

A. INTRODUCTION

This chapter assesses the potential for temporary significant adverse effects on publicly accessible open space resources during the proposed project's construction. According to the *CEQR Technical Manual*, a publicly accessible open space resource is publicly or privately owned land that is publicly available for leisure, play, sport, or serves to protect and enhance the natural environment. The proposed project involves the temporary displacement of open space resources (East River Park, Stuyvesant Cove Park, Murphy Brothers Playground, Asser Levy Playground, and Captain Patrick J. Brown Walk), in phases, over an approximately 3.5- to 5-year period. The proposed project's construction would also generate noise and air pollutant emissions that could affect nearby open space resources that would remain open to the public. The analysis considers these direct effects, as well as the indirect effects of construction (e.g., whether the temporary loss of open space or construction effects could result in the overtaxing of other open spaces in the study area).

B. PRINCIPAL CONCLUSIONS

The proposed project requires construction within a number of public parks (East River Park, Stuyvesant Cove Park, Murphy Brothers Playground, Asser Levy Playground, and Captain Patrick J. Brown Walk), in phases, over an approximately 3.5- to 5-year period. The direct effects include the temporary closure of open space resources, during which time the public would not have access or limited access to these public parks. The adequacy of open space in the study area was quantitatively and qualitatively assessed for existing conditions, the No Action Alternative, and the With Action Alternatives (Alternatives 2 through 5) by each analysis year (2020 through 2025). Construction under the Preferred Alternative would have a 3.5-year construction period with completion in 2023, whereas construction would occur for the full five years under Alternatives 2, 3, and 5.

The analysis follows the procedures outlined in the 2014 *City Environmental Quality Review (CEQR) Technical Manual*. The summary of potential construction open space effects is described below.

NO ACTION ALTERNATIVE (ALTERNATIVE 1)*DIRECT EFFECTS*

With the planned construction of Pier 42 Park and the East River Waterfront Esplanade-Phase IV, the open space acreage within the ½-mile study area will increase from 86.65 acres under existing conditions to approximately 90.81 acres by the 2025 analysis year. Under the No Action Alternative, with no new comprehensive coastal protection system installed in the project area, East River Park and other open space resources in the protected area would remain vulnerable to storm damage.

INDIRECT EFFECTS

Under the No Action Alternative, total open space ratios are below the Citywide Community District median ratio of 1.5 acres per 1,000.

PREFERRED ALTERNATIVE (ALTERNATIVE 4): FLOOD PROTECTION SYSTEM WITH A RAISED EAST RIVER PARK

DIRECT EFFECTS

There is the potential for temporary adverse direct effects under the Preferred Alternative over multiple analysis years due to the extent of displacement of recreational facilities and open space amenities in East River Park over the 3.5-year construction period. However, once completed, the Preferred Alternative would directly affect East River Park, Stuyvesant Cove Park, Murphy Brothers Playground and Asser Levy Playground in a positive manner, by enhancing their design and increasing their accessibility to the public. The proposed project under the Preferred Alternative would also enhance the resiliency of open space and protect park resources from future design storms.

Construction Noise

As described in Chapter 6.12, “Construction—Noise and Vibration,” predicted noise level increases at these open space locations would be noticeable; however, the total noise levels would be in the range considered typical for Manhattan, and for this area in general. Many New York City parks and open space areas located near heavily trafficked roadways and/or near construction sites, experience comparable, and sometimes higher noise levels. Maximum construction noise levels at receptors nearest floodwall construction with the Preferred Alternative would be slightly lower because pile driving at the Preferred Alternative would generally occur further from to the receptors. As with Alternative 3, East River Park, Asser Levy Playground (outdoor) and Murphy Brothers Playground would be closed under the Preferred Alternative during the times when construction activities would occur at these park resources. Therefore, the duration of construction noise would be limited at any given area of open space that would remain open in proximity to construction activities. Furthermore, the construction noise predictions are conservative in that they consider the area of open space that remains open and accessible closest to the construction area. While construction would likely disturb the Asser Levy outdoor pool temporarily, it is anticipated that this construction would take place during the off-season of the pools (mid-September to early June) and not affect the operational season of the pools. Based on these factors, the Preferred Alternative construction noise on these open space resources would not result in a significant adverse effect.

However, at Asser Levy Recreation Center, construction activity would include pile driving that would occur west of the Franklin Delano Roosevelt East River Drive (FDR Drive) immediately adjacent to this building and would produce noise level increases considered high for this area. While the duration of maximum noise levels at this location would be limited and the receptor is typically used for active recreation with a lower sensitivity to noise, the maximum noise levels predicted by the construction noise analysis are high (i.e., in the “clearly unacceptable” range according to CEQR noise exposure guidance). Consequently, the Asser Levy Recreation Center is predicted to experience a significant adverse noise effect as a result of construction. Noise level increases at Asser Levy Recreation Center exceeding the CEQR construction noise screening thresholds are predicted to occur over the course of approximately 20 months; however, pile

installation would occur in a single location for a relatively brief period of time not greater than four months. The City would utilize quieter construction methods (i.e., press in pile), to partially mitigate noise effects that would be experienced at the Asser Levy Recreation Center.

Construction of the Preferred Alternative would be required to follow the requirements of the *New York City Noise Control Code* and would use additional measures, including both path control (e.g., placement of equipment, implementation of barriers or enclosures between equipment and sensitive receptors) and source control (i.e., reducing noise levels at the source or during the most sensitive time periods) to minimize the effects of the Preferred Alternative’s construction activities on the surrounding community.

Construction Air Quality

Construction of the proposed project under the Preferred Alternative would adhere to Local Law 77 of 2003 for emissions reductions on non-road construction engines, *New York City Air Pollution Control Code* regulations regarding construction-related dust emissions, and *New York City Administrative Code* limitations on construction-vehicle idling time. With the implementation of these measures, the detailed analysis presented in Chapter 6.10, “Construction—Air Quality,” showed there would be no significant adverse air quality effects on sensitive receptors, including open space areas near the construction activities.

INDIRECT EFFECTS

As a result of the extended open space closures due to construction, the total open space ratios within the study area would decrease in the Preferred Alternative from the No Action Alternative. The proposed project would reduce open space ratios by a minimum of 45.95 percent in 2023 and a maximum of 50.27 percent in 2020, and therefore would result in potential temporary significant adverse indirect effects on open space resources within the study area under the Preferred Alternative. The total open space ratios under the Preferred Alternative would remain lower than the City’s planning goal of 2.5 acres of combined active and passive open space ratio per 1,000 residents and would remain lower than the citywide median of 1.5 acres per 1,000 residents. However, there are no significant adverse indirect effects for the 2024 and 2025 analysis years, as any remaining construction would be minimal and the vast majority of displaced open space areas would be restored and reopened to the public with new and enhanced park features.

OTHER ALTERNATIVE (ALTERNATIVE 2): FLOOD PROTECTION SYSTEM ON THE WEST SIDE OF EAST RIVER PARK – BASELINE

The Flood Protection System on the West Side of East River Park – Baseline (Alternative 2) would involve less construction in City parkland (e.g., East River Park), resulting in less temporary displacement of recreational facilities than the Preferred Alternative. Therefore, the temporary significant adverse direct and indirect open space effects under Alternative 2 would be less than the Preferred Alternative. However, Alternative 2 would result in fewer resiliency and enhanced park and access benefits it would not provide flood protection to East River Park; would not reconstruct and improve the landscapes, recreational fields, playgrounds, and amenities within East River Park; and would not redesign and reconstruct the Murphy Brothers and Asser Levy Playgrounds. Additionally, under Alternative 2, a new raised and landscaped park-side plaza landing would not be created at the entrance to East River Park from the East Houston Street overpass.

Similar to the Preferred Alternative, construction activity under Alternative 2 would include pile driving that would occur west of the FDR Drive immediately adjacent to the Asser Levy Recreation Center. These activities would produce noise level increases considered high for this area and in the “clearly unacceptable” range according to CEQR noise exposure guidance. Consequently, the Asser Levy Recreation Center is predicted to experience a significant adverse noise effect as a result of construction.

OTHER ALTERNATIVE (ALTERNATIVE 3): FLOOD PROTECTION SYSTEM ON THE WEST SIDE OF EAST RIVER PARK – ENHANCED PARK AND ACCESS

The Flood Protection System on the West Side of East River Park – Enhanced Park and Access (Alternative 3) would involve a similar level of temporarily displaced open space as the Preferred Alternative and would therefore result in a similar significant adverse effect as compared to the Preferred Alternative for the 2020 to 2023 analysis years. However, Alternative 3 would involve a longer construction duration, resulting in prolonged significant adverse effects. As a result of the extended open space closures due to construction, the total open space ratios within the study area would decrease in Alternative 3 from the No Action Alternative. Since the open space ratios would be reduced by a minimum of 45.33 percent in 2025 and a maximum of 49.49 percent in 2022, the proposed project would result in potential temporary significant adverse indirect effects on open space resources within the study area under Alternative 3. Therefore, the temporary significant adverse direct and indirect open space effects under Alternative 3 would be greater than the Preferred Alternative. In addition, Alternative 3 would result in fewer resiliency benefits and would not provide flood protection to East River Park.

Similar to the Preferred Alternative, construction activity under Alternative 3 would include pile driving that would occur west of the FDR Drive immediately adjacent to the Asser Levy Recreation Center. These activities would produce noise level increases considered high for this area and in the “clearly unacceptable” range according to CEQR noise exposure guidance. Consequently, the Asser Levy Recreation Center is predicted to experience a significant adverse noise effect as a result of construction.

OTHER ALTERNATIVE (ALTERNATIVE 5): FLOOD PROTECTION SYSTEM EAST OF FDR DRIVE

The displacement of open space necessary to accommodate construction under the Flood Protection System East of FDR Drive (Alternative 5) would be comparable to the Preferred Alternative. Therefore, any potential temporary significant adverse direct and indirect open space effects identified under Alternative 5 would be of comparable magnitude as the Preferred Alternative. Similar to the Preferred Alternative, the Asser Levy Recreation Center is predicted to experience a significant adverse noise effect as a result of construction.

