

## **A. INTRODUCTION**

As presented in Chapter 1, “Project Description,” the Proposed Actions would facilitate the development of the 120,209 sf (approximately 2.76-acre) Development Site with an approximately 1,369,314 gsf (1,151,671 zsf) mixed-use development (the “Proposed Development”). The Proposed Development would comprise 1,263,039 gsf of residential uses, introducing a total of 1,578 dwelling units, approximately 21,183 gsf of local retail space and approximately 9,678 gsf of community facility space. Additionally, approximately 10,790 sf of publicly accessible open space plaza area would be created. Construction of the Proposed Development is expected to be complete with all components fully operational in 2024.

The potential for the Proposed Development to result in significant adverse impacts was evaluated in Chapters 2 through 20 of this EIS. In accordance with the 2020 *City Environmental Quality Review (CEQR) Technical Manual*, where significant adverse impacts are identified, mitigation measures to reduce or eliminate the impacts to the fullest extent practicable are developed and evaluated. This chapter considers mitigation measures to address the significant adverse impacts generated by the Proposed Development. ~~Measures to further mitigate significant adverse impacts will continue to be evaluated between the DEIS and FEIS. Therefore, the FEIS may include additional information and commitments on all practicable and feasible mitigation measures to be implemented with the Proposed Actions.~~

The Proposed Actions have the potential to result in significant adverse impacts to community facilities (child care services), open space (direct shadow effects), shadows (on sunlight-sensitive open space), natural resources (direct shadows effects), transportation (traffic and pedestrians), and construction traffic and construction noise. Potential mitigation measures for each of these technical areas are identified below.

## **B. PRINCIPAL CONCLUSIONS**

### **Community Facilities**

#### ***Child Care Services***

As described in **Chapter 4, “Community Facilities and Services,”** the Proposed Actions would result in significant adverse impacts on publicly funded child care centers. According to the *CEQR Technical Manual*, a significant adverse child care center impact could result if an action results in: (1) a collective utilization rate greater than 100 percent in the With-Action condition; and (2) the demand constitutes an increase of five percent or more in the collective capacity of child care centers serving the study area over the No-Action condition. Under the RWCDs, the Proposed Development would introduce approximately 84 children potentially eligible for subsidized child care to the study area. The analysis of publicly funded child care services found that under the With-Action condition the child care study area would experience a utilization rate of 104.2 percent, an increase of 5.6 percentage points over No-Action conditions. As such, the Proposed Actions would result in significant adverse impacts on publicly funded child care facilities. As

a possible mitigation measure, the Applicant has stated a willingness to provide child care facility capacity. Conversely, the Applicant could pay the City to provide nine child care slots off-site to ensure that the Proposed Actions do not result in impacts to child care services. Alternatively, the impact could be eliminated by reducing the Proposed Project from 1,578 total DUs (with 474 affordable DUs through the MIH Program) to 1,404 DUs (with 421 affordable DUs through the MIH Program), a reduction of 53 affordable DUs. The impact to child care centers would occur above the 421<sup>st</sup> affordable unit through the MIH Program. This impact would therefore not occur until the construction the Phase II Building, which is expected to be completed in the 2024 build year.

~~As described above, the Proposed Development includes approximately 9,678 gsf of community facility space. The Applicant has indicated that it is willing to set aside this community facility space as space for publicly funded child care. If the NYC Department of Education (DOE) does not accept the space for publicly funded child care, the Proposed Development would result in an unmitigated significant adverse impact to publicly funded child care. To mitigate the significant adverse child care impact, the Applicant would commit, through the Restrictive Declaration, to make space available to DOE on the Development Site for publicly-funded childcare. If DOE does not pursue the space for publicly funded child care, the Applicant would pay the City to provide nine child care slots off-site to ensure that the Proposed Actions do not result in impacts to child care services. The applicant would re-evaluate the need for additional publicly-funded child care seats at the triggering 421<sup>st</sup> affordable unit, in consultation with DCP and DOE, as appropriate. If measures to fully mitigate the project's anticipated impact are not identified and implemented, this would remain an unavoidable significant adverse impact.~~

~~Consideration of providing additional child care facility capacity and/or other measures is being explored in consultation with ACS, and will be further explored between the DEIS and FEIS.~~

## **Open Space, Shadows, and Natural Resources**

As described in **Chapter 5, "Open Space," Chapter 6, "Shadows," and Chapter 9, "Natural Resources,"** the Proposed Development would result in significant adverse impacts due to direct shadows effects on open space and natural resources in the Brooklyn Botanic Garden and on open space resources in the Jackie Robinson Playground.

Incremental shadows from the Proposed Development would be cast over several of the affected greenhouses in the Brooklyn Botanic Garden, used to propagate plants for desert, tropical, and warm temperate climates that require full, year-round sun including sunlight during the important winter months. Therefore, due to the incremental shadows created by the Proposed Development, significant adverse impacts are likely to occur on the natural resources found within the Brooklyn Botanic Garden. The Applicant has identified a 34-story version of the proposed development that reorients the buildings bulk as a possible mitigation measure that would feature the same density as the Proposed Development. The 34-story development would result in a reduction to incremental shadows on all sunlight-sensitive resources on all analysis days.

Incremental shadows from the Proposed Development would also result in a significant shadows impact at the Jackie Robinson Playground due the size and duration of incremental shadow over the open space. As described above, the applicant has proposed a 34-story development that would reorient the Proposed Development's bulk to reduce incremental shadows while maintaining the same density. However due

to the proximity of Jackie Robinson Playground to the Proposed Development, no feasible mitigation measures could be identified for Jackie Robinson Playground at this time.

~~As the~~The 34-story iteration of the Proposed Development would also result in significant adverse impacts on the Brooklyn Botanic Garden and Jackie Robinson Playground, no mitigation measures could be implemented that would fully mitigate the shadows impact and achieve the project goal of providing affordable housing for a range of incomes at 50 percent of all units, substantially above what would be achieved under MIH. As shown in the analysis below, while the 34-story iteration of the Proposed Development would reduce incremental shadow duration on portions of the Brooklyn Botanic Garden, due to the proximity of Jackie Robinson Playground to the Development Site, the 34-story iteration of the Proposed Development would not partially or fully mitigate the shadows impact on Jackie Robinson Playground. Therefore, the Proposed Actions would result in unmitigated significant adverse shadows impacts on these resources.

~~Consideration of other measures that could provide full or partial mitigation at these sunlight sensitive resources are being explored by the Applicant in consultation with DCP and NYC Parks, and will be further explored between the DEIS and FEIS.~~

**Transportation**

As described in **Chapter 14, “Transportation,”** the Proposed Actions would result in significant adverse impacts related to traffic and pedestrian elements. ~~Possible mitigation measures are identified and will be further explored between the DEIS and FEIS.~~

**Traffic**

As described in **Chapter 14, “Transportation,”** the Proposed Actions would result in significant adverse impacts at one study area intersection during one or more analyzed peak hour; specifically, two lane groups at one intersection during the weekday AM, weekday PM, and Saturday midday peak hours. Implementation of traffic engineering improvements, such as signal timing changes would provide mitigation for most of the anticipated traffic impacts. Implementation of the recommended traffic engineering improvements is subject to review and approval by the New York City Department of Transportation (DOT) ~~and will be further refined between the DEIS and FEIS.~~ If, prior to implementation, DOT determines that an identified mitigation measure is infeasible, an alternative mitigation measure will be identified, if possible. In the absence of the application of mitigation measures, the impacts would remain unmitigated.

**Table 21-1** shows that all significant adverse impacts would be fully mitigated during the weekday AM, weekday PM, and Saturday midday peak hours.

**TABLE 21-1  
Summary of Lane Groups/Intersections with Significant Adverse Traffic Impacts**

Peak Hour	Lane Groups/ Intersections Analyzed	Lane Groups/ Intersections With No Significant Impacts	Lane Groups/ Intersections With Significant Impacts	Mitigated Lane Groups/ Intersections	Unmitigated Lane Groups/ Intersections
Weekday AM	29/9	27/8	2/1	2/1	0/0
Weekday Midday	29/9	29/9	0/0	0/0	0/0
Weekday PM	29/9	28/8	1/1	1/1	0/0
Saturday Midday	29/9	27/8	2/1	2/1	0/0

## ***Pedestrians***

As described in Chapter 14, “Transportation,” incremental demand from the Proposed Development would result in significant adverse impacts to the north crosswalk at Washington Avenue and Empire Boulevard in all four peak hours. These impacts could be fully mitigated by implementing a flared crosswalk. If the implementation of a flared crosswalk at the north crosswalk at Washington Avenue and Empire Boulevard, the significant adverse impact would remain unmitigated.

## **Construction**

### ***Transportation***

#### ***Traffic***

As presented in **Chapter 20, “Construction,”** construction travel demand is expected to peak in the second quarter (Q2) of 2023 when traffic related to interior finishes for Phase I would coincide with the construction of the concrete superstructure and the building facade for Phase II. This period was therefore analyzed for potential transportation impacts during construction. It is expected that construction of the Proposed Development would generate a peak of approximately 738 workers and 18 truck deliveries per day during the second quarter of 2023.

As described below, six lane groups are expected to have the potential for significant adverse traffic impacts as a result of construction activities in the 3 to 4 peak hour, namely the northbound left-through and southbound left at Eastern Parkway and Washington Avenue, the westbound left at Washington Avenue and Empire Boulevard, the southbound right at Franklin Avenue and Empire Boulevard, the southbound through-right at Franklin Avenue and Sullivan Place, and the westbound left-right at Washington Avenue and Carroll Street. Any impacts resulting from the effects of construction traffic of proposed development are anticipated to occur temporarily during the peak quarter of construction (Q2 2023). As discussed below, significant adverse impacts during the 3 to 4 PM weekday peak hour at three intersections (Washington Avenue & Eastern Parkway, Franklin Avenue & Sullivan Place, and Washington Avenue & Carroll Street) cannot be mitigated. At the intersections of Franklin Avenue and Empire Boulevard and Washington Avenue & Empire Boulevard, signal timing changes, subject to the approval of NYCDOT, would fully mitigate any significant adverse impact as a result of the Proposed Actions. If signal timing changes were not implemented by NYCDOT, these impacts would remain unmitigated.

#### ***Noise***

As presented in **Chapter 20, “Construction,”** detailed quantitative construction noise modeling was completed for the Proposed Development to determine typical construction noise levels for excavation, superstructure, and interior fit-out construction phases. Significant adverse construction noise impacts at sensitive receptors were identified in consideration of the magnitude of the noise level increase (three A-weighted decibels (dBA), a “noticeable” noise level increase per the *CEQR Technical Manual* methodology), the anticipated absolute noise level (45 dBA interior noise levels for residential, mixed-use, and public facilities/institutions and 80 dBA for open space), and the duration of the predicted elevated noise level.

P.S. 375 Jackie Robinson School would experience a maximum construction noise increment of up to 26 dBA at a fourth floor receiver on the western façade of the building that overlooks the building 1 construction site (receptor #139). The highest increments of 20 dBA would be limited to third and fourth-story receivers which would have direct line-of-sight to the construction site. The maximum exterior noise level predicted

for the school is 83 dBA Leq. Assuming window-closed conditions with air conditioning (28 dB exterior to interior attenuation), this is equivalent to an interior noise level of 55 dBA Leq, which exceeds the CEQR-recommended interior condition of 45 dBA. The maximum duration of incremental impacts above 15 dBA is 45 months, the duration of the Proposed Development's construction. Impacts would be less (maximum increment of 15 dBA) at ground level receivers, which would experience greater benefits from the construction site noise barrier. No impacts would occur on the eastern façade of the school. Therefore, considering the magnitude and duration of impact, the construction noise impact to P.S. 375 is considered a significant adverse impact.

As described below, there is potential for construction of the Proposed Development to result in significant impacts at several residential buildings. The highest impacts would occur to the nine buildings directly adjoining the construction site (such as 1015 Washington Avenue). Overall, the highest impacts to residential buildings involve increments on the range of 17 to 37 dBA and total exterior noise levels of 78 to 86 dBA Leq. Assuming a windows-closed condition and 28 dB exterior to interior attenuation, these noise levels would exceed the CEQR-recommended 45 dBA interior standard. Increment durations could persist above 15 dBA for 19 to 43 months. Although there would be no impact to these locations on weekends, the high magnitude and duration of construction noise impacts on weekdays is considered a significant adverse impact that could only partially be mitigated; however, these impacts would occur intermittently. Although construction noise impacts would not occur at night and on weekends, the construction during the day near these locations may result in annoyance to building occupants.

Several residential buildings near the Development Site do not have central air conditioning and typically rely on window air conditioning for cooling. Any units lacking a window AC would need to keep their windows open during summer months, which would substantially decrease window/wall noise attenuation. The exterior to interior attenuation provided by a building with windows open is approximately 10 dBA, compared to up to 28 dBA for closed double-glazed windows and window air conditioning units. Interior  $L_{10(1)}$  noise levels would exceed the recommended threshold for residential use according to CEQR noise exposure guidelines for extended periods during construction; increment durations could persist above 15 dBA Leq for 7 to 39 months. Considering the magnitude and duration, this would represent a significant adverse construction noise impact.

