A. INTRODUCTION

As presented in **Chapter 1, "Project Description,"** approval of the proposed Actions would facilitate the development of a 14-story (145-foot-tall excluding mechanical equipment), 471,495 gsf mixed-used residential and commercial building containing 475 dwelling units (DUs) (419,346 gsf), 119 of which would be permanently affordable pursuant to MIH, 8,128 gsf of local retail space, 27,349 gsf of parking area, 2,752 gsf of loading area, and approximately 13,920 gsf of mechanical/storage space. Parking for approximately 20 percent of all market-rate units would be provided at the Proposed Project (approximately 71 parking spaces). The accessory parking garage would be accessed via a curb cut on Franklin Avenue. Construction of the Proposed Project is expected to be complete with all components fully operational in 2027.

The potential for the Proposed Project to result in significant adverse impacts was evaluated in Chapters 2 through 10 of this EIS. In accordance with the 2021 *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 Project. 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 open space (direct shadow effects), shadows (on sunlight-sensitive open space), natural resources (direct shadows effects), and construction noise. Potential mitigation measures for each of these technical areas are identified below.

B. PRINCIPAL CONCLUSIONS

Open Space, Shadows, and Natural Resources

As described in **Chapter 3, "Open Space," Chapter 4, "Shadows," and Chapter 5, "Natural Resources,"** the Proposed Project would result in significant adverse impacts due to direct shadows effects on open space in the Jackie Robinson Playground and open space and natural resources in the Brooklyn Botanic Garden.

Incremental shadows from the Proposed Project 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 Project, significant adverse impacts are likely to occur on the natural resources found within the Brooklyn Botanic Garden.

Two measures considered as potential mitigation for the significant adverse shadow impacts are explored in this chapter. They include 1.) Relocating the Brooklyn Botanic Garden sunlight sensitive resources, and 2.) the installation of artificial lighting within the Brooklyn Botanic Garden sunlight sensitive resources.

In consultation with the New York City Department of Parks and Recreation (NYC Parks), the Lead Agency concluded that the relocation of the Brooklyn Botanic Garden facilities to mitigate the shadow impacts of the Proposed Project would be infeasible, as it would present major challenges both financially and logistically to the Applicant and the Brooklyn Botanic Garden. Likewise, based on guidance from NYC Parks, the implementation of artificial lighting to mitigate the shadow impacts of the Proposed Project on Brooklyn Botanic Garden was also deemed infeasible for financial and logistical reasons by the Lead Agency.

At Jackie Robinson Playground, incremental shadows from the Proposed Project are expected to cast shadow on a passive area for seating and an area for active uses such as a playground area and basketball court. In consultation with the (NYC Parks), the Lead Agency, i.e., NYC Department of City Planning, finds that the size, duration, and time of day of incremental shadow on Jackie Robinson Playground would constitute a significant adverse impact.

NYC Parks has advised that potential mitigation for the Proposed Action's shadows impact on the Jackie Robinson Playground could be provided by improvements to the facility, consisting of two elements. The first would entail installation of synthetic turf with asphalt painted, track and adjacent sidewalk. These new facilities would replace existing handball courts, including handball court wall in the playground's southwestern portion of the playground. The second would entail the installation of lighting for the existing basketball courts in the playground's southeast portion.

The appropriateness and desirability of these, or potentially other improvements and mitigation measures, will be further explored between the DEIS and FEIS by the Applicant together with community stakeholders, with the advice of NYC Parks. If implementation of these or other appropriate and desirable measures is determined to be financially feasible, the impacts to Jackie Robinson Playground may be considered partially mitigated. As such, even in the event that this partial mitigation were to be implemented, the significant adverse shadow impact on Jackie Robinson Playground would not be avoided.