MITIGATION

The proposed project would introduce potential temporary significant adverse direct and indirect effects on open space during the construction period. Therefore, on- and off-site measures to mitigate the effect to the greatest extent practicable would be implemented by the City. The proposed mitigation measures for the Preferred Alternative include accommodating youth permit users within existing facilities under the New York City Department of Parks and Recreation (NYC Parks) jurisdiction; working with other entities with open space resources, such as the New York City Department of Education (DOE) and the New York City Housing Authority (NYCHA),

to identify recreational resources that may be opened to the community during construction; implementing a Lower East Side greening program and planting up to 1,000 trees in parks and streets and up to 40 bioswales; purchasing solar lighting to be used at 6 Lower East Side parks to extend playing time at fields for permitted use during construction; improving the synthetic turf at 7 park locations; installing new sports coating at seven sites; painting playgrounds and park equipment at up to 16 parks; enhancing existing Parks barbeque areas; identifying alternative tennis locations; increasing staffing for recreation and maintenance and operations; and exploring open space improvements at Waterside Pier. In addition, the New York City Department of Transportation (NYCDOT) would re-route bicyclists to the on-street bike network, primarily the protected bike lanes along First Avenue and Second Avenue, as well as those on Allen Street/Pike Street and Clinton Street (see Figure 6.9-20) and is committed to expanding the City’s bicycle network, including adding more protected bike lanes. Furthermore, the City is assessing opportunities to open parts of East River Park as work is completed. These measures would partially mitigate construction effects on open space resources.

According to the *CEQR Technical Manual*, on-site improvements are considered a mitigation measure. Although construction would temporarily displace open space resources in East River Park, Stuyvesant Cove Park, Murphy Brothers Playground, Asser Levy Playground, and Captain Patrick J. Brown Walk, the end result would be a refurbished open space resource. After construction, East River Park would be a newly landscaped and raised park with pathways, which would enhance the user experience of the park, under the Preferred Alternative. In addition, the upland open space resources in the ½-mile study area would be protected against future storm events, thus increasing the utility and safety of those resources. The Preferred Alternative would be especially beneficial for the open space resources in East River Park, as this alternative includes reconstruction of the park, raising it by approximately eight feet to meet the design flood protection criteria while also reducing the risk for effects from future storm events. The flood protection measures proposed to be integrated into park features aim to reduce the effects from future storm events on the community. The Preferred Alternative proposes the replacement of pedestrian crossings at Delancey Street, East 10th Street, and Corlears Hook Bridges. The enhancement of pedestrian bridges to East River Park would improve the east-west connectivity for residents in the ½-mile study area to East River Park upon project completion. The improvements to these open space resources under the proposed project would be considered partial mitigation. Additionally, as stated in the *CEQR Technical Manual*, the implementation of missing segments of the City’s greenway network would be considered a mitigation strategy. By remedying a long-standing narrowed pathway at the Con Edison “pinch-point,” the proposed project under all alternatives, with the exception of the No Action Alternative, would significantly improve the usability and access to the greenway with the construction of the shared-use flyover bridge.

As discussed above, the Asser Levy Recreation Center is predicted to experience a significant adverse noise effect as a result of construction. The City would utilize quieter construction methods (i.e., press in pile) to partially mitigate noise effects that would be experienced at the Asser Levy Recreation Center.

C. REGULATORY CONTEXT

A detailed discussion of the regulatory context governing the open space analysis is presented in Chapter 5.3, “Open Space.”

D. METHODOLOGY

According to the *CEQR Technical Manual*, a preliminary construction assessment for open space is needed as the proposed project's construction activities are considered long-term (more than two years). The assessment includes consideration of both direct and indirect effects of the proposed project.

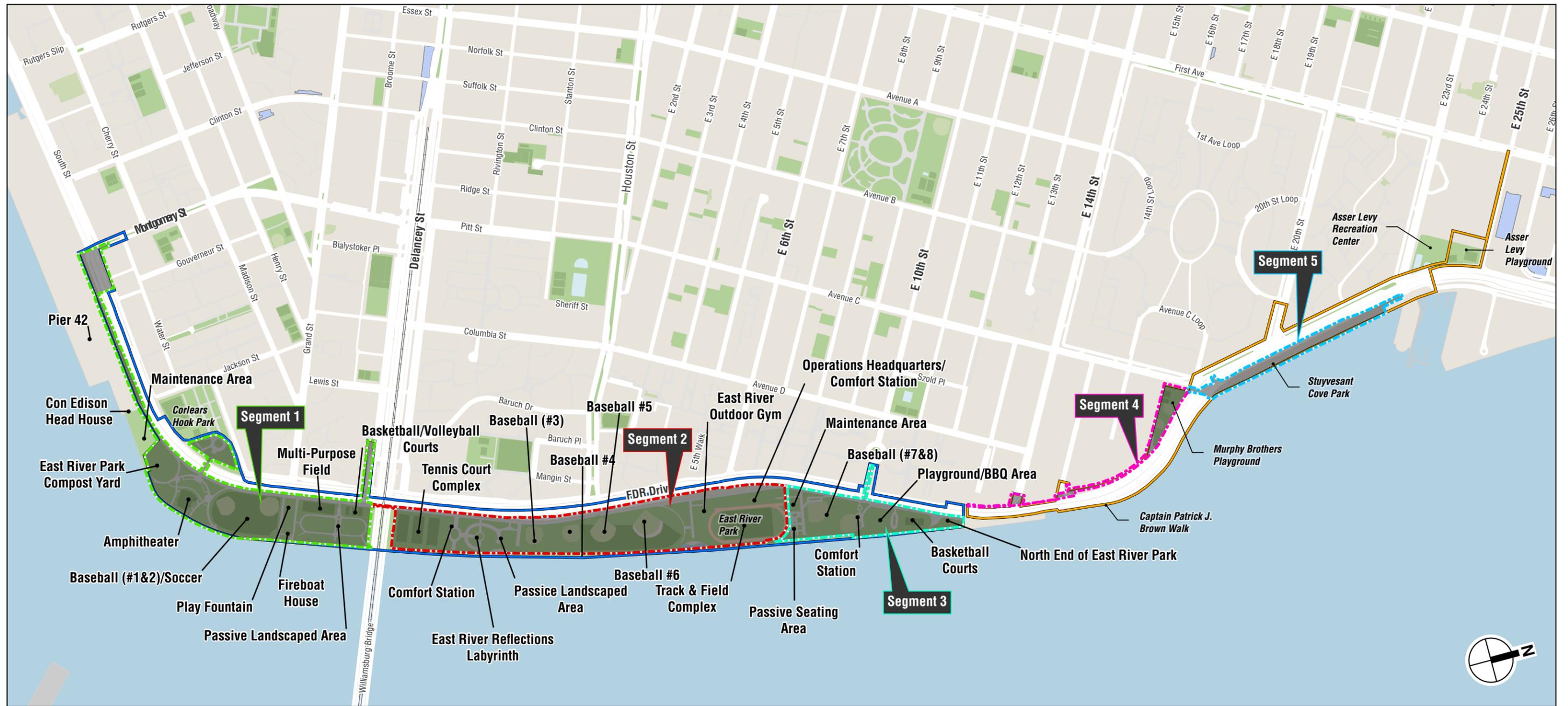
DIRECT EFFECTS

A direct effects analysis should be performed if a project would: directly affect open space conditions by causing a loss of public open space; change the use of an open space so that it no longer serves the same user population; limit public access to an open space; or increase noise, air pollutant emissions, odor, or shadows that would temporarily or permanently affect the usefulness of a public open space. A project can also directly affect an open space in a positive manner, by enhancing its design or by increasing its accessibility to the public. The direct effects related to the construction of the proposed project include the temporary displacement of open space resources for periods of time due to construction phasing in segments ("Segments"), during which the public would not have access to those resources. The construction segments are referred to as: Segment 1 ([East River Park] Ball Fields No. 1 and No. 2 and Soccer Field, Basketball and Volleyball Courts, Multi-Purpose Field, and Water Play Area); Segment 2 ([East River Park] Tennis Court Complex and Comfort Station, Ball Fields No. 5 and No. 6); Segment 3 ([East River Park] North End of East River Park, Ball Fields No. 7 and No. 8, Playground, Basketball Court and BBQ Area); Segment 4 (Murphy Brothers Playground); Segment 5 (Stuyvesant Cove Park); and Segment 6 (Asser Levy Playground) (see **Figure 6.2-1 through Figure 6.2-8**). For the purposes of analysis, it is assumed that the closure of each segment for construction activities occurs for a full analysis year (i.e., If construction within a segment is complete within an analysis year, this analysis still assumes that the segment is unavailable for that full analysis year); this represents a reasonable worst case scenario for the temporary displacement of open space resources. Under each alternative, qualitative consideration is provided of newly reconstructed open space resources that may be available to the public (once construction is complete within that segment). The analysis also considers whether there are other open space resources within close proximity to the unavailable resources that would provide similar recreational opportunities to the public.

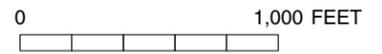
Construction activities may also produce noise and air pollutant emissions affecting neighboring open space resources. Therefore, potential construction noise and air quality effects on open space resources are also considered. The direct effects assessment includes estimates of the extent and timing of open space displacement during construction and considers construction-related noise and pollutant emissions on the usability of the open space resources.