While the provision of window air conditioners to the affected buildings was explored, such a measure would only reduce the magnitude of temporary construction noise impacts, and the identified impacts would not be fully mitigated. Specifically, even with the provision of window air conditioners to these buildings, during certain periods of the Proposed Development's construction, interior noise levels would exceed 45 dBA  $L_{10(1)}$  (the CEQR acceptable interior noise level criteria). For units that already have window ACs, further receptor controls would not be effective and the significant adverse impact would remain unmitigated. Therefore, this potential mitigation measure will not be implemented. ~~The feasibility of providing window ACs to any apartment units currently lacking them will be explored as a potential partial mitigation between the DEIS and FEIS.~~

~~Beyond the façade noise attenuation measures discussed above, the potential use of source or path controls beyond those that would be required are being explored as possible mitigation measures to the significant adverse noise impacts identified at the residential buildings across from the Development Site. Under the *New York City Noise Control Code*, noise barriers constructed from plywood or other materials are required to be provided at a height of 8 feet. For receptors that are shielded by the perimeter noise barrier (i.e., those at or below the height of the barrier), the height and treatment to the barrier would be expected to provide up to approximately 5 dBA of additional shielding from at-grade or below-grade sources of construction noise.~~

~~The Applicant's commitments would be memorialized in an enforceable legal mechanism, such as a Restrictive Declaration. Additional mitigation measures will be explored further by the Applicant in consultation with DCP and DEP between the DEIS and FEIS. If no additional feasible mitigation measures are identified, the impacts would be considered partially mitigated. The Proposed Development's construction noise significant adverse impacts would be considered partially mitigated through the implementation of the required noise barriers.~~

## C. COMMUNITY FACILITIES AND SERVICES

### Child Care Services

The *CEQR Technical Manual* requires a detailed analysis of child 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 area publicly funded child care centers. As detailed in **Chapter 1, "Project Description,"** under 2024 RWCDS conditions, 473 affordable housing units for families with incomes at or below 80 percent of AMI would be constructed on the Development Site. Based on Table 6-1b of the *CEQR Technical Manual*, these additional 473 affordable units would generate 84 children under age six eligible for publicly funded child care services.

As described in **Chapter 1, "Project Description,"** it is the Applicant's intent to ultimately provide a child care facility on the Development Site. However, for conservative analysis purposes, this EIS assumes that the Proposed Development would include community facility space that would be occupied by a medical office. Therefore, the analysis of child care centers does not assume any child care seats will be provided on the Development Site.

As described in **Chapter 4, "Community Facilities and Services,"** the Proposed Actions would result in significant adverse impacts on publicly funded child care centers. According to the *CEQR Technical Manual*, a significant adverse child care center impact could result if an action results in: (1) a collective utilization rate greater than 100 percent in the With-Action condition; and (2) the demand constitutes an increase of five percent or more in the collective capacity of child care centers serving the study area over the No-Action condition. Under the RWCDS, the Proposed Development would introduce approximately 84 children potentially eligible for subsidized child care to the study area. The analysis of publicly funded child care services found that under the With-Action condition the child care study area would experience a utilization rate of 104.2 percent, an increase of 5.6 percentage points over No-Action conditions. As such, the Proposed Actions would result in significant adverse impacts on publicly funded child care facilities.

This impact could be eliminated by reducing the Proposed Development from 1,578 total DUs (with 474 affordable DUs through the MIH Program) to 1,404 DUs (with 421 affordable DUs through the MIH Program), a reduction of 53 affordable DUs. The impact to child care centers would occur above the 421<sup>st</sup> affordable unit through the MIH Program. This impact would therefore not occur until the construction of the Phase II Building, which is expected to be completed in the 2024 build year. The significant adverse impact could also be mitigated by providing capacity for nine publicly-funded child care center seats.

In addition to mitigation that would be the obligation of the applicant, City programs could potentially avoid the anticipated impact by expanding the number of publicly funded child care slots in the study area. Since 2014, the City has made significant investments to provide free, full-day, high-quality early childhood

education through the Pre-K for All and 3-K for All, as part of a broader effort to create a continuum of high-quality early care and education programs for New York City children from birth to five years old. By the Proposed Development's 2024 Build year, further investments could include the expansion of slots as part of the City's universal Pre-K for All and 3-K for All programs and possible new DOE facilities, reflecting the City's policy of providing early childhood education and care opportunities to all residents, regardless of family income. However, as such capacity expansions have not been identified at this time, they are not accounted for in the quantitative analysis and impact determination. Furthermore, the projected increase in demand for child care slots in the With-Action Condition could be offset by private day care facilities and day care centers outside of the Child Care Study Area, which are not included in this analysis; some parents may choose day care providers that are closer to their workplace rather than their home.

In connection with the approval of the Proposed Actions, a Restrictive Declaration will be recorded on the Development Site subject to CPC approval. The Restrictive Declaration will memorialize the Applicant's ~~intent to intent commitment to make space available to DOE to give DOE access to space on the Development Site for publicly funded childcare on the Development Site for publicly-funded childcare.~~ provide a child care facility on the Development Site as a possible mitigation measure to ensure that there is no shortage of child care slots as a consequence of the Proposed Development. Conversely If DOE does not pursue the space for publicly funded child care, the Applicant ~~could~~ would pay the City to provide nine child care slots off-site to ensure that the Proposed Actions do not result in impacts to child care services. ~~The applicant is currently coordinating with ACS and further mitigation measures will be explored between the DEIS and FEIS. The applicant would re-evaluate the need for additional publicly-funded child care seats at the triggering 421<sup>st</sup> affordable unit, in consultation with ACS and other City agencies DCP and DOE, as appropriate. If measures to fully mitigate the project's anticipated impact are not identified and implemented, this would remain an unavoidable significant adverse impact. If DOE does not accept the space for publicly funded child care, the Proposed Development would result in an unmitigated significant adverse impact to publicly funded child care.~~

## D. OPEN SPACE, SHADOWS, AND NATURAL RESOURCES

As described in **Chapter 5, "Open Space," Chapter 6, "Shadows," and Chapter 9, "Natural Resources,"** the Proposed Development would result in significant adverse impacts due to direct shadows effects on open space and natural resources in Brooklyn Botanic Garden and on open space resources in Jackie Robinson Playground.

### *Brooklyn Botanic Garden*

Incremental shadows from the Proposed Development's buildings would be cast on several individual resources, including greenhouses, within the Brooklyn Botanic Garden on all four CEQR shadows analysis days. The Proposed Development would cast shadows on greenhouses that are used to propagate plants for desert, tropical, and warm temperate climates that require full, year-round sun including sunlight during the important winter months. Therefore, due to the incremental shadows created by the Proposed Development, significant adverse impacts are likely on the natural resources found within Brooklyn Botanic Garden.

Incremental shadows on Brooklyn Botanic Garden cast by the Proposed Development would constitute a significant adverse impact.

### *Jackie Robinson Playground*

Incremental shadows from the Proposed Development's buildings would be cast on Jackie Robinson Playground on all four CEQR shadows analysis days. On March 21/September 21, between 3:23 PM and 4:29 PM, incremental shadows would completely eliminate direct sunlight exposure on the sunlight-sensitive resources found within this playground for a duration of one hour and six minutes. Due to the duration and extent of incremental shadows on the playground, these incremental shadows may impact the usability and enjoyment of the open space which would constitute a significant adverse impact based on the guidance of the *CEQR Technical Manual*.

### *Potential Mitigation Measures*

The *CEQR Technical Manual* identifies several different measures that could mitigate fully or partly significant adverse shadow impacts on open spaces. These measures include modifying the height, shape, size or orientation of a proposed development in order to eliminate or reduce the extent and duration of incremental shadow on the resource; relocating sunlight-sensitive features within an open space to avoid sunlight loss; relocating or replacing vegetation; and undertaking additional maintenance to reduce the likelihood of species loss.

~~Potential measures to reduce the coverage, duration, or effect of incremental shadows generated by the Proposed Development's buildings on Brooklyn Botanic Garden and Jackie Robinson Playground are being explored by the applicant in consultation with DCP and NYC Parks, and will be further explored between the DEIS and FEIS. Potential measures to mitigate incremental shadows over the Brooklyn Botanic Garden include but are not limited to relocating plants to facilities outside the range of the Proposed Development's incremental shadow. If feasible measures are identified, the impacts may be considered partially mitigated.~~ Due to the proximity of the Jackie Robinson Playground to the Proposed Development, the 34-story version of the Proposed Development that was intended to reduce incremental shadows would not have its intended effect on Jackie Robinson Playground. No further mitigation measures have been identified for this sunlight-sensitive resource.

As the significant adverse shadows impacts would not be fully mitigated on Brooklyn Botanic Garden and would not be fully mitigated on Jackie Robinson Playground, the Proposed Development would result in unmitigated significant adverse shadow impacts to these resources.

Additionally, the Applicant has identified a 34-story version of the Proposed Development that would lessen the incremental shadows on both the Brooklyn Botanic Garden and Jackie Robinson Playground.

### 34-Story Alternate Proposed Development

The Applicant has identified a 34-story (with a maximum building height of 364-feet tall with a 30 foot mechanical bulkhead) version of the Proposed Development that would have the same density as the Proposed Development as a possible mitigation measure. The 34-story development would fit entirely within the maximum building envelope included in the proposed LSGD special permit. As shown below in **Table 21-2** and in **Figures 21-1** through **21-4**, the 34-story buildings would result in a reduction in incremental shadow duration on all sunlight-sensitive resources on all four analysis days.

As shown in **Table 21-2** and in **Figures 21-1** through **21-4**, incremental shadow duration from the 34-story development would be reduced between 16 and 39 minutes (compared to the Proposed Development) depending on the analysis day. The 34-story development would result in a 16 minute reduction in incremental shadows on the December 21 analysis day and a 39 minute reduction in incremental shadows



on the May/August 6 analysis day. Finally, the 34-story development would result in a reduction of incremental shadows between two and three minutes, relative to the Proposed Development, on Jackie Robinson Playground.

Individual components of the Brooklyn Botanic Garden would see reduced incremental shadow duration compared to the Proposed Development. Resources D-O<sup>1</sup> within the Brooklyn Botanic Garden (identified as the most sunlight-sensitive resources affected by incremental shadows) would experience the most significant reductions during the May 6/August 6 and June 21 analysis days (refer to **Table 21-2**<sup>2</sup>). Resource M, the Highland Moist Tropical Orchid Workhouse, would receive the longest incremental shadows duration at 3 hours and 7 minutes of additional shadow coverage on the June 21 analysis day, a 30-minute reduction compared to the Proposed Development. Compared to the Proposed Development, the 34-story development would result in incremental shadow duration reductions up to 1 hour and 26 minutes at Resources D – O (refer to **Figure 22-1** through **22-4**). As shown in **Table 21-2**, the largest reduction in incremental shadows duration due to the 34-story alternative would occur at Resource M, the Highland Moist Tropical Orchid Workhouse, which would experience a one hour and 26 minute reduction in incremental shadows on the May 6/August 6 analysis day. In addition, the 34-story alternative would eliminate incremental shadow coverage over Resources A and D on the March 21/September 21 and December 21 analysis days, respectively. These reductions in shadows duration would reduce the severity of the significant adverse impact on Brooklyn Botanic Garden, but would not fully mitigate the impact as sensitive resources would continue to receive insufficient sunlight as a result of an increase in incremental shadows. As such, this measure, i.e., 34-story version of the project, would be considered a partial mitigation of the impact caused by the Proposed Development. As such, even if this alternate development is constructed, the proposed action would result in unavoidable adverse impacts on Brooklyn Botanic Garden.

Based on incremental shadow durations from the 34-story development on Jackie Robinson Playground, the 34-story development would result in significant adverse impacts on the playground. The impact on Jackie Robinson Playground cannot be mitigated by the 34-story development, as it would reduce shadow durations only by 2 to 3 minutes on the four analysis dates compared to the Proposed Development. Therefore, the Propose Actions and the 34-story development would result in an unmitigated significant adverse shadows impact to Jackie Robinson Playground. Refer to **Chapter 23, “Unavoidable Adverse Impacts,”** for further discussion.

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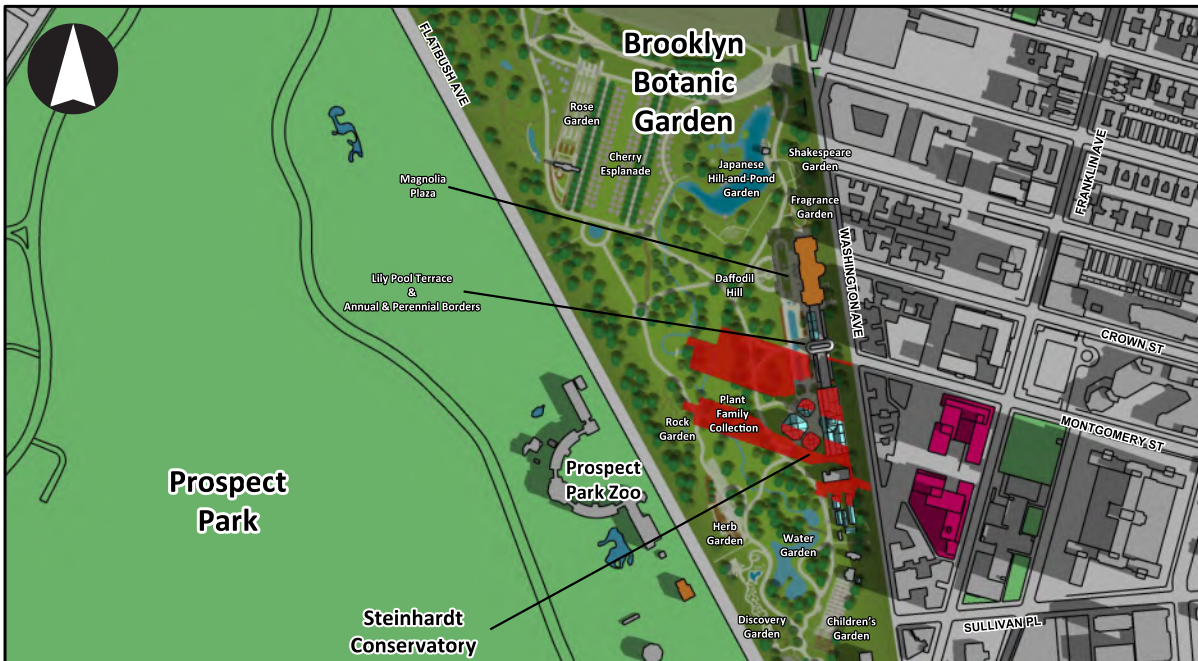
<sup>1</sup> Refer to **Figure 6-3** for a map detailing the location of specific resources within the Brooklyn Botanic Garden.