As measures to counter the effects of action-generated incremental shadows on Brooklyn Botanic Garden, including relocation and installation of artificial lighting, have been determined to be infeasible, the significant adverse shadows impacts would not be mitigated on Brooklyn Botanic Garden. Likewise, pending the determination of the financial feasibility of the proposed mitigation measures on Jackie Robinson Playground, the significant adverse shadow impacts on the playground would not be mitigated. As such, the Proposed Project would result in unmitigated significant adverse shadow impacts to these resources if full, feasible mitigation is not identified.

Construction

Noise

As described in **Chapter 10, "Construction,"** the Proposed Project's construction activities would result in temporary significant adverse impacts related to noise. The construction noise analysis predicted noise levels due to construction could exceed the construction noise impact criteria at receptors surrounding the proposed construction work area at portions of six buildings. At these receptors, construction would produce noise level increases that would be noticeable and potentially intrusive during the most noise-intensive nearby construction activities; however, the predicted maximum levels would not persist throughout construction, and the noise levels would fluctuate over the course of the construction period.

While the greatest levels of construction noise would not persist throughout construction, these locations would experience construction noise levels whose magnitude and duration could constitute significant adverse impacts.

Construction noise would result in temporary significant adverse impacts at portions of six buildings, including the southern façade nearest to the Franklin Avenue Shuttle and courtyard façades of the future 960 Franklin Avenue residential building, the western and southern facades of 1015 Washington Avenue, the northern façade of 1035 Washington Avenue, the eastern façade and a portion of the northern façade of 1 Sullivan Place, the western façade of the P.S. 375 Jackie Robinson school, and the western façade of the Ebbets Field Apartments. However, construction would typically occur during weekday daytime hours and would therefore not produce noise during nighttime hours when residents would be most sensitive to noise. Further, the Proposed Project would be required to follow the requirements of the New York City Noise Control Code for construction noise control measures. Specific noise control measures would be incorporated in noise mitigation plan(s) required under the New York City Noise Control Code (also known as Chapter 24 of the Administrative Code of the City of New York, or Local Law 113), including a variety of source and path controls.

In terms of source controls (i.e., reducing noise levels at the source or during the most sensitive time periods), the following measures, included under New York City regulations, would be implemented:

- Equipment that meets the sound level standards specified in Subchapter 5 of the *New York City Noise Control Code* and Table 22-1 of the 2021 *CEQR Technical Manual* would be utilized from the start of construction.
- As early in the construction period as logistics allow, diesel- or gas-powered equipment would be replaced with electrical-powered equipment to the extent feasible and practicable.
- The construction site would be configured to minimize back-up alarm noise.
- Contractors and subcontractors would be required to properly maintain their equipment and mufflers.

In terms of path controls (e.g., placement of equipment, implementation of barriers or enclosures between equipment and sensitive receptors), the following measures, under New York regulations, would be implemented:

- Noise equipment, such as cranes, concrete pumps, concrete trucks, and delivery trucks, would be located away from and shielded from sensitive receptor locations to the extent practicable given site limitations.
- Noise barriers constructed from plywood or other materials would be utilized to provide shielding.
- Path noise control measures (i.e., portable noise barriers, panels, enclosures, and acoustical tents) for certain equipment as necessary to remain consistent with construction equipment noise emission levels.

In addition, the path controls listed below would be implemented as project commitments for the construction of the Proposed Project beyond the regulations listed above and would be included in the PCREs:

- Throughout the construction period, concrete operations and generators would be located within the construction barrier.

At the receptors predicted to experience impacts, mitigation measures to control noise would also be offered during construction of the Proposed Project. While some of the impacted buildings feature modern façade construction, including insulated glass windows and an alternative means of ventilation that would allow for the maintenance of a closed-window condition (such as the future residential building at 960 Franklin Avenue that is expected to be completed in late 2026), it is not possible to definitively determine

the presence of these features at all receptors that would have the potential to experience temporary construction noise impacts. As described in **Chapter 10, "Construction,"** various façades of 1015 and 1035 Washington Avenue, 1 Sullivan Place, P.S. 375 Jackie Robinson school, and the Ebbetts Field Apartments are predicted to experience a temporary construction noise impact. A measure to partially mitigate the construction noise impacts would be to make available, for purchase and installation, storm windows for façades that do not already have insulated glass windows and/or one window air conditioner per living room or bedroom or other noise sensitive space that do not already have alternative means of ventilation. If implemented, these mitigation measures would be implemented prior to the start of construction. The feasibility of this measure along with additional mitigation measures will be explored further by the Applicant in consultation with DCP and DEP between the DEIS and FEIS.

