2004 FEIS and 2009 Technical Memorandum vs. 2012 Proposed Development

Users On-Site *	**Site EE in 2004 FEIS**	**Site EE in 2009 Technical Memorandum**	**2012 Proposed Development**
Community Facility/ Cultural space	180 employees	49 employees	47 employees
Retail	38 employees	63 employees	53 employees
Residential	-	840 residents, 16 employees	844 residents, 16 employees
Parking	5 employees	4 employees	3 employees
TOTAL	**223 employees**	**132 employees and 840 residents**	**119 employees and 844 residents**

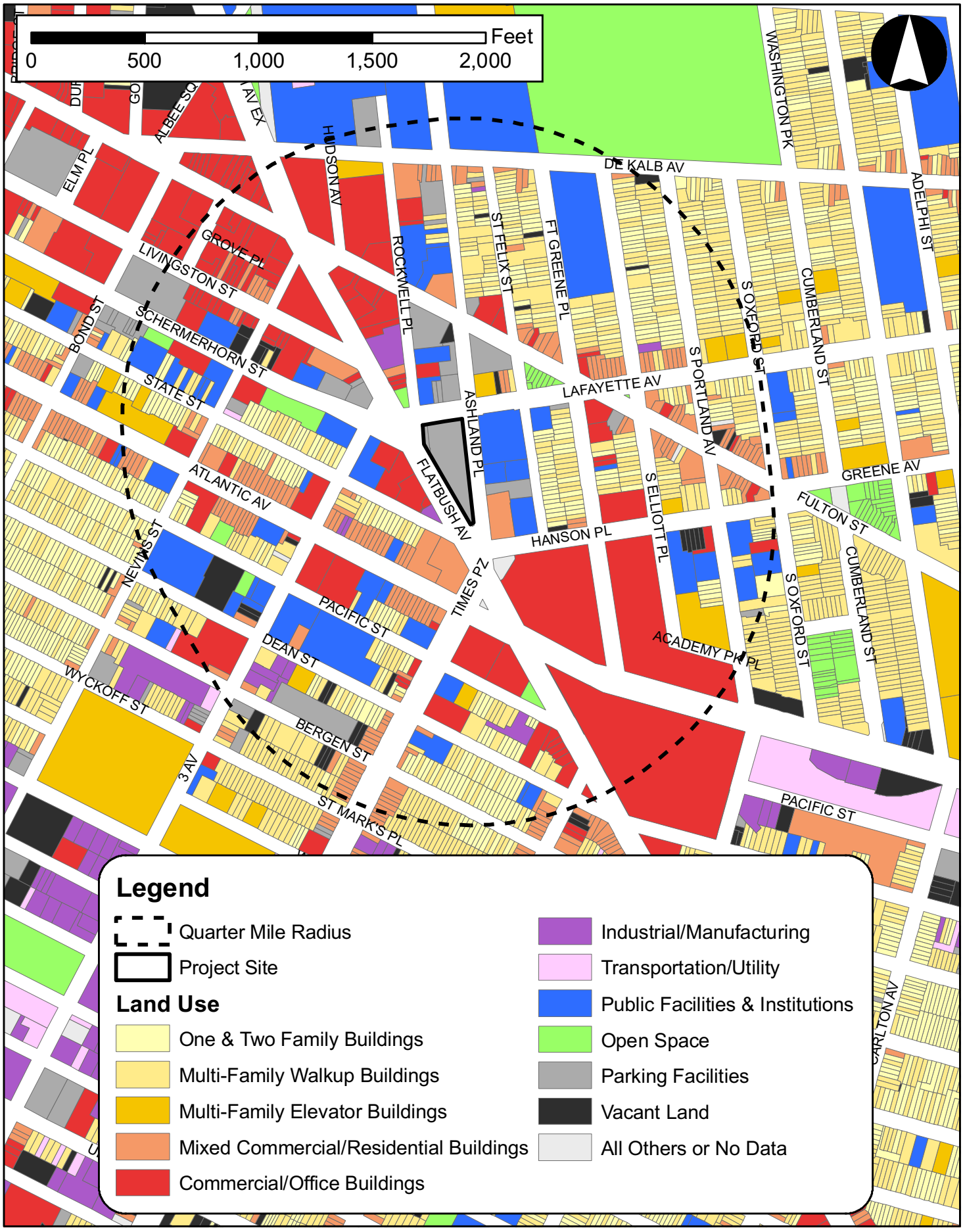
***** Based on rates used in the 2004 FEIS, including: 2.1 residents per unit; 1 worker per 400 sf of general retail; 1 worker per 1,000 sf of community facility and cultural space; 1 worker per 25 dwelling units; and 1 worker per 90 parking spaces.

III. ASSESSMENT OF POTENTIAL ENVIRONMENTAL EFFECTS OF PROPOSED MODIFICATIONS

This Technical Memorandum uses the 2004 FEIS as the baseline condition for analysis purposes. However, where more updated information regarding existing (2012) conditions is available, it is used in this Technical Memorandum, as appropriate. In addition, where applicable, this Technical Memorandum also utilizes the guidelines and methodologies of the most current *2012 CEQR Technical Manual*. As described below, the proposed revisions to the program for BAM South (Site EE) would not alter the conclusions for the environmental areas examined in the 2004 FEIS. However, several density-based technical areas – such as community facilities, open space, traffic and transportation – were further examined to determine if the proposed development could alter the conclusions of the 2004 FEIS.

As noted above, the current plan calls for approximately 15,000 zsf to be occupied by a neighborhood branch library, and the environmental assessment in this Technical Memorandum assumes that the Brooklyn Public Library (BPL) is the most likely user for this space. This assumption is based on ongoing discussions with the BPL, and the fact that the project site has a long history of being considered for a potential library use. However, should this limited amount of space ultimately be used for another cultural

Land Use in the Surrounding Area



use, the findings of this Technical Memorandum, which are detailed below, would not change, as the potential environmental effects of such uses would be essentially the same. As an example, a library use has a high daily travel demand (40.24 trips per 1,000 sf), which is more than twice that of cultural/community office space (18 trips per 1,000 sf).

Land Use, Zoning, and Public Policy

Land Use

Land use conditions within the Downtown Brooklyn Development FEIS study area were updated to account for existing conditions and the status of development projects anticipated for completion through 2015. Except for the former garden center, which is now vacant, there have been no changes to the land use of Site EE, which continues to be occupied mostly by a surface parking lot with a capacity of approximately 124 spaces. Figure 4 shows existing land uses within an approximate ¼-mile radius from the project site.

As noted in the 2009 Technical Memorandum, there has been a trend in both Downtown Brooklyn and the surrounding study area toward higher-density residential and mixed-use development, a trend that has thus far been consistent with the scale of development projected and analyzed for Downtown Brooklyn in the 2004 FEIS. The area shows signs of increased housing activity, evidenced by the number of recently completed projects and sites under construction. For example, in the immediate vicinity of Site EE, the Williamsburg Savings Bank building recently underwent conversion from commercial to residential use. It should also be noted that many of the 32 no-build sites listed in the 2004 FEIS have been completed, and the programs of two of the larger proposed projects in the area (Brooklyn Bridge Park and the Atlantic Yards Arena and Redevelopment Project) have been modified since the 2004 FEIS. In addition, there are a number of additional recently completed projects and projects anticipated to be completed by 2015 in the study area, including initial component of Atlantic Yards (Barclays Arena, which opened in late September 2012, as well as buildings 1 and 2), various components of the BAM cultural center, and other development projects in the ¼-mile study area expected to be complete by 2015. This includes the 27,500 sf new home for the Theater for a New Audience (TFANA), currently under construction along Ashland Place on the block immediately to the north of the project site. When completed in 2013, TFANA's new home will include a 299-seat theater, a 50-seat rehearsal space and a lobby cafe. It will overlook a new public garden plaza and sit along a walking path between BAM's Opera House and Harvey Theater.

Similar to the project analyzed in the 2009 Technical Memorandum, the proposed development would include retail, cultural, and community facility uses, as well as residential uses. The mix of uses in the proposed development would be compatible with existing and anticipated future uses in the study area, as the area in the immediate vicinity of Site EE is expected to continue to exhibit a mix of commercial, residential, and cultural uses. As discussed below, the proposed development would be consistent with the Downtown Brooklyn cultural district, which is intended to create a vibrant, mixed-use, multicultural arts district in Downtown Brooklyn. Therefore, the proposed development on Site EE would not result in any significant adverse impacts on land use, and would not alter the findings of the 2004 FEIS.

Zoning and Public Policy

Since the 2004 FEIS, there have not been any major changes to the zoning or public policy for the Downtown Brooklyn Development project area. However, a zoning text amendment put forth by DCP for the Special Downtown Brooklyn District (ULURP # N 120384 ZRK), which is currently undergoing public review, if approved, would be in effect by the time construction of the proposed project begins in

2015. The zoning text amendment would reduce the minimum parking requirements for new residential developments from 40% of new housing units to 20% of new units, to better reflect actual parking demand in Downtown Brooklyn, which features some of the best transit access in the city. It would also encourage affordable and mixed-income housing by eliminating parking requirements for affordable housing units. Finally, the proposed zoning text amendment would simplify the parking regulations in the Special Downtown Brooklyn District to provide more opportunities for additional public parking for use by residents, employees and visitors, and would, among other things, permit underground public parking garages as-of-right up to 225 spaces across Downtown Brooklyn, as is currently allowed for accessory garages. As such, if the parking text amendment proposed by DCP is approved, the proposed parking garage for Site EE would be allowed as-of-right, thus eliminating the need for the previously approved Special Permit for Public Parking Garages.

The actions currently being proposed include rezoning Site EE from C6-1 to C6-2. The proposed rezoning would not result in a significant change of land use in the area as the uses allowed by the proposed zoning would be identical to uses that are currently allowed, and would be consistent with existing land use patterns and trends in the surrounding area. The proposed zoning change would also not result in any new non-conforming uses.

A zoning text amendment is also being proposed, which would allow additional floor area for cultural uses, allow waivers from the street wall requirements along Flatbush Avenue, allow height and setback waivers, and allow waivers of the underlying signage regulations related to number, size and location, all under specified conditions through a zoning special permit by the New York City Planning Commission. The actions being proposed will also include a special permit pursuant to the zoning section described above to facilitate the BAM South project.

The proposed text amendment would apply only to C6-2 zoning districts that are located east of Flatbush Avenue within the Downtown Brooklyn Special District (and only to buildings intended to be occupied in whole or in part by cultural uses). As shown in the zoning map in Figure 1, there are no C6-2 districts within the Downtown Brooklyn Special District located east of Flatbush Avenue, other than the proposed C6-2 district on the project site. As such, the proposed zoning text amendment would not apply to any other sites, and no conceptual analysis is warranted. Therefore, the proposed actions and the resulting proposed development on Site EE are not expected to result in any significant adverse impacts to or conflicts with zoning in the study area, and would not alter the findings of the 2004 FEIS.

The proposed development would also support and enhance the Downtown Brooklyn cultural district, by developing an underutilized parking lot site with a vibrant mixed use development, which is anticipated to include approximately 32,055 zsf of cultural and community facility space, as well as a 15,000 sf (600-seat) non-profit cinema that will be an extension of the adjacent cultural district. Therefore, the proposed development on Site EE would not result in any significant adverse impacts on public policy, and would not alter the findings of the 2004 FEIS.

Waterfront Revitalization Program

Site EE is not located within the designated NYC Coastal Zone boundary, and the 2004 FEIS did not provide an analysis of the project's consistency with the Waterfront Revitalization Program. The proposed development would not alter these conditions, and therefore a WRP analysis is not necessary.

Socioeconomic Conditions

According to the *2012 CEQR Technical Manual*, a residential development of 200 units or less or a commercial development of 200,000 sf or less would typically not result in socioeconomic impacts,

unless it generates socioeconomic conditions that are very different from the prevailing conditions. The new development currently proposed on the BAM South site would introduce up to a maximum of 402 new residential rental units and approximately 68,520 zsf of other commercial and cultural uses (retail, restaurant, cinema, and cultural space). Although the proposed development would change the existing land use on the project site, it is expected to be consistent with the prevailing market conditions and trends of the area and is not anticipated to adversely impact the socioeconomic character of the surrounding neighborhood.

As a single site, the proposed development is not likely to trigger any significant changes to the area's real estate market. The proposed commercial/cultural uses are relatively small in number (approximately 68,520 zsf of non-residential uses, which falls well below the CEQR threshold of 200,000 sf), and are part of an ongoing trend, and therefore would not trigger a new trend in real estate conditions.

The residential component of the proposed development (up to a maximum of 402 dwelling units), although it exceeds the CEQR threshold of 200 units, is not anticipated to cause any indirect residential displacement resulting from an increase in rental property values. According to the *CEQR Technical Manual*, a population increase of less than 5 percent of the total study area population would generally not be expected to change real estate market conditions in a study area. As shown in Table 2 above, the proposed development would add approximately 844 residents to the study area. This equates to an approximately 1.95 percent increase of the study area population in the 2015 analysis year (refer to Table 4 below for estimate of 2015 residential population within a ½-mile radius). Therefore, the Proposed Development would not introduce a substantial new population that could substantially affect residential real estate market conditions in the study area, and no further analysis is required.

The development of the project would result in the direct displacement of a public parking lot and the now vacant garden supply store located at the southern terminus of the property; no residential direct displacement would occur. Upon completion, the project would replace the public parking garage service and during construction public parking service would be provided by the public parking garages on adjacent blocks. As the garden supply store is no longer in business, and there are other garden supply stores in the neighborhood that provide opportunities for the services to be met, the removal of this structure is not anticipated to adversely impact the socioeconomic character of the surrounding neighborhood.