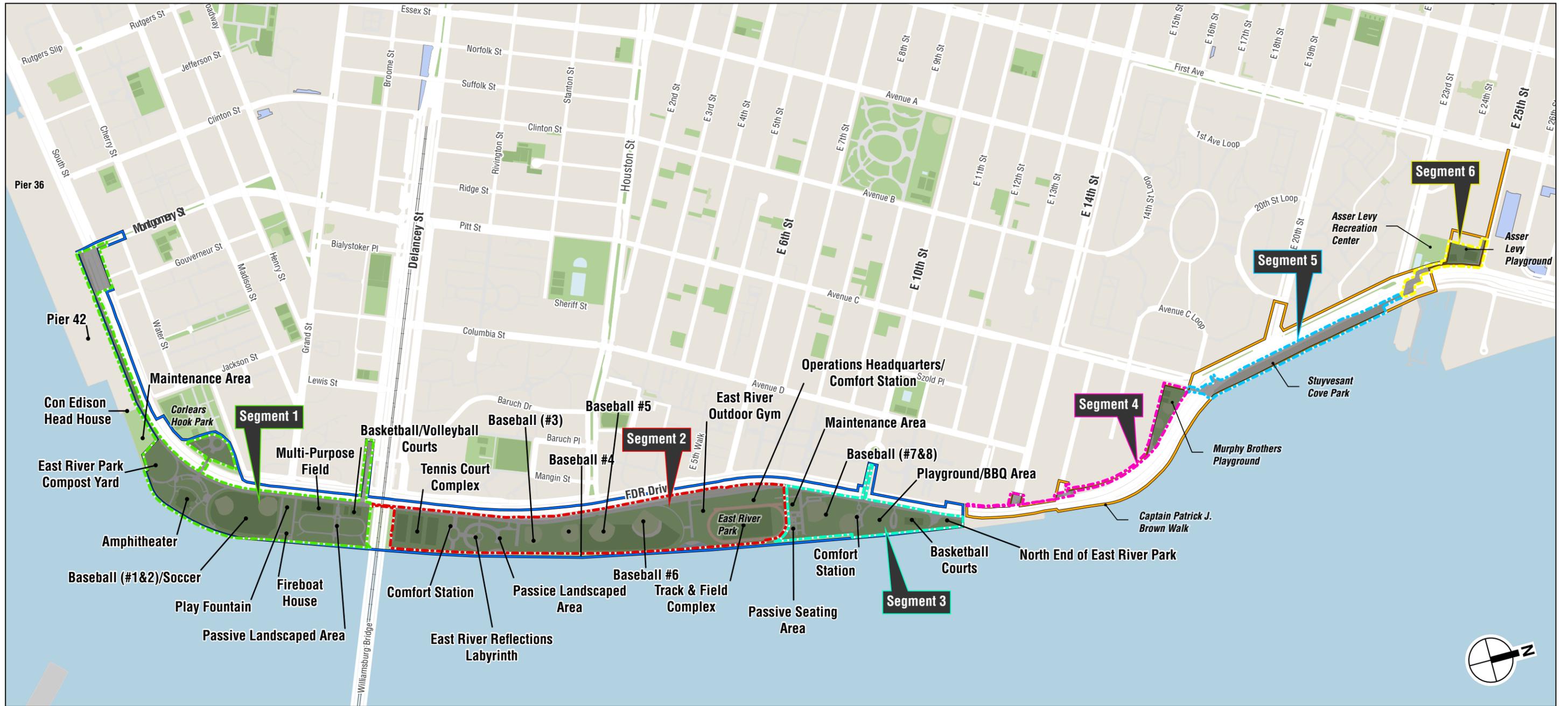
INDIRECT EFFECTS

An indirect effects analysis should be performed if a project would add sufficient population, either residents or non-residents, to noticeably diminish the capacity of open space in an area to serve the future population. Due to the direct effects of temporary displacement of open space resources, the capacity of open space in the area could be affected, therefore causing indirect open space effects. In particular, an increase in demand for other resources in the study area (within a reasonable walking distance) that would remain available during construction of the proposed project may result in temporary significant adverse effects. The indirect effects assessment applies the indirect effects analysis methodologies described in Chapter 5.3, "Open Space," to determine

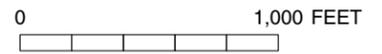


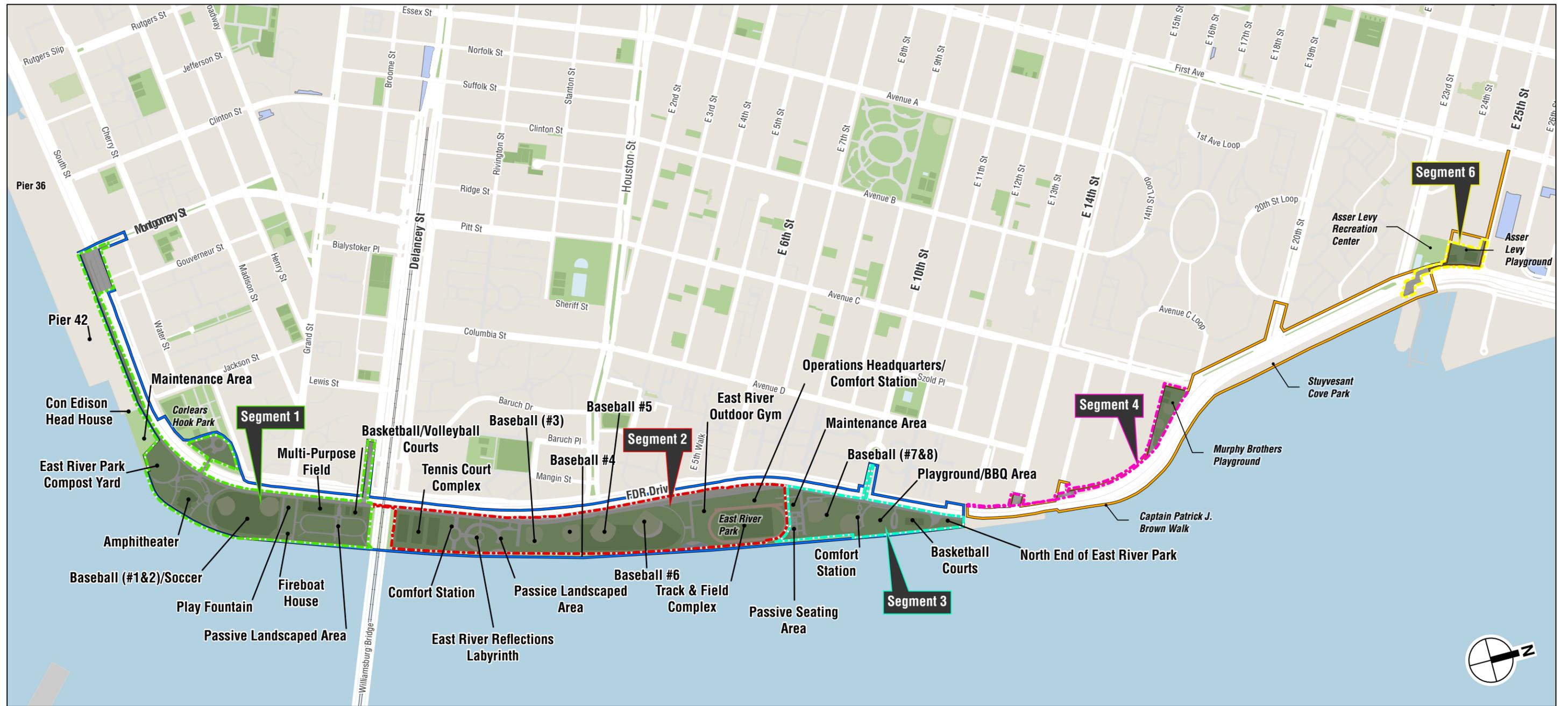
- Project Area One
- Project Area Two
- Construction Limits of Work
- Segment



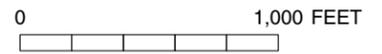


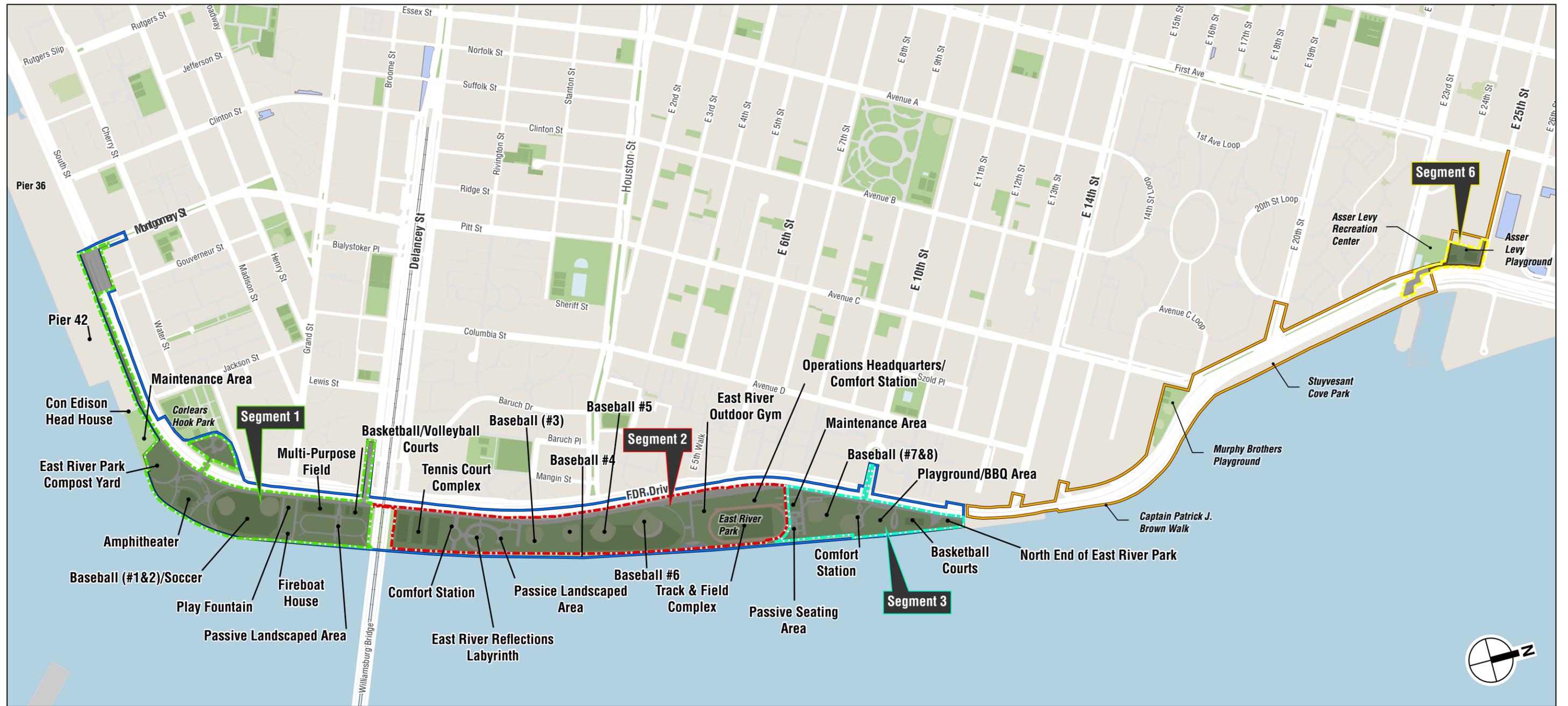
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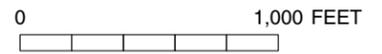


- Project Area One
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- Construction Limits of Work
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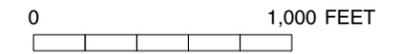