C. OPEN SPACE, SHADOWS, AND NATURAL RESOURCES

As described in **Chapter 3, "Open Space," Chapter 4, "Shadows," and Chapter 5, "Natural Resources**," the Proposed Project would result in significant adverse impacts due to direct shadows effects on open space and natural resources in Brooklyn Botanic Garden and Jackie Robinson Playground.

Brooklyn Botanic Garden

Incremental shadows from the Proposed Project would be cast on several individual resources, including greenhouses, within the Brooklyn Botanic Garden on all four CEQR shadows analysis days. The Proposed Project 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 Project, significant adverse impacts are likely on the natural resources found within Brooklyn Botanic Garden.

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

Jackie Robinson Playground

Incremental shadows from the Proposed Project are expected to cast shadow on a passive area for seating and an area for active uses such as a playground area and basketball court. Due to the size, duration, and time of day of incremental shadow on Jackie Robinson Playground, incremental shadow cast by the Proposed Project would constitute a significant adverse impact.

Potential Mitigation Measures for Shadows on the Brooklyn Botanic Garden

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.

Relocation of Brooklyn Botanic Garden Sunlight-Sensitive Resources

In consultation with NYC Parks, the Lead Agency concluded that the relocation of the Brooklyn Botanic Garden facilities would be infeasible, as it would present major challenges both financially and logistically to the Applicant and the Brooklyn Botanic Garden. For several facilities within the Brooklyn Botanic Garden, the relocation would require dismantling glass pavilions around the plants to move them to a new facility. The mitigation to relocate facilities would not only need to include relocating the existing facilities that house the collections, but also the supporting infrastructure, such as boilers. While moving the collections, heated vehicles would be required for the tropical plant materials. The construction plan would either need to include constructing new temporary holdings for the collections, or the Brooklyn Botanic Garden would need to close for several years while the new facilities are built. The topography of the landscape would need to be severely altered as well since the purpose of the existing grades in the area is to guide people towards the buildings on the eastern border of the Brooklyn Botanic Garden.

Installation of Artificial Lighting

Based on guidance from NYC Parks, the implementation of artificial lighting was also deemed infeasible for financial and logistical reasons by the Lead Agency. With changes of sunlight, or lighting type, it is possible that the plants will change their metabolic process over time, which would correlate to a weakened physical structure, altered bloom, changes in color or leaf/flower, or lead to plants not blooming at all. For many of the facilities, lights could not be physically installed as the plants are at varied heights throughout the facility. If installed, lighting would generally need to be at the height of patrons visiting the garden, which would negatively impact the education instruction and viewing ability.

According to the NYC Parks and BBG, the amount of artificial lighting needed to attempt to substitute for sunlight would be incredibly vast. This would also require the improvement of the existing electrical infrastructure and the daily operation of the system. This would not be financially feasible.

Potential Mitigation Measures for Shadows cast on the Jackie Robinson Playground

Potential measures to reduce the coverage, duration, or effect of incremental shadows generated by the Proposed Project are being explored by the Applicant in consultation with the Lead Agency and NYC Parks.

NYC Parks has advised that potential mitigation for the Proposed Action's shadows impact on the Jackie Robinson Playground could be provided by improvements to the facility, consisting of two elements. The first would entail installation of synthetic turf with asphalt painted, track and adjacent sidewalk. These new facilities would replace existing handball courts, including handball court wall in the playground's southwestern portion of the playground. The second would entail the installation of lighting for the existing basketball courts in the playground's southeast portion.