The proposed residential component, which may consist of 20 percent low-income rental units and 80 percent market-rate rental units, would be similar to existing and projected developments in this area of Downtown Brooklyn, and would not add substantial new population with different socioeconomic characteristics compared to the size of the existing population. The proposed development also would not introduce a "critical mass" of non-residential uses so that the surrounding area becomes more attractive as a residential neighborhood. Furthermore, the proposed development would not introduce a land use that would offset positive trends in the surrounding area.

As such, the proposed development would not generate any significant adverse impacts to socioeconomic conditions and no further analysis is warranted. The proposed development would therefore not result in any additional changes to socioeconomic conditions in the area surrounding the project site compared to the project analyzed in the 2004 FEIS.

Community Facilities and Services

As stated in the *2012 CEQR Technical Manual*, the demand for community services generally stems from the introduction of new residents to an area. The proposed development for the BAM South site would introduce up to a maximum of 402 dwelling units to the area, with an estimated 844 residents. Therefore,

an evaluation of the proposed development's effects on community facilities is provided below. As detailed below, the proposed development would not result in any new significant adverse impacts to community facilities and services, and would not alter the findings of the 2004 FEIS.

Educational Facilities

The 2004 FEIS concluded that there would be ample capacity in surrounding public schools for the students expected to be generated by the Downtown Brooklyn Development project. As the proposed development would introduce new residential units to Site EE that were not considered in the 2004 FEIS, it was evaluated for its potential effects on elementary and intermediate schools in the study area. As discussed below, the changes proposed to the Site EE program are not expected to alter the conclusions of the 2004 FEIS.

If an action introduces less than 50 elementary and intermediate school age children, or 150 high school students, an assessment of school facilities is not required. The screening threshold is higher for high school students as high school level students can elect to attend schools other than their neighborhood high schools. The *CEQR Technical Manual* provides standard student generation rates for residential developments in each borough. According to Table 6-1a of the 2012 *CEQR Technical Manual*, a residential development in Brooklyn would introduce new students at the following rates: 0.29 new elementary school students per unit; 0.12 new middle school students per unit; and 0.14 new high school students per unit.

Based on these guidelines, with up to a maximum of 402 dwelling units, approximately 116 elementary students and 48 intermediate students would be generated by the proposed development, for a total of 164 students, as well as 56 high school students. As the number of elementary/intermediate school students generated by the proposed development would exceed the CEQR threshold, it was evaluated for its potential effects on elementary and intermediate schools in the study area.

Site EE is located within the boundaries of Sub-district 3 of Community School District 15 (CSD15). For an analysis of potential impacts on schools, 2010-2011 capacity and enrollment data for CSD15, Sub-district 3 were obtained from the Department of Education's Utilization Profiles. The utilization rate for public school facilities in the future is calculated by adding SCA's estimated enrollment from known future proposed residential developments within Sub-district 3 to the projected enrollment from NYCDOE, and then comparing that number to projected capacity. In addition, any new school projects identified in the DOE Five-Year Capital Plan are included if construction has already begun. Table 3 presents 2015 No-Action and With-Action enrollment, utilization, and capacity projections for CSD 15, Sub-district 3.

Elementary Schools

As shown in Table 3 below, with the net additional students generated by the proposed development on Site EE, elementary schools in Sub-district 3 of CSD15 would have a deficit of 1,743 seats and a utilization rate of 134.4 percent, an increase of 2.3 over the No-Action condition projected utilization. Although CSD15, Sub-district 3 elementary schools would operate over capacity, the increase in utilization would be below the *2012 CEQR Technical Manual* significant impact threshold of 5 percent, as shown in Table 3. The high utilization expected in the sub-district is largely due to No-Action development expected in the surrounding area, and therefore, the proposed development would not alter the conclusion of the 2004 FEIS.

TABLE 3
Estimated Public Elementary and Intermediate School Enrollment, Capacity, and Utilization Future with Proposed Development on Site EE

	2015 No-Action Total Projected Enrollment*	Students Generated by the Proposed Project	Total Projected With-Action Enrollment	2015 Projected Capacity **	With-Action Available Seats	With-Action Utilization (%)	Increase in Utilization (%) from No-Action condition
Elementary Schools	6,690	116	6,806	5,063	-1,743	134.4	2.3
Intermediate Schools	1,430	48	1,478	2,054	576	72.0	2.3

Sources: NYCDOE enrollment projection data (Actual 2008, Projected 2009-2018); NYCDOE 2010-2014 Five-Year Capital Plan, Proposed February 2012 Amendment
Notes:
* Projected 2015 school enrollment was calculated by applying the CSD 15 percent change from 2010-2015 to the 2010-2011 enrollment for the elementary and intermediate level schools in the study area. Approximately 28.63 percent of CSD 15's projected 2015 elementary school enrollment and 27.48 percent of its intermediate school enrollment is estimated to be within Sub-district 3.
** Pursuant to CEQR methodology, existing temporary school facilities were excluded from the future no-action and with-action conditions. No further changes to school capacity are expected for CSD 15, Sub-district 3.

Intermediate Schools
As shown in Table 3, with the net additional students generated by the proposed development on Site EE, intermediate schools within CSD 15, Sub-district 3 would have 576 available seats and a utilization rate of 72.0 percent. As Sub-district 3 intermediate schools would be operating below capacity, and the increase in capacity would represent only a 2.3 percent increase in utilization from the No-Action condition, below the CEQR threshold of impact significance, the proposed development would not alter the 2004 FEIS conclusion.

Libraries

The 2004 FEIS concluded that the previously-approved project would not have any significant impacts on library service. The changes proposed to the Site EE program would not be expected to alter this conclusion.

According to the guidelines established in the *CEQR Technical Manual*, if a proposed action increases the number of residential units served by the local library branch by more than 5 percent, then an analysis of library services is necessary. In Brooklyn, the introduction of 734 residential units would represent a 5 percent increase in dwelling units per branch. As the proposed development on Site EE would result in the addition of up to a maximum of 402 dwelling units to the study area, it falls well below the CEQR threshold for a detailed analysis of 734 units. Therefore, the proposed changes to the Site EE program would not result in any new significant adverse library service impacts, and would not alter the findings of the 2004 FEIS.

Hospitals and Public Health Facilities

According to the *2012 CEQR Technical Manual*, a detailed assessment of service delivery is conducted only if a proposed project would affect the physical operations of, or access to and from, a hospital or public health clinic, or where a proposed project would create a sizeable new neighborhood where none existed before. As the proposed development on Site EE would be a single-site development, and would not have any direct effects on hospitals or public health care facilities, it would not meet the threshold for analysis. Therefore, the proposed development on Site EE would not result in any new significant adverse impacts to public health facilities.

Day Care

The 2004 FEIS concluded that the previously-approved project would not have any significant impacts on day care service. The changes proposed to the Site EE program would not be expected to alter this conclusion.

The *CEQR Technical Manual* requires a detailed analysis of day care centers when a proposed action would produce substantial numbers of subsidized, low- to moderate-income family housing units that may therefore generate a sufficient number of eligible children to affect the availability of slots at public day care centers. Typically, proposed actions that generate 20 or more eligible children under age 6 require further analysis. According to Table 6-1 of the *2012 CEQR Technical Manual*, the number of DUs to yield 20 or more eligible children under age 6 in Brooklyn would be 110 affordable housing units. As the proposed development would contain up to a maximum of 402 units, of which up to 80 units (20%) could be affordable, it would not exceed the CEQR threshold for public day care analysis. Therefore, the proposed development on Site EE would not result in any new significant adverse day care impacts, and would not alter the findings of the 2004 FEIS.

Open Space

No significant adverse open space impacts were identified in the 2004 FEIS. As shown in Table 2 above, the proposed development on Site EE would introduce a total of 119 employees and 844 residents to the site, compared to 223 employees and no residents for the Site EE program analyzed in the 2004 FEIS, and 132 employees and 840 residents for the Site EE program analyzed in the 2009 Technical Memorandum. As the proposed development would generate fewer workers, the proposed modifications would not result in any new significant adverse impacts within the ¼-mile non-residential study area, and no further analysis is required for the non-residential population.

As the proposed development would introduce new residential units to Site EE that were not considered in the 2004 FEIS, it was evaluated for its potential effects on open space resources in the ½-mile residential study area, in accordance with *CEQR Technical Manual* guidelines. It should also be noted that an approximately 16,000 sf (0.37 acres) publicly-accessible open space is currently planned on the northern portion of the block, which was not included in the 2004 FEIS analysis. As discussed below, the changes proposed to the Site EE program would not be expected to alter the conclusions of the 2004 FEIS.

It should be noted that the open space analysis in the 2004 FEIS covered a much larger geographic area (given the size of Downtown Brooklyn rezoning area), and therefore the open space acreage and the resident and worker populations in the 2004 FEIS study area are significantly larger than those analyzed for the proposed development of Site EE (see Table 4). Pursuant to the 2012 *CEQR Technical Manual*, the open space study area for the proposed development covers the ½-mile area surrounding the project site (and the census tracts approximately coterminous with this area). While these study areas differ in geographic size, the open space ratios included in Table 4 provide a means of comparison to determine the adequacy of publicly-accessible open space per 1,000 persons.

TABLE 4
Adequacy of Open Spaces in the Residential Study Area—2004 FEIS v. 2012 Updated Conditions

	2004 FEIS (Downtown Brooklyn Study Area)		2012 Updated Conditions (1/2-Mile Study Area)	
	No-Action Condition	**2013 With-Action Condition**	**No-Action Condition (1)**	**2015 With-Action Condition(2)**
Study Area Population				
Residents	128,248	130,304	42,405	43,249
Workers	157,954	178,668	40,691	40,810
Total User Population	**286,202**	**308,972**	**83,096**	**84,059**
Open Space Acreage				
Total	137.56	138.71	46.00	46.37
Active	61.79	61.79	23.97	23.97
Passive	75.77	76.92	22.03	22.40
Open Space Ratios				
Total	1.073 Per 1,000 residents	1.065 Per 1,000 residents	1.085 Per 1,000 residents	1.072 Per 1,000 residents
Active (Residential)	0.482 per 1,000 residents	0.474 per 1,000 residents	0.565 per 1,000 residents	0.554 per 1,000 residents
Recommended Weighted Average Ratio for Passive	0.307 per 1,000 residents and workers	0.298 per 1,000 residents and workers	0.329 per 1,000 residents and workers	0.330 per 1,000 residents and workers
Combined Passive (Residents and Workers)	0.265 per 1,000 residents and workers	0.249 per 1,000 residents and workers	0.265 per 1,000 residents and workers	0.266 per 1,000 residents and workers
Percent Change in Ratios (No-Action to With—Action)				
Total		- 0.75%		-1.16%
Active (Residents)		-1.58%		-1.95%
Combined Passive (Residents & Workers)		-5.96%		0.51%

(1) No-Action Condition resident and worker populations were calculated by adding future known development within ½ mile of the project site to the existing population (2010 Census; 2000 Journey to Work data). New residents were calculated assuming 2.1 residents per unit; 1 resident per dormitory unit; 1 worker per 400 sf of general retail; 1 worker per 1,000 sf of community facility and cultural space; 1 worker per 25 dwelling/dormitory units; 1 worker per 250 sf of office space; 1 worker per 3 hotel rooms; and 1,120 arena employees.
(2) With-Action Condition includes the addition of 844 residents and 119 employees to the study area population as a result of the proposed modifications, as well as the addition of a 0.37 acre publicly-accessible open space.

As shown in Table 4 above, in the 2004 FEIS, the active open space ratio was expected to decrease by 1.58% from No-Action to With-Action conditions, from 0.48 to 0.47 acres per 1,000 residents. With the proposed modifications, the active open space ratio is expected to decrease by 1.95% from No-Action to With-Action conditions, from 0.565 to 0.554 acres per 1,000 residents. While this decrease would be larger than what was projected in the FEIS, the active open space ratio with the proposed development would be greater than what was disclosed in the FEIS (0.554 acres per 1,000 residents compared to 0.474 acres per 1,000 residents). As such, the conclusions of the open space analysis in the 2004 FEIS remain valid, and the proposed development on Site EE would not result in new significant adverse active open space impacts.

In terms of the combined passive open space ratio, the 2004 FEIS projected a decrease of 5.96% from No-Action to With-Action conditions, from 0.27 to 0.25 acres per 1,000 residents and workers (see Table 4). With the proposed development, the combined passive open space ratio would increase by approximately 0.51% from No-Action to With-Action conditions, from 0.265 to 0.266 acres per 1,000 residents and workers. This increase is due mostly to the new publicly-accessible passive open space included as part of the proposed development (which was not included in the 2004 FEIS analysis). Therefore, the

conclusions of the open space analysis in the 2004 FEIS remain valid, and the proposed development on Site EE would not result in any new significant adverse passive open space impacts.

Shadows

The 2004 FEIS concluded that the Downtown Brooklyn Development project would not have any significant adverse shadow impacts. As there were no open space resources or sunlight-sensitive historic resources within the maximum shadow radius of the previous 6-story development of Site EE, no detailed shadow analysis for Site EE was provided in the 2004 FEIS. As the proposed development would be significantly taller, at a maximum height of approximately 382 feet, a shadow screening assessment is provided to determine whether the increased height could reach any open space resources or sunlight-sensitive historic resources in the area.

The proposed development would be 32 stories (plus a mechanical penthouse) with a maximum height of 382 feet. According to the 2012 *CEQR Technical Manual*, the longest shadow a structure will cast, except for periods close to dawn or dusk is 4.3 times its height. At a height of 382 feet, the longest shadow that would be cast by the proposed development would be approximately 1,643 feet long (Tier 1 Assessment as per *CEQR Technical Manual* guidelines). This shadow could potentially be long enough to reach Fort Greene Park (located approximately 1,206 feet northeast of the project site), as well as several other smaller open space resources (playgrounds, community gardens, plazas, etc.), and historic resources, as illustrated in Figure 5. Each of these resources is also identified in Table 5 below.

