

A. INTRODUCTION

Based on the guidance of the 2014 *City Environmental Quality Review (CEQR) Technical Manual*, an open space analysis is conducted to determine whether a proposed project would result in a direct impact caused by the elimination or alteration of open space and/or an indirect impact resulting from overtaxing available open space. This chapter compares conditions in the future with the proposed project and conditions in the future without the proposed project to determine the potential for significant adverse effects to open space. The analysis considers the 2025 analysis year to identify potential significant adverse effects and identifies mitigation measures that would be appropriate to address potential significant adverse effects.

STUDY AREA

The *CEQR Technical Manual* was used to determine the open space study area. The study area is based on the distance a person is assumed to be willing to walk to reach a neighborhood open space. Residents are assumed to be willing to walk approximately 10 minutes (about a ½-mile distance) to reach both passive and active neighborhood open spaces. The proposed project would be implemented along the Franklin Delano Roosevelt East River Drive (FDR Drive) and extend from Montgomery Street on the south to East 25th Street on the north (see **Figure 5.3-1**). The proposed project would be located adjacent to and within East River Park, Murphy Brothers Playground and Asser Levy Playground, which are under the jurisdiction of New York City Department of Parks and Recreation (NYC Parks), as well as Stuyvesant Cove Park, which is under the jurisdiction of the New York City Department of Small Business Services (SBS) and managed by New York City Economic Development Corporation (NYCEDC). The proposed project would be located primarily within parks or within City right-of-way, adjacent to a predominantly residential user population, and would not provide or induce a new residential or commercial population. Therefore, this EIS evaluates the effects to open space for census tracts with at least 50 percent of their area within a ½-mile distance from the boundaries of Project Areas One and Two. All census tracts that have less than 50 percent of their area within the study area have been excluded (see **Figure 5.3-1**).

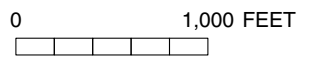
B. PRINCIPAL CONCLUSIONS

NO ACTION ALTERNATIVE (ALTERNATIVE 1)

The No Action Alternative would not result in significant adverse effects to any existing or planned open spaces within the study area. The No Action Alternative would not alter the size or use of existing open spaces; the open space projects identified in **Appendix A1** would continue to be implemented as planned. However, the No Action Alternative would not provide comprehensive coastal flood protection for the protected area, as defined in Chapter 2.0, “Project Alternatives.” During a coastal storm event, the protected area, including open spaces, could be adversely impacted, potentially experiencing effects similar to that of Hurricane Sandy or other



- Project Area One
- Open Space Study Area
- Park Area Improved with Land and Water Conservation Funds
- Recreational Fields
- Census Tracts
- 1 Open Space Resources
- Tracks, Courts, and other features
- Parks and Gardens



extreme coastal storm events. Targeted resiliency measures may reduce the effects of storms in certain locations but would not provide comprehensive flood protection for the protected area.

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

The Preferred Alternative proposes to move the line of flood protection further into East River Park, thereby protecting both the community and the park from design storm events, as well as increased tidal inundation resulting from sea level rise. The Preferred Alternative would raise the majority of East River Park. This plan would limit the length of wall between the community and the waterfront to provide for enhanced neighborhood connectivity and integration. A shared-use pedestrian/bicyclist flyover bridge linking East River Park and Captain Brown Walk would be built cantilevered over the northbound FDR Drive to address the narrowed pathway (pinch point) near the Con Edison East River Dock between East 13th Street and East 15th Street, substantially improving the City's greenway network and north-south connectivity in the project area.

The Preferred Alternative would not result in significant adverse effects to existing or planned open spaces within the study area. Overall, the Preferred Alternative would not alter the amount of open space, nor would this alternative introduce new worker and residential populations to the study area. By elevating East River Park and reconstructing Stuyvesant Cove Park, Murphy Brothers Playground, and Asser Levy Playground, the Preferred Alternative provides the opportunity for a holistic reconstruction, reimagining, and expansion of the types of user experiences in the park, while also enhancing neighborhood connectivity and resiliency. Increased improvements to landscaping along the waterfront and to the waterfront esplanade itself would also be included in this alternative. These benefits would ensure improved resiliency, operations, usability, and functionality of East River Park during pre- and post-storm periods. In addition, the Preferred Alternative would alleviate shared-use path congestion at the pinch point with the construction of a flyover bridge. The Preferred Alternative is expected to be complete by 2023, and the flyover bridge would be complete by 2025. A total of 991 trees would require removal with implementation of the proposed project, but would be replaced or replanted with a NYC Parks-approved landscape restoration plan to address the proposed tree removal, such that there would be a net overall increase in the number of trees within the park, and would also protect the long-term viability of trees and ecological resources by protecting them from damaging salt water inundation and providing for planting that is more appropriate for the park.