<sup>2</sup> The column furthest to the right of **Table 21-2** indicates whether a resource was considered significantly impacted by the proposed 39-story development analyzed in **Chapter 6, “Shadows.”**

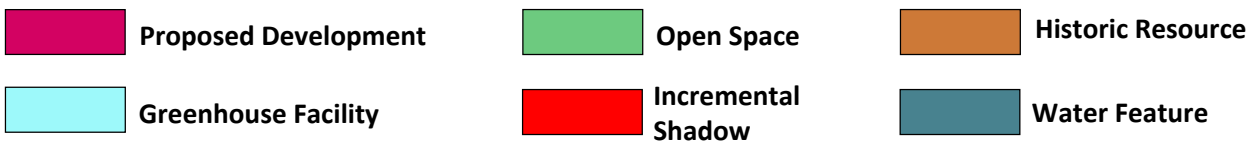
Brooklyn Botanic Gardens & Prospect Park  
Incremental Shadows on March 21/September 21



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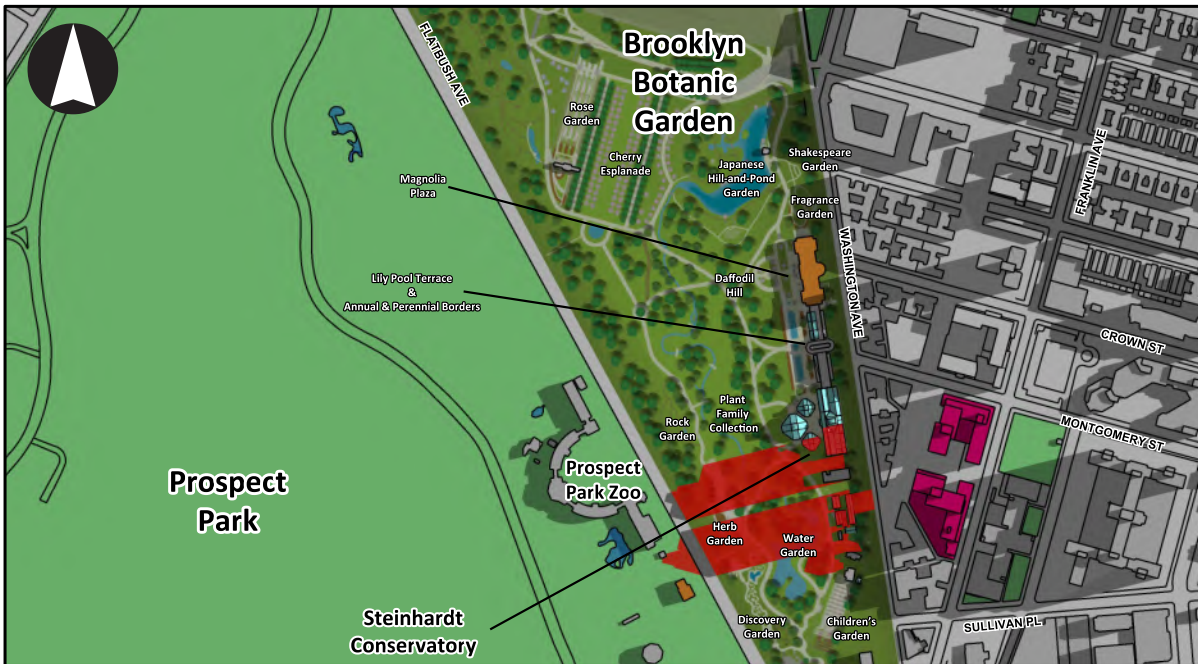


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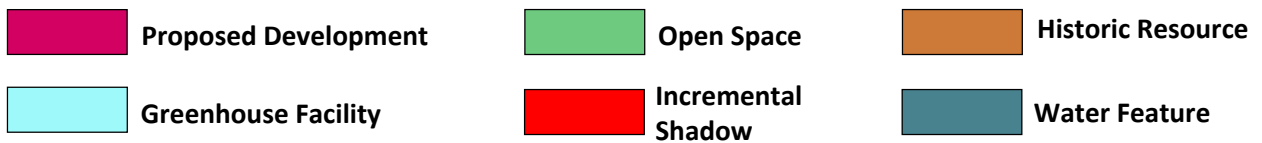




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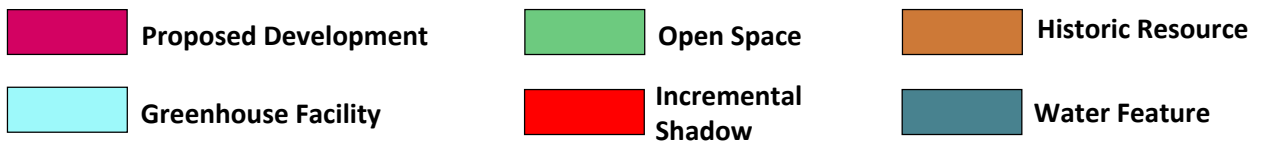
Brooklyn Botanic Garden & Prospect Park  
Incremental Shadows on March 21/September 21



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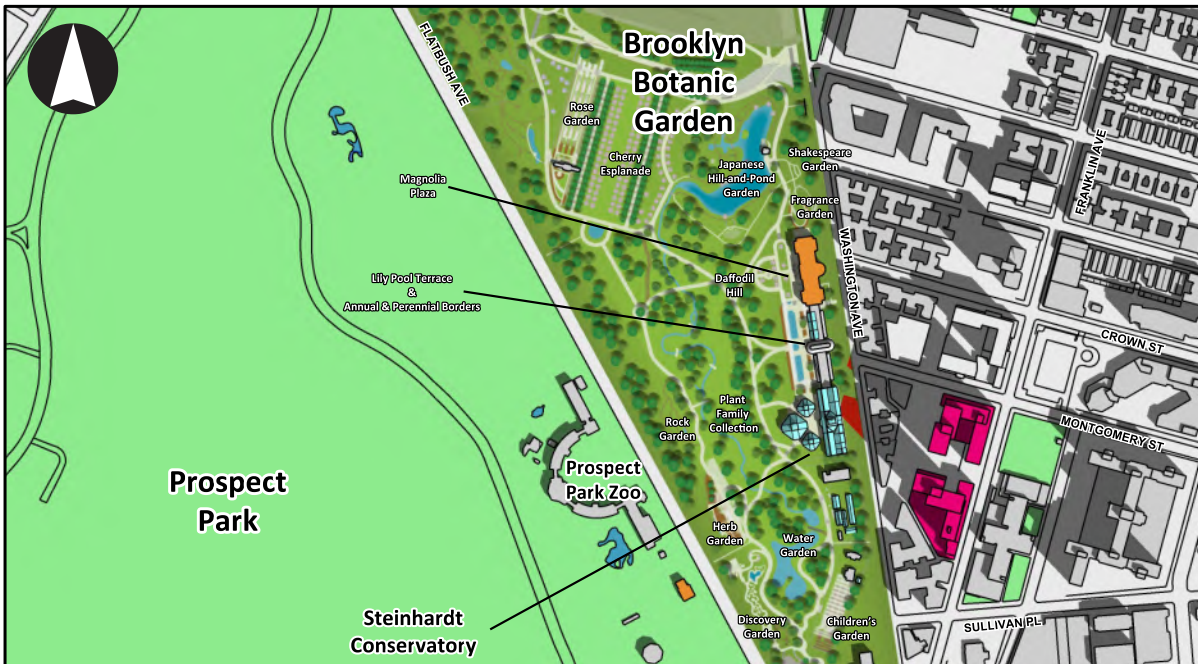
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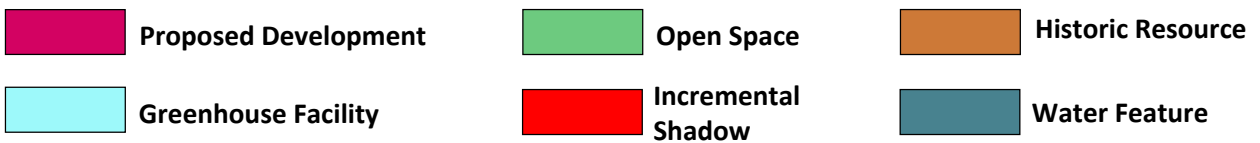
Brooklyn Botanic Garden & Prospect Park  
Incremental Shadows on March 21/September 21



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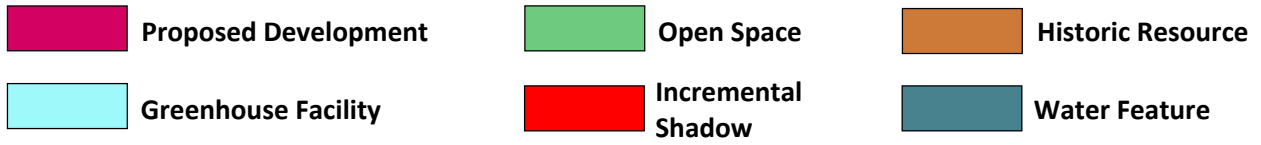
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Brooklyn Botanic Garden & Prospect Park  
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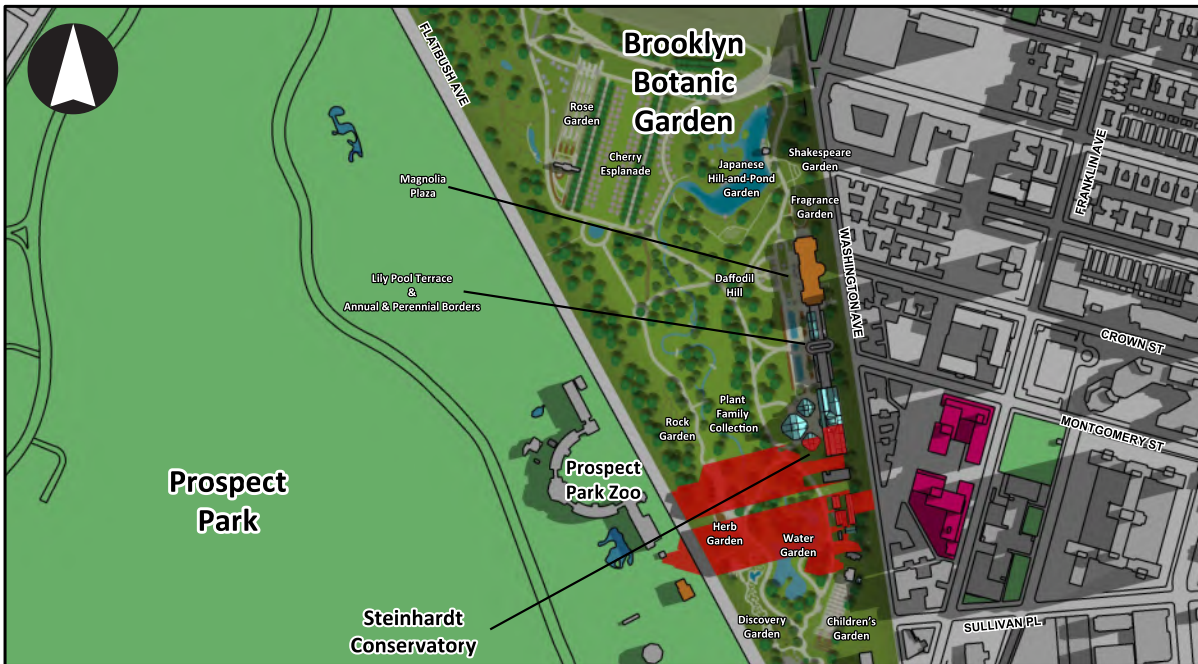


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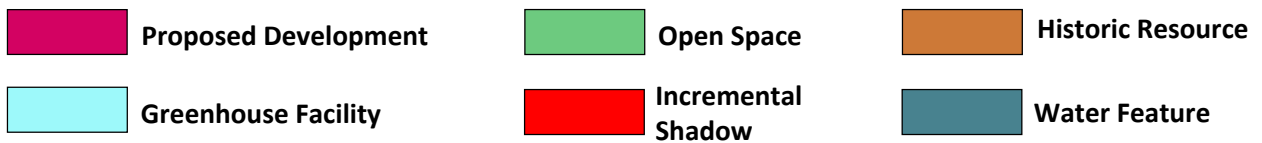