Location of Buildings Relative to Resources Within Shadow Radius

As the sun rises in the east, the earliest shadow would be case almost directly westward, and shadows would shift clockwise throughout the day until sunset, when they would fall almost directly east. As shown in Figure 5, the radius was adjusted to exclude the triangular area south of the project site between -108 degrees from true north and 108 degrees from true north, as in New York City no shadow can be cast from a building within this triangular area (Tier 2 Assessment). Any resources that fell outside the resultant shadow radius were screened out from further consideration, as no shadows cast by the proposed development would reach it (refer to Table 5 for list of excluded resources).

Resources Within Maximum Shadow Radius

In accordance with CEQR guidelines, the assessment of potential shadow impacts is limited to new shadows long enough to reach publicly-accessible open spaces or historic resources that have sunlight-sensitive features (e.g., highly carved ornamentation, stained glass windows, and exterior materials and color that depend on direct sunlight for visual character). Publicly-accessible open spaces and historic resources to the north, east, and west of Site EE were identified, as shadows created by the proposed development could fall in the direction of these resources. It is important to note that only architectural resources on sites facing the proposed development could be covered by incremental shadows created by the proposed building. In addition, in accordance with CEQR guidelines, individual historic resources that lack sun-sensitive features were not considered further.

Two sunlight-sensitive historic resources were identified within a 1,643 foot radius from the site, the Hanson Place Central Methodist Church and the Baptist Temple. However, it was determined that Hanson Place Central Methodist Church would not be affected by shadows cast by the proposed development. The Church, which has a number of stained glass windows, is located to the southeast of the project site, at the corner of St. Felix Street and Hanson Place, immediately adjacent to the Williamsburg Savings Bank building, and does not face the proposed modified development. Given its location immediately

Open Spaces and Historic Resources within the Modified Proposed Development's Shadow Radius

Legend

- Development Site
- Proposed Development
- Shadow Radius (1,643 feet)
- Area Not Affected by Modified Proposed Development's Shadow
- (2) Open Space Resources (see Table 5)
- (B) State/National Register Historic Resource and/or NYC Landmark (see Table 5)
- Historic Districts
- S/NR-Listed Fort Greene Historic Expansion District

adjacent to the 512-foot tall Williamsburg Savings Bank Building, and the fact that it faces southeast (away from the project site), it would not be affected by any new shadows cast by the proposed development, and is therefore excluded from further assessment.

For the remaining resources that were not excluded in the steps above, including the Baptist Temple, a detailed shadows assessment was conducted, as described below.

Assessment of Potential Shadow Impacts

As directed by the 2012 *CEQR Technical Manual*, shadows analyses were performed for the remaining twelve resources (listed in Table 5) for four representative days of the year: March 21/September 21, the equinoxes; May 6, the midpoint between the summer solstice and the equinox (and equivalent to August 6); June 21, the summer solstice and the longest day of the year; and December 21, the winter solstice and the shortest day of the year. The *CEQR Technical Manual* defines the temporal limits of a shadow analysis period to fall from an hour and a half after sunrise to an hour and a half before sunset. The results of the shadow analysis on the identified resources of concern are summarized in Table 5, and discussed below.

March 21/September 21

On the equinoxes, incremental shadows from the proposed development would reach five of the resources shown in Table 5, mostly in the early morning and late afternoon hours. Incremental shadows would be cast on the Brooklyn Bears Rockwell Garden for a duration of approximately 2 hours and 26 minutes, and would exit this garden entirely by 10:44 AM. Incremental shadows would also be cast on Sixteen Sycamores Playground and the Baptist Temple immediately to its east (7:36 AM to 8:39 AM and 7:36 AM to 8:59 AM, respectively) for a duration of approximately 1 hour and 3 minutes and 1 hour and 23 minutes, respectively. In the afternoon, the proposed development would cast incremental shadows on Fowler Square for a duration of approximately 45 minutes (3:44 PM to 4:29 PM), and on the open space at Fulton Street and Fort Greene Place for a duration of approximately 2 hours (2:04 PM to 4:04 PM). No incremental shadows would be cast on any of the other resources listed in Table 5 on this analysis day.

May 6/August 6

Between the equinoxes and the summer solstice, incremental shadows cast by the proposed development would reach four of the resources shown in Table 5, all in the morning hours. Incremental shadows would be cast by the proposed development on Brooklyn Bears Rockwell Garden for a duration of approximately 57 minutes, and would exit the garden entirely by 10:14 AM. Incremental shadows would also be cast on Sixteen Sycamores Playground and the Baptist Temple (7:15 AM to 8:07 AM and 6:27 AM to 8:44 AM, respectively) for a duration of approximately 52 minutes and 2 hours and 17 minutes, respectively; and P.S. 735K/Secret Garden (6:27 AM to 8:49 AM, for a duration of approximately 2 hours and 22 minutes). No incremental shadows would be cast on any of the other resources listed in Table 5 on this analysis day.

June 21

On the summer solstice, June 21, the sun is most directly overhead, and shadows are shorter for most of the day. Incremental shadows cast by the proposed development would reach P.S. 735K/Secret Garden (entering at 5:57 AM and exiting at 8:52 AM, for a duration of 2 hours and 55 minutes); P.S. 38/The Pacific School Playground (entering at 5:57 AM and exiting at 6:10 AM, for a duration of 13 minutes); and the Baptist Temple (entering at 6:54 AM and exiting at 8:33 AM, for a duration of 1 hour and 39

minutes. No incremental shadows would be cast on any of the other resources listed in Table 5 on this analysis day.

TABLE 5
Incremental Shadow Duration on Identified Resources

Map Ref. #	Resource Name	**March 21/Sept. 21** Timeframe Window – 7:36 AM – 4:29 PM	**May 6/August 6** Timeframe Window – 6:27 AM – 5:18 PM	**June 21** Timeframe Window – 5:57 AM – 6:01 PM	**December 21** Timeframe Window – 8:51 AM – 2:53 PM
Resources Assessed for Potential Shadow Impacts					
1	Brooklyn Bears Rockwell Garden	8:18-10:44	9:17-10:14	n/a	9:40-10:15
	Incremental shadow duration	2 hrs. 26 mins.	0 hrs. 57 mins.		0 hrs. 35 mins.
2	Sixteen Sycamores Playground	7:36-8:39	7:15-8:07	n/a	n/a
	Incremental shadow duration	1 hrs. 3 mins.	0 hrs. 52 mins.		
3	P.S. 735K at 806/Secret Garden	n/a	6:27-8:49	5:57-8:52	n/a
	Incremental shadow duration		2 hrs. 22 mins.	2 hrs. 55 mins.	
4	Fowler Square	15:44-16:29	n/a	n/a	n/a
	Incremental shadow duration	0 hrs. 45 mins.			
5	Fort Greene Park	n/a	n/a	n/a	n/a
6	North Pacific Playground	n/a	n/a	n/a	n/a
7	P.S. 38/The Pacific School Playground	n/a	n/a	5:57-6:10	n/a
	Incremental shadow duration			0 hrs. 13 mins.	
11	Greene Garden	n/a	n/a	n/a	n/a
12	DOE Playground	n/a	n/a	n/a	n/a
14	Macomber Square	n/a	n/a	n/a	n/a
17	Fulton Street and Fort Greene Place Open Space	14:04-16:04	n/a	n/a	13:47-14:53
	Incremental shadow duration	2 hrs. 0 mins.			1 hrs. 6 mins.
E	Baptist Temple	7:36-8:59	6:27-8:44	6:54-8:33	n/a
	Incremental shadow duration	1 hrs. 23 mins.	2 hrs. 17 mins.	1 hrs. 39 mins.	
Resources Within Area Not Affected by Development Shadows (Area between -108 and 108 degrees)					
8	Friends of Pacific Street Garden	n/a	n/a	n/a	n/a
9	Warren Street/St. Mark's Community Garden	n/a	n/a	n/a	n/a
10	South Oxford Playground	n/a	n/a	n/a	n/a
13	Wyckoff Gardens Open Space	n/a	n/a	n/a	n/a
15	Atlantic Terminal Plaza	n/a	n/a	n/a	n/a
16	Brooklyn Bears Pacific Street Community Garden	n/a	n/a	n/a	n/a
A	Atlantic Avenue Control House	n/a	n/a	n/a	n/a
Historic Resources Screened Out from Further Assessment (Non-Sunlight Sensitive)*					
B	Dime Savings Bank				
C	Williamsburg Savings Bank				
D	Hanson Place Baptist Church				
F	Pioneer Warehouses				
G	Buildings at 565-571 Fulton Street				
H	308-310 Livingston Street				
I	Former Public School 15				
J	Buildings at 522-550 State Street				
	Brooklyn Academy of Music Historic District (refer to discussion of Hanson Place Central Methodist Church in Technical Memorandum)				
	Fort Green Historic District and Expansion				
	Boerum Hill Historic District				

Notes:
* Refer to screening discussion in Technical Memorandum
Times shown are Eastern Standard Time (EST)

December 21

On the shortest day of the year (winter solstice) when the sun is low in the sky, shadows are the longest they will be all year. Incremental shadows cast by the proposed development would reach only two resources on this day: Brooklyn Bears Rockwell Garden (entering at 9:40 AM and exiting at 10:15 AM, for a duration of 35 minutes), and the open space resource at Fulton Street and Fort Greene Place (entering at 1:47 PM and exiting at 2:53 PM, for a duration of 1 hour and 6 minutes). No incremental shadows would be cast on any of the other resources listed in Table 5 on this analysis day.

Assessment

For open spaces, the uses and features of the space indicate its sensitivity to shadows. Shadows occurring during the cold-weather months of interest generally do not affect the growing season of outdoor vegetation; however, their effects on other uses and activities should be assessed. Therefore, this sensitivity is assessed for both (1) warm-weather-dependent features like wading pools and sand boxes, or vegetation that could be affected by a loss of sunlight during the growing season; and (2) features, such as benches, that could be affected by a loss of winter sunlight. Uses that rely on sunlight include: passive use, such as sitting or sunning; active use, such as playfields or paved courts; and such activities as gardening, or children's wading pools and sprinklers. Where lawns are actively used, the turf requires extensive sunlight. Vegetation requiring direct sunlight includes the tree canopy, flowering plants and plots in community gardens. Generally, four to six hours a day of sunlight, particularly in the growing season (March through October), is often a minimum requirement.

For historic resources, the shadow sensitivity of the sunlight-sensitive features of a historic structure depends on its design and setting. According to the 2012 *CEQR Technical Manual*, a significant shadow impact to historic resources generally occurs when an incremental shadow of 10 minutes or longer falls on a sunlight sensitive resource and results in a substantial reduction in sunlight available for the enjoyment or appreciation of the sunlight sensitive features of an historic or cultural resource.

As indicated in Table 5 and discussed above, the proposed development would cast incremental shadows on several open space resources in one or more of the analysis periods. No incremental shadows would be cast on Fort Greene Park (the largest open space in the study area) on any of the analysis days. As detailed above, in many instances these incremental shadows would be cast mostly in the early morning hours, would quickly dwindle as the sun rises, and would not create a significant adverse shadow impact on the affected resources. Shadows cast in the afternoon would not exceed 2 hours in duration. As such, all of the affected open space resources assessed above are expected to receive between four to six hours of sunlight on the analysis days. Therefore, shadows cast by the proposed development would not result in a reduction in the usability of any of the existing open space resources identified in the area, nor would they adversely affect their sunlight-sensitive features.

As noted above, the Baptist Temple, which is located at the southwest corner of Third Avenue and Schermerhorn Street, would also experience some incremental shadows from the proposed development. The Baptist Temple contains a large rose window and several stained glass windows on the eastern façade (facing Third Avenue), as well as several stained glass windows on the northern façade (facing Schermerhorn Street). Incremental shadows cast by the proposed development would reach the Baptist Temple on three of the four analysis days. However, those shadows would be cast in the early morning hours (exiting no later than 8:59 AM on any of the analysis days), and would not exceed a duration of 2 hours and 17 minutes on any of the analysis days. As such, these shadows would not significantly reduce light to this resource’s stained glass windows, nor would it reduce the public’s enjoyment and appreciation of those windows. Therefore, the proposed development’s shadows increments on the Baptist Temple would not have a significant adverse shadows impact.

It should also be noted that the proposed program for Site EE includes a publicly-accessible open space on the northern portion of the block. As this open space would be located immediately to the north and west of the proposed building, it is expected to be cast in shadow only during some periods (mostly in the morning), on all four analysis days. Because the creation of this open space is part of the proposed development, these shadows are not considered a significant adverse impact. Moreover, this space would be designed in the context of its partially shadowed conditions (utilizing shade-tolerant elements, for example).

Therefore, the incremental shadows resulting from the proposed development would not result in any significant adverse shadows impacts.

Historic and Cultural Resources

For the 2004 FEIS, the New York City Landmarks Preservation Commission (LPC) determined that Site EE had no archaeological sensitivity. Therefore, as with the previously approved 2004 project, the current proposed development would not have any significant adverse effects on archaeological resources. The Brooklyn Academy of Music Historic District (NYCL and S/NR-listed), and the Williamsburg Savings Bank building (NYCL and S/NR-listed) are located across the street, within 90 feet of Site EE. However, the design would locate the mass of the building to allow views of these historic resources. As with the previously approved project, the proposed development would require a construction protection plan in order to avoid potential physical impacts to these nearby resources from ground-borne vibrations or other potential construction-related issues.