OTHER ALTERNATIVES

The remaining three alternatives, The Flood Protection System on the West Side of East River Park – Baseline Alternative (Alternative 2), The Flood Protection System on the West Side of East River Park – Enhanced Park and Access Alternative (Alternative 3), and The Flood Protection System East of FDR Drive Alternative (Alternative 5) would not result in significant adverse effects to any existing or planned open spaces within the study area. None of the With Action Alternatives would substantially alter the size or use of existing open spaces, nor would they introduce new worker and residential populations to the study area. Each alternative would slightly alter the ratio of active to passive recreation space, with Alternative 3 converting the most acreage from active to passive (2.9 acres compared to the No Action Alternative). Alternatives 2 and 5 would result in active and passive ratios nearly the same as the No Action Alternative. As described in Chapter 5.6, “Natural Resources,” trees within the study area—specifically within East River Park, Stuyvesant Cove Park, Murphy Brothers Playground, and Asser Levy Playground—would be removed with the parks redesigns and to support construction of the proposed flood protection system. Trees would be replaced or replanted with a NYC Parks-

approved landscape restoration plan. However, the trees in Alternatives 2 and 3 would not be fully protected in the long-term, leaving them vulnerable to damage from storm-related salt-water inundation.

C. REGULATORY CONTEXT

The proposed project is located in the Borough of Manhattan in New York City. Open space evaluated within the study area is governed by the State of New York via the New York City Housing Authority (NYCHA), private organizations, and the following New York City agencies: NYC Parks, Small Business Services (SBS), and the New York City Department of Education (DOE). The duties of these agencies include enforcing rules and regulations, site design, and performing maintenance and operational duties of their respective open space resources. Flood protection features that would be located within a public park owned by the City and under the jurisdiction (either partly or wholly) of NYC Parks are not governed by the New York City Zoning Resolution or subject to Waterfront Zoning regulations.

The Federal Land and Water Conservation Fund Act (LWCFA), 16 U.S.C. §§ 4601-4 to 4601-11 is commonly referred to as Section 6(f), as the provision was originally contained in Section 6(f)(3) of the LWCFA, Public Law 88-578 of 1962, before codification. The United States Department of the Interior (DOI), through the National Park Service (NPS), provides funding under the LWCFA for State and local efforts to plan, acquire, or develop land to advance outdoor recreational activities. The New York State Office of Parks, Recreation and Historic Preservation (OPRHP) serves as the New York State agency that administers LWCFA funds received from DOI.

LWCFA funds were used for the improvement of an approximately 2.88-acre area on the northern edge of East River Park stretching from East 6th Street to East 10th Street as seen in **Figure 5.3-1**. The area received \$178,402 in LWCFA funds in 1973 for rehabilitation and improvement of existing facilities, including sport fields, site improvements, landscaping, sewer, water and electrical systems, and design and engineering. Under the LWCFA, this area cannot be converted to any non-recreational purpose for more than six months unless it undergoes a conversion. The proposed project was reviewed for compliance with LWCFA by OPRHP and NPS, and associated correspondence is located in Appendix N.

D. METHODOLOGY

Open space is defined as publicly or privately-owned land that is publicly accessible and available for leisure, play, or sport, or is set aside for the protection and/or enhancement of the natural environment. An open space analysis focuses on officially designated existing or planned public open space. Direct effects may occur when public access is limited, or the type and amount of public open space are altered as a result of a proposed project. Other direct effects may include the imposition of noise, air pollutant emissions, or shadows on public open space that may alter its usability. Indirect effects may occur when the population generated by a proposed project overtaxes the capacity of existing open spaces so that their service to the population of the affected area would be substantially or noticeably diminished. In this case there would be no new population generated by the proposed project.

This assessment evaluates the significance of the change in the availability of open space relative to demand from the population within the study area in the 2025 analysis year. The analysis also evaluates the usability of the open space that may be altered by the proposed project.

OPEN SPACE USER POPULATIONS

To determine the number of residents located within the study area, data were compiled from the 2010 U.S. Census for the study area tracts. User populations within the study area may grow over time, increasing the usage of open spaces in the project area and study area. The project population was calculated for the 2025 analysis year based on anticipated new residents from planned projects as outlined in Appendix A1.

Per CEQR Technical Manual guidelines, it is assumed that recreational facilities typically used by different age groups are as follows:

- **Ages 4 and Younger.** Typically, children 4 years old or younger use traditional playgrounds that have play equipment for toddlers and preschool children.
- **Ages 5 to 9.** Children ages 5 through 9 use traditional playgrounds with play equipment suitable for school-aged children, as well as grassy and hard-surfaced open spaces, which are important for ball playing, running, skipping rope, etc.
- **Ages 10 to 14.** Children ages 10 through 14 use playground equipment, court spaces, and ball fields.
- **Ages 15 to 19.** Teenagers and young adults tend to use court facilities such as basketball courts and sports fields such as football or soccer fields.
- **Ages 20 to 64.** Adults continue to use court facilities and fields for sports, as well space for more individualized recreation, such as rollerblading, biking, and jogging, which require bike paths, esplanades, and vehicle-free roadways. Adults also gather with families for picnicking, ad hoc active sports such as frisbee, and recreational activities in which all ages may participate.
- **Ages 65 and Over.** Senior citizens engage in active recreation such as handball, tennis, gardening, and swimming, as well as recreational activities that require passive facilities.

INVENTORY OF OPEN SPACE RESOURCES

Public open spaces within the study area were inventoried to determine size, character, and condition. Field surveys were conducted during optimal weather at various time periods in June, July, and August 2015, and August and September 2019. Additional information was obtained from NYC Parks and the New York City Department of City Planning (DCP). The field surveys also identified user groups present and utilization levels of park amenities.

Public open spaces were organized into active and passive open spaces. Open space that is used for sports, exercise, or active play is classified as active; open space that is used for relaxation, such as sitting or strolling, is classified as passive. Public open spaces may be under the jurisdiction of a governmental or private entity and are accessible to the public on a regular basis. Privately owned open spaces and open spaces available to limited users or that are available on an inconsistent basis (such as community gardens) were excluded.