- Project Area One
- Project Area Two
- Construction Limits of Work
- Segment





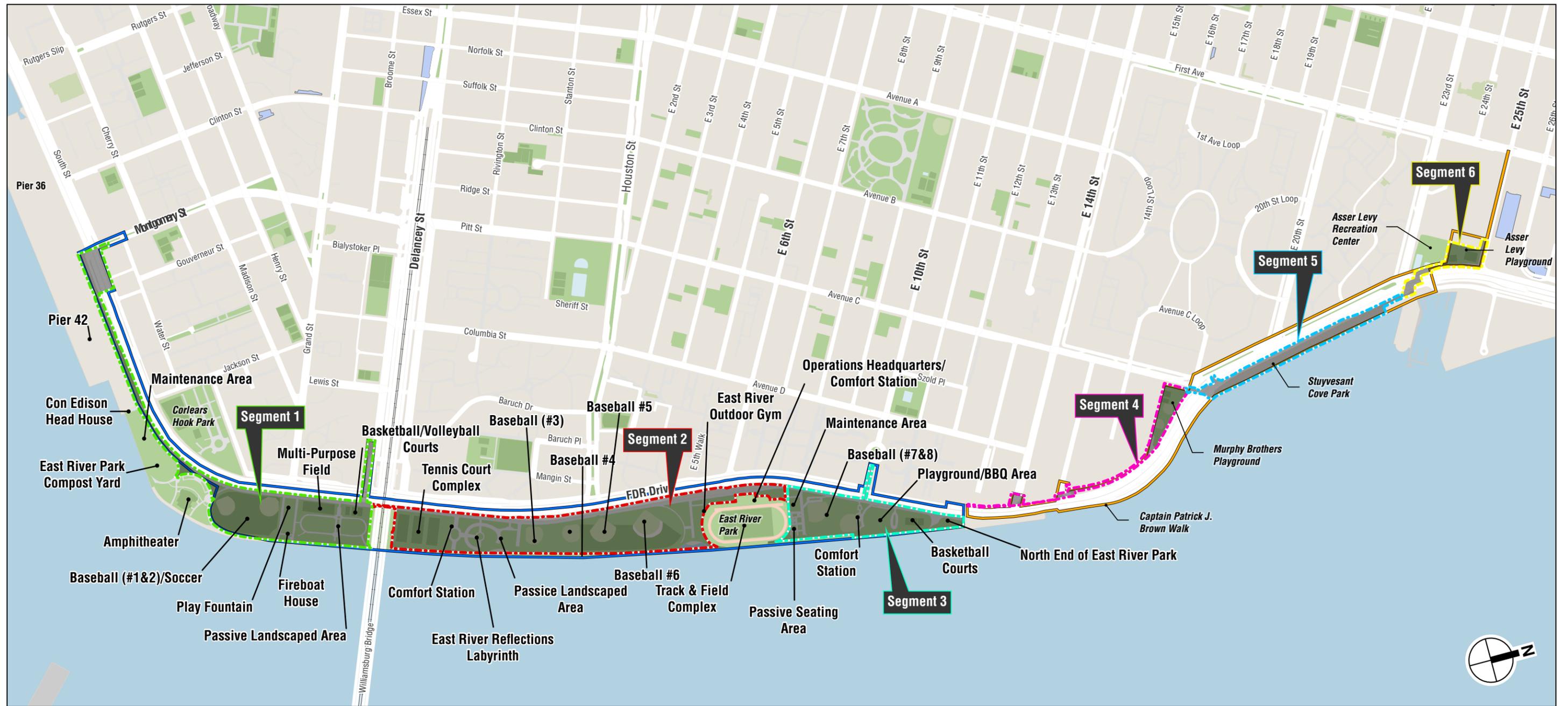
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- Project Area One
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- Construction Limits of Work
- Segment

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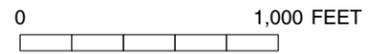


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- Segment

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- Project Area One
- Project Area Two
- Construction Limits of Work
- Segment



how open space ratios for the ½-mile open space study area could change over the course of the 3.5- to 5-year construction period.

COMPARISON TO CITY GUIDELINES

The adequacy of open space in the study area was quantitatively and qualitatively assessed for existing conditions, the No Action Alternative, and the With Action Alternatives (Alternatives 2 through 5). According to CEQR guidelines, the quantitative assessment is based on ratios of usable open space acreage to the study area populations (the “open space ratios”). These ratios are then compared with the City’s open space guidelines for residential populations. For residential populations, there is a City-wide median open space ratio of 1.5 acres per 1,000 residents, which is used as a guideline. In addition to this median ratio, the City has set an open space ratio planning goal of 2.5 acres per 1,000 residents, which includes 0.50 acres of passive space and 2.0 acres of active space per 1,000 residents. It should be noted that the City’s open space planning goals are often not feasible for many areas of the City, and they are not considered a significant adverse effect threshold. Rather, they are used as benchmarks to represent how well an area is served by its open space resources.

ANALYSIS YEARS

This chapter assesses the potential direct and indirect effects by each analysis year (2020–2025) for the proposed five-year construction period under all alternatives (it should be noted that construction would occur for the full five years under Alternatives 2, 3, and 5, whereas construction under the Preferred Alternative would have a 3.5-year construction period with a completion in 2023).

EFFECTS ASSESSMENT

The determination of temporary significant adverse effects is based on one of two factors following *CEQR Technical Manual* guidelines. Regarding direct effects: a significant adverse effect would occur if there would be a direct displacement/alteration of existing open space within the study area without a comparable replacement (size, usability, and quality) within the study area, or if a proposed project results in a significant physical effect (such as increasing noise or air pollutant emissions) that would affect the usefulness of a public open space. Regarding indirect effects: if the proposed project would reduce an open space ratio and consequently result in overburdening existing facilities, or if it would substantially exacerbate an existing deficiency in open space, it may result in a significant effect on open space resources. The determination of significant adverse effects is based on how a project would change the open space ratios in the study areas, as well as qualitative factors not reflected in the quantitative assessment. In general, if a study area’s open space ratios fall below City guidelines, and the proposed project would result in a decrease in the open space ratio of more than five percent, it could be considered a substantial change. However, in areas which have been determined to be extremely lacking in open space, a reduction as small as one percent may be considered significant.

ALTERNATIVES ANALYZED

The alternatives described below and analyzed in this chapter are described in greater detail in Chapter 2.0, “Project Alternatives.” For the purposes of this assessment, the Preferred Alternative is the focus for analysis. The displacement of open space necessary to accommodate construction under Alternative 2 would be comparable to or less than that under the Preferred Alternative. Alternative 5 proposes a flood protection alignment similar to the Preferred Alternative, except for the approach in Project Area Two between East 13th Street and Avenue C, where the

northbound lanes of the FDR Drive in this area would be raised. Maintaining the flood protection alignment along the east side of the FDR Drive would eliminate the need to cross the FDR Drive near East 13th Street as well as the need to install floodwalls adjacent to NYCHA's Jacob Riis Houses, Con Edison Complex, and Murphy Brothers Playground. Therefore, Alternative 5 would result in temporary displacement of open space similar to that of the Preferred Alternative.

E. AFFECTED ENVIRONMENT

DIRECTLY AFFECTED AREAS

This analysis considers the effects of construction on open space within Project Area One and Project Area Two, as described in Chapter 5.3, "Open Space" (see Figure 5.3-1).

STUDY AREA

The study area utilized for analysis is based on the distance a person is assumed to be willing to walk to reach a neighborhood open space based on *CEQR Technical Manual* guidelines. Residents are assumed to walk approximately 10 minutes (about a ½-mile distance) to reach both passive and active neighborhood open spaces. Since the proposed project would be located primarily within parks adjacent to a predominantly residential user population and would not have a substantial amount of commercial user population, a study area based on a ½-mile distance from the boundaries of Project Areas One and Two was established. For a detailed description of open space resources in the study area, refer to Chapter 5.3, "Open Space." As described in Chapter 5.3, "Open Space," the existing total open space acreage within the ½-mile study area is 86.65 acres, of which 54.46 acres are active and 32.19 acres are passive (see Table 5.3-2).

OPEN SPACES TEMPORARILY DISPLACED FOR CONSTRUCTION

This section includes a description of each construction segment, the publicly accessible open spaces in these segments, and the comparable nearby open space resource(s) that would be available to the public during the temporary displacement of open space resources within that construction segment. The order and duration of construction activities during which open spaces in these segments would be unavailable to the public is provided in the next section and is discussed for each alternative.

Segment 1

Segment 1 is approximately 14.20 acres and incorporates open space resources, mainly East River Park, from Montgomery Street to the south and Williamsburg Bridge to the north between the FDR Drive and the East River. The resources (moving south to north) within this segment are as follows: the East River Park Compost Yard; the shared-use path adjacent to the FDR Drive from Montgomery Street to the Williamsburg Bridge; the amphitheater and the tree lined grassy knolls to the west of the amphitheater; a large soccer field straddled by two baseball fields (Ball Fields No. 1 and No. 2) enclosed with a tall chain-linked fence and planted areas to the south, east and north of these fields; a water play area containing multiple sprinkler jets set in the ground, rocks that create pool areas, and bronze sculptures of sea lions at play, paved promenades with benches flank the play area and connect the shared-use path to the East River Promenade (a pedestrian walkway located directly adjacent to the East River extending the length of the park); a multi-purpose field with artificial turf, 2 paved volleyball courts, and 1 paved basketball court enclosed with chain-link fences adjacent to the shared-use path as well as a large lawn encircled with soft-

surfaced paths adjacent to the East River Promenade. Additionally, Segment 1 includes the Delancey Street Bridge and the East River Promenade from Ball Fields No. 1 and No. 2 to the Williamsburg Bridge. Segment 1 also include an access point to the NYC Ferry service. Construction activities within this segment are not anticipated to obstruct NYC Ferry access or service.

Outside of Segment 1, comparable resources of similar type and quality would be available at Baruch Playground (soccer fields, basketball courts, and water play areas), Corlears Hook Park (baseball fields), Seward Park, and Little Flower Playground (volleyball courts), Hamilton Fish Park and Luther Gulick Playground (water play areas). Nearly all other open space resources in the ½-mile study area have comparable passive recreation areas (lawns, pathways, seating, etc.). Other than other sections of East River Park, which may also be temporarily unavailable due to construction, there are no comparable shared-use pathways in the ½-mile study area. According to the CEQR Technical Manual, this displacement would have the largest effect on the user group within the 20–64 age range.