As described in the 2004 FEIS, the new, modern development that was projected to occur as a result of the proposed actions was expected to alter the context of the surrounding architectural resources, changing it from a mixed context of low-, medium-, and high-rise structures on lots of varied size to one with a greater concentration of high rise structures on large sites. However, the change in context was not deemed to constitute a significant adverse impact on architectural resources. As discussed in the "Urban Design and Visual Resources" section below, the proposed development on Site EE would not alter these findings, and would therefore not result in any new significant adverse impacts on historic resources. Moreover, as discussed in the "Shadows" section above, the proposed development is also not anticipated to result in any significant adverse shadows impacts on any sunlight-sensitive historic resources in the area.

Urban Design and Visual Resources

The 2004 FEIS did not identify any significant adverse urban design or visual resources impacts for the Downtown Brooklyn Development project, although the changes to the study area's urban design and visual resources were identified as considerable. Although the proposed development would not alter the footprint of the development on Site EE, it would result in a taller structure, with a maximum height of 382 feet, which would be in close proximity to the Williamsburg Savings Bank building, an iconic structure, which is approximately 512 feet tall.

The mixed-use building currently proposed on the BAM South site would occupy the triangular site at the intersection of Flatbush and Lafayette Avenues and Ashland Place in Downtown Brooklyn. Together with the proposed plaza, located along the northern portion of the project site, the proposed building would define the gateway to BAM and the new Downtown Brooklyn cultural district. The base of the building would contain retail and restaurant uses; a cinema, which would be an extension of the adjacent cultural district; and the residential lobby, located off Ashland Place. An entry/exit ramp off Ashland Place would

BAM South Proposed Development - Massing Study

Source: TEN ARCHITECTOS

Aerial view looking north

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provide access to the public parking garage on the lower levels. The upper portion of the building would contain the residential component of the development, with up to a maximum of 402 rental units.

As noted above, the actions being proposed include a zoning special permit pursuant to the proposed zoning text amendment, to facilitate the BAM South project. The requested special permit would allow additional floor area for cultural uses on the site, allow waivers from the street wall requirements along Flatbush Avenue, allow height and setback waivers, and allow waivers of the underlying signage regulations related to number, size and location.

As shown in the illustrative massing studies in Figure 6, the design of the proposed building would place the building mass along Ashland Place, and frames the corner of the BAM Opera House, on the one hand, and the Williamsburg Savings Bank, on the other. By occupying the eastern edge of the lot, the building would allow maximum sun exposure for the remainder of the site. The building would consist of two pieces: the cultural base and the residential tower. The translucent building base would allow views into and through the structure. The roof of the base would be comprised of a series of exterior, terraced levels that allow access to the cultural program. Together, these design elements would create an active, urban and public experience along Flatbush Avenue. The terraces would be landscaped and designed so as to screen the traffic noise from Flatbush Avenue and create a strong visual connection to the publicly-accessible open space.

As shown in Figure 6, the residential tower would be a narrow structure of angled façade segments. The tower and the building base would be unified in the choice of materials: the entire structure would be clad in glass, enhanced by glazing to varying degrees on each of the façade segments. The tower would be rendered as a solid mass with the angled façade segments converging to points in the center of the eastern and western facades. Balconies accessible from the tower's residential units would be visible in the breaks between façade segments. With such a design, the building would be deferential to its context while bringing a new urban order and visual identity to the site. Moreover, the urban design character of the area immediately surrounding the site would be enhanced by the streetscape improvements, including the 16,000 sf publicly-accessible open space on the northern portion of the block.

Like the 2009 development, the proposed building would be more noticeable in surrounding views than the 6-story library projected on the site in the 2004 FEIS. However, the slim modern profile would minimize the perceived bulk from most views, particularly street-level views from streets to the south of the site (see photo montage in Figure 7). The proposed structure would be 130 feet shorter than the adjacent 512-foot tall Williamsburg Savings Bank, and would therefore not compete with its prominence in the skyline, nor would it create significant visual obstructions to this iconic landmark. Moreover, the proposed development would be a modern building utilizing modern materials, and would therefore not replicate aspects of the landmark Williamsburg Savings Bank building, either in terms of materials, form, or architectural details, so as to create a false historical appearance.

It should also be noted that the surrounding area's visual context would change considerably as a result of the first phase of the Atlantic Yards Arena and Redevelopment project, which is anticipated to be completed by 2014 and for which the 2009 Modified General Project Plan was affirmed by ESDC on September 17, 2009. The first phase would introduce five tall buildings, ranging in height from 200 to 511 feet, in the area south of Atlantic Avenue and west of 6th Avenue. These buildings would be considerably taller than the surrounding buildings in the area, and would thereby alter the Brooklyn skyline. The proposed development on Site EE, at a height of 382 feet, would be expected to blend in with these anticipated developments, further contributing to the creation of visual interest and a distinctive modern skyline.

View looking from Ashland (looking south)

View looking from Flatbush (looking south)

View looking from Ashland
(looking north)

Source: TEN ARQUITECTOS

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BAM South Proposed Development - North-South (View Looking East) and East-West (View Looking South) Building Sections

Therefore, although the proposed development would change the context of the study area's urban design and visual resources, such changes would not be considered significant adverse impacts. As such, the findings of the 2004 FEIS relative to urban design and visual resources would not change.

Natural Resources

The 2004 FEIS did not provide an analysis of natural resources, as the project site does not encompass, nor is it located near, any natural resources such as wetlands, dunes and beaches, grasslands, or woodlands. The proposed development on Site EE would not alter these conditions, and therefore a natural resources analysis is not required.

Hazardous Materials

The hazardous materials analysis in the 2004 FEIS identified the potential for VOCs, SVOCs, PCBs, pesticides, and metals to exist on Site EE, and was therefore deemed to require further investigation to determine appropriate health and safety and/or remedial measures. The EIS indicated that for Site EE (and all other City-owned sites), as development will occur through disposition to a private entity, further investigative and/or remedial activities, as well as health and safety measures, prior to and/or during construction, will be required under the City's contract of sale with the private entity selected to develop the site. The EIS also indicated that E-designations would be placed on lots that were neither City-owned nor intended for future City-ownership. ~~This mechanism was~~ These mechanisms were determined to reduce or avoid the potential that significant adverse impacts would result from the proposed action.

In lieu of the inclusion of requirements for further investigative and/or remedial activities in the contract of sale, the City plans to place an E-designation on Block 2110, Lot 3, which covers the entirety of Site EE. Pursuant to Section 11-15 of the Zoning Resolution, the E-designation would require, prior to the New York City Department of Buildings (DOB) issuing permits associated with redevelopment, ~~As such, prior to developing the site,~~ the developer ~~must~~ to undertake a testing and sampling protocol, and if necessary, carry out any remediation measures that may be required. As part of this effort, a soil and groundwater testing protocol will be prepared and submitted to the ~~NYCDEP Bureau of Environmental Planning and Assessment (BEPA)~~ New York City Mayor's Office of Environmental Remediation (OER), for review and approval. Once the protocol is approved, the testing phase and laboratory analysis program will be undertaken, and a written report with findings and a summary of the data will be submitted to ~~NYCDEP~~ OER for review and approval. After receiving such test results, a determination will be made by ~~NYCDEP~~ OER if the results indicate that remediation is necessary. If remediation is indicated from the test results, a proposed remediation plan must be prepared and submitted to ~~NYCDEP~~ OER for review and approval prior to execution.

In addition, an ~~DEP~~ OER-approved construction-related health and safety plan would be implemented during excavation and construction activities to protect workers and the community from potentially significant adverse impacts associated with contaminated soil and/or groundwater. This Plan would be submitted to ~~NYCDEP~~ OER for review and approval prior to implementation.

Therefore, with implementation of the above measures, the proposed development is not expected to result in any new significant adverse hazardous materials impacts that were not previously disclosed in the 2004 FEIS.

Water and Sewer Infrastructure

As shown in Table 6a below, the anticipated demands for water and sewage treatment associated with Site EE would be increased as a result of the proposed development. Compared to the program analyzed in the 2004 FEIS, the proposed development would result in a net increase in total water demand of approximately 53,276 gallons per day, and a net increase in wastewater generation of approximately 74,778 gpd.

Water Supply

Given the size of New York City's water supply system and the City's commitment to maintaining adequate water supply and pressures, few actions have the potential to cause significant impacts on this system. Therefore only very large developments or actions having exceptionally large water demands (e.g., more than 1 million gallons per day) would warrant a detailed water supply assessment. The estimated total water consumption resulting from the proposed development on Site EE is well below the general threshold of 1 million gallons per day typically used to determine the need for a detailed analysis, and therefore no further analysis is warranted.

TABLE 6a
Expected Water Demand and Wastewater Generation on Site EE –
2004 FEIS vs. 2012 Proposed Program

SITE EE	Use	Size (zsf)	Domestic Only (Water Usage/ Wastewater Generation) (gpd)	Air Conditioning Only (gpd)	Total Water Demand (gpd)
2004 FEIS	Retail	15,000	3,600	2,550	6,150
	Community Facility/Cultural	180,000	18,000	30,600	48,600
		Total	***21,600***	***33,150***	***54,750***
2012 Proposed Development	Residential	402 DU (280,289 zsf)	84,420	--	84,420
	Retail/Restaurant	21,465 zsf	5,152	3,649	8,801
	Cinema	600 seats 15,000 zsf	3,600	2,550	6,150
	Community Facility	32,055 zsf	3,206	5,449	8,655
		Total	***96,378***	***11,648***	***108,026***
Net Difference: 2004 FEIS Vs. 2012 Development			**74,778**	**-21,502**	**53,276**

Notes: Based on average daily water use rates provided in Table 13-2 of the *2012 CEQR Technical Manual.* Residential use: 100 gallons per day (gpd) per resident (assume 2.1 residents per unit). Retail use: 0.24 gpd per square foot, plus 0.17 gpd per sf for air conditioning (assumes retail rates for restaurant use). Cinema use: 0.24 gpd per square foot, plus 0.17 gpd per sf for air conditioning (assumes retail rates). Community facility use: 0.10 gpd per square foot, plus 0.17 gpd per sf for air conditioning (assumes office rates).

Wastewater and Stormwater Conveyance and Treatment

For wastewater and stormwater conveyance and treatment, the 2012 *CEQR Technical Manual* indicates that a preliminary assessment would be needed if a project is located in a combined sewer area and would exceed the following incremental development of residential units or commercial space above the predicted No-Action scenario: (a) 1,000 residential units or 250,000 sf of commercial space or more in Manhattan; or, (b) 400 residential units or 150,000 sf of commercial space or more in the Bronx, Brooklyn, Staten Island or Queens. Although the proposed development would result in a net reduction of

approximately 126,480 sf of non-residential square footage compared to the project analyzed in the 2004 FEIS, it would fall just above the CEQR threshold of 400 residential units.

According to the *CEQR Technical Manual*, wastewater is considered to include sanitary sewage, wastewater generated by industries, and stormwater. Water used for air conditioning generates a negligible amount of wastewater for it is recirculated or evaporates in the cooling and heating process. The majority of New York City's wastewater treatment system is comprised of the sewer network beneath the streets and the 14 wastewater treatment plants (WWTPs) located throughout the city. All 14 WWTPs in New York City have a State Pollution Discharge Elimination System (SPDES) permitted total capacity of 1.8 billion gallons per day. Sewers beneath the City's streets collect sewage from buildings as well as stormwater from buildings and catch basins in streets. Collection sewers can be ten inches to two feet in diameter on side streets, and larger in diameter under other roadways. They connect to trunk sewers, generally five to seven feet in diameter, which bring the sewage to interceptor sewers. These large interceptor sewers (often 11 or 12 feet in diameter) bring the wastewater collected from the various smaller mains to the WWTPs for treatment.

The project site is served by the Red Hook WWTP, which is regulated by SPDES permit to treat and discharge up to 60 mgd of wastewater. As shown in Table 6a above, the additional expected sanitary sewage resulting from the proposed modifications, would result in a net increase of approximately 74,778 gpd compared to the project analyzed in the 2004 FEIS. This would represent approximately 0.1 percent of the WWTP's dry weather capacity and would not cause the Red Hook WWTP to exceed its design capacity or SPDES permit flow limit. Per the New York City Plumbing Code (Local Law 33 of 2007), low-flow fixtures are required to be implemented and would help to reduce sanitary flows from the project site.

The proposed development would be required to file a site connection proposal for approval to tie into the sewer system. In accordance with *CEQR Technical Manual* guidelines, new volumes entering the combined sewer system as a result of the proposed development were calculated. Using the existing and proposed site data, the NYCDEP Volume Calculation Matrix was completed for the existing and With-Action conditions and is summarized in Table 6b. The calculations from the flow volume matrix determine the wastewater volumes to the downstream sewer system from the existing and With-Action conditions. Runoff volumes are calculated for four rainfall volume scenarios with varying durations. As shown in Table 6b, the increase in sanitary sewage discharging from the project site for the four rainfall volume-duration scenarios, in comparison to existing conditions, would be 0.02 MG, 0.02 MG, 0.05 MG and 0.08 MG, respectively. The total discharge to the combined sewer system, including stormwater runoff, would be 0.02 MG, 0.03 MG, 0.08 MG, and 0.15 MG.

TABLE 6b
NYCDEP Volume Calculation Matrix – Existing and With-Action Volume Comparison

		EXISTING				WITH-ACTION				
		49,830 SF (1.14 acres)				49,830 SF (1.14 acres)				
Rainfall Volume (in.)	Rainfall Duration (hr.)	Runoff Vol. Direct Drainage (MG)	Runoff Volume to CSS (MG)	Sanitary Volume to CSS (MG)	Total Volume to CSS (MG)	Runoff Vol. Direct Drainage (MG)	Runoff Volume to CSS (MG)	Sanitary Volume to CSS (MG)	Total Volume to CSS (MG)	Increment (MG)
0.00	3.80	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.02
0.40	3.80	0.00	0.01	0.00	0.01	0.00	0.01	0.02	0.03	0.02
1.20	11.30	0.00	0.03	0.00	0.03	0.00	0.03	0.05	0.08	0.05
2.50	19.50	0.00	0.07	0.00	0.07	0.00	0.07	0.08	0.15	0.08

Notes:
Vol. = Volume; CSS = Sanitary to Combined Sewer System; MG = Million Gallons.