As noted above, a portion of East River Park from East 6th Street to East 12th Street, consisting of one and one-half basketball courts, a playground and a portion of the East River Promenade, previously received LWCF grant funds. This 2.88-acre area on the northern edge of East River Park was improved and rehabilitated with funds from the LWCF. Section 6(f) of the Land and Water Conservation Fund Act requires that property improved or developed with LWCF assistance shall not be converted to any use other than public outdoor recreation without the approval of the Secretary of the Interior (delegated to the Director of the NPS).

ADEQUACY OF OPEN SPACE RESOURCES

The amount of useable open space acreage in relation to the study area population—referred to as the open space ratio—is then compared with guidelines provided in the *CEQR Technical Manual*. Two sets of guidelines provided in the *CEQR Technical Manual* are used to determine the adequacy of open space. The first guideline is a City-wide median open space ratio of 1.5 acres per 1,000 residents. The second is the City’s optimal planning goal of 2.5 acres per 1,000 residents—2.0 acres of active and 0.5 acres of passive open space per 1,000 residents.

E. AFFECTED ENVIRONMENT

There are 32 publicly available open spaces within the study area, which include one open space in Project Area One (East River Park) and four open spaces in Project Area Two (Captain Patrick J. Brown Walk, Stuyvesant Cove Park, Murphy Brothers Playground, and Asser Levy Playground). These are described in the sections below.

OPEN SPACE USER POPULATION

Table 5.3-1 lists the census tracts that comprise the study area. Based on the 2010 Census, the residential population of the study area is 157,263.

**Table 5.3-1
Existing Residential Population in the Open Space Study Area**

| Census Tract | Residential Population |
|--------------|------------------------|
| 2.01 | 3,058 |
| 2.02 | 7,316 |
| 6 | 11,367 |
| 10.01 | 1,434 |
| 10.02 | 6,547 |
| 12 | 3,397 |
| 14.01 | 3,005 |
| 14.02 | 2,782 |
| 20 | 4,917 |
| 22.01 | 6,398 |
| 22.02 | 2,189 |
| 24 | 5,434 |
| 26.01 | 3,772 |
| 26.02 | 4,227 |
| 28 | 7,114 |
| 34 | 6,612 |
| 44 | 16,538 |
| 48 | 7,229 |
| 60 | 4,511 |
| 62 | 4,437 |
| 64 | 8,090 |
| 66 | 11,740 |
| 68 | 7,614 |
| 70 | 8,871 |
| 72 | 8,664 |
| Total | 157,263 |

OPEN SPACE INVENTORY

There are 32 publicly available open spaces within the study area, which collectively total 86.65 acres. Open spaces are identified on **Table 5.3-2** and shown in **Figure 5.3-1**.

**Table 5.3-2
Project Area One and Project Area Two
Open Space Study Area Inventory**

| Key # | Name | Owner | Amenities | Acres | Total Active | Total Passive | Use Level | Primary User Age Groups |
|-------|---|-----------------------|--|-------|--------------|---------------|-----------------|-------------------------|
| 1 | East River Park | NYC Parks | East River Promenade, East River Bikeway, passive seating, lawn areas, two playgrounds with water fountains, picnic and barbequing areas, amphitheater, eight baseball fields, two and one-half basketball courts, two volleyball courts, 12 tennis courts, three soccer fields, a track, and athletic fields. | 45.88 | 23.05 | 22.83 | High | ALL |
| 2 | Captain Patrick J. Brown Walk | SBS | Pathway, seating | 1.00 | 0.75 | 0.25 | High | ALL |
| 3 | Stuyvesant Cove Park | SBS | Pathways, seating, landscaping, and program space | 1.9 | 0.95 | 0.95 | High | ALL |
| 4 | Ahearn Park | NYC Parks | Small public square with seating | 0.09 | 0.0 | 0.09 | Moderate | E, F |
| 5 | Ascot | Old Glory Real Estate | Small playground with seating | 0.09 | 0.0 | 0.09 | Low | A, B, C |
| 6 | Bellevue South Park | NYC Parks | Basketball courts, playground and fitness equipment | 1.59 | 1.59 | 0.0 | Moderate | ALL |
| 7 | Luther Gulick Playground | NYC Parks | Basketball courts, playgrounds, seating, handball courts, and spray showers | 1.45 | 1.00 | 0.45 | Moderate | ALL |
| 8 | Captain Jacob Joseph Playground | NYC Parks | Playground | 0.14 | 0.14 | 0.0 | Low | A, B, C |
| 9 | Cherry Clinton Playground | NYC Parks | Basketball courts, handball courts, fitness equipment, and playgrounds | 0.48 | 0.40 | 0.08 | Low | ALL |
| 10 | Corlears Hook Park | NYC Parks | Baseball field, playground, and spray showers | 4.36 | 4.00 | 0.36 | High | A, B, C, D, E |
| 11 | Dry Dock Playground and Pool | NYC Parks | Outdoor pool, playground, spray showers, and basketball courts | 1.5 | 1.5 | 0.0 | Low | ALL |
| 12 | Hamilton Fish Park | NYC Parks | Basketball courts, fitness equipment, outdoor pool, recreation center, handball courts, spray showers, and playgrounds | 4.3 | 4.3 | 0.0 | High (seasonal) | ALL |
| 13 | J.H.S. 104 (Peter's Field) | NYC Parks/DOE | Basketball courts, tennis courts, and playgrounds | 0.88 | 0.88 | 0.0 | Moderate | ALL |
| 14 | Henry M. Jackson Playground | NYC Parks | Basketball courts, playground, seating, and handball courts | 0.61 | 0.50 | 0.11 | Moderate | ALL |
| 15 | Joseph C Sauer Park | NYC Parks | Playgrounds | 0.40 | 0.30 | 0.10 | Moderate | A, B, C |
| 16 | Little Flower Playground/NYCHA Open Space | NYC Parks/NYCHA | Basketball courts, handball courts, spray showers, playgrounds, seating, and landscaped areas | 1.29 | 1.29 | 0.0 | Low | ALL |
| 17 | Lillian D Wald Playground | NYC Parks | Basketball courts, fitness equipment, and playgrounds | 0.68 | 0.68 | 0.0 | Low | ALL |
| 18 | Wald Playground | NYC Parks | Playground and basketball courts | 0.53 | 0.53 | 0.0 | Low | A, B, C, D, E |
| 19 | Lower East Side Playground | NYC Parks/DOE | Playground and basketball courts | 0.83 | 0.83 | 0.0 | Low | A, B, C, D, E |
| 20 | Murphy Brothers Playground | NYC Parks | Basketball courts, playgrounds, and handball courts | 1.27 | 1.03 | 0.24 | Low | ALL |
| 21 | Baruch Playground and NYCHA Open Space | NYC Parks/NYCHA | Basketball courts, handball courts, playgrounds, seating, and landscaped areas | 2.32 | 2 | 0.32 | Low | ALL |
| 22 | Sol Lain Playground | NYC Parks/DOE | Basketball courts, spray showers, and playground | 0.89 | 0.89 | 0.0 | Moderate | A, B, C, D, E |
| 23 | Augustus St. Gaudens Playground | NYC Parks/DOE | Basketball courts and playground | 0.64 | 0.64 | 0.0 | High | A, B, C, D, E |