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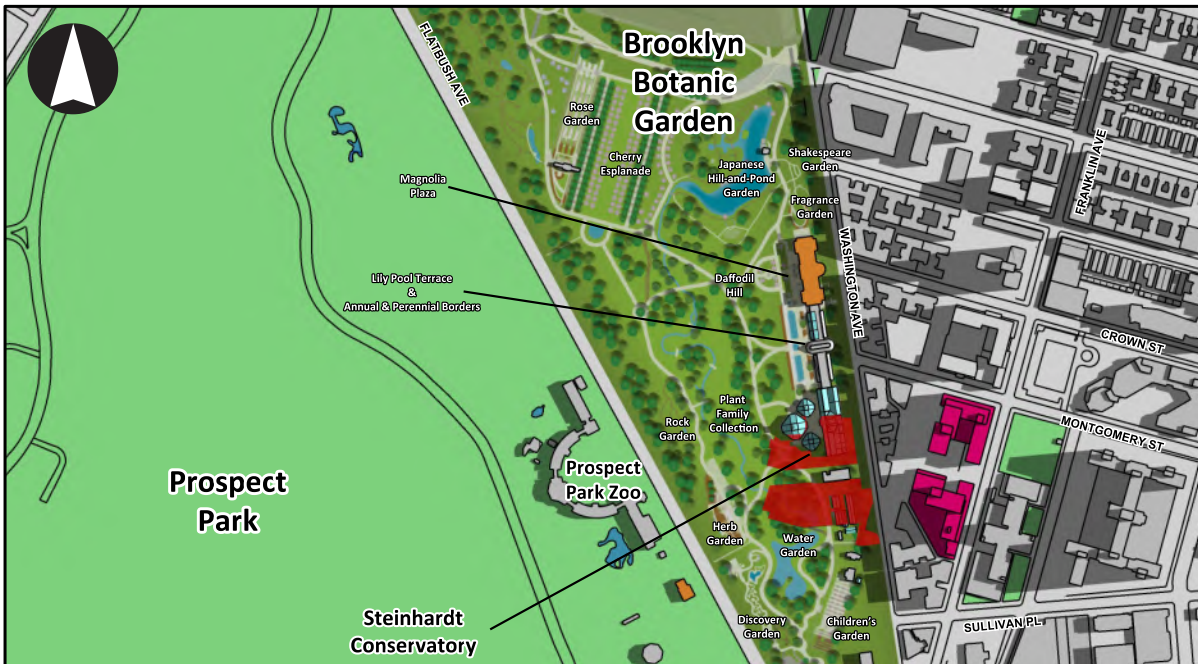


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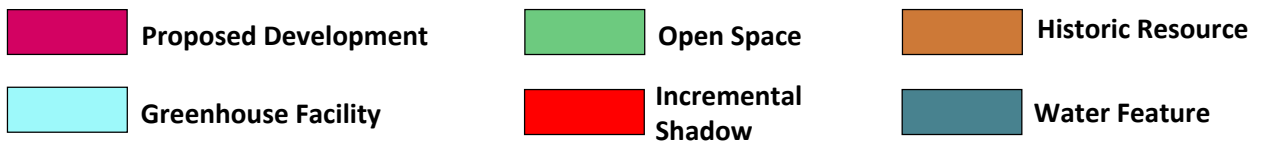




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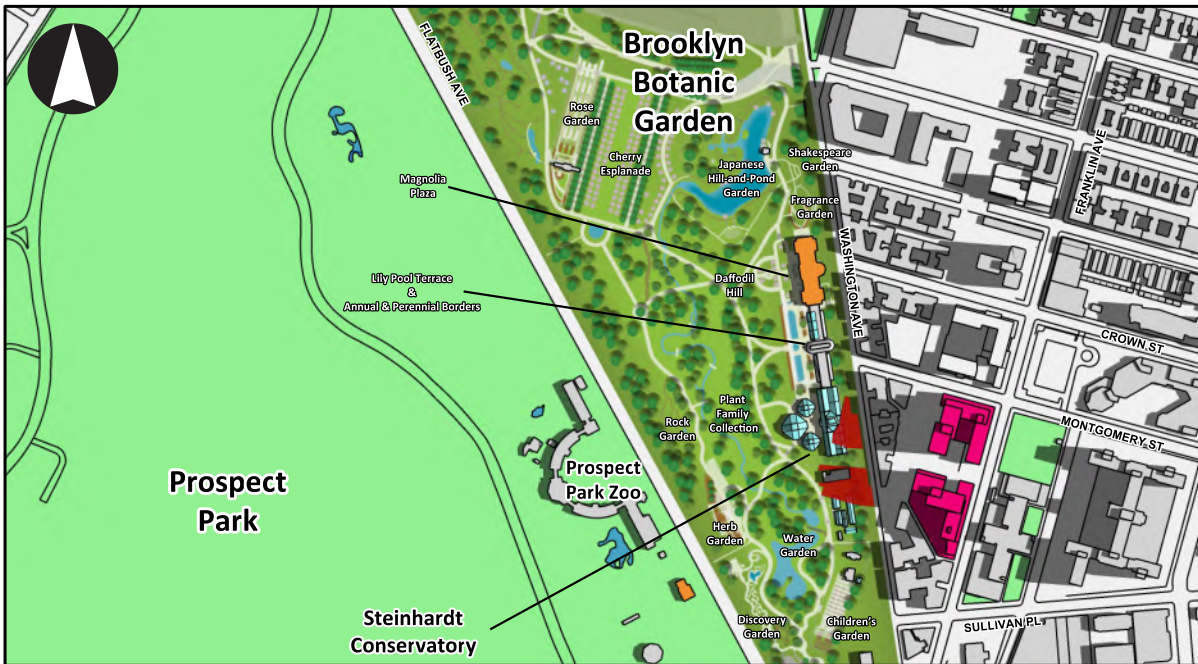
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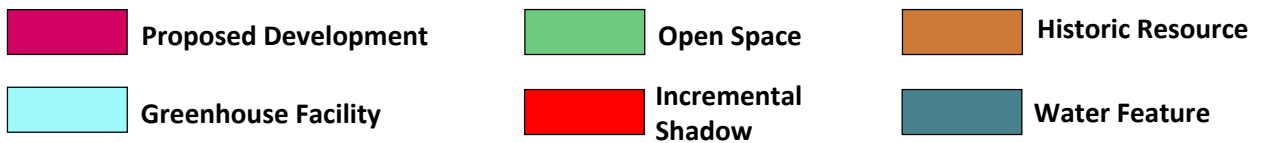




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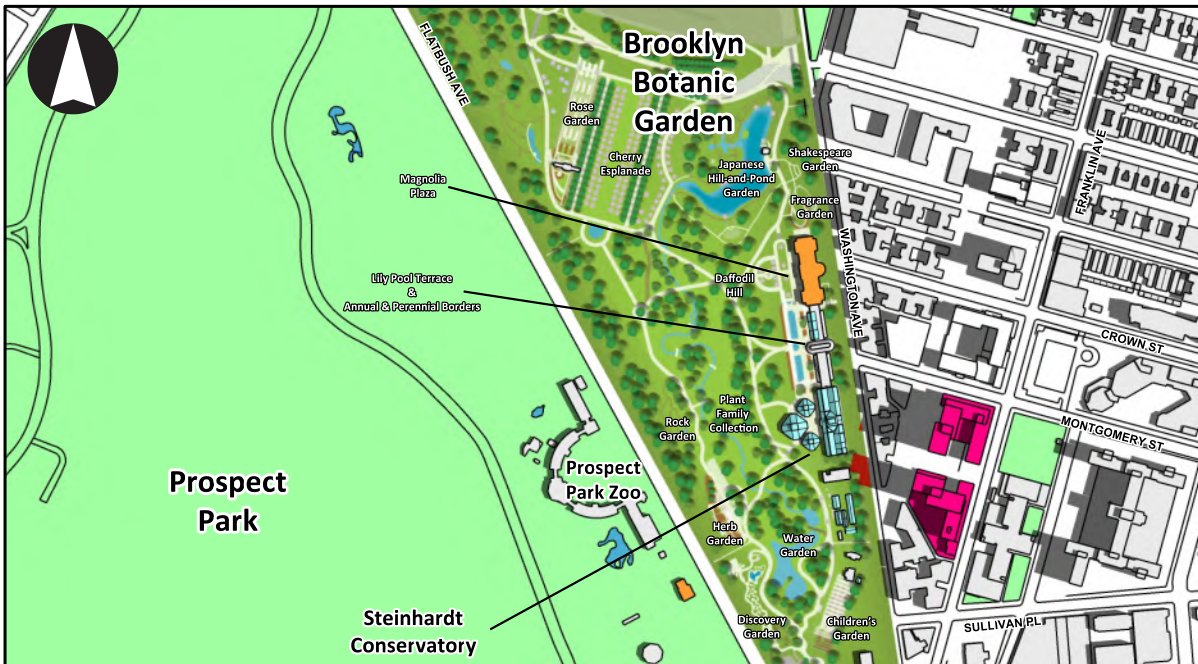


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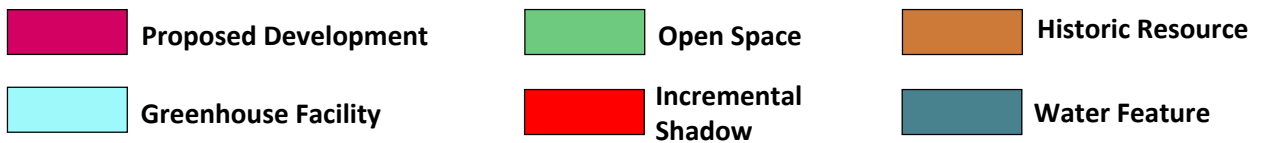




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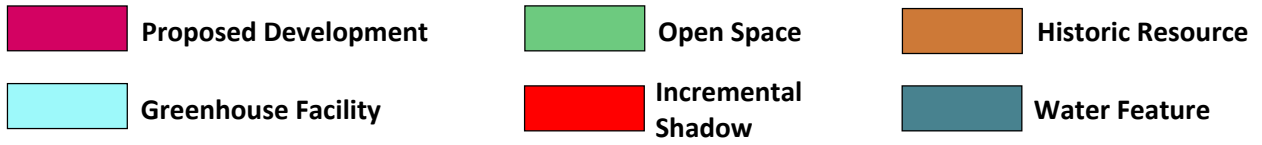


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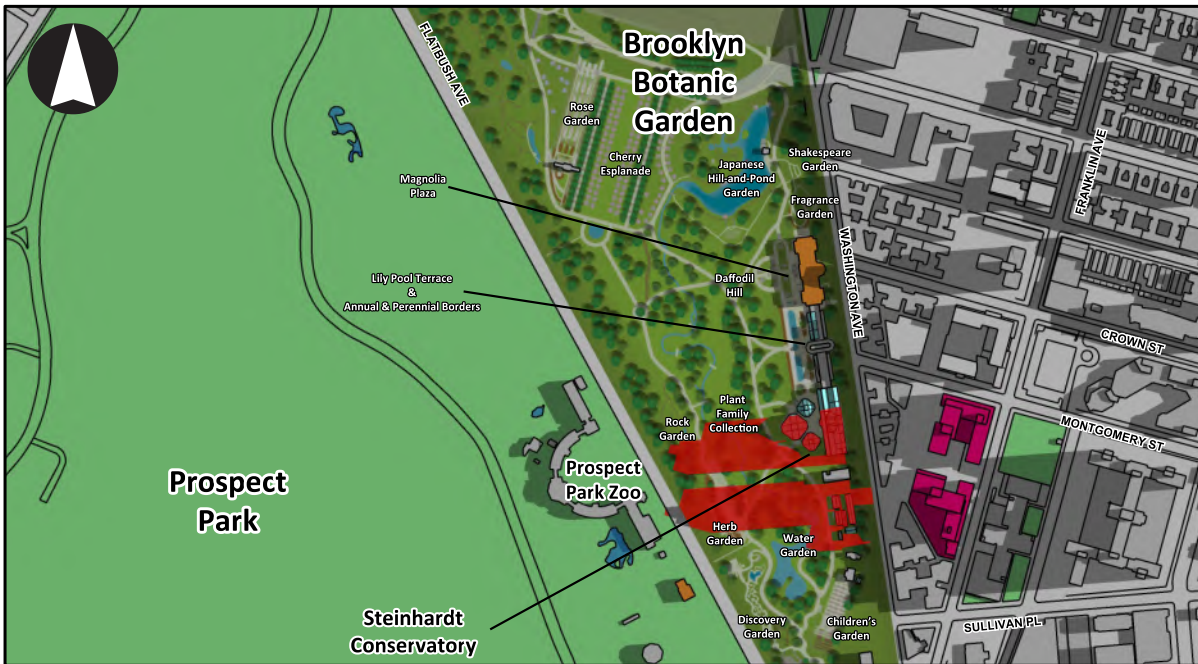