It should be noted that the Flow Volume Matrix calculations do not include any on-site detention Best Management Practices (BMPs) that would be used to control peak storm discharges per the July 2012 NYCDEP stormwater regulations. Therefore, the actual flow rate to the sewers will be substantially less than the rate extrapolated from the volume matrix. On-site detention would be required for this site as a part of the DEP site connection approval process. The following section discusses the potential BMPs that could be suitable for implementation for the proposed development.

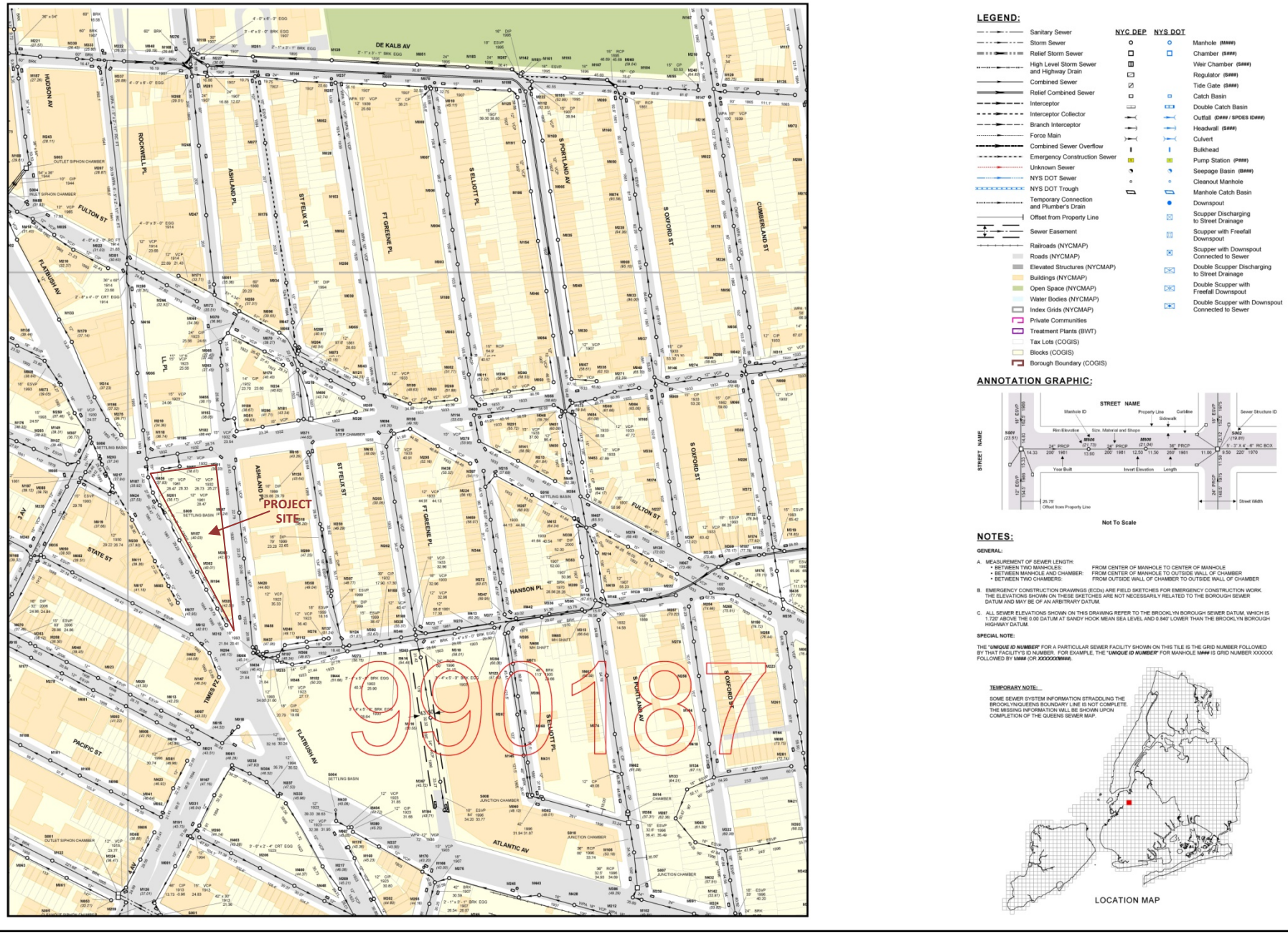
The project site is located in an area that is very well served by combined sewer infrastructure. The Brooklyn Sewer Map (see Figure 8) shows that there is a 12-inch combined sewer in Flatbush Avenue immediately adjacent to the project site that begins at the southern tip of the project site, with a capacity of approximately 3.2 cfs; Lafayette Avenue immediately adjacent to the project site also has a 12-inch combined sewer that begins at the northeastern tip of the site with a similar capacity. As this total capacity is well in excess of the 0.23 cfs (0.15 MG) flow per the matrix, the two existing 12-inch combined sewers are ample to serve the site. Both 12-inch combined sewers connect to a 42-inch combined sewer main at Lafayette Street and Rockwell Place, just north of the site. Two blocks north of the project site, this 42-inch combined sewer connects to a 60-inch combined sewer main on DeKalb Avenue. Given the size of the existing sanitary sewer facilities in the vicinity of the site, there is ample capacity in the adjacent sewer infrastructure to accommodate the additional sanitary sewage generated by the proposed development. Therefore, the proposed development on Site EE would not result in any new significant adverse infrastructure impacts, and would not alter the findings of the 2004 FEIS.

Stormwater Best Management Practices

NYCDEP amended Chapter 31 of Title 15 of the Rules of the City of New York (RCNY), the existing rules governing house and site connections to the city's sewer system. The rule amendment modifies the flow rate of stormwater to the city's combined sewer system for new and existing development, as part of sewer availability and connection approvals, and applies to development lots where new buildings or alterations of existing buildings that would result in an expansion of building footprint or impervious surfaces are proposed. The rule was promulgated on January 4, 2012 and went into effect on July 4, 2012. For a new development, the Stormwater Release Rate will be the greater of 0.25 cubic feet per second (cfs) or 10% of the Allowable Flow, unless the Allowable Flow is less than 0.25 cfs, in which case the Stormwater Release Rate shall be the Allowable Flow.

The proposed development on Site EE would implement stormwater best management practices (BMPs) to limit the discharge to 0.25 cfs or 10% of the allowable flow from the project site. BMPs that could be employed for the project include green roofs and blue roofs, subsurface detention, or a combination of the three. Stormwater management BMPs could include on-site detention facilities (such as underground storage tanks and tanks within the buildings) and vegetated areas over underground structures. On-site detention tanks would be used to store water for gradual release during rain events, freeing up capacity in combined sewers. Infiltration of stormwater through subsurface soils is not feasible on the majority of the open space on the project site, since most of the vegetated areas would be located above underground structures. Vegetated areas located above underground structures, however, would still lower the potential runoff through soil retention and evapotranspiration, which is the return of water to the atmosphere from surfaces (evaporation) and vegetation (transpiration).

The final BMP selection for implementation would be undertaken during the detailed design phase, in coordination with NYCDEP, when site characteristics are better defined. The selected BMPs would be used together to achieve an overall release rate of 0.25 cfs or 10 percent of the allowable flow rate (whichever is greater) from the project site. With the incorporation of selected BMPs, the stormwater runoff would not be expected to have an impact on the downstream City combined sewer system or the City sewage treatment system.



LEGEND:

	NYC DEP	NYS DOT
Sanitary Sewer		Manhole (S###)
Storm Sewer		Chamber (S###)
Relief Storm Sewer		Weir Chamber (S###)
High Level Storm Sewer and Highway Drain		Regulator (S###)
Combined Sewer		Tide Gate (S###)
Relief Combined Sewer		Catch Basin
Interceptor		Double Catch Basin
Interceptor Collector		Outfall (D### / SPDES ID###)
Branch Interceptor		Headwall (S###)
Force Main		Culvert
Combined Sewer Overflow		Bulkhead
Emergency Construction Sewer		Pump Station (P###)
Unknown Sewer		Seepage Basin (B###)
NYS DOT Sewer		Cleanout Manhole
NYS DOT Trough		Manhole Catch Basin
Temporary Connection and Plumber's Drain		Downspout
Offset from Property Line		Scupper Discharging to Street Drainage
Sewer Easement		Scupper with Freefall Downspout
Railroads (NYCMAP)		Scupper with Downspout Connected to Sewer
Roads (NYCMAP)		Double Scupper Discharging to Street Drainage
Elevated Structures (NYCMAP)		Double Scupper with Freefall Downspout
Buildings (NYCMAP)		Double Scupper with Downspout Connected to Sewer
Open Space (NYCMAP)		
Water Bodies (NYCMAP)		
Index Grids (NYCMAP)		
Private Communities		
Treatment Plants (BWT)		
Tax Lots (COGIS)		
Blocks (COGIS)		
Borough Boundary (COGIS)		

ANNOTATION GRAPHIC:

Not To Scale

NOTES:

GENERAL:

A. MEASUREMENT OF SEWER LENGTH:
- BETWEEN TWO MANHOLES: FROM CENTER OF MANHOLE TO CENTER OF MANHOLE
- BETWEEN MANHOLE AND CHAMBER: FROM CENTER OF MANHOLE TO OUTSIDE WALL OF CHAMBER
- BETWEEN TWO CHAMBERS: FROM OUTSIDE WALL OF CHAMBER TO OUTSIDE WALL OF CHAMBER

B. EMERGENCY CONSTRUCTION DRAWINGS (ECDs) ARE FIELD SKETCHES FOR EMERGENCY CONSTRUCTION WORK. THE ELEVATIONS SHOWN ON THESE SKETCHES ARE NOT NECESSARILY RELATED TO THE BOROUGH SEWER DATUM AND MAY BE OF AN ARBITRARY DATUM.

C. ALL SEWER ELEVATIONS SHOWN ON THIS DRAWING REFER TO THE BROOKLYN BOROUGH SEWER DATUM, WHICH IS 1.720' ABOVE THE 0.00 DATUM AT SANDY HOOK MEAN SEA LEVEL AND 0.840' LOWER THAN THE BROOKLYN BOROUGH HIGHWAY DATUM.

SPECIAL NOTE:

THE '***UNIQUE ID NUMBER***' FOR A PARTICULAR SEWER FACILITY SHOWN ON THIS TILE IS THE GRID NUMBER FOLLOWED BY THAT FACILITY'S ID NUMBER. FOR EXAMPLE, THE '***UNIQUE ID NUMBER***' FOR MANHOLE M### IS GRID NUMBER XXXXXX FOLLOWED BY M### (OR *XXXXXX###*).

TEMPORARY NOTE:

SOME SEWER SYSTEM INFORMATION STRADDLING THE BROOKLYN/QUEENS BOUNDARY LINE IS NOT COMPLETE THE MISSING INFORMATION WILL BE SHOWN UPON COMPLETION OF THE QUEENS SEWER MAP.

LOCATION MAP

Solid Waste and Sanitation Services

As shown in Table 7 below, the anticipated demands for solid waste and sanitation services associated with Site EE would be increased as a result of the proposed development. Compared to the program analyzed in the 2004 FEIS, the proposed development on Site EE would result in a net increase of 15,288 pounds of solid waste per week (lbs/wk), of which 8,789 lbs/wk would be handled by DSNY and 6,499 lbs/wk would be handled by private carters. As the additional amount of solid waste that would be handled by DSNY would be less than the CEQR threshold of 50,000 lbs/wk, and private solid waste services have adequate capacity to meet the increases in demand, the proposed development on Site EE would not result in any new significant adverse solid waste impacts, and would not alter the findings of the 2004 FEIS.

TABLE 7
Expected Solid Waste Generation on Site EE – 2004 FEIS vs. 20~~0~~12 Proposed Development

SITE EE	Use	Size (zsf)	Solid Waste Handled by DSNY (lbs/wk)	Solid Waste Handled by Private Carters (lbs/wk)	Total Solid Waste (lbs/wk)
2004 FEIS	Retail	15,000	0	4,740	4,740
	Community Facility/Cultural	180,000	9,360	0	9,360
		Total	***9,360***	***4,740***	***14,100***
2012 Proposed Development	Residential	402 DU	16,482	0	16,482
	Retail	12,165zsf	0	2,403	2,403
	Restaurant	9,300 zsf	0	5,836	5,836
	Cinema	600 seats 15,000 sf	0	3,000	3,000
	Community Facility	32,055 sf	1,667	0	1,667
		Total	***18,149***	***11,239***	***29,388***
Net Difference: 2004 FEIS Vs. 20~~09~~12 Development			**8,789**	**6,499**	**15,288**

Notes: Based on citywide average waste generation rates presented in Table 14-1 of the *2012 CEQR Technical Manual.* Residential use: 41 lbs/wk per unit. Retail use: 79 lbs/wk per employee, and 1 employee per 400 sf. Restaurant use: 251 lbs/wk per employee, and 1 employee per 400 sf. Cinema use: assume 2.5 lbs/wk per patron, and an average of 1,200 patrons a day (assuming 2 turnovers per day and 100% occupancy). Community facility use: use office rate, 13 lbs/wk per employee, and 1 employee per 250 sf.

Energy

The 2004 FEIS anticipated that the development resulting from the Downtown Brooklyn development project would place an increased demand on energy services. However, the increase in energy consumption was not identified as a significant adverse energy impact.