**Table 5.3-2 (cont'd)
Project Area One and Project Area Two
Open Space Study Area Inventory**

| Key # | Name | Owner | Amenities | Acres | Total Active | Total Passive | Use Level | Primary User Age Groups |
|---|----------------------------------|---------------------|---|--------------|--------------|---------------|-----------|-------------------------|
| 24 | Asser Levy Playground | NYC Parks | Basketball courts, football fields, indoor and outdoor pools, playgrounds, running track, fitness equipment, handball courts, and recreation center | 2.44 | 2.44 | 0.0 | High | ALL |
| 25 | Seward Park H.S. Fields | DOE | Basketball courts, track, and tennis courts | 1.01 | 1.01 | 0.0 | High | ALL |
| 26 | Stuyvesant Square | NYC Parks | Landscaping, paths, and seating | 3.93 | 0.0 | 3.93 | Low | ALL |
| 27 | Vincent F. Albano Jr. Playground | NYC Parks | Handball courts and playgrounds | 0.35 | 0.35 | 0.0 | Low | ALL |
| 28 | Vladeck Park | NYC Parks | Landscaping, seating, play equipment, and pathways | 0.79 | 0.25 | 0.54 | Light | ALL |
| 29 | Seward Park | NYC Parks | Basketball courts, playgrounds, volleyball courts, and spray showers | 3.36 | 2.36 | 1 | High | A, B, C, D, E |
| 30 | Windsor Court | MHP Land Associates | Landscaping and seating | 0.15 | 0.0 | 0.15 | Low | ALL |
| 31 | Pier 35 | NYCEDC/NYC Parks | Landscaping, paths, and seating | 0.65 | 0.0 | 0.65 | High | ALL |
| 32 | Nathan Straus Playground | NYC Parks/DOE | Playground, seating, and basketball courts | 0.85 | 0.8 | 0.05 | Low | A, B, C, D, E |
| Total for Study Area | | | | 86.65 | 54.46 | 32.19 | - | |
| <p>Notes: NYC Parks=New York City Department of Parks and Recreation; NYCHA=New York City Housing Authority; NYCEDC=New York City Economic Development Corporation; DOE=Department of Education; SBS = New York City Department of Small Business Services, ND = No Data User Age Groups were determined using CEQR Technical Manual guidelines and are as follows: A = Ages 4 and Younger; B = Ages 5 to 9; C = Ages 10 to 14; D = Ages 15 to 19; E = Ages 20 to 64; F = Ages 65 and older. * This table has been revised for the FEIS.</p> | | | | | | | | |

PROJECT AREA ONE

Open space within Project Area One consists of the entirety of the East River Park. East River Park is a 45.88-acre public park operated by NYC Parks and located between the FDR Drive to the west and the East River to the east, Jackson Street to the south and East 13th Street to the north. Access to the park is available from the northern and southern ends of the park as well as via several bridges that span the FDR Drive located along the western side of the park: Corlears Hook Bridge, Delancey Street Bridge, East Houston Street overpass, East 6th Street Bridge, and the East 10th Street Bridge.