Segment 2

Segment 2 is approximately 18.36 acres and incorporates open space resources in East River Park, from north of the Williamsburg Bridge to the south and East 8th Street between the FDR Drive and the East River. The resources (moving south to north) within this segment include the following: the shared-use path adjacent to the FDR Drive and the East River Promenade adjacent to the East River from the Williamsburg Bridge to East 8th Street; a tennis center with 12 tennis courts enclosed with a tall chain link fence; a comfort station flanked by two lawns; a paved promenade that connect the shared-use path to the East River Promenade with landscaped areas, benches, fixed tables, and a dance circle to approximately Stanton Street; baseball fields (Ball Fields No. 3 and No. 4) enclosed with a tall chain-linked fence and planted areas to the south, west, and east; the East Houston Street overpass connects to East River Park adjacent to this area; baseball fields (Ball Fields No. 5 and No. 6) separated by a planted area; additional tree-lined lawns with pathways that connect the shared-use path and the East River Promenade with outdoor fitness equipment enclosed with a tall chain-link fence; the Track and Field Complex; and the area of East River Park north of the Track and Field Complex up to East 8th Street.

Other comparable resources are Coleman Field and Murry Bergtraum Softball Field, which are just outside of the ½-mile study area. Nearly all other open space resources in the ½-mile study area have comparable passive recreation areas (lawns, pathways, seating, etc.). Aside from other sections of East River Park, which may also be temporarily unavailable due to construction, there are no comparable shared-use pathways in the ½-mile study area.

Segment 3

Segment 3 is approximately 7.83 acres and incorporates open space resources in East River Park, from north of East 8th Street to East 13th Street between the FDR Drive and the East River. The resources (moving south to north) within this segment include: the shared-use path adjacent to the FDR Drive and the East River Promenade adjacent to the East River from East 8th Street to East 13th Street; maintenance yards and paved seating areas separated by planted areas that connect the shared-use path to the East River Promenade between the Track and Field Complex and baseball fields (Ball Fields No. 7 and No. 8); a comfort station and playground at the terminus of the East 10th Street Bridge; a paved playground, which contains play equipment, a sprinkler, and benches enclosed by a metal fence; basketball half-courts; and areas to grill and picnic. Additionally, Segment 3 is inclusive of the East 10th Street Bridge. At the northern end of the

park, where the esplanade transitions to a narrow path alongside the Con Edison East River Substation, there are trees and a grassy area with benches and fixed tables.

Outside of Segment 3, comparable resources of similar type and quality could be utilized at Dry Dock Playground and Tompkins Square Park (basketball courts). Nearly all other open space resources in the ½-mile study area have comparable passive recreation areas (lawns, pathways, seating, etc.). Aside from other sections of East River Park, which may also be temporarily unavailable due to construction, there are no comparable shared-use pathways in the ½-mile study area. Additionally, there are no comparable grilling areas within the ½-mile study area. The displacement of grilling areas would have the largest effect on families and users of all ages.

Segment 4 (Murphy Brothers Playground and Captain Patrick J. Brown Walk)

Segment 4 is approximately 2.96 acres and incorporates approximately 1.27 acres of Murphy Brothers Playground. Located east of Stuyvesant Town, Murphy Brothers Playground includes a mixture of active and passive recreational amenities, such as tee-ball fields, a basketball court, playground equipment, hopscotch squares, and benches. Segment 4 also includes Captain Patrick J. Brown Walk, an esplanade that runs along the shoreline, which also serves as the East River Bikeway. The surface of the walk is covered in decorative pavers and contains benches and an ornamental fence along the FDR Drive. Captain Patrick J. Brown Walk provides expansive river views that include the Queens waterfront, Roosevelt Island, the Ed Koch Queensboro Bridge, and Midtown Manhattan, including views of the United Nations Secretariat and the Empire State Building.

Outside of Segment 4, comparable resources of similar type and quality to Murphy Brothers Playground include, but are not limited to the Baruch Playground, P.S. 110 Playground, Sol Lain Playground, and Augustus St. Gardens Playground. Asser Levy Playground, located directly north of Murphy Brothers Playground at East 23rd Street and would potentially be open during construction of this Segment under certain alternatives (described below).

Segment 5 (Stuyvesant Cove Park)

Segment 5 is approximately 3.27 acres and incorporates approximately 1.90 acres of Stuyvesant Cove Park. Located along the waterfront, Stuyvesant Cove Park provides passive recreation, gardens, and paved area which is used for educational programming and special events (e.g., movies). In addition to the walking, jogging, and bicycling paths, park users may fish, or utilize benches and tables for social gathering or waterfront viewing. The northernmost portion of the park includes the Solar One building, which is maintained by a non-profit organization of the same name. The Solar One Environmental Education Center is proposed to be rebuilt as part of a separate project. Segment 5 also includes an access point to the NYC Ferry service. Construction activities within this segment are not anticipated to obstruct NYC Ferry access or service.

Outside of Segment 5, a comparable resource of similar type and quality includes Stuyvesant Square located within the ½-mile study area along 2nd Avenue between East 15th and East 17th Street.

Segment 6 (Asser Levy Playground)

Segment 6 is approximately 1.79 acres and incorporates approximately 0.77 acres of Asser Levy Playground. The totality of Asser Levy Playground is 2.44 acres. Construction would require use of the park excluding the Asser Levy Recreation Center building and the outdoor pools. While construction would likely disturb the outdoor pool temporarily, it is anticipated that construction

would take place during the off-season of the pools (mid-September to early June) and not affect the operational season of the pools. Located just north of Peter Cooper Village, this segment is comprised of the Asser Levy Recreation Center, located just north of East 23rd Street, as well as the playground complex adjacent to the recreation center. Asser Levy Recreation Center houses a diverse set of active areas, including an indoor pool within the recreation center building, an outdoor intermediate pool, and an outdoor wading pool located east of the recreation center building. Asser Levy Playground contains specially designed free-form game tables, wood and concrete benches, drinking fountains, as well as pull-up bars, balance boards, steps and ramps, chain ladders, and parallel bars. Neighborhood residents and visitors play ping pong, badminton, chess, soccer, football, tee-ball, exercise, jog, practice yoga, or enjoy shaded seating on an expanded park area that was a former Right-of-Way. Outdoor adult fitness equipment is also available.

Outside of Segment 6, comparable resources of similar size and quality include, but are not limited to the Baruch Playground, Sol Lain Playground, and Augustus St. Gardens Playground. Murphy Brothers Playground, located directly south of Asser Levy Playground is expected to be open during construction of this Segment under certain alternatives (described below).

F. ENVIRONMENTAL EFFECTS

NO ACTION ALTERNATIVE – (ALTERNATIVE 1)

DIRECT EFFECTS

As described in Chapter 5.3, “Open Space,” some projects have the potential to affect open spaces within the study area.

The Pier 42 project will introduce approximately 2.93 acres of new passive open space to the study area by 2021. The New York City Economic Development Corporation’s (NYCEDC’s) East River Waterfront Esplanade-Phase IV project will introduce 1.23 acres of recreational open space, of which, 0.61 is active and 0.62 is passive by 2025.¹ With the construction of these projects, open space within the ½-mile study area is expected to increase from 86.65 acres under existing conditions to approximately 89.58 acres by the 2021 analysis year and 90.81 acres by the 2025 analysis year. Of the 90.81 acres, 55.07 will be active and 35.74 acres will be passive (see Table 5.3-4 and Table 6.2-1).

¹ The Two Bridges Large Scale Residential Development (LSRD) Project, comprised of Sites 4 (4A/4B), 5, and 6A, as analyzed in the 2018 FEIS, was assumed to start construction in 2019 and be completed and occupied in 2021. A court has issued a decision preventing the project from moving forward at this time, however, to provide for a conservative open space analyses in this chapter, it is assumed that the open space acreage proposed in that development (0.77 acres) would not be in-place by 2025, but the added population projected for that development has been taken into account in the analysis.

Table 6.2-1
Alternative 1: Open Space in ½-Mile Study Area (Acres)
No Action Alternative

Analysis Year	Open Space in the ½-Mile Study Area (Acres)	Active (Acres)	Passive (Acres)
2020	86.65	54.46	32.19
2021	89.58	54.46	35.12
2022	89.58	54.46	35.12
2023	89.58	54.46	35.12
2024	89.58	54.46	35.12
2025	90.81	55.07	35.74

Note: Pier 42 will introduce 2.93 acres of passive open space by the 2021 analysis year; and NYCEDC’s East River Esplanade-Phase IV project will introduce 1.23 acres, of which 0.61 acres will be active and 0.62 acres will be passive.
 * This table has been revised for the FEIS.

The planned renovations of the playgrounds at P.S. 184 Shuang Wen School and P.S. 2 Meyer London have the potential to render these school’s open space resources unavailable to school children until 2021, while construction of the proposed project is taking place. School children affected by the renovation of the playground located at P.S. 184 Shuang Wen and P.S. 2 Meyer London would have comparable resources of similar type and quality available at Cherry Clinton Playground, Lilian D. Wald Playground, Little Flower Playground, and Corlears Hook Park. In 2021, when the playground renovations are proposed to be complete, school children will avail of a newly renovated playground and also be in proximity to the planned new public open space of Pier 42 Park. According to the New York City Department of Education (DOE) 2015–2019 and 2020–2024 Proposed Five-Year Capital Plans, there are no other planned athletic field or playground projects within the open space study area.^{2,3}

Under Alternative 1, with no new comprehensive coastal protection system installed in the project area, existing and planned open space resources will remain vulnerable to storm damage.

INDIRECT EFFECTS

The open space ratios for Alternative 1 were calculated for each analysis year, accounting for the planned open spaces and new residents from planned projects. The open space ratios in **Table 6.2-2** were calculated by dividing the existing and projected open space acreages within the ½-mile study area from **Table 6.2-1** by the combined residential population and projected residential population anticipated to be generated from projected development as outlined in **Appendix A1**. The open space ratios under existing conditions and Alternative 1 are used as the baseline condition for the indirect effects analysis for the Preferred Alternative.

As shown in **Table 6.2-2**, during each analysis year total open space ratios will be below the Citywide Community District median ratio of 1.5 acres per 1,000 residents.

² DOE 2015–2019 Proposed Five-Year Capital Plan, Amendment February 2019; SCA.

³ DOE 2020–2024 Proposed Five-Year Capital Plan, Amendment February 2018; SCA.

Table 6.2-2

**Open Space Ratios for ½-Mile Study Area with Future Residential Population
No Action Alternative**

Analysis Year	Open Space Ratios Acres per 1,000 Residents		
	Total	Active	Passive
2020	0.54	0.34	0.20
2021	0.54	0.33	0.21
2022	0.53	0.33	0.21
2023	0.55	0.34	0.22
2024	0.53	0.32	0.21
2025	0.52	0.32	0.20
Note: * This table has been revised for the FEIS.			