According to the *CEQR Technical Manual*, all new structures requiring heating and cooling are subject to the New York State Energy Conservation Code, which reflects State and City energy policy. Therefore, actions resulting in new construction would not create adverse energy impacts, and would not require a detailed energy assessment. A detailed assessment would be limited to actions that might somehow affect the transmission or generation of energy. As the proposed development does not fall into that category, significant adverse impacts to energy sources are not anticipated to occur and an energy assessment is not warranted. As the proposed development on Site EE would not result in any new significant adverse energy impacts, the findings of the 2004 FEIS would not change.

Traffic and Parking

The 2004 FEIS determined that the Downtown Brooklyn Development project would result in the potential for significant adverse traffic impacts at 29 signalized intersections in one or more peak periods. Out of these 29 intersections, 5 intersections were located in the immediate vicinity of Site EE, including: Atlantic Avenue at Flatbush Avenue, Atlantic Avenue at 4th Avenue, Flatbush Avenue at Livingston Street, Flatbush Avenue at 4th Avenue/Hanson Place, and Flatbush Avenue at Schermerhorn Street/Lafayette Avenue. Mitigation measures were proposed in the 2004 FEIS that would fully or partially mitigate these impacts.

It should be noted that, subsequent to approval of the 2004 project, NYCDOT initiated a number of street/safety improvements in the vicinity of Site EE. These included the conversion of Lafayette Avenue to one-way eastbound travel between Flatbush and Fulton avenues, simplifying the intersections of Lafayette at Flatbush Avenue and Fulton Street. Given the curb alignment of the adjacent block to the east of the project site (between Ashland Place and St. Felix Street), the right travel lane on Lafayette Avenue adjacent to the project site was converted to a right-turn lane onto Ashland Place. In the No-Action condition, it is expected that the northern curb of the project site would be extended to the north, to be consistent with the alignment of the adjacent block, and the right-turn lane would be eliminated. This configuration would remain the same in the future with the proposed development.

Because the proposed development would include new uses (residential) and reduce the square footage of the uses previously projected for this site in the 2004 FEIS (cultural, community facility), a new preliminary traffic and parking assessment is necessary to determine if the revised program would exceed the CEQR threshold of 50 net action-generated vehicle trips per hour (vph) in the surrounding area. A preliminary trip generation forecast was used to determine potential changes in impacts on traffic and parking in the area surrounding the BAM South site as a result of the proposed development on Site EE.

Traffic

Table 8 shows the transportation planning assumptions used to forecast how many vehicle trips per hour the proposed development would be likely to generate in the surrounding area, and Table 9 shows the total net travel demand for the proposed development and compares it to the 2004 FEIS travel demand for Site EE; a comparison with the travel demand for the 2009 project is also provided for reference. As the specific uses that would comprise the approximately 17,055 zsf of additional cultural space are not known at this time, the planning assumptions for an office use were assumed for that component.

As shown in Table 9, the proposed development would generate a total of approximately 36, 57, and 71 vph during the weekday AM, midday and PM peak hours, respectively, compared to 15, 69, and 53 vph for the project analyzed for Site EE in the 2004 FEIS. Therefore, as shown in Table 9, the incremental change resulting from the proposed development would be 21, -12, and 18 vph during the AM, midday and PM peak hours, respectively, compared to the 2004 FEIS. It is important to note, however, that the proposed reduction in off-street parking spaces on the project site (225 spaces compared to 466 spaces assumed in the 2004 FEIS) is expected to result in a decrease in project-related traffic at intersections in the immediate vicinity of the site. This would likely offset most if not all of the small increase in AM and PM peak hour vehicular demand in the vicinity of the project site associated with the proposed new uses.

Even without accounting for this expected reduction in traffic, the net increments resulting from the proposed development (shown in Table 9) fall below the 50 vph *CEQR Technical Manual* threshold in peak hours, and are therefore not expected to result in any significant adverse traffic impacts not already disclosed in the 2004 FEIS.

Parking

The proposed development would include a new public parking garage with up to 225 spaces (compared to 466 for the 2004 approved project and 365 for the 2009 project); 64 of the 225 parking spaces would be required accessory spaces. As discussed below, the proposed development would result in a parking

TABLE 8
Proposed Modified Development Site EE—Transportation Planning Assumptions

Land Use:	Local Retail	Residential	Cinema	Cultural Uses (Library)	Cultural Uses (Office)	
Size/Units:	21,465 zsf	402 DU	600 seats 15,000 zsf	15,000 zsf	17,055 zsf	
Trip Generation:	(1)	(1)	(1)	(2)	(1)	
Weekday	205 per 1,000 sf	8.075 per 1,000 sf	3.26 per seat	40.24 per 1000 sf	18 per 1000 sf	
Temporal Distribution:	(1)	(1)	(1)	(2)	(1)	
AM	3.0%	10.0%	0.0%	0.6%	12.0%	
MD	19.0%	5.0%	3.0%	11.5%	15.0%	
PM	10.0%	11.0%	8.0%	10.3%	14.0%	
	(2)	(3)	(4)	(2)	(5)	
Modal Splits:	AM/MD/PM	AM/MD/PM	AM/MD/PM	AM/MD/PM	AM/PM	MD/SAT
Auto	2.0%	9.1%	32.0%	15.0%	12%	2%
Taxi	3.0%	0.2%	4.0%	0.0%	1%	1%
Subway	4.0%	72.1%	22.0%	30.0%	65%	7%
Bus	6.0%	3.4%	20.0%	15.0%	6%	7%
Walk/Other	85.0%	15.2%	22.0%	40.0%	16%	83%
	100.0%	100.0%	100.0%	100.0%	100%	100%
	(2)	(2)	(4)	(2)	(5)	
In/Out Splits:	In / Out	In / Out	In / Out	In / Out	In / Out	
AM	50% / 50%	20.0% / 80.0%	50% / 50%	100% / 0%	96% / 4%	
MD	50% / 50%	51.0% / 49.0%	62% / 38%	71% / 29%	39% / 61%	
PM	50% / 50%	65.0% / 35.0%	54% / 46%	24% / 76%	5% / 95%	
Vehicle Occupancy:	(2)	(3)	(4)	(2)	(5)	
Auto	2.00	1.17	2.3	2.7	1.42	
Taxi	2.00	1.4	2.4	2.7	1.42	
Truck Trip Generation:	(1)	(1)	(6)	(2)	(1)	
	0.35 per 1,000 sf	0.06 per DU	0.40 per sf	0.29 per 1000 sf	0.32 per 1000 sf	
	(1)	(1)	(6)	(2)	(1)	
AM	8.0%	12.0%	0.0%	10.0%	10.0%	
MD	11.0%	9.0%	2.0%	11.0%	11.0%	
PM	2.0%	2.0%	6.8%	2.0%	2.0%	
	In / Out	In / Out	In / Out	In / Out	In / Out	
AM/MD/PM	50.0% / 50.0%	50.0% / 50.0%	50.0% / 50.0%	50.0% / 50.0%	50.0% / 50.0%	

Notes:

(1) 2012 City Environmental Quality Review (CEQR) Technical Manual.

(2) Downtown Brooklyn Development FEIS, April 2004.

(3) Modal split and vehicle occupancy data are based on ACS (American Community Survey) Data 2010 5-years Estimate for tracts 33, 35, 37, 39, 41, 129.01 and 129.02.

(4) Loews Elmhurst Multiplex, FEIS, Jan. 2000

(5) Atlantic Yards Arena and Redevelopment Project EIS, November 2006.

(6) Battery Park City Final Fouth Supplement to the FEIS, November 1996.

TABLE 9
Proposed Modified Development Site EE—Trip Forecast Summary

Land Use:		Local Retail		Residential		Cinema		Cultural Uses (Library)		Cultural Uses (Office)		TOTAL ALL USES
Size/Units:		21,465 zsf		402 DU		600 seats 15,000 zsf		15,000 zsf		17,055 zsf		
Peak Hour Trips:												
	AM	132		325		0		4		37		497
	MD	836		162		59		69		46		1,173
	PM	440		357		157		62		43		1,060
Person Trips:												
		In	Out	In	Out	In	Out	In	Out	In	Out	Total
AM	Auto	1	1	6	24	0	0	1	0	4	0	37
	Taxi	2	2	0	1	0	0	0	0	0	0	5
	Subway	3	3	47	187	0	0	1	0	23	1	265
	Bus	4	4	2	9	0	0	1	0	2	0	22
	Walk/Other	56	56	10	39	0	0	1	0	6	0	168
	Total	66	66	65	260	0	0	4	0	35	1	497
		In	Out	In	Out	In	Out	In	Out	In	Out	Total
MD	Auto	8	8	8	7	12	7	7	3	0	1	61
	Taxi	13	13	0	0	1	1	0	0	0	0	28
	Subway	17	17	60	57	8	5	15	6	1	2	188
	Bus	25	25	3	3	7	4	7	3	1	2	80
	Walk/Other	355	355	13	12	8	5	20	8	15	23	814
	Total	418	418	84	79	36	22	49	20	17	28	1,171
		In	Out	In	Out	In	Out	In	Out	In	Out	Total
PM	Auto	4	4	21	11	27	23	2	7	0	5	104
	Taxi	7	7	0	0	3	3	0	0	0	0	20
	Subway	9	9	167	90	19	16	4	14	1	27	356
	Bus	13	13	8	4	17	14	2	7	0	2	80
	Walk/Other	187	187	35	19	19	16	6	19	0	7	495
	Total	220	220	231	124	85	72	14	47	1	41	1,055
Vehicle Trips :												
		In	Out	In	Out	In	Out	In	Out	In	Out	Total
AM	Auto (Total)	1	1	5	21	0	0	0	0	3	0	31
	Taxi (Balanced)	2	2	1	1	0	0	0	0	0	0	6
	Truck	0	0	1	1	0	0	0	0	0	0	2
	Total	3	3	7	23	0	0	0	0	3	0	39
		In	Out	In	Out	In	Out	In	Out	In	Out	Total
MD	Auto (Total)	4	4	7	6	5	3	3	1	0	1	34
	Taxi (Balanced)	11	11	0	0	0	0	0	0	0	0	22
	Truck	0	0	1	1	0	0	0	0	0	0	2
	Total	15	15	8	7	5	3	3	1	0	1	58
		In	Out	In	Out	In	Out	In	Out	In	Out	Total
PM	Auto (Total)	2	2	18	9	12	10	1	3	0	4	61
	Taxi (Balanced)	5	5	0	0	2	2	0	0	0	0	14
	Truck	0	0	0	0	0	0	0	0	0	0	0
	Total	7	7	18	9	14	12	1	3	0	4	75

	Proposed Project			2004 FEIS	2009 Tech Memo	NET DIFFERENCE - Proposed Project Vs. 2004 FEIS	NET DIFFERENCE - Proposed Project Vs. 2009 Tech Memo
Total Vehicles	In	Out	Total	Total	Total	Difference <50	Difference <50
AM	10	26	36	15	51	21	-15
MD	31	26	57	69	81	-12	-24
PM	40	31	71	53	91	18	-20

deficit that is smaller than that projected in the 2004 FEIS, and therefore the findings of the 2004 FEIS relative to off-street parking would not change due to the reconfigured garage on the project site.

The anticipated hourly parking demand associated with all of the different components of the proposed development is presented in Table 10. As shown in the table, the maximum parking demand associated with the proposed development would be approximately 87 spaces in the 8-9 AM peak hour, 95 spaces in the 12-1 PM peak hour, and 116 spaces in the 5-6 PM peak hour. This is higher than the parking demands identified for Site EE in the 2004 FEIS (3 in the AM, 61 in the midday, and 50 in the PM). It should be noted however that, whereas the public demand associated with the cultural use assumed for Site EE in the 2004 FEIS peaked during the midday period, the parking demand associated with the predominantly residential proposed development would peak during the evening and overnight hours. As shown in Table 10, the garage's peak utilization (149 spaces) from project-generated demand would occur during the 8-9 PM period, mostly due to the cinema component of the development.

Table 10
Proposed Modified Development on Site EE—Hourly Parking Demand-Weekday

	Neighborhood Retail 21,465 zsf		Rental Residential 402 du		Cinema 600 seats		Cultural Uses (Library) 15,000 gsf		Cultural Uses (Office) 17,055 gsf		Weekday Accumulation
Overnight demand*	**0**		**113**		**0**		**0**		**0**		**113**
	In	Out	In	Out	In	Out	In	Out	In	Out	
12-1 AM	0	0	0	0	0	0	0	0	0	0	113
1-2	0	0	0	0	0	0	0	0	0	0	113
2-3	0	0	0	0	0	0	0	0	0	0	113
3-4	0	0	0	0	0	0	0	0	0	0	113
4-5	0	0	0	0	0	0	0	0	0	0	113
5-6	0	0	1	3	0	0	0	0	0	0	111
6-7	0	0	2	8	0	0	0	0	0	0	105
7-8	0	0	3	8	0	0	0	0	0	0	100
8-9	1	1	5	21	0	0	0	0	3	0	87
9-10	1	0	5	7	0	0	1	0	3	0	90
10-11	2	1	5	8	0	0	2	0	1	0	91
11-12	2	2	5	7	2	0	3	1	0	1	92
12-1 PM	4	4	6	6	5	3	3	1	0	1	95
1-2	2	2	6	7	7	4	2	1	1	0	99
2-3	2	2	7	6	8	6	2	2	1	0	103
3-4	2	2	10	6	8	9	2	3	0	0	105
4-5	2	2	16	10	10	6	1	3	0	2	111
5-6	3	3	18	9	12	10	1	3	0	4	116
6-7	2	2	13	6	22	11	0	2	0	1	131
7-8	1	2	12	7	18	11	0	1	0	0	141
8-9	1	1	9	4	22	19	0	0	0	0	149
9-10	0	1	2	3	17	23	0	0	0	0	141
10-11	0	0	1	1	4	23	0	0	0	0	122
11-12	0	0	1	0	2	12	0	0	0	0	113
	25	25	127	127	137	137	17	17	9	9	

* Overnight demand of 0.28 autos per unit, based on U.S. Census American Community Survey auto ownership data for residents within a 1/4-mile radius.