East River Park is a heavily utilized park due to the number and variety of amenities available and its proximity to dense housing. East River Park contains a variety of passive and active recreation spaces, including the East River Promenade, a pedestrian walkway located directly adjacent to the East River extending the length of the park, and a shared-use path. The shared-use path, adjacent to the FDR Drive within East River Park, is part of the extensive East River Greenway that stretches from The Battery to East Harlem. Together, the East River Promenade and the shared-use path are utilized daily by commuters and recreational enthusiasts and provide a critical link for pedestrians and cyclists between southern and northern Manhattan along the East River. Additionally, East River Park contains passive areas such as seating and lawns, two playgrounds with water fountains, picnic and barbecuing areas, and an amphitheater, which hosts events such as the City Parks Foundation SummerStage Events. Making up a significant portion of the park, active uses include eight baseball fields, two and one-half basketball courts (one located near

Delancey Street and one-and-a-half located near East 10th Street), 12 tennis courts, two volleyball courts, three soccer fields, a running track, and athletic fields. Within East River Park, the East River Park Compost Yard is located at the southern end of the park. The Lower East Side Ecology Center utilizes a former fireboat house (Fireboat House) for office space.

Peak usage of the East River Promenade and the East River Bikeway by cyclists and joggers occurs during early mornings and evenings. Benches and tables located along the Promenade are often used throughout the day by individuals of all ages for social gathering, fishing, and enjoying waterfront views. On weekdays, weeknights, and weekends, the fields and courts are heavily utilized for pick-up games and organized team events. Throughout the year, fields are heavily used each day of the week, with seasonal usage of each field averaging several thousand participants. As a member of an organized league, a formal request to NYC Parks for use of a field or court must be made and permits are issued. If unoccupied by a formal game, fields and courts are available to the public for informal use (pickup games). In order to facilitate this, established seasonal request periods have been created: spring and summer (March 17 through August 31), fall (September 1 through November 30), and winter (December 1 through March 16). Courts and fields may be reserved for various times of the day with the last games concluding by 10:00 PM. All tennis courts, track, and ball fields may be subject to permit reservations for organized games.

The area of the park improved with LWCFRA funds is currently used for a combination of active and passive outdoor recreational uses, including a playground, two basketball courts, a picnic and barbecue area, a lawn, a portion of the East River bikeway, and a portion of the East River Promenade. Public access is available via a pedestrian bridge at 10th Street.

During Hurricane Sandy, storm surge from the East River overtopped the bulkhead along East River Park, inundating the park with damaging waves and floodwaters. Following the storm, the combination of strong wind, storm surge, and flooding resulted in the impairment of the structural integrity of trees in East River Park. As a result, falling tree branches damaged fences, lights, flagpoles, field services, and buildings. Dozens of trees were knocked down or had to be removed following the storm as a result of saltwater intrusion and water inundation. An additional 258 trees in the park were removed in 2014 due to saltwater inundation from Hurricane Sandy. The health of others continues to deteriorate, and additional removals are expected. Damage to Park amenities included flooding of the Track and Field House, which damaged the heating system, and the Tennis House, which damaged mechanical equipment, as well as the Fireboat House and Fireboat House pump station.

PROJECT AREA TWO

Open space in Project Area Two consists of the Captain Patrick J. Brown Walk, Stuyvesant Cove Park, Murphy Brothers Playground, and Asser Levy Playground. Captain Patrick J. Brown Walk is the name given to the northern portion of the East River Bikeway between East River Park and Stuyvesant Cove Park. Serving as both a walkway and bikeway, Captain Patrick J. Brown Walk runs for approximately 0.5 miles between East River Park and Stuyvesant Cove Park and is largely a brick-paved walkway. Peak usage for Captain Patrick J. Brown Walk occurs during morning and evening commutes similar to the East River Park Bikeway and East River Promenade. The northern portion of Captain Patrick J. Brown Walk contains benches for seating but based on field observations, the primary use of the path is for walking, running, and bicycling.

North of Captain Patrick J. Brown Walk, the pathway continues into Stuyvesant Cove Park. Located along 0.3 miles of waterfront and consisting of 1.9 acres, Stuyvesant Cove Park provides passive recreation, gardens, and a paved area which is used for educational programming and

special events (e.g., movies). Stuyvesant Cove Park is under SBS jurisdiction, managed by NYCEDC, and is largely maintained by volunteer groups, such as the Stuyvesant Cove Park Association, New York Cares, the Comprehensive Development Inc., and Solar One. 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.

Murphy Brothers Playground and Asser Levy Playground are both located to the west of the FDR Drive and fall under NYC Parks jurisdiction. Consisting of approximately 1.27 acres, Murphy Brothers Playground is located east of Stuyvesant Town and includes a mixture of active and passive recreational amenities, such as tee-ballfields, a basketball court, playground equipment, hopscotch squares, and benches. Asser Levy Playground, located just north of Peter Cooper Village, comprises the Asser Levy Recreation Center, located just north of East 23rd Street, as well as the playground complex adjacent to the recreation center. The totality of Asser Levy Playground is 2.44 acres. Asser Levy Recreation Center houses a diverse set of active areas, including an indoor pool within the recreation center building and a free outdoor 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. The playground was expanded in 2015 to include portions of the former Asser Levy Place and now contains a diverse mix of outdoor recreational opportunities. Neighborhood residents and visitors play ping pong, badminton, chess, soccer, football, tee-ball, exercise, jog, practice yoga or enjoy shaded seating on what was once a two-way street. Outdoor adult fitness equipment is also available.

OPEN SPACE STUDY AREA

The open space study area contains 32 publicly accessible open spaces and recreational facilities that serve the surrounding residential and commercial populations.