The appropriateness and desirability of these, or potentially other improvements and mitigation measures, will be further explored between the DEIS and FEIS by the Applicant together with community stakeholders, with the advice of NYC Parks. If implementation of these or other appropriate and desirable measures is determined to be financially feasible, the impacts to Jackie Robinson Playground may be considered partially mitigated. As such, even in the event that this partial mitigation were to be implemented, the significant adverse shadow impact on Jackie Robinson Playground would not be avoided.

Alternatives to Provide Partial or Full Mitigation of Shadow Impacts from the Proposed Action

As measures to counter the effects of action-generated incremental shadows on Brooklyn Botanic Garden, including relocation and installation of artificial lighting, have been determined to be infeasible, the significant adverse shadows impacts would not be mitigated on Brooklyn Botanic Garden. Likewise, pending the determination of the financial feasibility of the proposed mitigation measures on Jackie Robinson Playground, the significant adverse shadows impacts on the playground would not be mitigated. As such, the Proposed Project would result in unmitigated significant adverse shadow impacts to these resources if full, feasible mitigation is not identified.

The Applicant has identified two alternatives, discussed in **Chapter 12, "Alternatives,"** as a possible partial mitigation measure that would feature similar density to the Proposed Project and would reduce the amount of incremental shadow coverage over both the Brooklyn Botanic Garden and Jackie Robinson Playground. Both the R7A and R7D Alternatives would result in a reduction to incremental shadows on all sunlight-sensitive resources on all analysis days. However, the Lead Agency, in consultation with expert agencies, determined that these changes would not mitigate the significant adverse shadow impacts.

D. CONSTRUCTION

Noise

As described in **Chapter 10, "Construction,"** the Proposed Project's construction activities would result in temporary significant adverse impacts related to noise. The construction noise analysis predicted noise levels due to construction could exceed the construction noise impact criteria at receptors surrounding the proposed construction work area at portions of six buildings. At these receptors, construction would produce noise level increases that would be noticeable and potentially intrusive during the most noise-intensive nearby construction activities; however, the predicted maximum levels would not persist throughout construction, and the noise levels would fluctuate over the course of the construction period. While the greatest levels of construction noise would not persist throughout construction, these locations would experience construction noise levels whose magnitude and duration could constitute significant adverse impacts.

Construction noise would result in temporary significant adverse impacts at portions of six buildings, including the southern façade nearest to the Franklin Avenue Shuttle and courtyard façades of the future 960 Franklin Avenue residential building, the western and southern facades of 1015 Washington Avenue, the northern façade of 1035 Washington Avenue, the eastern façade and a portion of the northern façade of 1 Sullivan Place, the western façade of the P.S. 375 Jackie Robinson school, and the western façade of the Ebbets Field Apartments. However, construction would typically occur during weekday daytime hours and would therefore not produce noise during nighttime hours when residents would be most sensitive to noise. Further, the Proposed Project would be required to follow the requirements of the New York City Noise Control Code for construction noise control measures. Specific noise control measures would be incorporated in noise mitigation plan(s) required under the New York City Noise Code, including a variety of source and path controls.

In terms of source controls (i.e., reducing noise levels at the source or during the most sensitive time periods), the following measures, included under New York City regulations, would be implemented:

- Equipment that meets the sound level standards specified in Subchapter 5 of the *New York City Noise Control Code* and Table 22-1 of the 2021 *CEQR Technical Manual* would be utilized from the

start of construction. **Table 10-8** in **Chapter 10, "Construction,"** shows the noise levels for typical construction equipment that would be used for construction of the Proposed Project.