With an up to 225-space public parking facility on-site, of which 64 spaces would be required accessory spaces, the demand generated by the proposed development would be readily accommodated by this facility. In addition, it is assumed that some or all of the current demand from the existing 124-space parking lot on Site EE would also utilize the new garage. Although the 2004 FEIS showed a midday utilization of 94 spaces for this facility (which was assumed to have a capacity of 110 spaces), recent field surveys conducted in November 2011 and February 2012 indicate that this parking lot currently has a utilization of 124 spaces in the weekday midday, 101 spaces in the weekday evening, and 74 spaces

Saturday midday. Even assuming that all of the current demand from the existing parking lot on the site would be added to the new up to 225-space parking facility, the total peak midday demand would total approximately 219 spaces, leaving approximately 6 public parking spaces available for use by other weekday users in the area. Overall, it is therefore estimated that a total of approximately 130 spaces would be available for public use during the weekday midday.

For the evening period (8-9 PM), the combined maximum demand of approximately 250 spaces (149 spaces associated with proposed development and 101 spaces associated with existing parking lot being displaced) would exceed the 225-space capacity of the proposed garage; however, this excess parking demand of 25 spaces is expected to be readily accommodated in other parking facilities in the vicinity of the site, as parking demand in the evening peak hour is usually much lower than peak weekday midday demand. Field surveys of off-street public parking facilities within a ¼-mile radius of the project site conducted in November 2011 and May 2012 indicated that, whereas the parking utilization in the weekday midday was approximately 87% (with 328 available spaces), the utilization during the weekday evening was much lower, at approximately 47% (with 1,323 available spaces). This trend is expected to continue in the analysis year of 2015.

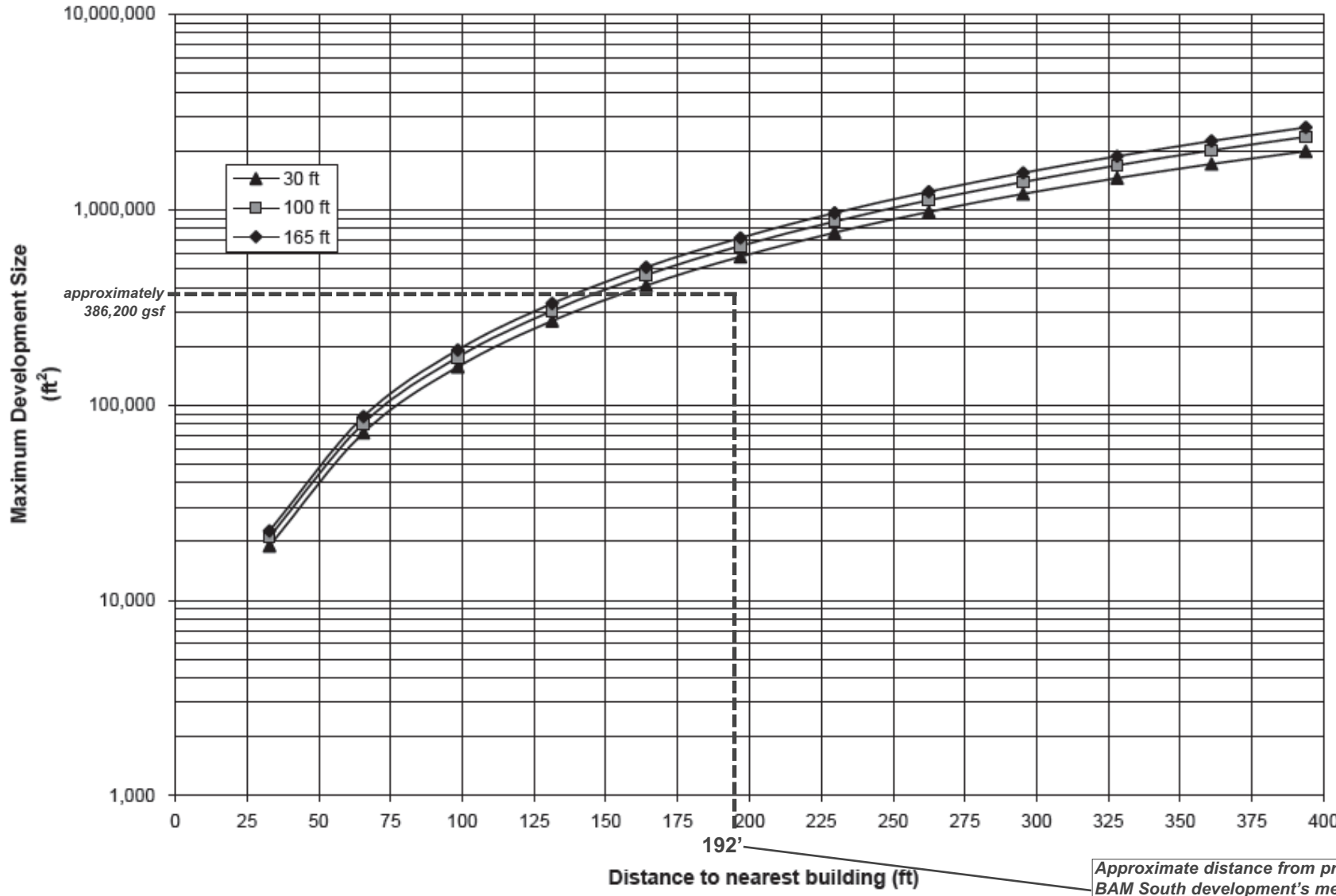
Table 11 below summarizes the net changes in parking supply and demand on the project site, compared to the 2004 FEIS and the 2009 Technical Memorandum. As shown in the table, the proposed development would decrease the number of parking spaces provided on the site by 241 compared to the 2004 FEIS analysis, while on-site midday demand would increase by approximately 64 spaces. Thus, compared to the 2004 FEIS, the parking facility on the project site would have approximately 305 fewer spaces available to the public. However, as discussed below, given the updated parking conditions in Downtown Brooklyn, the surrounding study area would provide sufficient parking capacity to absorb this reduction.

TABLE 11
Net Changes in Weekday Midday Parking Conditions on the Project Site – Compared to 2004 FEIS Assumptions

	Spaces Added	New Project Demand	Demand from Displaced Lot	Total On-Site Midday Demand	Net Public Spaces Available (MD)
2004 FEIS Assumptions for Site EE	466	61	94	155	311
2009 Technical Memorandum	365	88	53	141	224
Proposed Development for Site EE	225	95	124	219	6
Net Difference (2004 Vs. Proposed Development)	-241	34	30	64	-305

The parking analysis in the 2004 FEIS projected a parking deficit of 998 spaces for the study area in the midday period with the 2004 Downtown Brooklyn Development project, but no significant adverse parking impact was disclosed because the parking facilities provided as part of that action were sufficient to accommodate all of the parking demand associated with the projected development and displacement of public parking caused by that development. This finding would not change as a result of the proposed modifications because, as shown in Table 12 and discussed below, the current proposed project would only have an 83-space shortfall as opposed to the 998 disclosed in the FEIS. It should be noted that the parking analysis in the 2004 FEIS covered a much larger geographic area (given the size of the Downtown Brooklyn rezoning area). For this Technical Memorandum, parking conditions were assessed for a ¼-mile study area surrounding the project site, in accordance with 2012 *CEQR Technical Manual* guidelines. As shown in Table 12 below, although the parking garage in the proposed development would have a smaller capacity, at up to 225 spaces compared to 466 in the FEIS, this reduction in capacity is not

FIGURE 17-7
NO_2 BOILER SCREEN
RESIDENTIAL DEVELOPMENT - NATURAL GAS



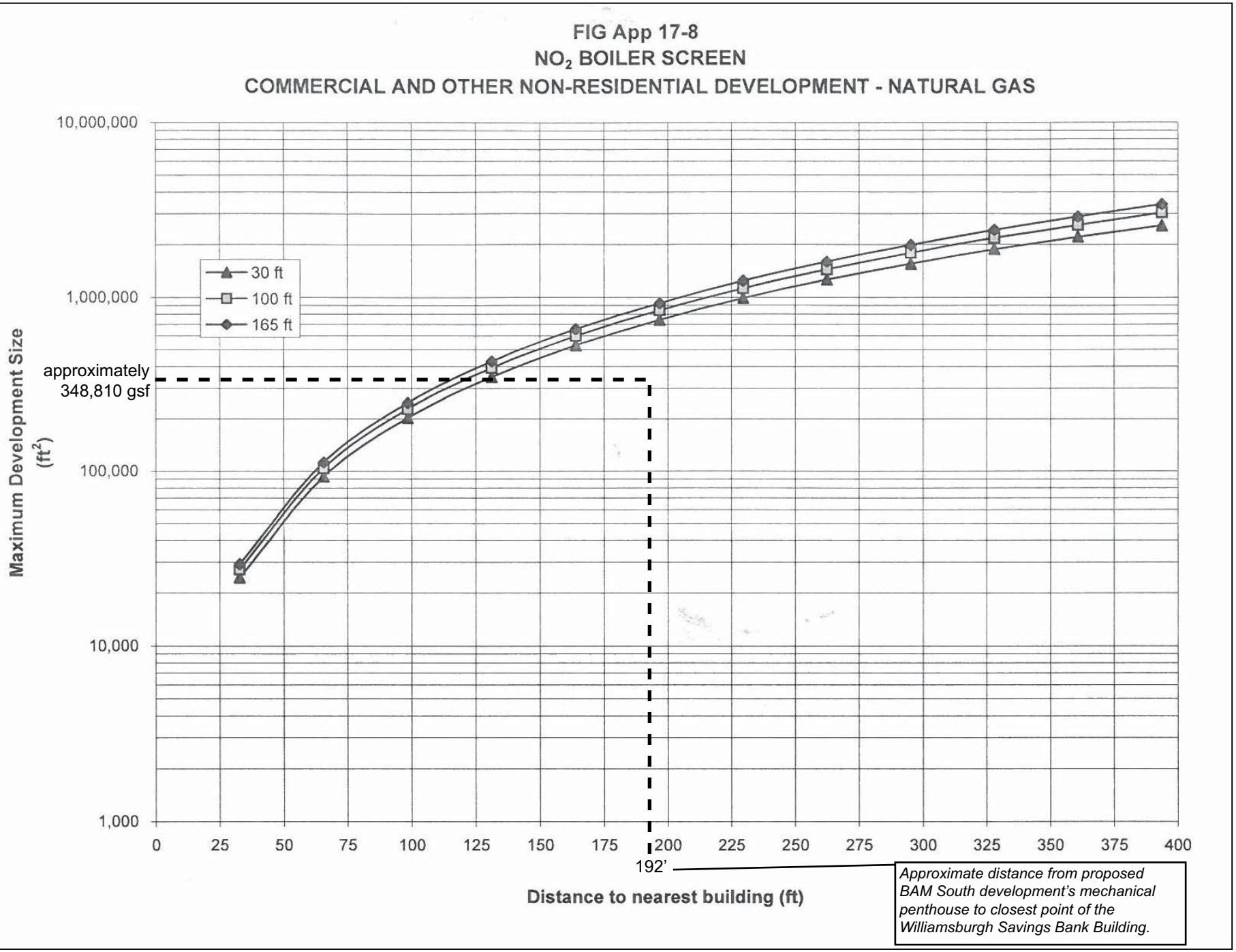


FIG App 17-8
NO2 BOILER SCREEN
COMMERCIAL AND OTHER NON-RESIDENTIAL DEVELOPMENT - NATURAL GAS
10,000,000
1,000,000
100,000
10,000
1,000
30 ft
100 ft
165 ft
approximately
348,810 gsf
Maximum Development Size
(ft2)
0
25
50
75
100
125
150
175
200
225
250
275
300
325
350
375
400
192'
Distance to nearest building (ft)
Approximate distance from proposed BAM South development's mechanical penthouse to closest point of the Williamsburgh Savings Bank Building.

expected to result in any significant adverse parking impacts in the quarter-mile area around the project site. As shown in Table 12, the proposed development is estimated to result in a 2015 With-Action parking deficit of 83 spaces within the quarter-mile study area in the midday period, which would be essentially the same as 2015 conditions in absence of the proposed development.

As the proposed action would result in a parking deficit in the weekday midday smaller than that projected in the 2004 FEIS, the proposed modifications would not result in any significant adverse parking impacts, and the findings of both the 2004 FEIS relative to off-street parking would not change due to the reconfigured garage on the project site.

TABLE 12
2015 Study Area Weekday Midday (12-1 PM) Off-Street Parking Conditions – Compared to 2004 FEIS

	Total Study Area Capacity	Total Study Area Demand	Net Public Spaces Available in Study Area
Downtown Brooklyn Development 2004 FEIS Parking Study Area			
2004 FEIS – 2013 No-Action Conditions	10,839	12,018	-1,179
2004 FEIS – 2013 With-Action Conditions	11,275	12,273	-998
Quarter-Mile Study Area Around BAM South Site			
2012 Existing Conditions (1)	2,474	2,146	328
2015 No-Action Condition (2)	2,354	2,443	- 89
Net Effect of Project Site Changes	101	95	----
2015 Conditions with Proposed Development	2,455	2,538	- 83

(1) Based on PHA field surveys, November 2011 and May 2012.
(2) No-Action capacity accounts for future No-Action spaces expected to be displaced on both BAM North Sites (a total of 120 spaces). No-Action demand includes existing demand plus background growth (assumed at 0.25 percent per year for 2013-2015) and weekday midday demand from other expected developments in the study area, including Atlantic Yards (Barclays Arena, buildings 1 and 2), the BAM cultural center, and other development projects in the ¼-mile study area expected to be complete by 2015).