PREFERRED ALTERNATIVE: FLOOD PROTECTION SYSTEM WITH A RAISED EAST RIVER PARK (ALTERNATIVE 4)

DIRECT EFFECTS ANALYSIS

Construction Sequencing

As described in Chapter 6.0, “Construction Overview,” a preliminary construction schedule was developed for the Preferred Alternative that illustrates which construction segment would be engaged in construction activity by month and year for the 2020–2023 analysis period (see Table 6.0-2 in Chapter 6.0, “Construction Overview”). Activities at each of the construction segments are anticipated to range in duration from approximately two to three years with periods of overlapping activities when work on multiple segments would be occurring concurrently during a particular year.

For the purposes of the construction open space analysis, using the preliminary construction schedule as a basis, the information provided in **Table 6.2-3** was developed. To evaluate a reasonable worst-case scenario for the temporary displacement of open space resources, it is assumed that the construction segment is engaged in construction activities for the full analysis year (i.e., if construction within a segment is complete within an analysis year, this analysis still assumes that the segment is unavailable for that full analysis year). A description of the reconstructed resources that would become available mid-year, if any, is provided below.

Table 6.2-3

**Construction Open Space Direct Effects Analysis
The Preferred Alternative: Summary Table**

Analysis Year	Construction Segments ¹	Displaced Open Space (Acres)
2020	1, 2, 3, 4, 5	43.56
2021	1, 2, 3, 4, 5, 6	44.33
2022	1, 2, 3, 4, 6	42.43
2023	1, 2, 3, 6	41.16
2024 ²	None	Minimal
2025 ²	None	Minimal
Notes: ¹ The Segments within the Project Areas that are engaged in construction activities and therefore temporarily unavailable to the public. See Figures 6.2-1 through 6.2-4 . ² Under the Preferred Alternative, construction would be complete by May 2023 with minimal construction activities displacing open space areas during the 2024 and 2025 analysis years. * This table has been revised for the FEIS.		

Construction segments that would be temporarily unavailable during each analysis year and are illustrated in **Figures 6.2-1 through 6.2-4**.

2020 Analysis Year

Commencing in March 2020, construction Segments 1, 2, and 3 (encompassing the entirety of East River Park), as well as Segments 4 (Murphy Brothers), and 5 (Stuyvesant Cove Park) would be unavailable to the public. Construction Segment 6 (Asser Levy Playground) would not yet be engaged in construction activities and would therefore remain open to the public during the first analysis year (see **Figure 6.2-1**). Due to the temporary displacement of approximately 43.56 acres, there is the potential for temporary significant adverse direct effects during this analysis year.

2021 Analysis Year

All construction segments would be unavailable to the public (see **Figure 6.2-2**). Additionally, both Asser Levy Playground (Segment 6) and Murphy Brothers Playground (Segment 4) would be engaged in construction activities during this analysis year. By the 2021 analysis year, the Pier 42 project (planned No Action project) will introduce approximately 2.93 acres of passive space—to the study area. However, due to the temporary displacement of approximately 44.33 acres, there is the potential for temporary significant adverse direct effects during this analysis year.

2022 Analysis Year

Construction Segments 1, 2, 3 (encompassing the entirety of East River Park), 4 (Murphy Brothers Playground), and 6 (Asser Levy Playground) would be unavailable to the public. The majority of construction activities would be complete in Segment 5 (Stuyvesant Cove Park) and would be available to the public by this analysis year. However, due to the temporary displacement of approximately 42.43 acres of public open space, there is the potential for temporary significant adverse direct effects during this analysis year (see **Figure 6.2-3**).

Both Asser Levy Playground (Segment 6) and Murphy Brothers Playground (Segment 4) would be engaged in construction activities during this analysis year.

Construction on the flyover bridge would commence during this analysis year. Therefore, additional temporary displacement of Captain Patrick J. Brown Walk would occur. However, this additional displacement (approximately 1 acre) is minimal compared to the overall temporary displacement of open space resources during this analysis year.

2023 Analysis Year

Construction Segments 1, 2, and 3 (encompassing the entirety of East River Park), as well as Segment 6 (Asser Levy Playground), would be unavailable to the public. It is anticipated that Segment 4 (Murphy Brothers Playground) would be reopened and would introduce reconstructed open space resources to the public (see **Figure 6.2-4**). Due to the temporary displacement of approximately 41.16 acres, there is the potential for temporary significant adverse direct effects during this analysis year. In addition, the shared-used flyover bridge would be under construction during this analysis year.

2024 and 2025 Analysis Years

Construction would largely be complete by the 2024 and 2025 analysis years (September 2023) with the exception of construction on the shared-use flyover bridge, which would result in the temporary displacement of Captain Patrick J. Brown Walk. However, this additional displacement is minimal (approximately 1 acre). East River Park, Stuyvesant Cove Park, Murphy Brothers Playground, and Asser Levy Playground would be reopened and would introduce reconstructed open space resources to the public. The displaced open space areas would be restored and reopened to the public with new and enhanced park features.

The proposed project would introduce potential temporary significant adverse direct and indirect effects on open space during the construction period. Therefore, on- and off-site measures to mitigate the effect to the greatest extent practicable would be implemented by the City. The mitigation measures being implemented for the Preferred Alternative are described in further detail below (see Section G: Mitigation of Effects).

Although there is the potential for temporary significant adverse effects on open space during construction for the 2020 to 2023 analysis years under the Preferred Alternative, once completed, the proposed project would have positive direct effects on East River Park, Stuyvesant Cove Park, Murphy Brothers Playground, and Asser Levy Playground, by enhancing their design through reconstruction and their improved programming, including landscapes, recreational fields, playgrounds, and/or amenities. In addition, accessibility to East River Park would be enhanced with the reconstruction of the pedestrian bridges at Delancey Street, East 10th Street, and Corlears Hook, a new raised landscaped park-side plaza landing at the entrance to the park from the East Houston Street overpass, and the construction of a shared-use flyover bridge to address the Con Edison pinch point. Under the Preferred Alternative, the upland open space resources in the ½-mile study area would be protected against future storm events, thus increasing the utility and safety of those resources. Unlike the No Action Alternative, Alternative 2 and Alternative 3, the Preferred Alternative would also protect East River Park from future design storms.

Construction Noise

As described in Chapter 6.12, “Construction—Noise and Vibration,” East River Park, Asser Levy Playground (outdoor) and Murphy Brothers Playground would be closed under the Preferred Alternative during the times when construction activities would occur at these park resources. As described in Chapter 6.12, “Construction—Noise and Vibration,” at the open space receptors along the FDR Drive (Corlears Hook Park and Stuyvesant Cove Park), construction is predicted to produce noise levels at these receptors in the mid 60s to mid 80s dBA, resulting in noise level increases of up to approximately 10 dBA when construction occurs at the shortest distance from them. The predicted noise level increases at these open space locations would be noticeable and would exceed CEQR construction noise screening thresholds, and the total noise levels would exceed the levels recommended by CEQR for passive open spaces (55 dBA L₁₀). (Noise levels in these areas also exceed CEQR recommended values for existing and No Action conditions.) However, the total noise levels would be in the range considered typical for Manhattan, and for this area in general. Many New York City parks and open space areas located near heavily trafficked roadways experience comparable, and sometimes higher noise levels.

At these open space receptors, noise level increases exceeding the CEQR construction noise screening thresholds are predicted to occur during no more than two of the five years of construction. At these open space receptors, the construction activity that would produce the highest noise levels would be pile installation, as well as landscaping work. Both pile installation and landscaping would occur in a single location for a relatively brief period of time, typically not more than a month. Consequently, the maximum noise levels predicted by the construction noise analysis would not persist throughout the entire construction period. Lower construction noise levels that would be expected to occur during activities other than pile installation may still result in exceedances of CEQR construction noise screening thresholds at some times, but would be substantially lower than the maximum levels that would occur during pile installation.

Maximum construction noise levels at receptors nearest floodwall construction would be slightly lower because pile driving would occur further from the receptors.

While the noise from construction would be noticeable at times, the duration of construction noise would be limited at any given area of open space that would remain open in proximity to construction activities. Furthermore, the construction noise predictions are conservative in that they consider the area of open space that remains open and accessible closest to the construction area. Based on these factors, construction noise at nearby open space receptors would not result in a significant adverse effect.

At Asser Levy Recreation Center, construction activity including pile driving that would occur west of the FDR Drive immediately adjacent to this building would produce exterior noise levels in the mid 80s dBA during the day and at nighttime, resulting in noise level increases up to approximately 19 dBA. These noise level increases would be noticeable and noise levels in the mid 80s are high for this area. Noise level increases at the Recreation Center exceeding the CEQR construction noise screening thresholds are predicted to occur during the construction activity including pile installation west of the FDR Drive immediately adjacent to this building. Construction in this area is expected to occur over the course of approximately 20 months, however, pile installation would occur in a single location for a relatively brief period of time not greater than 4 months. It is expected that this pile installation would be scheduled outside of the summer months when the Recreation Center's pool would be in use. While the duration of maximum noise levels at this location would be limited and the receptor is typically used for active recreation with a lower sensitivity to noise, the maximum noise levels predicted by the construction noise analysis are high, i.e., in the "clearly unacceptable" range according to CEQR noise exposure guidance. Consequently, the Asser Levy Recreation Center is predicted to experience a significant adverse noise effect as a result of construction. The City would utilize quieter construction methods (i.e., press in pile), to partially mitigate noise effects that would be experienced at the Asser Levy Recreation Center.

Construction of the proposed project would be required to follow the requirements of the NYC Noise Control Code and would use additional measures, including both path control (e.g., placement of equipment, implementation of barriers or enclosures between equipment and sensitive receptors) and source control (i.e., reducing noise levels at the source or during the most sensitive time periods) to minimize the effects of the proposed project's construction activities on the surrounding community.

Construction Air Quality

Construction of the proposed project under the Preferred Alternative would adhere to Local Law 77 of 2003 for emissions reductions on non-road construction engines, New York City Air Pollution Control Code regulations regarding construction-related dust emissions, and New York City Administrative Code limitations on construction-vehicle idling time. With the implementation of these measures, the detailed analysis presented in Chapter 6.10, "Construction—Air Quality," showed there would be no significant adverse air quality effects on sensitive receptors, including open space areas near the construction activities.

INDIRECT EFFECTS

The indirect effects analysis considers how the temporary closures of open space during construction would affect the utilization of remaining study area open spaces, which due to the closures, are expected to experience greater demand. The analysis will focus on the quantification of displaced open space discussed in the direct effects analysis above by analysis year (see **Table 6.2-4**). As a result of the extended open space closures due to construction, the total open space

ratios within the study area would decrease in the Preferred Alternative from the No Action Alternative. The indirect effects analysis is summarized in **Table 6.2-4**.