- As early in the construction period as logistics allow, diesel- or gas-powered equipment would be replaced with electrical-powered equipment such as welders, water pumps, bench saws, and table saws (i.e., early electrification) to the extent feasible and practicable. Where electrical equipment cannot be used, diesel or gas-powered generators and pumps would be located within buildings to the extent feasible and practicable.
- The construction site would be configured to minimize back-up alarm noise. In addition, all trucks would not be allowed to idle more than three minutes at the construction site based upon Title 24, Chapter 1, Subchapter 7, Section 24-163 of the New York City Administrative Code.
- Contractors and subcontractors would be required to properly maintain their equipment and mufflers.

In terms of path controls (e.g., placement of equipment, implementation of barriers or enclosures between equipment and sensitive receptors), the following measures, under New York regulations, would be implemented:

- Noise equipment, such as cranes, concrete pumps, concrete trucks, and delivery trucks, would be located away from and shielded from sensitive receptor locations to the extent practicable given site limitations (i.e., receptors on multiple sides).
- Noise barriers constructed from plywood or other materials would be utilized to provide shielding (e.g., the construction sites would have a minimum 8-foot-tall barrier around the perimeter).
- Path noise control measures (i.e., portable noise barriers, panels, enclosures, and acoustical tents) for certain equipment as necessary to remain consistent with **Table 10-8** in **Chapter 10, "Construction."** The details of construction of portable noise barriers, enclosures, tents, etc. are shown in DEP's *Rules for Citywide Construction Noise Mitigation.* [2]

In addition, the path controls listed below would be implemented as project commitments for the construction of the Proposed Project beyond the regulations listed above and would be included in the PCREs:

- Throughout the construction period, concrete operations and generators would be located within the construction barrier.

The future residential building at 960 Franklin Avenue directly north of the Proposed Project is expected to be completed in late 2026. Since the 960 Franklin Avenue building will be new construction, it is expected that it will be constructed with contemporary façade construction methods and include an alternate means of ventilation. As such, it is likely that this building will provide at least 30 dBA window/wall attenuation. However, even with this attenuation, the most noise-intensive construction activity nearest the receptor would result in interior noise levels up to 57 dBA L_{10}, which is 12 dBA greater than the level considered acceptable according to *CEQR Technical Manual* noise exposure guidelines. As such, the predicted construction noise impacts at 960 Franklin Avenue would be only partially mitigated.

At the other receptors predicted to experience impacts, mitigation measures to control noise would also be offered during construction of the Proposed Project. While some of the impacted buildings feature modern façade construction, including insulated glass windows and an alternative means of ventilation that would allow for the maintenance of a closed-window condition, it is not possible to definitively determine the presence of these features at all receptors that would have the potential to experience temporary construction noise impacts. As described in **Chapter 10, "Construction,"** various façades of 1015

[2] As found at http://www.nyc.gov/html/dep/pdf/noise_constr_rule.pdf

and 1035 Washington Avenue, 1 Sullivan Place, P.S. 375 Jackie Robinson school, and the Ebbetts Field Apartments are predicted to experience a temporary construction noise impact. A measure to partially mitigate the construction noise impacts would be to make available, for purchase and installation, storm windows for façades that do not already have insulated glass windows and/or one window air conditioner per living room or bedroom or other noise sensitive space that do not already have alternative means of ventilation. The feasibility of this measure will be explored as a potential partial mitigation between the DEIS and FEIS. If implemented, these mitigation measures would be implemented prior to the start of construction. Building façades with insulated glass windows or storm windows and alternative ventilation would provide sound attenuation such that even during warm weather conditions, interior noise levels would be approximately 30 dBA less than exterior noise levels. However, the most noise-intensive construction activity nearest the receptors experiencing significant adverse impacts would result in interior noise levels up to 56 dBA L_{10}, which is 11 dBA greater than the level considered acceptable according to *CEQR Technical Manual* noise exposure guidelines. Consequently, the temporary significant adverse noise impacts predicted to occur at the above-mentioned receptors would be only partially mitigated in any event. Additional mitigation measures will be explored further by the Applicant in consultation with DCP and DEP between the DEIS and FEIS.