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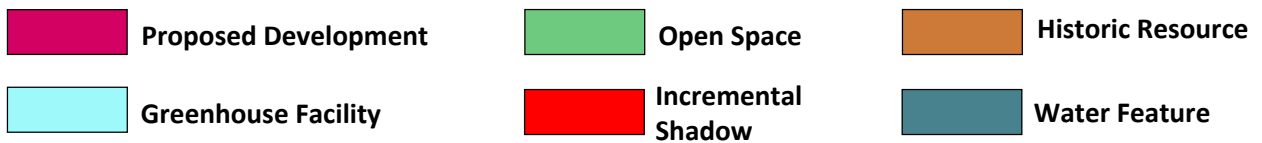




6:27AM

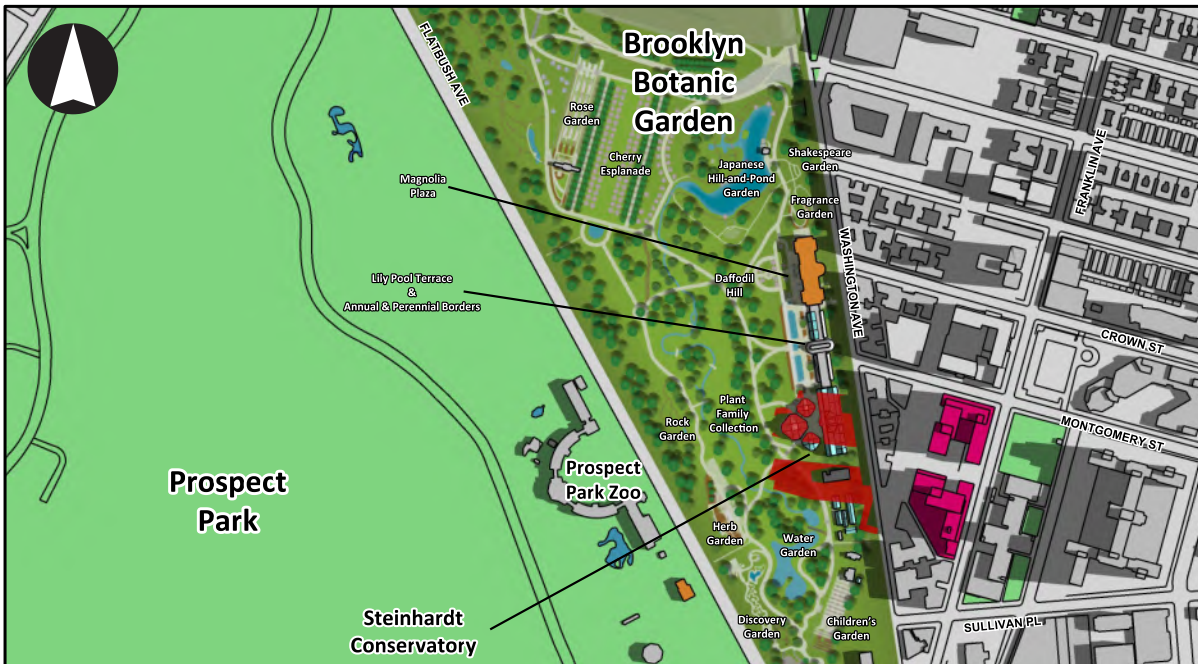


7:00 AM

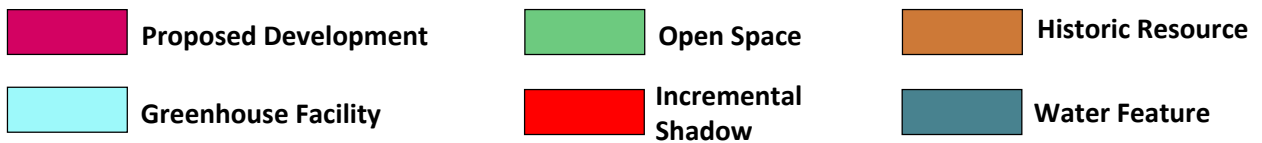




7:30 AM

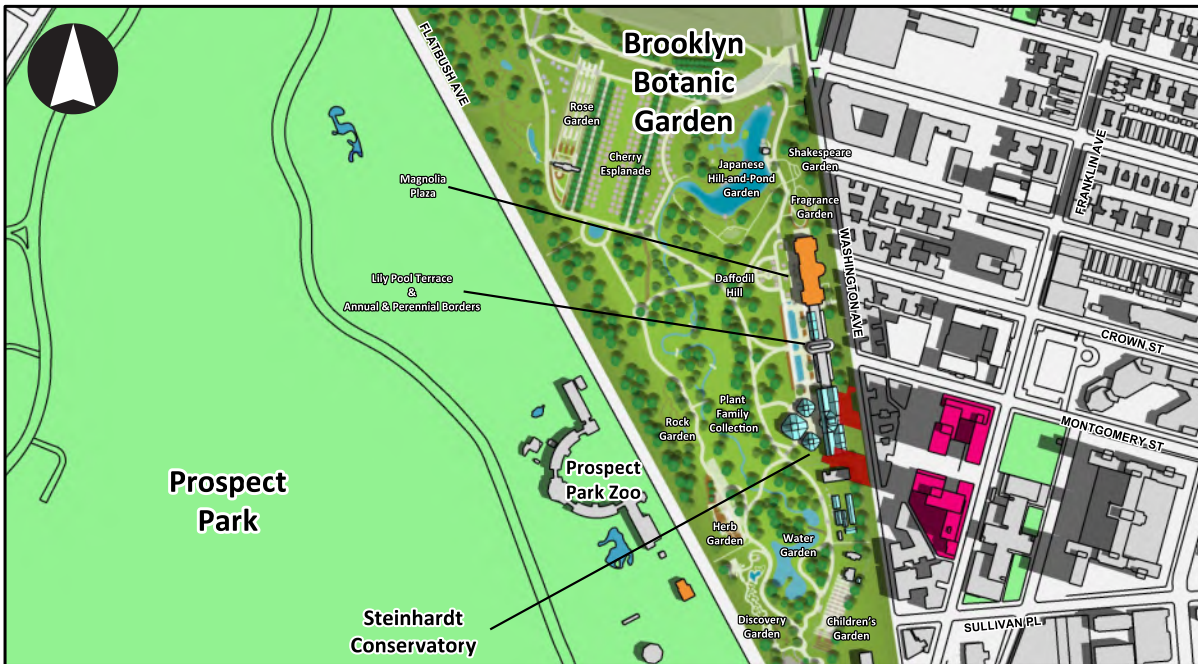


8:00 AM

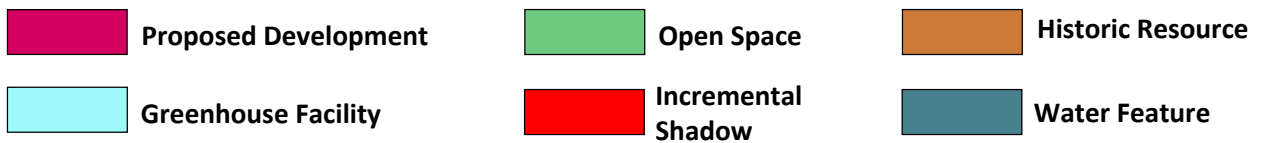




8:30 AM



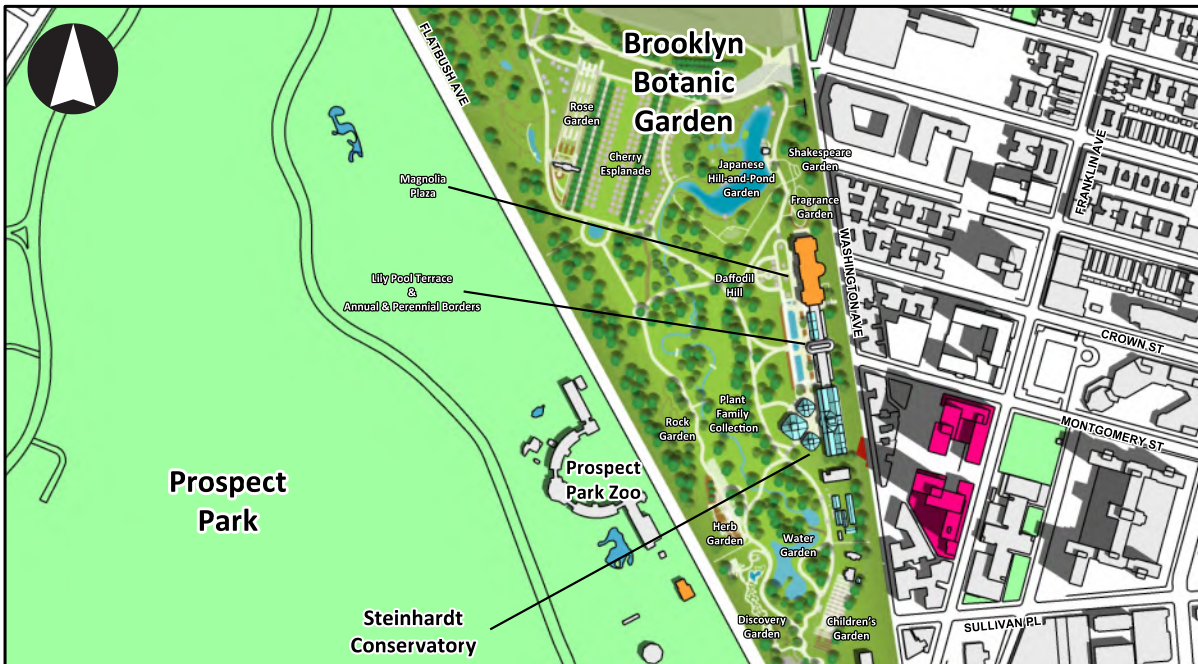
9:00 AM



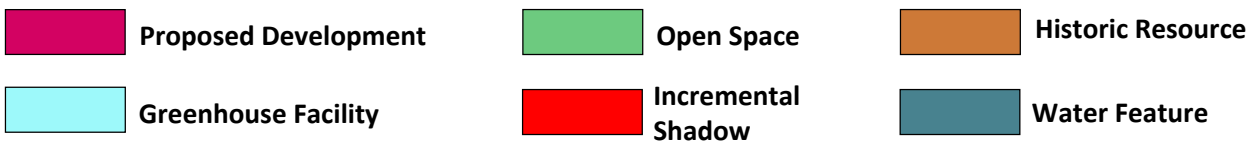
Brooklyn Botanic Garden & Prospect Park  
Incremental Shadows on May 6/August 6



9:30 AM



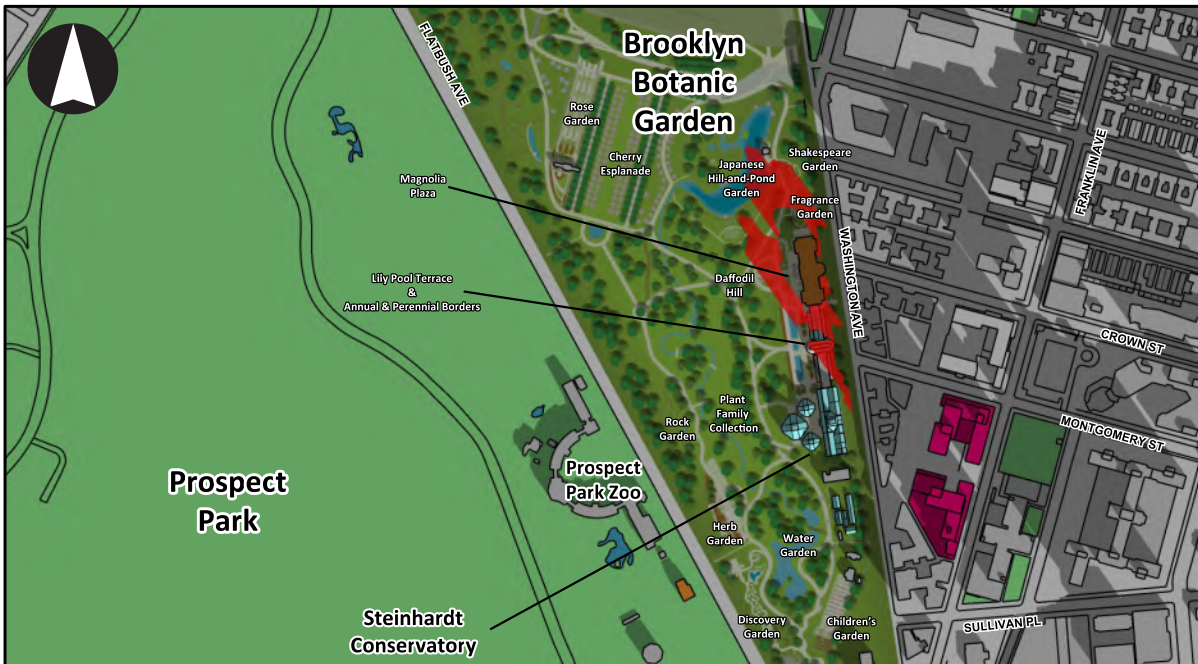
10:00 AM



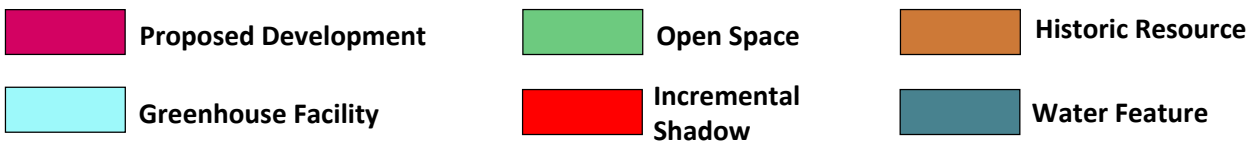
Brooklyn Botanic Garden & Prospect Park  
Incremental Shadows on December 21