Within the study area, 30 spaces are publicly owned by the City and/or State and two are privately owned and publicly accessible. NYC Parks operates and manages 19 open spaces; two open spaces are jointly operated by NYC Parks and NYCHA; one open space is jointly operated by NYC Parks and NYCEDC; one open space is operated by DOE; two are operated by SBS; and five open spaces are jointly operated by NYC Parks and DOE. As described in detail below, the two remaining privately owned open spaces are accessible by the public and associated with building properties.

NYC PARKS OPERATED OPEN SPACES

- Corlears Hook Park is located at the intersection of Jackson and Cherry Streets along the East River Drive in Community Board 3. At approximately 4.36 acres, this park provides views of the East River and East River Park, the Williamsburg and Manhattan Bridges, and the Brooklyn Navy Yard. Additionally, active recreation park amenities include baseball fields, playgrounds, a dog park, and spray showers. Corlears Hook Park is connected to East River Park and the East River Park Amphitheater via a bridge. This is the southernmost bridge that provides access to East River Park.
- Vladeck Park is a community park located in the southern portion of the study area one block north of Pier 42 at 668 Water Street, in Community Board 3. The 0.79-acre park provides landscaping, seating and pathways.

East Side Coastal Resiliency Project EIS

- Located in Community Board 3, Henry M. Jackson Playground is 0.61 acres and provides amenities such as basketball courts, playground, seating, and handball courts. Henry M. Jackson Playground is located two blocks south of the Williamsburg Bridge and two blocks west of Project Area One at Jackson Street and Madison Street.
- Lillian D. Wald Playground is a 0.68-acre recreation field and playground in Community Board 3. The open space is located at Cherry and Montgomery Streets two blocks north of Pier 42 in the southern portion of the study area. Lillian D. Wald Playground provides active uses in the form of basketball courts, playgrounds and fitness equipment.
- At the corner of Cherry and Clinton Streets is the Cherry Clinton Playground. The 0.48-acre playground is located approximately one block east of the southernmost portion of Project Area One. Clinton Cherry Playground provides active recreational features such as basketball and handball courts, fitness equipment and playgrounds, along with several seating areas.
- Wald Playground is a 0.53-acre park consisting of active recreational amenities such as a playground and basketball courts. Wald Playground is located within the Lillian Wald Houses Development in Community Board 3 at East Houston Street and FDR Drive and directly west of Project Area One.
- Captain Jacob Joseph Playground is located at Rutgers Street and Henry Street in Community Board 3. The neighborhood park provides 0.14 acres of playground space within the southern portion of the study area.
- Seward Park is located in the center of Canal Street, Essex Street, Jefferson Street, and East Broadway in the southern portion of the study area. The 3.36-acre park is located in Community Board 3 and provides active recreation in the form of basketball courts, playgrounds, volleyball courts, and spray showers in addition to passive seating and landscaping through the park.
- Ahearn Park is a small paved park area located between Grand Street, East Broadway, and Willet Street in Community Board 3. Located in the southern portion of the study area, the small triangular plaza park is 0.09 acres and provides seating and landscaping.
- The Luther Gulick Playground is a neighborhood park located in Community Board 3 at Columbia and Delancey Streets. The park is located south of the Williamsburg Bridge and approximately three blocks east of Project Area One. At 1.45 acres, the park provides a number of active and passive recreational resources including basketball and handball courts and playgrounds.
- Hamilton Fish Park is located between East Houston Street and Stanton Street approximately three blocks west of the center of Project Area One. At 4.3 acres, this park in Community Board 3 includes a recreation center that has been designated as a New York City Historic Landmark. The recreation center provides fitness equipment and educational programming. Additional active recreation within Hamilton Fish Park includes basketball courts, handball courts, outdoor pools, playgrounds, and spray showers.
- Dry Dock Playground and Pool is a community park located at Szold Place and East 10th Street, in Community Board 3. The 1.5-acre park provides basketball courts, outdoor pools, spray showers, and playgrounds.
- Joseph C. Sauer Park is located on East 12th Street between Avenue A and Avenue B, three blocks west of the northernmost Project Area One boundary. At 0.40 acres, Joseph C. Sauer Playground provides passive recreation and several playground amenities in Community Board 3.

- Stuyvesant Square is a neighborhood park located in Community Board 6. At 3.93 acres, Stuyvesant Square is located between East 15th Street and East 17th Street, Rutherford Place, and Perlman Place and is bisected by Second Avenue. The park is a passive recreation park that features landscaping with benches and tables.
- Bellevue South Park is located from East 26th Street to East 28th Street along Second Avenue and adjacent to Bellevue Hospital. Northeast of Project Area Two, the park is approximately 1.59 acres and located in Community Board 6. Amenities in Bellevue South Park include exercise stations, volleyball and basketball courts, decorative floral and animal sculptures, and playgrounds.
- Vincent F. Albano Jr. Playground is located at the corner of East 29th Street and Second Avenue in the northernmost portion of the study area. This playground in Community Board 6 is 0.35 acres and provides active recreation in the form of handball courts and playgrounds.

DOE OPERATED OPEN SPACES

Within the study area, DOE operates one open space. The Seward Park H.S. Fields, which is 1.01 acres and located adjacent to Seward Park on Essex Street between Grand Street and Canal Street. Seward H.S. Fields has basketball courts, a running track, handball courts, and tennis courts.