Table 6.2-4
Construction Open Space Indirect Effects Analysis
The Preferred Alternative: Summary Table

Analysis Year	No Action Open Space Ratio (Acres/1,000)	Construction Open Space Ratio (Acres/1,000)	Percent Change	Significant Adverse Effect
Alternative 4				
2020	<u>0.54</u>	<u>0.27</u>	-50.27%	Yes
2021	<u>0.54</u>	0.27	-49.49%	Yes
2022	0.53	0.28	-47.37%	Yes
2023	0.55	<u>0.30</u>	-45.95%	Yes
2024 ¹	0.53	0.53	0.00%	No
2025*	0.52	0.52	0.00%	No
Note:				
¹ Under the Preferred Alternative, construction of the flood protection system and raised East River Park would be complete by 2023 and minimal construction activities of other components displacing open space areas would occur in the 2024 and 2025 analysis years.				
* This table has been revised for the FEIS.				

As the proposed project would reduce open space ratios by a minimum of 45.95 percent in 2023 and a maximum of 50.27 percent in 2020, the proposed project would result in potential temporary significant adverse indirect effects on open space resources within the study area. However, as shown in Table 6.2-4, there are no significant adverse indirect effects for the 2024 and 2025 analysis years, as the majority of construction would be complete and the displaced open space areas would be restored and reopened to the public with new and enhanced park features.

The open space resources that are most at risk to experience the effects of overburdening are those that offer similar amenities to those resources that will be displaced by the construction of the proposed project. The 15 to 19, 20 to 64, and 65 and over user groups would be the most affected by the displacement of open space resources during construction of the proposed project. The amenities largely utilized by the 4 and younger, 5–9, and 10–14 user groups would not experience a higher risk of overburdening of existing facilities as there are less amenities within the displaced open space resources that service these user groups.

OTHER ALTERNATIVE: FLOOD PROTECTION SYSTEM ON THE WEST SIDE OF EAST RIVER PARK – BASELINE (ALTERNATIVE 2)

As Alternative 2 involves reconstruction of fewer components (e.g., pedestrian bridge landings), the magnitude of construction activities during the peak construction period for Alternative 2 would be lower than the Preferred Alternative. In addition, the displacement of open space necessary to accommodate construction under Alternative 2 would be comparable to or less than that under the Preferred Alternative. Therefore, any potential temporary significant adverse direct and indirect open space effects identified under Alternative 2 would be of lesser magnitude than the effects identified under the Preferred Alternative presented above.

Under Alternative 2, the upland open space resources in the ½-mile study area would be protected against future storm events, thus increasing the utility and safety of those resources. However, East River Park will remain vulnerable to storm damage from future design storms.

OTHER ALTERNATIVE: FLOOD PROTECTION SYSTEM ON THE WEST SIDE OF EAST RIVER PARK – ENHANCED PARK AND ACCESS (ALTERNATIVE 3)

DIRECT EFFECTS ANALYSIS

Construction Sequencing

Similar to the Preferred Alternative, a preliminary construction schedule was developed for Alternative 3. Activities at each of the construction segments are anticipated to range in duration from approximately two to three years with periods of overlapping activities when work on multiple segments would be occurring concurrently during a particular year (see **Table 6.2-5**). To evaluate a reasonable worst case scenario for the temporary displacement of open space resources, it is assumed that the construction segment is engaged in construction activities for the full analysis year (i.e., If construction within a segment is complete within an analysis year, this analysis still assumes that the segment is unavailable for that full analysis year). However, a qualitative description of the reconstructed resources that would become available following the completion of construction is provided below. The construction segments that would be temporarily unavailable during each analysis year are summarized in **Table 6.2-5** and illustrated in **Figures 6.2-5 through 6.2-8**.

**Table 6.2-5
Construction Open Space Direct Effects Analysis
Alternative 3: Summary Table**

Analysis Year	Construction Segments¹	Displaced Open Space (Acres)
2020	1, 2, 3, 4	41.66
2021	1, 2, 3, 4, 5	43.56
2022	1, 2, 3, 4, 5, 6	44.33
2023	1, 2, 3, 4, 6	42.43
2024	1, 2, 3, 6	41.16
2025 ²	1, 2, 3, 6	41.16

Note:
¹ The segments within the Project Areas that are engaged in construction activities and therefore temporarily unavailable to the public. See **Figures 6.2-5 through 6.2-8**.
² Construction is anticipated to be complete by March 2025.
 * This table has been revised for the FEIS.

2020 Analysis Year

Commencing in May 2020, construction segments 1, 2, 3, and 4 (Murphy Brothers Playground) would be unavailable to the public. Construction segments 5 (Stuyvesant Cove Park), and 6 (Asser Levy Playground) would not yet be engaged in construction activities and would therefore remain open to the public during the first analysis year (see **Figure 6.2-5**). Due to the temporary displacement of approximately 41.66 acres, there is the potential for temporary significant adverse direct effects during this analysis year.

2021 Analysis Year

Construction, construction segments 1, 2, 3, 4 (Murphy Brothers Playground), and 5 (Stuyvesant Cove Park) would be unavailable to the public. It is anticipated that Asser Levy Playground (Segment 6) would remain open during this second analysis year (see **Figure 6.2-6**). By the 2021 analysis year, the Pier 42 project (planned No Action project) will introduce approximately 2.93 acres of passive space, to the study area. However, due to the temporary displacement of

approximately 43.56 acres, there is the potential for temporary significant adverse direct effects during this analysis year.

2022 Analysis Year

All construction segments would be unavailable to the public, resulting in the temporary displacement of approximately 44.33 acres of public open space. Therefore, as with the 2021 analysis year, there is potential for temporary significant adverse direct effects (see **Figure 6.2-7**).

Both Asser Levy Playground (Segment 6) and Murphy Brothers Playground (Segment 4) would be engaged in construction activities during this analysis year.

Construction of the shared-use flyover bridge would commence during this analysis year. Therefore additional temporary displacement of Captain Patrick J. Brown Walk would occur. However, this additional displacement is minimal compared to the overall temporary displacement of open space resources during this analysis year.

2023 Analysis Year

Construction segments 1, 2, 3, 4 (Murphy Brothers Playground), and 6 (Asser Levy Playground) would be unavailable to the public. The majority of construction activities will have been complete in Segment 5 (Stuyvesant Cove Park) and would be available to the public by this analysis year. However, due to the temporary displacement of approximately 42.43 acres of public open space, there is the potential for temporary significant adverse direct effects during this analysis year (see **Figure 6.2-7**).

As with the 2022 analysis year both Asser Levy Playground (Segment 6) and Murphy Brothers Playground (Segment 4) would also be engaged in construction activities during this analysis year. In addition, the shared-use flyover bridge would be under construction.

2024 Analysis Year

Construction Segments 1, 2, 3, and 6 (Asser Levy Playground) would be unavailable to the public. Approximately 41.16 acres would be temporarily displaced under this analysis year (see **Figure 6.2-8**). Therefore, there is potential for temporary significant adverse direct effects during this analysis year. In addition, the shared-use flyover bridge would be under construction during this analysis year.

2025 Analysis Year

Construction Segments 1, 2, 3, and 6 (Asser Levy Playground) would be unavailable to the public, however construction is anticipated to be complete by March 2025 (see **Figure 6.2-8**). Additionally, by the 2025 analysis year, the East River Waterfront Esplanade-Phase IV project (planned No Action project) will introduce 1.23 acres of recreational open space, of which, 0.61 acres will be active and 0.62 acres will be passive. However, approximately 41.16 acres would be temporarily displaced under this analysis year. Therefore, there is potential for temporary significant adverse direct effects during this analysis year. In addition, the shared-use flyover bridge would be under construction during this analysis year.

Although there is the potential for temporary significant adverse effects on open space during construction for every analysis year under Alternative 3, once completed, the proposed project would also have positive direct effects similar to those described under the Preferred Alternative East River Park, Stuyvesant Cove Park, Murphy Brothers Playground, and Asser Levy Playground. Similar to the Preferred Alternative, the upland open space resources in the ½-mile study area would be protected against future storm events, thus increasing the utility and safety of

those resources. However, East River Park will remain vulnerable to storm damage from future design storms under Alternative 3.

Construction Noise

Similar to the Preferred Alternative, East River Park, Asser Levy Playground (outdoor), and Murphy Brothers Playground would be closed during the times when construction activities would occur at these park resources.

Construction of the proposed project would be required to follow the requirements of the *New York City Noise Control Code*. At the open space receptors along the FDR Drive (Corlears Hook Park and Stuyvesant Cove Park), the predicted noise level increases at these open space locations would be noticeable and would exceed CEQR construction noise screening thresholds. However, the total noise levels would be in the range considered typical for Manhattan, and for this area in general.

At Asser Levy Recreation Center, construction activity including pile driving that would occur west of the FDR Drive immediately adjacent to this building would produce noise level increases that would be noticeable and are considered relatively high, i.e., in the “clearly unacceptable” range according to CEQR noise exposure guidance. Consequently, as with the Preferred Alternative, the Asser Levy Recreation Center is predicted to experience a significant adverse noise effect as a result of construction of Alternative 3.

Construction Air Quality

Construction of the proposed project under Alternative 3 would adhere to Local Law 77 of 2003 for emissions reductions on non-road construction engines, *New York City Air Pollution Control Code* regulations regarding construction-related dust emissions, and *New York City Administrative Code* limitations on construction-vehicle idling time. With the implementation of these measures, the detailed analysis presented in Chapter 6.10, “Construction—Air Quality,” showed that there would be no significant adverse air quality effects on sensitive receptors, including open space areas near the construction activities. The effects of the proposed project’s construction activities on air quality is discussed in more detail in Chapter 6.10, “Construction—Air Quality.”

INDIRECT EFFECTS

The indirect effects analysis considers how the temporary closures of open space during construction would affect the utilization of remaining study area open spaces, which due to the closures, are expected to experience greater demand. The analysis will focus on the quantification of displaced open space as discussed in the direct effects analysis above by analysis year (see **Table 6.2-6**). The displaced open space (in acres) was utilized to obtain total open space ratios for Alternative 3, which are compared to the No Action Alternative to determine if there would be temporary significant adverse indirect effects.

As a result of the extended open space closures due to construction, the total open space ratios within the study area would decrease in Alternative 3 from the No Action Alternative. The indirect effects analysis is summarized in **Table 6.2-6**.