9:00 AM



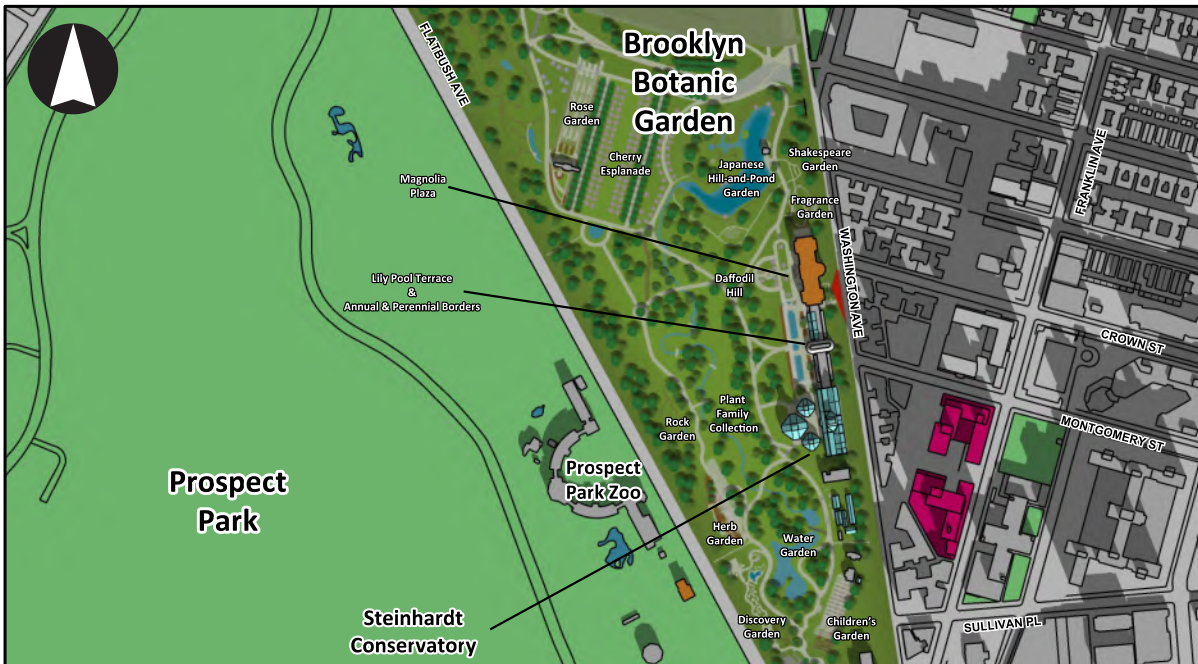
9:30 AM



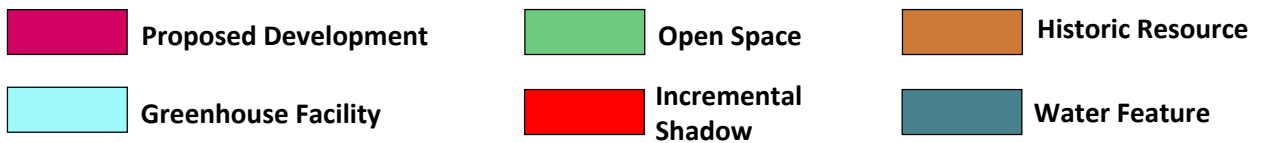




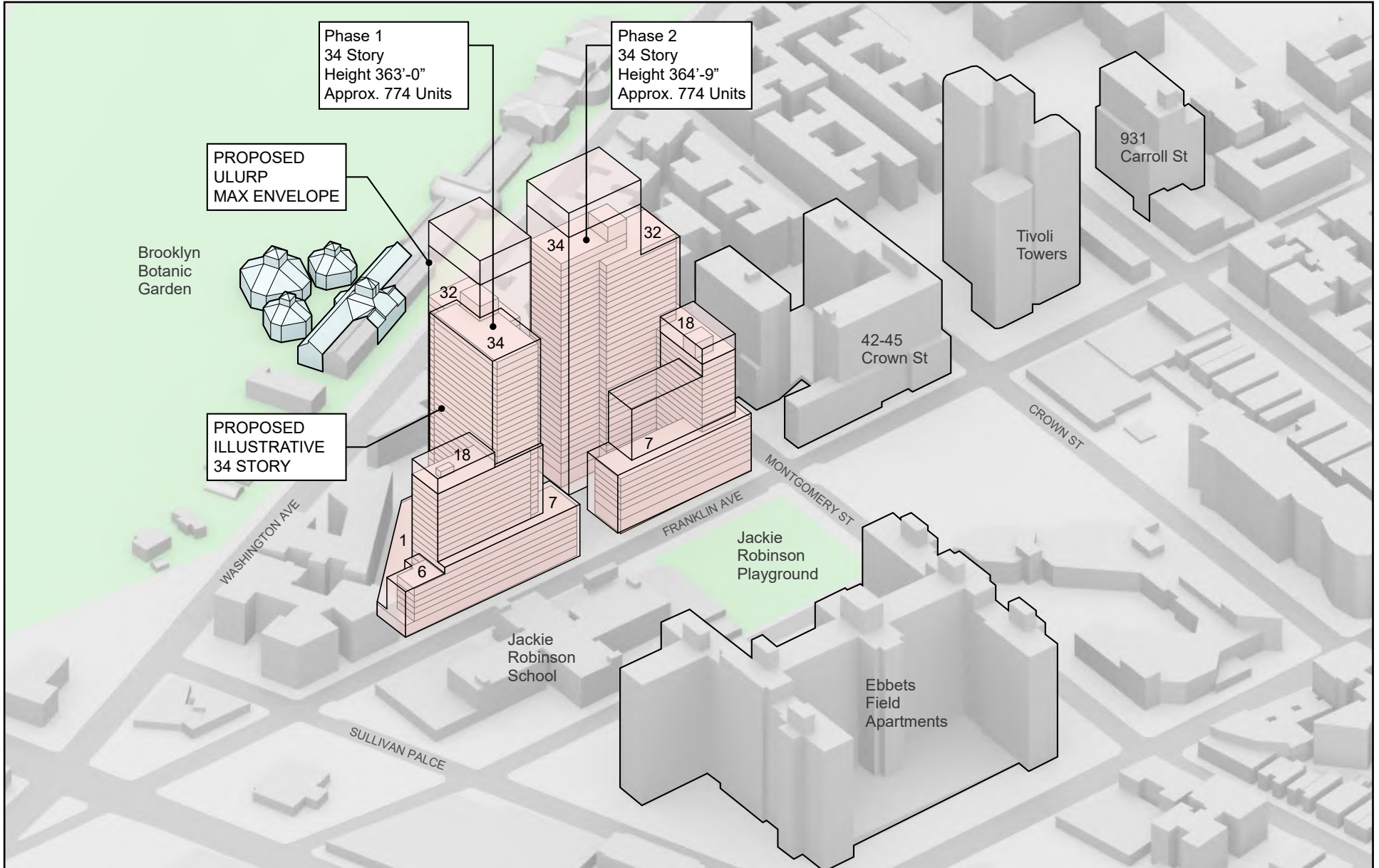
10:00 AM



10:30 AM



# FAR 9.7 / 34 Story



*\*For Illustrative Purposes Only*

**TABLE 21-2**

**34-Story Mitigation Incremental Shadows**

Resource #	Resource	Analysis Day	March 21/Sept. 21	May 6/August 6	21-Jun	21-Dec	Incremental Shadow Durations Compared to Table 6-4				Significant Impact under 39-Story Proposed Development (Y/N)
			7:36 AM – 4:29 PM	6:27 AM – 5:18 PM	5:57 AM – 6:01 PM	8:51 AM – 2:53 PM	March 21/Sept. 21	May 6/August 6	21-Jun	21-Dec	
1	Brooklyn Botanic Garden	Shadow enter-exit time	7:36 – 10:17 AM	6:27 – 9:50 AM	5:57 – 9:49 AM	8:51 – 10:29 AM	- 24 minutes	- 39 minutes	- 31 minutes	- 16 minutes	Yes
		Incremental shadow duration	2 hours 41 minutes	3 hours 23 minutes	3 hours 52 minutes	1 hour 38 minutes					
2	Jackie Robinson Playground	Shadow enter-exit time	1:28 – 4:29 PM	1:15 – 5:18 PM	1:19 – 6:01 PM	1:40 – 2:53 PM	- 2 minutes	-3 minutes	-3 minutes	- 2 minutes	Yes
		Incremental shadow duration	3 hours 1 minute	4 hours 3 minutes	4 hours 42 minutes	1 hour 13 minutes					
3	Prospect Park	Shadow enter-exit time	7:36 – 7:37 AM	6:27 – 6:52 AM	5:57 – 6:41 AM	-	- 19 minutes	- 25 minutes	- 28 minutes	-	No
		Incremental shadow duration	1 minute	25 minutes	44 minutes	-					
4	P.S. 375K Community Playground	Shadow enter-exit time	-	-	3:45 – 3:58 PM	-	-	-	- 13 minutes	-	No
		Incremental shadow duration	-	-	13 minutes	-					
A	Education Greenhouse: Desert Plants	Shadow enter-exit time	-	-	-	8:51 - 10:00 AM	- 30 minutes	-	-	- 1 minutes	Yes
		Incremental shadow duration	-	-	-	1 hour 9 minutes					
B	Education Greenhouse: Warm Temperate Plants	Shadow enter-exit time	8:47 - 8:59 AM	-	-	8:51 - 9:56 AM	- 54 minutes	-	-	No Change	Yes
		Incremental shadow duration	12 minutes	-	-	1 hour 4 minutes					
C	Education Greenhouse: Tropical Plants	Shadow enter-exit time	8:32 - 9:18 AM	-	-	8:51 - 9:03 AM 9:40 - 9:52 AM	- 36 minutes	-	-	- 37 minutes	Yes
		Incremental shadow duration	46 minutes	-	-	24 minutes					

D	Helen Mattin Warm Temperate Pavilion	Shadow enter-exit time	7:36 - 8:21 AM 8:27 - 9:26 AM	6:34 - 6:44 AM 6:47 - 8:27 AM	7:31 - 7:45 AM	-	- 19 minutes	- 58 minutes	- 1 hour 6 minutes	- 5 minutes	Yes
		Incremental shadow duration	1 hour 46 minutes	1 hour 50 minutes	14 minutes	-					
E	Tropical Pavilion	Shadow enter-exit time	7:36 - 9:14 AM	6:27 - 8:25 AM	6:36 - 8:07 AM	-	- 4 minutes	- 54 minutes	- 1 hour 11 minutes	-	Yes
		Incremental shadow duration	1 hour and 38 minutes	1 hour 58 minutes	1 hour 31 minutes	-					
F	Desert Pavilion	Shadow enter-exit time	7:36 - 9:03 AM	6:27 - 8:13 AM 8:24 - 8:39 AM	5:57 - 8:24 AM	-	- 5 minutes	- 1 hour 12 minutes	- 48 minutes	-	Yes
		Incremental shadow duration	1 hour 27 minutes	1 hour 46 minutes 15 minutes	2 hours 27 minutes	-					
G	C.V. Starr Bonsai Museum	Shadow enter-exit time	7:36 - 9:35 AM	6:40 - 6:52 AM 6:57 - 8:38 AM	7:42 - 7:58 AM	8:51 - 9:05 AM	- 35 minutes	- 1 hour and 7 minutes	- 47 minutes	- 12 minutes	Yes
		Incremental shadow duration	1 hour 59 minutes	1 hour 53 minutes	16 minutes	14 minutes					
H	Conservatory Entry House	Shadow enter-exit time	7:36 - 9:44 AM	6:27 - 8:48 AM	6:17 - 8:30 AM	8:51 - 9:04 AM	- 9 minutes	- 1 hour and 7 minutes	- 1 hour and 4 minutes	- 1 minute	Yes
		Incremental shadow duration	2 hours 8 minutes	2 hours 11 minutes	2 hours 13 minutes	13 minutes					
I	Aquatic House & Orchid Collection	Shadow enter-exit time	7:36 - 9:28 AM	6:27 - 9:15 AM	5:57 - 8:37 AM	-	- 4 minutes	- 38 minutes	- 1 hour 8 minutes	-	Yes
		Incremental shadow duration	1 hour 52 minutes	2 hours 48 minutes	2 hours 40 minutes	-					
J	Desert, Mediterranean, South African	Shadow enter-exit time	7:36 - 9:16 AM 9:29 - 9:56 AM	7:27 - 9:00 AM	8:14 - 8:22 AM	8:51 - 9:26 AM	- 42 minutes	- 1 hour 11 minutes	- 34 minutes	- 8 minutes	Yes