JOINTLY OPERATED OPEN SPACES

There are two open spaces which are jointly operated by NYC Parks and NYCHA within the study area, both located within Community Board 3: Little Flower Playground and Baruch Playground. Located on Madison Street between Clinton and Rutgers Streets in the southernmost portion of the study area, Little Flower Playground is 1.29 acres and provides amenities such as basketball and handball courts, spray showers, playgrounds, seating, and landscaped areas. Baruch Playground is located at the corner of Baruch Place and Mangin Street directly west of Project Area One and north of the Williamsburg Bridge. Amenities on the 2.32-acre Baruch Playground include basketball and handball courts, playgrounds, seating, and landscaped areas.

Five open spaces within the study area are jointly operated by NYC Parks and DOE. These spaces are Sol Lain Playground, J.H.S. 104 (Peters Field), Lower East Side Playground, Augustus St. Gaudens Playground, and Nathan Straus Playground. Sol Lain Playground is associated with Public School (P.S.) 134 and located on Henry Street between Grand and Pitt Streets and includes basketball courts, a playground, and spray showers on its 0.89 acres of open space. J.H.S. 104 (Peters Field) is 0.88 acres and is located on Second Avenue between East 20th and East 21st Streets, two blocks west of the northern portion of Project Area Two. It has basketball courts, tennis courts, and playgrounds. The Lower East Side Playground is 0.83 acres and located on the western edge of the study area on East 11th Street between First Avenue and Avenue A. Amenities at the Lower East Side Playground include a playground and basketball courts. Augustus St. Gaudens Playground is approximately 0.64 acres and located on Second Avenue between East 19th and East 20th Streets. Located at Augustus St. Gaudens Playground are basketball courts and playgrounds. Nathan Straus Playground is approximately 0.85 acres and is located on Rivington Street and Attorney Street between Clinton Street and Ridge Street. The park is connected to and serves the children of P.S. 140, as well as the wider community. It features basketball and handball, an asphalt field with drawings, and traditional play equipment for children and toddlers, complete with a climbable concrete bear prowling safely nearby.

Pier 35 is an open space within the study area that is jointly operated by NYC Parks and NYCEDC. In response to the community's desire for increased access along the East River Waterfront, Pier

35 provides a new waterfront park atop the existing pier. The park includes pedestrian pathways, a series of landscaped lawns, a new tree canopy, and seating areas offering views of the Brooklyn and Manhattan Bridges. Additionally, the park includes a Department of State grant-funded, “Mussel Beach,” a tidal zone habitat feature designed to attract colonies of mussels and promote healthy river ecology. Pier 35 was fully opened in 2019 and includes a total of 0.65 acres of passive open space within the study area.

PRIVATELY OPERATED OPEN SPACES

Two open spaces within the study area are associated with commercial properties. Though privately owned, these open spaces are publicly accessible and, therefore, are included in the inventory. The two properties include Ascot Park owned by Old Glory Real Estate and Windsor Court owned by MHP Land Associates. Ascot Park is located at East 28th Street between Park Avenue South and Lexington Avenue. The 0.09-acre space features a small playground and seating areas. The 0.15-acre open space at Windsor Court is located at East 31st Street between Third and Fourth Avenues and includes landscaping and seating.

ADEQUACY OF OPEN SPACES

As described above, the analysis of the study area focuses on open space resources and amenities similar to those in East River Park, which may be directly affected by the proposed project. The proposed project would have a direct effect on East River Park, Stuyvesant Cove Park, Captain Patrick J. Brown Walk, Murphy Brothers Playground, and Asser Levy Playground, as described in Section F, “Environmental Effects,” but would not introduce a significant new user population. With a total of approximately 86.65 acres of open space, of which 54.46 acres are for active use and 32.19 acres are for passive use, and a total residential population of 157,263, the study area has an overall open space ratio of approximately 0.55 acres per 1,000 residents. This is lower than the City’s planning goal of 2.5 acres of combined active and passive open space ratio per 1,000 residents and is lower than the citywide median of 1.5 acres per 1,000 residents.

Overall, the existing ratio suggests that the area currently experiences a shortage of open space typical of many neighborhoods within the City. The shortage in active open space is more pronounced, as the study area’s residential active open space ratio is only 0.35 (see **Table 5.3-3**), which is substantially less than the City’s active open space planning goal of 2 acres per 1,000 residents and the Citywide Community District median ratio of 1.5 acres per 1,000 residents.

**Table 5.3-3
½-Mile Study Area Existing Conditions**

| Study Area Population | |
|---|-----------------------------|
| Residents | 157,263 |
| Open Space Acreage | |
| Active | 54.46 |
| Passive | 32.19 |
| Total | 86.65 |
| Open Space Ratios | |
| Active | 0.35 acres/1,000 residents |
| Passive | 0.20 acres /1,000 residents |
| Total | 0.55 acres/1,000 residents |
| Note: | |
| * This table has been revised for the FEIS. | |

F. ENVIRONMENTAL EFFECTS

A detailed description of the alternatives analyzed in this chapter is presented in Chapter 2.0, “Project Alternatives.”

NO ACTION ALTERNATIVE (ALTERNATIVE 1)¹

The No Action Alternative is the future condition without the proposed project and assumes that no new comprehensive coastal protection system is installed in the proposed project area. The build year for the proposed project is 2025 and accordingly, the No Action Alternative assumes that projects planned or currently under construction in the project area are completed by the 2025 analysis year (i.e., No Action projects). A list of these planned projects is included in **Appendix A1**.