Transit and Pedestrians

The 2004 FEIS determined that the Downtown Brooklyn Development project would result in the potential for significant adverse impacts at two street stairs at the Jay Street-Borough Hall subway station in one or both peak periods, as well as a significant adverse impact in the PM peak hour to NYC Transit's B25 bus route in the peak eastbound direction. Pedestrian trips en route to and from projected development sites would impact one crosswalk on Jay Street at Willoughby Street and one crosswalk on Albee Square West/Gold Street at Willoughby Street. None of the impacted subway stair or pedestrian facilities identified in the 2004 FEIS are located in the immediate vicinity of Site EE.

According to the general thresholds used by the Metropolitan Transportation Authority specified in the *CEQR Technical Manual*, detailed transit analyses are not required if a proposed project is projected to result in less than 200 peak hour rail or bus transit riders, because a proposed development that generates such a low number of transit riders is unlikely to create a significant impact on the current transit facilities.

As shown in Table 9 above, the proposed development is expected to generate a total of approximately 242, 209 and 350 subway trips during the AM, midday, and PM peak hours, respectively. When compared to the subway trips estimated for Site EE in the 2004 FEIS (32, 326, and 261, respectively), the proposed development would result in a net increase of 210 subway trips in the AM peak hour and 89

subway trips in the PM peak hour, but a net decrease of 117 subway trips in the midday peak period. Although the net increment in subway trips resulting from the proposed modifications would exceed 200 trips in the AM peak hour (compared to the 2004 project), it should be noted that the project site is located in a transit-rich area with access to numerous subway lines, including the B, Q, 4, 5, D, N and R subway lines at the nearest Subway station Atlantic Ave-Barclays Center-Pacific Street. As such, the net increment in subway trips along any one of the subway lines would be less than the CEQR threshold of 200 trips in any peak hour. Therefore, no significant adverse impacts to subway transit are anticipated, and no detailed analysis is necessary.

Similarly, as shown in Table 9 above, the proposed development is expected to generate a total of approximately 20, 89 and 89 bus trips during the AM, midday, and PM peak hours, respectively. When compared to the bus trips estimated for Site EE in the 2004 FEIS (9, 128, and 103, respectively), the proposed development would result in a net increase of 11 bus trips in the AM peak hour, but a net decrease of 39 and 14 bus trips in the midday and PM peak periods, respectively. As the net increments in bus transit resulting from the proposed modifications (compared to the 2004 FEIS) fall well below the threshold of 200 transit trips for a detailed transit analysis, they are not expected to result in any significant adverse bus transit impacts, and no detailed analysis is necessary.

For pedestrian trips, the proposed development is expected to generate a total of approximately 168, 814 and 495 walk-only trips during the AM, midday, and PM peak hours, respectively (refer to Table 9). When combined with subway and bus transit trips, the total pedestrian trips generated by the proposed development would be 455, 1,082 and 931 trips during the AM, midday, and PM peak hours, respectively. Compared to the total pedestrian trips (i.e., walk-only, subway and bus trips combined) estimated for Site EE in the 2004 FEIS (119, 1,122, and 806, respectively), the proposed development would result in a net increase of 336 pedestrian trips in the AM peak hour, a decrease of 40 pedestrian trips in the midday, and an increase of 125 pedestrian trips in the PM peak period. As the net increments in pedestrians resulting from the proposed modifications (compared to the 2004 FEIS) fall below the threshold of 200 pedestrian trips for a detailed analysis in the midday and PM peak hours, they are not expected to result in any significant adverse pedestrian impacts, and no detailed analysis is necessary. Although the net increment of 336 in the AM peak hour would exceed the 200 trip threshold, as the project site has three different street frontages, those trips would be distributed along a number of sidewalks and corners/crosswalks. Therefore, no single pedestrian element in the vicinity of the project site is expected to experience an incremental increase of more than 200 pedestrian trips in the AM peak hour, and no significant adverse pedestrian impacts are anticipated.

As such, the proposed development on Site EE would not result in any new significant adverse impacts to transit or pedestrian conditions, and the findings of the 2004 FEIS relative to transit and pedestrian conditions would not change.

Air Quality

The 2004 FEIS screening analysis of air emissions due to heating, ventilation and air conditioning (HVAC) equipment determined that there would be no significant adverse air quality impacts due to the projected development on Site EE. A parking analysis was performed for the proposed public parking garage on Site EE, which determined that no significant adverse air quality impacts would occur from vehicles using the proposed garage.

Mobile Sources

According to the *2012 CEQR Technical Manual* screening threshold criteria for this area of the City, if a project would generate 160 or more peak hour auto trips in the Downtown Brooklyn area of concern, there is a potential for mobile source air quality impacts and a detailed analysis is required. As discussed in the "Traffic and Parking" section above, there would be a maximum incremental increase of approximately 25 vehicle trips in any peak hour compared to the Site EE program analyzed in the 2004 FEIS, which would be well below the 160 vehicle trips per hour CEQR threshold for a detailed mobile source air quality analysis in Downtown Brooklyn. In addition, the garage vents associated with the parking garage on-site would be located so as to avoid potential impacts on the residents of the proposed development. Therefore, the proposed development would not result in any new significant adverse mobile source air quality impacts, and would not alter the findings of the 2004 FEIS relative to mobile source air quality.

Stationary Sources

The proposed development would have an overall height of approximately 382 feet, and would consist of a total of approximately 348,810 zsf above grade. In accordance with CEQR guidelines, the stack height for the emissions vent was estimated at three feet higher than the building height of 382 feet. Natural gas is expected to be the heating source for the HVAC system. Impacts from boiler emissions are a function of fuel type, stack height, minimum distance from the source to the nearest receptor (building), and floor area (square footage) of development resulting from the project. If a screening analysis shows that the nearest existing buildings to the proposed development that are of similar or greater height would not be impacted by the new HVAC systems, then all other buildings in the vicinity would also not be impacted. The only building of similar or greater height in the vicinity of the site is the approximately 512-foot tall Williamsburg Savings Bank building, recently converted to residential use, which is located at a distance of approximately 192 feet away from the proposed development's boiler stack at the closest point (from the center point of the illustrative mechanical bulkhead to the northwest corner of the Williamsburg Savings Bank).

To determine if emissions from the proposed development would result in an adverse impact to this building, a preliminary HVAC screening analysis was carried out using *CEQR Technical Manual* methodologies. As the proposed mixed-use development is expected to use natural gas for HVAC operations, Figures 17-7 and 17-8 from the *2012 CEQR Technical Manual Air Quality Appendix* were used (Figures 9 and 10). As shown in the figures, the HVAC emissions of the proposed development would not cause an impact to the Williamsburg Savings Bank Building under either the residential or commercial building thresholds/graphs. Therefore, no significant adverse air quality impacts associated with HVAC systems would be anticipated as a result of the proposed development.

As discussed in the "Land Use and Zoning" section above, the area surrounding the project site is a mix of commercial, retail, residential, and cultural uses. The proposed development would not be located within 1,000 feet of a large emission source such as a power generating plant. It would also not be located within 400 feet of manufacturing or processing facilities or a stack emission associated with commercial, institutional, or large-scale residential development. In addition, the proposed development would not be located near a medical, chemical, or research lab.

Therefore, the proposed development would not result in any new significant adverse stationary source air quality impacts, and would not alter the findings of the 2004 FEIS relative to stationary source air quality. However, it should be noted that the stationary source air quality assessment was performed for the

current proposed design of the building. Should the design of the building change so that the location of the stack release point changes, this issue may need to be re-examined.

Noise

Mobile Source Noise

As discussed in the "Traffic and Parking" section above, there would be a maximum incremental increase of approximately 25 vehicle trips in any peak hour compared to the Site EE program analyzed in the 2004 FEIS. With such a small incremental increase in vehicular traffic, the proposed development would not result in a doubling of PCE values in the study area, and would therefore not result in any new significant adverse mobile source noise impacts. Therefore, the proposed modifications would not alter the findings of the 2004 FEIS relative to mobile source noise.

Noise Attenuation

The 2004 FEIS concluded that an (E) designation would be placed on projected and potential development sites in order to create a mechanism for providing sufficient building noise attenuation. Site EE (Block 2110, Lot 3) was identified as requiring 35 dBA of window wall attenuation, and an (E) designation is currently mapped on the site.

As the noise measurements presented in the 2004 FEIS were taken in 2003, more recent noise monitoring data were researched in the vicinity of the project site in order to determine whether ambient noise levels adjacent to the site have increased to a degree that would warrant additional attenuation. The *Atlantic Yards Arena and Redevelopment Project Final EIS* (November 2006) identified and measured ambient noise levels in the vicinity of the project site, along 4th Avenue between Atlantic Avenue and Pacific Street (noise measurements made in 2006). This receptor location is approximately two blocks to the south of the project site, and is therefore assumed to be representative of noise conditions for the BAM South site. Based on ambient noise levels in the vicinity of the project site, with exterior $L_{10(1)}$ noise levels ranging from 75 to 80 dBA,[2] the proposed development would require an attenuation of 35 dBA for residential uses (commercial uses would require 5dBA less attenuation in order to achieve indoor noise levels of 50 dBA).

This can be achieved by including standard double-glazed windows with good sealing properties, and closed window condition with an alternate method of ventilation. In order to maintain a closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, central air conditioning or air conditioning sleeves containing air conditioners or HUD approved fans. Such measures would provide a minimum of 35 dBA of indoor noise attenuation, and would provide sufficient attenuation to satisfy CEQR requirements. Furthermore, this level of attenuation would satisfy the (E) designation requirements of the 2004 FEIS.

In addition, the proposed building's mechanical systems (i.e., heating, ventilation, and air conditioning) would be designed to meet all applicable noise regulations and to avoid producing levels that would result in any significant increase in ambient noise levels. Therefore, the proposed development on Site EE would not result in any new significant adverse noise impacts, and would not alter the findings of the 2004 FEIS.

[2] Noise levels based on *Atlantic Yards Arena and Redevelopment Project FEIS*; November 2006, as shown in Table 11 of the July 14, 2008 Technical Memorandum.

Public Health

The 2004 FEIS did not provide an analysis of public health, as the 2004 project did not meet any of the thresholds warranting a public health assessment according to the guidelines of the *CEQR Technical Manual*. The proposed development on Site EE would not alter these conditions, as no significant new air quality, hazardous materials, or noise impacts have been identified, and no changes to anticipated solid waste management practices would occur. Therefore, a public health analysis is not required.

Neighborhood Character

The 2004 FEIS did not identify any significant adverse neighborhood character impacts associated with the Downtown Brooklyn Development project. The analysis noted that the neighborhood character in the Fulton Street/Flatbush Avenue subarea, which encompasses Site EE, was not likely to change significantly as a result of the Downtown Brooklyn Development project. The cultural uses that were envisioned for this area were determined to be in keeping with existing land uses, and would further enhance the area's identity as a center of arts and entertainment, and provide for a smoother transition between the residential neighborhoods to the east and south and the commercial activity to the north.

The proposed development would similarly enhance the neighborhood character of this area. The proposed residential, commercial, and cultural uses would not conflict with surrounding land uses. The proposed development would be part of an ongoing trend that is shaping a new mixed-use neighborhood in this area at the southeastern edge of Downtown Brooklyn, and would contribute to and support the continued growth of the neighborhood. As noted in the applicable sections of this technical memorandum, no significant adverse impacts are likely to occur to open space, community facilities, traffic and transportation, noise or air quality as a result of the proposed development. Therefore, no significant adverse impacts to neighborhood character are expected, and the findings of the 2004 FEIS relative to neighborhood character would not change.

Construction

Similar to other developments in the City, construction of the proposed development would result in temporary disruption to the surrounding area, including some noise, and traffic associated with the delivery of materials, construction machinery, and arrival of workers on the site. As the construction period is expected to last approximately 24 months, it is considered a short-term construction project (as per the CEQR definition), and does not require a detailed assessment. Given the relatively small size of the project, it would not result in a significant amount of construction related traffic or mobile source emissions from construction vehicles. Additionally, construction would be subject to compliance with the New York City Noise Code.

As noted above, given its proximity to the Williamsburg Savings Bank building and the BAM historic district, the proposed development would require a construction protection plan in order to avoid potential physical impacts to these resources from ground-borne vibrations or other potential construction-related issues. The City has procedures for avoidance of damage to historic structures from adjacent construction. Building Code section 27-166 (C26-112.4) serves to protect historic structures by requiring that all lots, buildings, and service facilities adjacent to foundation and earthwork areas be protected and supported in accordance with the requirements of Building Construction Subchapter 7 (Article) and Building Code Subchapters 11 and 19 (Article). In addition, the New York City Department of Buildings' Technical Policy and Procedure Notice (PPN) #10/88, supplements these procedures by requiring a monitoring program to reduce the likelihood of construction damages to adjacent historic structures and to detect at an early stage the beginnings of damage so that construction procedures can be changed.

In addition, further hazardous materials investigation and/or remediation would be performed on Site EE prior to development.

Therefore, there would be no new construction-period impacts in the area surrounding Site EE as a result of the proposed modifications.

IV. CONCLUSION

The 2012 changes to the proposed program for development on Site EE would not result in any significant adverse environmental impacts that had not been previously identified in either the 2004 FEIS or the 2009 Technical Memorandum. Therefore, no additional analysis or supplemental environmental impact statement is warranted for the proposed changes to the project described herein.

_____ April 15, 2013

Robert R. Kulikowski, Ph.D. Date
Assistant to the Mayor