	Bulb (Arid) Workhouse	Incremental shadow duration	2 hours 7 minutes	1 hour 33 minutes	8 minutes	35 minutes						
K	Humid Tropics Workhouse	Shadow enter-exit time	7:36 - 8:49 AM 8:55 - 10:03 AM	6:27 - 9:09 AM	7:09 - 8:53 AM	8:51 - 9:23 AM	- 17 minutes	- 44 minutes	- 1 hour and 21 minutes	No Change	Yes	
		Incremental shadow duration	2 hours 21 minutes	2 hours 42 minutes	1 hour 44 minutes	32 minutes						
L	Lowland Moist Tropical Orchid Workhouse	Shadow enter-exit time	7:36 - 8:03 AM 8:25 - 9:55 AM	6:27 - 9:03 AM	6:01 - 9:03 AM	8:51 - 9:07 AM	- 24 minutes	- 1 hour 7 minutes	- 36 minutes	No Change	Yes	
		Incremental shadow duration	1 hours 57 minutes	2 hours 36 minutes	3 hours 2 minutes	16 minutes						
M	Highland Moist Tropical Orchid Workhouse	Shadow enter-exit time	8:04 - 9:40 AM	6:27 - 8:28 AM 9:14 - 9:23 AM	5:57 - 9:04 AM	8:51 - 8:53 AM	- 23 minutes	- 1 hour 26 minutes	- 30 minutes	- 1 minutes	Yes	
		Incremental shadow duration	1 hour 36 minutes	2 hours 10 minutes	3 hours 7 minutes	2 minutes						
N	Tropical Plant Propagation House	Shadow enter-exit time	7:50 - 9:27 AM	6:27 - 8:02 AM 8:46 - 9:28 AM	5:57 - 8:44 AM	-	- 19 minutes	- 1 hour 5 minutes	- 57 minutes	-	Yes	
		Incremental shadow duration	1 hour 37 minutes	2 hours 17 minutes	2 hours 47 minutes	-						
O	Tropical & Desert Plant Propagation House	Shadow enter-exit time	7:36 - 9:17 AM	6:27 - 7:45 AM 8:29 - 9:31 AM	5:57 - 8:29 AM	-	- 6 minutes	- 53 minutes	- 1 hour 16 minutes	-	Yes	
		Incremental shadow duration	1 hour 41 minutes	1 hour 18 minutes	2 hours 32 minutes	-						

				1 hour 2 minutes							
P	Hardy Plant Nursery Yard	Shadow enter-exit time	7:36 - 8:54 AM	6:27 - 9:12 AM	5:57 - 9:37 AM	-	- 11 minutes	-14 minutes	- 2 minutes	-	Yes
		Incremental shadow duration	1 hour 18 minutes	2 hours 45 minutes	3 hours and 40 minutes	-					
Q	Temperate Bonsai Tunnel	Shadow enter-exit time	7:36 - 8:17 AM	6:27 - 8:07 AM	5:57 - 8:42 AM	-	- 1 minute	-15 minutes	- 4 minutes	-	Yes
		Incremental shadow duration	41 minutes	1 hour 40 minutes	2 hours 45 minutes	-					
R	Production House	Shadow enter-exit time	7:36 - 7:37 AM	6:27 - 7:27 AM	5:57 - 8:10 AM	-	- 2 minutes	- 23 minutes	- 6 minutes	-	Yes
		Incremental shadow duration	1 minute	1 hour	2 hours 13 minutes	-					
S	Tropical Bonsai House	Shadow enter-exit time	7:36 - 7:43 AM	6:27 - 7:29 AM	5:57 - 8:14 AM	-	- 1 minute	- 28 minutes	- 7 minutes	-	Yes
		Incremental shadow duration	7 minutes	1 hour 2 minutes	2 hours 17 minutes	-					
T	Auxiliary House	Shadow enter-exit time	-	6:27 - 7:32 AM	5:57 - 7:49 AM	-	-	- 31 minutes	- 8 minutes	-	Yes
		Incremental shadow duration	-	1 hour 5 minutes	1 hour 52 minutes	-					
U	New York-Native Flora & Temperate Plant Propagation Tunnel	Shadow enter-exit time	7:36 - 8:35 AM	6:27 - 8:17 AM	5:57 - 8:54 AM	-	- 1 minute	-15 minutes	- 7 minutes	-	Yes
		Incremental shadow duration	59 minutes	1 hours 50 minutes	2 hours 57 minutes	-					
V	Mediterranean Display Plants Tunnel	Shadow enter-exit time	-	6:42 - 7:48 AM	6:07 - 7:27 AM	-	-	- 23 minutes	- 22 minutes	-	Yes
		Incremental shadow duration	-	1 hour 6 minutes	1 hour 20 minutes	-					

## E. TRANSPORTATION

### Traffic

As described in **Chapter 14, “Transportation,”** the Proposed Development would result in significant adverse impacts at one study area intersection during one or more analyzed peak hour; specifically, two lane groups at a single intersection during the weekday AM, weekday PM, and Saturday midday peak hours.

As demonstrated below, most of the traffic impacts could be mitigated through the implementation of modification of traffic signal phasing and/or timing.

The mitigation measures proposed here are standard and routinely identified by the City and considered feasible for implementation. **Table 21-3** summarizes the recommended mitigation measures for each of the intersections with identified significant adverse traffic impacts during the weekday AM, weekday PM, and Saturday midday peak hours. Implementation of the recommended traffic engineering improvements is subject to review and approval by DOT and will be further refined between the DEIS and FEIS. If, prior to implementation, DOT determines that an identified mitigation measure is infeasible, an alternative mitigation measure will be identified, if possible. In the absence of the application of mitigation measures, the impacts would remain unmitigated. This impact would constitute an unavoidable significant adverse construction traffic impact as a result of the Proposed Development (refer to **Chapter 23, “Unavoidable Adverse Impacts”**).

**TABLE 21-3**  
**Proposed Traffic Mitigation Measures**

Intersection	Peak Hour	Phase	No-Action Signal Timing (Seconds)				Proposed Signal Timing (Seconds)				Proposed Mitigation Measures
			AM	MD	PM	SAT	AM	MD	PM	SAT	
Washington Avenue & Empire Boulevard	AM/PM/SAT	EB-L	30	30	30	30	30	30	30	30	- Transfer 1s of green time from NB/SB to EB/WB in the AM, PM, Saturday periods.
		EB/WB	39	39	39	39	40	39	40	40	
		NB/SB	51	51	51	51	50	51	50	50	
Franklin Avenue & Empire Boulevard	AM/PM/SAT	EB/WB	39	39	39	39	40	39	40	40	-No impacts at intersection. Changes coordinated with adjacent shared signal at Washington Ave & Empire Blvd. Transfer 1s of green time from EB to NB/SB in the AM, PM, Saturday periods.
		EB	51	51	51	51	50	51	50	50	
		SB-R	30	30	30	30	30	30	30	30	

**Notes:** Signal timings include green, yellow and all red for each phase.

No-Action signal timing based on proposed DOT Improvements (HWK779W)

**Table 21-4** shows the volume-to-capacity (v/c) ratios, delays, and levels of service (LOS) for all lane groups at each impacted intersection and compares them to No-Action and With-Action conditions for the weekday AM, weekday PM, and Saturday midday peak hours. According to *CEQR Technical Manual* criteria, an impact is considered fully mitigated when the resulting LOS degradation under the Action-with-Mitigation condition compared to the No-Action condition is no longer deemed significant following the impact criteria described previously in **Chapter 14, “Transportation.”**

**Table 21-4** shows that all significant adverse impacts related to traffic would be fully mitigated.

**TABLE 21-4  
Action-With-Mitigation Conditions at Impacted Intersections**

Signalized Intersections	Approach	Lane Group	Weekday AM Peak Hour								
			No-Action			With-Action			Action with Mitigation		
			V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS
Washington Ave. & Empire Blvd.	EB	L	0.76	33.2	C	0.82	38.6	D	0.80	36.5	D
	EB	TR	0.87	60.2	E	0.87	60.5	E	0.84	56.5	E
	WB	L	0.85	98.1	F	0.87	102.5	F *	0.83	93.6	F
	WB	TR	0.88	58.8	E	0.95	69.0	E *	0.91	62.7	E
	NB	LT	0.62	34.7	C	0.63	35.1	D	0.64	36.3	D
	NB	R	0.26	26.8	C	0.26	26.8	C	0.27	27.6	C
	SB	LTR	0.61	33.5	C	0.64	34.9	C	0.66	36.4	D
Franklin Ave & Empire Blvd.	EB	T	0.27	6.6	A	0.27	6.6	A	0.27	6.6	A
	WB	T	0.71	46.4	D	0.71	46.6	D	0.69	44.9	D
	SB	R	0.45	47.2	D	0.57	52.1	D	0.57	52.1	D
Signalized Intersections	Approach	Lane Group	Weekday PM Peak Hour								
			No-Action			With-Action			Action with Mitigation		
			V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS
Washington Ave. & Empire Blvd.	EB	L	0.68	28.8	C	0.75	33.5	C	0.74	32.0	C
	EB	TR	0.63	43.4	D	0.63	43.6	D	0.61	42.2	D
	WB	L	1.22	203.7	F	1.26	217.9	F *	1.20	194.3	F
	WB	TR	0.84	53.9	D	0.88	57.8	E	0.85	54.1	E
	NB	LT	0.28	26.8	C	0.30	27.1	C	0.31	27.9	C
	NB	R	0.20	25.7	C	0.20	25.7	C	0.21	26.5	C
	SB	LTR	0.71	36.5	D	0.76	39.0	D	0.78	40.9	D
Franklin Ave & Empire Blvd.	EB	T	0.25	6.5	A	0.25	6.5	A	0.25	6.5	A
	WB	T	0.74	47.6	D	0.74	47.6	D	0.72	45.8	D
	SB	R	0.54	50.7	D	0.62	54.5	D	0.62	54.5	D
Signalized Intersections	Approach	Lane Group	Saturday Peak Hour								
			No-Action			With-Action			With-Action		
			V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS
Washington Ave. & Empire Blvd.	EB	L	0.67	28.4	C	0.73	32.4	C	0.72	31.1	C
	EB	TR	0.52	40.5	D	0.52	40.6	D	0.50	39.5	D
	WB	L	0.82	82.8	F	0.83	86.8	F *	0.80	78.6	F
	WB	TR	0.86	56.1	E	0.91	62.8	E *	0.88	57.9	E
	NB	LT	0.25	26.2	C	0.26	26.4	C	0.27	27.2	C
	NB	R	0.20	25.6	C	0.20	25.6	C	0.20	26.3	C
	SB	LTR	0.49	30.1	C	0.52	30.8	C	0.53	31.7	C
Franklin Ave & Empire Blvd.	EB	T	0.22	6.2	A	0.22	6.2	A	0.22	6.2	A
	WB	T	0.75	47.9	D	0.75	47.9	D	0.73	46.1	D
	SB	R	0.40	45.7	D	0.50	49.1	D	0.50	49.1	D

**Notes:**  
 EB-Eastbound, WB-Westbound, NB-Northbound, SB-Southbound  
 L-Left, T-Through, R-Right, DefL-Analysis considers a defacto left lane on this approach  
 V/C Ratio - Volume to Capacity Ratio, sec. - Seconds  
 LOS - Level of Service  
 \* - Denotes a congested movement (LOS E or F, or V/C ratio greater than or equal to 0.9)  
 Analysis is based on the 2000 Highway Capacity Manual methodology (HCS+, version 5.5)

**Pedestrians**

As discussed in **Chapter 14, "Transportation,"** incremental demand from the Proposed Actions would result in significant adverse impacts on one pedestrian element, the north crosswalk at Empire Boulevard and Washington Avenue in all four analysis peak hours. As shown in **Table 21-5,** with implementation of



the proposed mitigation measures, a high visibility crosswalk flared from 18’ at the western end to 24’ at the eastern end at the curb extension, the significant adverse impacts to the impacted crosswalk would be fully mitigated in all four peak hours. If the high visibility flared crosswalk were not implemented, the Proposed Development would result in an unmitigated significant adverse impact.

**TABLE 21-5  
Action-With-Mitigation Crosswalk Conditions**

Intersection	Crosswalk	No-Action		With-Action			Action With Mitigation <sup>1</sup>				
		Width <sup>2</sup> (ft.)	Average Space (ft <sup>2</sup> /ped)	LOS	Width (ft.)	Average Space (ft <sup>2</sup> /ped)	LOS	Width <sup>3</sup> (ft.)	Average Space (ft <sup>2</sup> /ped)	LOS	Mitigation Measures
Washington Avenue & Empire Boulevard	North	13'	AM Peak Hour		16.4	AM Peak Hour		21'	AM Peak Hour		Modify the 13' north crosswalk to a high visibility crosswalk flared from 18' at western end to 24' at eastern end.
			28.7	C		16.8	D*		30.6	C	
			MD Peak Hour			MD Peak Hour			MD Peak Hour		
			23.6	D		13.4	E*		22.2	D	
			PM Peak Hour			PM Peak Hour			PM Peak Hour		
			25.1	C		14.1	E*		25.8	C	
			SAT Peak Hour			SAT Peak Hour			SAT Peak Hour		
27.2	C	15.2	D*	27.5	C						

**Notes:**

- 1 - Accounts for the proposed signal changes for traffic mitigation in the AM & PM peak hours.
- 2 - No-Action width based on proposed DOT Improvements (HWK779W)
- 3 - Flared crosswalk analyzed with an average width of 21'

## F. CONSTRUCTION

### Transportation

Construction travel demand is expected to peak in the second quarter (Q2) of 2023 when traffic related to the construction of the building facade for Phase I would coincide with the construction of the concrete superstructure for Phase II. This period was therefore analyzed for potential transportation impacts during construction. It is expected that construction of the Proposed Development would generate a peak of approximately ~~756~~ 738 workers and ~~17~~ 18 truck deliveries per day during the second quarter of 2023.