Table 6.2-6
Construction Open Space Indirect Effects Analysis
Alternative 3: Summary Table

Analysis Year	Displaced Open Space (Acres)	No Action Open Space Ratio (Acres/1,000)	Construction Open Space Ratio (Acres/1,000)	Percent Change	Significant Adverse Effect
Alternative 3					
2020	41.66	<u>0.54</u>	0.28	-48.08%	Yes
2021	43.56	<u>0.54</u>	<u>0.28</u>	-48.63%	Yes
2022	44.33	0.53	<u>0.27</u>	-49.49%	Yes
2023	42.43	0.55	<u>0.29</u>	-47.37%	Yes
2024	41.16	0.53	<u>0.29</u>	-45.95%	Yes
2025	41.16	0.52	0.28	-45.33%	Yes
Note: * This table has been revised for the FEIS.					

According to the *CEQR Technical Manual*, if the percent change between the No Action and With Action open space ratios exceeds 5 percent, it is considered significant, as the loss of open space may result in overburdening of other existing facilities within the study area. As the proposed project would reduce open space ratios by a minimum of 45.33 percent in 2025 and a maximum of 49.49 percent in 2022, the proposed project would result in potential temporary significant adverse indirect effects on open space resources within the study area under Alternative 3.

OTHER ALTERNATIVES – FLOOD PROTECTION SYSTEM EAST OF FDR DRIVE (ALTERNATIVE 5)

The displacement of open space necessary to accommodate construction under Alternative 5 would be comparable to Alternative 4 for park components and comparable to Alternative 3 with respect to the flyover bridge component. Therefore, any potential temporary significant adverse direct and indirect open space effects identified under Alternatives 3 and 4 would be of comparable magnitude.

G. MITIGATION OF EFFECTS

The open space resources within the project area, including East River Park, Murphy Brothers Playground, Stuyvesant Cove Park, Asser Levy Playground, and Captain Patrick J. Brown Walk, would be partially or fully closed for at least a portion of the approximately 3.5- to 5-year-long construction duration to accommodate the construction of the proposed project. Therefore, there is potential for temporary significant adverse direct effects over multiple analysis years due to the displacement of the numerous recreational resources in East River Park across all alternatives, except the No Action Alternative. The open space ratios would exceed the *CEQR Technical Manual* threshold of 5 percent change between the With Action and No Action conditions during construction. Temporary displacement of open space for construction over the 5 percent threshold is considered significant since it could result in the overburdening of remaining available open spaces within the study area. Therefore, the analysis concluded that there would be the potential for significant adverse indirect effects on open space during the construction period across all alternatives, except the No Action Alternative. As described in further details below, planned on-site and off-site measures that are proposed would be considered partial mitigation that would reduce the significant adverse effect to the greatest extent practicable.

MITIGATION MEASURES

As per *CEQR Technical Manual* guidance, a mitigation effort would be to improve existing open spaces in the study area and increase the utility, safety, and capacity of those resources. To that end, the mitigation measures that would be implemented for the Preferred Alternative by the City include:

- NYC Parks will accommodate youth permit users within existing facilities under NYC Parks jurisdiction. Due to the high volume of permitted use across all NYC Parks, permittees may have to limit playing time to be accommodated;
- The City is working with other entities with open space resources, such as DOE and NYCHA, to identify recreational resources that may be opened to the community during construction;
- The City is assessing opportunities to open parts of East River Park as work is completed;
- NYC Parks is implementing a Lower East Side greening program and planting up to 1,000 trees in parks and streets, and up to 40 bioswales;
- NYC Parks is purchasing solar lighting to be used at six Lower East Side parks to extend playing time at fields for permitted use during construction of the proposed project;
 - Park sites may include Coleman Playground, Columbus Park, Corlears Hook Park, Sara D. Roosevelt Park, Baruch Playground, and Chelsea Park
- NYC Parks will improve the synthetic turf at seven park locations; these sites may include the following:
 - New synthetic turf installation at five sites – sites include La Guardia Bathhouse/Little Flower Playground, St. Vartan Park, Tanahey Playground, Robert Moses Playground
 - Turf improvements at two sites – Columbus Park, Baruch Playground
- NYC Parks will install new sports coating at seven sites; these sites may include the following:
 - Tanahey Playground, Sara D. Roosevelt Park, Al Smith Recreation Center, St. Vartan Park, Columbus Park, Coleman Playground, Al Smith Playground
- NYC Parks will paint playgrounds and park equipment at up to 16 locations in Lower East Side Parks;
- NYC Parks will enhance existing Parks barbeque areas:
 - New picnic tables at Coleman Playground and replace existing barbeques at Al Smith Recreation Center
- NYC Parks is identifying alternative tennis locations;
 - John Jay Park courts will be re-striped to formalize tennis area
 - Queensboro Oval (in Manhattan) will be opened to NYC Parks tennis permit holders starting in the summer of 2019, and for even more weeks (increasing from 12 weeks to 22 weeks) per summer
 - Randall's Island tennis facility is expanding with additional courts which will be opened to NYC Parks tennis permit holders
- NYC Parks is increasing staffing for recreation, operations and maintenance (O&M) in Lower East Side Parks;
 - New Playground associates (nine new staff lines) will provide new programming and help organize events and activities for park users

- All existing O&M staff for East River Park will remain on the east side of Manhattan, below 34th Street
- NYC Parks is exploring open space improvements at Waterside Pier; and
- The City will utilize quieter construction methods (i.e., press in pile), to partially mitigate noise effects that would be experienced at the Asser Levy Recreation Center.

In addition, as discussed in Chapter 6.9, “Construction—Transportation,” the following measures would be implemented to accommodate pedestrians and bicyclists at this area during construction:

- During construction, the East River Greenway would be closed from 23rd Street to Montgomery Street. NYCDOT would re-route bicyclists to the on-street bike network, primarily the protected bicycle lanes along First and Second Avenues, as well as those on Allen Street/Pike Street and Clinton Street (see Figure 6.9-20). These protected bicycle lanes would provide a reasonable alternative for many of those bicyclists who use the Greenway as a transportation route, as they are proximate to numerous destinations in the neighborhoods that run alongside the Greenway, and may actually provide a more direct route for many trips. NYCDOT is currently upgrading a number of intersections along these corridors with offset crossings to provide a more comfortable riding experience on these routes.
- NYCDOT is committed to expanding the City’s bicycle network, including adding more protected bicycle lanes. In July 2019, Mayor de Blasio unveiled the Green Wave Bicycle Plan, which, amongst other improvements, increases the number of planned protected bicycle lane miles to be installed each year to thirty miles city-wide. As part of these ongoing efforts to expand the bicycle lane network, NYCDOT is currently evaluating the feasibility of installing new north-south protected bicycling lanes in the East Village that would provide additional options for bicyclists during the Greenway closure and beyond.
- Access to the ferry landings at Stuyvesant Cove Park from First and Second Avenues would be maintained via the two-way protected bicycle lane along 20th Street.

Full mitigation of the temporary significant adverse open space effects during construction is not possible, as it is not feasible to acquire enough land to develop new open spaces in the study area. The measures proposed above would mitigate to the extent practicable, the construction effects on open space resources and are considered partial mitigation. There are other open space resources immediately adjacent to the open space study area that offer comparable resources of similar type and quality (e.g., Tompkins Square, Madison Square, Union Square, Sara D. Roosevelt Park, Hester Street Playground, Coleman Playground, etc.). Although farther away, these open space resources would be available to the public during the construction period. Furthermore, the proposed project would substantially improve existing open space resources. All temporary displacement would be met with the refurbishment and re-construction of the displaced open space amenities. After construction, Murphy Brothers Playground, Stuyvesant Cove Park, and Asser Levy Playground would be redesigned and reconstructed and East River Park would be reconstructed as a newly landscaped and raised open space with pathways, which would enhance the user experience of the park. Upon completion of the proposed project, the upland open space resources in the ½-mile study area would be protected against future storm events, thus increasing the utility and safety of those resources. Furthermore, the Preferred Alternative would be especially beneficial for the open space resources in East River Park, as the alternatives seek to enhance the park features to be fully resilient in future design storm events. The flood protection measures proposed to be integrated into park features aim to reduce the effects from future design storm events on the community.

IMPROVEMENT OF EXISTING PARKS

According to the CEQR Technical Manual, improving existing open spaces in the study area to increase their utility, safety, and capacity to meet identified needs in the study area is considered a mitigation measure. Although construction would temporarily displace open space resources in East River Park, Stuyvesant Cove Park, Murphy Brothers Playground, Asser Levy Playground, and Captain Patrick J. Brown Walk under the With Action Alternatives, the end result would be a refurbished open space resource. After construction, East River Park would be newly landscaped and raised park with pathways, which would enhance the user experience of the park, under the Preferred Alternative. In addition, the upland open space resources in the ½-mile study area would be protected against future storm events, thus increasing the utility and safety of those resources. The Preferred Alternative would be especially beneficial for the open space resources in East River Park, as it includes a full reconstruction of the park, raising it by approximately eight feet to meet the design flood protection criteria. These enhancements would ensure that East River Park would be more resilient in future storm events. The flood protection measures proposed to be integrated into park features aim to reduce the effects from future storm events on the community. The Preferred Alternative proposes the replacement of pedestrian crossings at the Delancey Street, East 10th Street, and Corlears Hook Bridges. The enhancement of pedestrian bridges to East River Park would improve the east–west connectivity for residents in the ½-mile study area to East River Park upon project completion. The improvements to these open space resources under the proposed project would be considered partial mitigation. By remedying a long-standing restriction/obstacle at the Con Edison “pinch-point,” the proposed project under all alternatives, except the No Action Alternative would significantly improve the usability and access to the greenway with the construction of the shared-use flyover bridge.

IMPROVEMENT OF NON-MOTORIZED ACCESS TO PARKS

The Preferred Alternative would include the replacement of the Delancey Street, East 10th Street, and the Corlears Hook Bridges. The enhancement of these bridges to East River Park would improve the east–west connectivity for residents in the ½-mile study area to East River Park upon project completion.

The proposed project would also include a shared-use flyover bridge in the East River Bikeway along the East River Dock between East 13th Street and East 15th Streets. This would allow pedestrians and cyclists to travel between Stuyvesant Cove Park and the East River Esplanade/East River Bikeway without conflict with visitors travelling in the opposite directions or requiring cyclist dismounts. As stated in the *CEQR Technical Manual*, the implementation of missing segments of the City’s greenway network would be considered a mitigation measure. By remedying a long-standing restriction/obstacle, the proposed project would significantly improve the usability and access to the greenway. *