### Traffic

In order to assess construction traffic conditions, a 2023 No-Action traffic network was established based on Turning Movement Counts (TMC) and Automatic Traffic Recorder (ATR) data collected for the 6 to 7 AM and 3 to 4 PM peak hours; and the incremental vehicle trips made by construction workers and construction trucks were added to this network to assess the construction With-Action condition during these peak hours.

In addition to nine intersections that were analyzed as part of the operational traffic analysis presented in **Chapter 14, “Transportation,”** the construction traffic analysis also included the intersections of Eastern Parkway and Washington Avenue and Franklin Avenue and Crown Street. The maximum construction-related traffic increments would be approximately 236 Passenger Car Equivalents (PCEs) during the AM and 220 PCEs during the PM period. As discussed in **Chapter 20, “Construction,”** six lane groups at five intersections are expected to have the potential for significant adverse traffic impacts as a result of construction activities during the 3 to 4 PM peak hour. These include northbound left-through

and southbound left at Eastern Parkway and Washington Avenue, the westbound left at Washington Avenue and Empire Boulevard, the southbound right at Franklin Avenue and Empire Boulevard, the southbound through-right at Franklin Avenue and Sullivan Place, and the westbound left-right at Washington Avenue and Carroll Street.

**Table 21-6** summarizes the recommended mitigation measures for each of the intersections with identified significant adverse traffic impacts during the weekday 3-4 PM peak hours. The mitigation measures proposed here are standard and routinely identified by the City and considered feasible for implementation. Implementation of the recommended traffic engineering improvements is subject to review and approval by DOT and will be further refined between the DEIS and FEIS. If, prior to implementation, DOT determines that an identified mitigation measure is infeasible, an alternative mitigation measure will be identified, if possible. In the absence of the application of mitigation measures, the impacts would remain unmitigated.

**Table 21-7** shows the volume-to-capacity (v/c) ratios, delays, and levels of service (LOS) for all lane groups at each impacted intersection and compares them to No-Action and With-Action conditions for the 3 to 4 PM peak hour. According to *CEQR Technical Manual* criteria, an impact is considered fully mitigated when the resulting LOS degradation under the Action-with-Mitigation condition compared to the No-Action condition is no longer deemed significant following the impact criteria described previously in **Chapter 14, "Transportation."**

**TABLE 21-6  
Proposed Construction Traffic Mitigation Measures**

Intersection	Peak Hour	Phase	No-Action Signal Timing (seconds)		Proposed Signal Timing (Seconds)		Proposed Mitigation Measures
			AM	PM	AM	PM	
Washington Avenue & Empire Boulevard	PM	EB-L	30	30	30	31	- Transfer 1s of green time from NB/SB to EB-L and 1s from NB/SB to EB/WB to in the PM period.
		EB/WB	39	39	39	40	
		NB/SB	51	51	51	49	
Franklin Avenue & Empire Boulevard	PM	EB	51	51	51	49	- Transfer 1s of green time from EB to SB-R and 1s from EB to EB/SB in the PM period (changes coordinated with adjacent shared signal at Washington Ave & Empire Blvd).
		EB/WB	39	39	39	40	
		SB-R	30	30	30	31	
Washington Avenue & Eastern Parkway	PM	EB/WB	75	75	75	75	-Unmitigated.
		SB	15	15	15	15	
		NB/SB	30	30	30	30	
Franklin Avenue & Sullivan Place	PM	SB	52	52	52	52	-Unmitigated.
		WB	31	31	31	31	
		Ped LPI	7	7	7	7	
Washington Avenue & Carroll Street	PM	NB/SB	Stop-Controlled		-	-	-Unmitigated.
		WB			-	-	

**Note:** Signal timings include green, yellow and all red for each phase.

It should be noted that the construction traffic analysis conservatively assumes that all construction workers would be driving directly to and from the construction site while the majority of workers are more likely to be dispersed to areas where on-street and off-street parking spaces exist up to a ½-mile radius around the site. Construction-related trips would therefore be less concentrated near the site compared to what is assumed in the analysis. Similarly, elements of the conservative analysis assume that the auto-

related pedestrian trips through intersections’ crosswalks are assigned as walk trips since they are likely to be dispersed to on-street and off-street parking spaces in up to a ½-mile radius around the site. Furthermore, any impacts resulting from the effects of construction traffic of the proposed development are anticipated to occur temporarily during the peak quarter of construction (Q2 2023).

Four of the six construction related lane group impacts during the 3 to 4 PM peak hour would remain unmitigated. Consequentially, this impact would constitute an unavoidable significant adverse construction traffic impact as a result of the Proposed Development (refer to **Chapter 23, “Unavoidable Adverse Impacts”**). Potential mitigation measures will continue to be explored in coordination with the lead agency and DOT and may be refined between the DEIS and FEIS.

**TABLE 21-7  
Action-With-Mitigation Conditions at Impacted Construction Intersections**

Signalized Intersections	Approach	Lane Group	Construction AM Peak Hour						Construction PM Peak Hour								
			No-Action			With-Action			No-Action			With-Action			Action With Mitigation		
			V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS
Washington Ave. & Eastern Pkwy.	EB	L	0.32	13.4	B	0.32	13.4	B	0.76	21.9	C	0.76	21.9	C	0.76	21.9	C
	EB	R	0.07	11.1	B	0.14	11.8	B	0.21	12.6	B	0.21	12.6	B	0.21	12.6	B
	WB	L	0.12	11.8	B	0.12	11.8	B	0.30	19.3	B	0.30	19.3	B	0.30	19.3	B
	WB	T	0.76	22.1	C	0.76	22.1	C	0.55	16.5	B	0.55	16.5	B	0.55	16.5	B
	NB	LT	0.96	90.0	F	0.97	92.5	F	1.07	123.5	F	1.40	252.8	F *	1.40	252.8	F *
	NB	R	0.03	38.9	D	0.03	38.9	D	0.09	40.1	D	0.09	40.1	D	0.09	40.1	D
	SB	L	0.32	33.4	C	0.32	33.4	C	1.17	153.7	F	1.39	244.8	F *	1.39	244.8	F *
	SB	TR	0.24	30.9	C	0.33	32.6	C	0.74	46.2	D	0.74	46.2	D	0.74	46.2	D
Washington Ave. & Empire Blvd.	EB	L	0.48	20.8	C	0.63	26.2	C	0.72	30.9	C	0.74	32.5	C	0.71	29.3	C
	EB	TR	0.38	38.0	D	0.38	38.0	D	0.60	42.6	D	0.60	42.7	D	0.58	41.4	D
	WB	L	0.28	40.4	D	0.29	41.0	D	1.04	138.2	F	1.06	144.2	F *	1.01	127	F
	WB	TR	0.79	50.8	D	0.83	54.4	D	0.79	50.5	D	0.84	54.5	D	0.82	51.5	D
	NB	LTR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	NB	LT	0.29	26.9	C	0.34	27.8	C	0.32	27.5	C	0.33	27.6	C	0.34	29.2	C
	NB	R	0.26	26.8	C	0.26	26.8	C	0.20	25.7	C	0.20	25.7	C	0.21	27.2	C
	SB	LTR	0.22	25.6	C	0.24	25.9	C	0.54	31.3	C	0.69	36.0	D	0.73	39.1	D
Franklin Ave. & Empire Blvd	EB	T	0.20	6.2	A	0.21	6.2	A	0.26	6.5	A	0.28	6.7	A	0.28	7.1	A
	WB	T	0.78	49.8	D	0.78	49.8	D	0.91	61.9	E	0.91	61.9	E	0.88	57.4	E
	NB	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	SB	L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	SB	R	0.19	40.9	D	0.20	41.1	D	0.45	47.3	D	0.62	54.1	D *	0.59	51.9	D
Franklin Ave. & Sullivan Pl.	WB	LT	0.15	24.7	C	0.15	24.7	C	0.30	26.9	C	0.30	27.0	C	0.30	27.00	C
	SB	TR	0.22	12.6	B	0.28	13.6	B	0.38	14.9	B	0.91	46.2	D *	0.91	46.20	D *
Unsignalized Intersections	Approach	Lane Group	No-Action			With-Action			No-Action			With-Action			Action With Mitigation		
Washington Ave. & Carroll St.	WB	LR	0.03	14.5	B	0.03	15.7	C	0.25	26.0	D	0.30	31.9	D *	0.30	31.90	D *
	SB	LT	0.00	9.1	A	0.00	9.2	A	0.01	10.4	B	0.01	11.2	B	0.01	11.20	B

**Notes:**  
 EB-Eastbound, WB-Westbound, NB-Northbound, SB-Southbound  
 L-Left, T-Through, R-Right, DefL-Analysis considers a defacto left lane on this approach  
 V/C Ratio - Volume to Capacity Ratio, sec. - Seconds  
 LOS - Level of Service  
 \* - Denotes a congested movement (LOS E or F, or V/C ratio greater than or equal to 0.9)  
 Analysis is based on the 2000 Highway Capacity Manual methodology (HCS+, version 5.5)

**Noise**

As described in **Chapter 20, “Construction,”** the *CEQR Technical Manual* divides construction duration into “short-term” (less than two years) and long-term (two or more years)” and states that impacts resulting from short-term construction generally do not require detailed assessment. As with all construction in New York City, the Proposed Development would be required to adhere to the New York City Noise Control Code, which mandates that all construction be conducted in accordance with noise mitigation plans that

address the specific location, type of work, and timing of a project. Specific noise control measures will be described in the construction noise mitigation plan. These measures could include a variety of source controls, path controls, and receptor controls. However, even with these measures, the analysis presented in **Chapter 20, "Construction,"** predicted noise levels due to construction-related activities associated with the Proposed Development whose magnitude and duration would constitute significant adverse impacts at the Brooklyn Botanic Garden, Jackie Robinson Playground, P.S. 375 Jackie Robinson School, and portions of the following existing residential buildings: 921, 941, 961, 975, 995, 1015 and 1035 Washington Avenue; 12 Crown St.; 1720 Bedford Avenue; and 104 and 109 Montgomery Street. The No-Action development site at 54 Crown Street may also experience significant adverse construction noise impacts. The highest construction noise impacts occur primarily on the portions of buildings with direct line-of-sight to project-related construction activities.

With respect to P.S. 375 Jackie Robinson School, 995 Washington Avenue, 54 Crown Street and 109 Montgomery Street, there are no feasible and practical measures to fully mitigate the construction noise impacts predicted to occur. These locations already or are planned to have an alternate means of ventilation allowing for the maintenance of a closed window condition (i.e., central air conditioning). Therefore, further receptor controls at these locations would not be effective in substantially reducing noise levels. Therefore, the significant adverse construction-period noise impact would remain unmitigated.

With respect to 921, 941, 961, 975, 1015 and 1035 Washington Avenue; 12 Crown Street; 1720 Bedford Avenue; and 104 Montgomery Street, these buildings do not have central air conditioning and typically rely on window air conditioning for cooling. Any units lacking a window AC would need to keep their windows open during summer months, which would substantially decrease window/wall noise attenuation. The exterior to interior attenuation provided by a building with windows open is approximately 10 dBA, compared to up to 28 dBA for closed double-glazed windows and window air conditioning units. Interior  $L_{10(1)}$  noise levels would exceed the recommended threshold for residential use according to CEQR noise exposure guidelines for extended periods during construction; increment durations could persist above 15 dBA Leq for 7 to 39 months. Considering the magnitude and duration, this would represent a significant adverse construction noise impact.

While the provision of window air conditioners to the affected buildings was explored, such a measure would only reduce the magnitude of temporary construction noise impacts, and the identified impacts would not be fully mitigated. Specifically, even with the provision of window air conditioners to these buildings, during certain periods of the Proposed Development's construction, interior noise levels would exceed 45 dBA  $L_{10(1)}$  (the CEQR acceptable interior noise level criteria). For units that already have window ACs, further receptor controls would not be effective and the significant adverse impact would remain unmitigated. Therefore, this potential mitigation measure will not be implemented. ~~The feasibility of providing window ACs to any apartment units currently lacking them will be explored as a potential partial mitigation between the DEIS and FEIS.~~

~~Beyond the façade noise attenuation measures discussed above, the potential use of source or path controls beyond those that would be required are being explored as possible mitigation measures to the significant adverse noise impacts identified at the residential buildings across from the Development Site. Under the *New York City Noise Control Code*, noise barriers constructed from plywood or other materials are required to be provided at a height of 8 feet. For receptors that are shielded by the perimeter noise barrier (i.e., those at or below the height of the barrier), the height and treatment to the barrier would be expected to provide up to approximately 5 dBA of additional shielding from at-grade or below-grade sources of construction noise.~~

~~The Applicant's commitments would be memorialized in an enforceable legal mechanism, such as a Restrictive Declaration. Additional mitigation measures will be explored further by the Applicant in consultation with DCP and DEP between the DEIS and FEIS. If no additional feasible mitigation measures are identified, the impacts would be considered partially mitigated.~~