Open spaces located in the study area, including East River Park, Captain Patrick J. Brown Walk and Stuyvesant Cove Park, would therefore remain in a similar condition, function, and layout as described above in Section E, “Affected Environment,” and under the jurisdiction of their managing entities (e.g., NYC Parks, DOE, SBS, etc.). As described in Chapter 2.0, “Project Alternatives,” there are several projects planned or under construction in the protected area (as defined in Chapter 2.0, “Project Alternatives”), some of which have the potential to affect open spaces within the study area. **Appendix A1** identifies the projects that are currently proposed for construction in the study area for the 2025 analysis year. There are no current proposals to alter the City’s rules and regulations governing open spaces; thus, it is assumed that these would remain the same.

It is assumed that general user interaction would fluctuate over time and vary depending on season, as is common to all open spaces. User populations within the study area may grow over time, increasing the usage of open spaces in the project area and study area. The open space ratios for Alternative 1 were calculated for the 2025 analysis year, accounting for the planned open spaces and new residents from planned projects as outlined in Appendix A1. A conservative estimate for the study area based on these assumptions would result in a population of 174,631 by the 2025 analysis year. As described in Chapter 5.1, “Land Use, Zoning, and Public Policy,” this growth in population is not expected to result in a significant change to the overall land use pattern or neighborhood character within the study area. Changes to open spaces in the No Action Alternative are identified in **Table 5.3-4**.

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 5.3-4
½-Mile Study Area No Action Conditions

| Study Area Population | |
|--|----------------------------|
| Residents | 174,631 |
| Open Space Acreage | |
| Active | 55.07 |
| Passive | 57.74 |
| Total | 90.81 |
| Open Space Ratios | |
| Active | 0.32 acres/1,000 Residents |
| Passive | 0.20 acres/1,000 Residents |
| Total | 0.52 acres/1,000 Residents |
| Note: | |
| *This table has been revised for the FEIS. | |

Project Area

As discussed in Chapter 2.0, “Project Alternatives,” Solar One is proposing to replace their existing facility in Stuyvesant Cove Park with an 8,000-square-foot green arts and energy education center. As currently envisioned, the Solar One Environmental Education Center would be a two-story building with a solar canopy and vegetated screens along the east and west facades. The center would have indoor and outdoor classrooms and an outdoor stage for concerts and performances.

Study Area

Within the study area, there are several park rehabilitation and reconstruction projects ongoing or proposed that are anticipated to be complete by the 2025 analysis year, including Asser Levy Playground, Baruch Playground, Corlears Hook Park, Hamilton Fish Park, Luther Gulick Playground, and Seward Park. These proposed open space projects involve the renovation or rehabilitation of existing parks or amenities. The construction activities include increasing accessibility under the Americans with Disabilities Act of 1990, playground reconstruction, reconstructing ball fields and basketball courts, dog run reconstruction, and comfort station reconstruction. The majority of these proposed projects would involve renovation of existing spaces and would not significantly alter the quantity of open space area.

Funded through HUD’s National Disaster Resilience Competition (NDRC), the Trust for Public Land (TPL) school playground project consists of renovation and improvement of existing playground facilities at two public schools in the Two Bridges neighborhood in Manhattan, New York City. Currently, the existing playgrounds are not open to the public during non-school hours. Improvements to open spaces at P.S. 184 Shuang Wen School, located at Cherry Street and Montgomery Street, and P.S. 2 Meyer London, located at Madison Street and Pike Street, totaling 1.16 acres, would result in redesigned playspaces, which may include features such as running tracks, athletic courts, upgraded play equipment, trees, gardens and plantings, gazebos, outdoor classrooms, benches and other seating, game tables, student artwork, signage, trash and recycling receptacles, and drinking fountains. This project would also incorporate green infrastructure features such as artificial turf fields with gravel underlays, bioswales, permeable pavers, and rain gardens into project design.

There are two sites within the study area that would increase accessible open space to the community: Pier 42 Park and the East River Waterfront Esplanade – Phase IV. The construction

of these sites would introduce a combined 4.16 acres of publicly accessible open space and would increase open space within the ½-mile study area to 90.81 acres by the 2025 analysis year.

At the southern end of Project Area One, NYC Parks is proposing to construct Pier 42 as a public waterfront open space that would increase accessible open space within the study area. For many years, the Pier 42 property consisted of warehouse space and parking, located just south of East River Park between the East River and the FDR Drive. A masterplan for the overall redevelopment of Pier 42 as an open space was approved by a Community Board 3 sub-committee and the New York City Public Design Commission (PDC). Phase 1A of the Pier 42 redevelopment included the demolition of the pier shed. Phase 1B would include the redevelopment of the upland park (north and east of Phase 1A) with amenities such as an entry garden in the western section, a playground, a comfort station, a grassy knoll rising approximately seven feet above grade, solar powered safety lighting throughout the park, and access from the shared-use path along the FDR Drive service road or Montgomery Street. The Pier 42 project would introduce approximately 2.93 acres of new passive open space to the study area by 2021.

The East River Esplanade offers both active and passive recreational open space, including bicycle and pedestrian paths, exercise equipment, benches, and bocce ball courts. New York City's Economic Development Commission (NYCEDC), working in partnership with other city agencies, is currently implementing improvements to the East River Waterfront Esplanade. Phase IV of the project, a portion of the East River Esplanade—under the FDR between Catherine Slip and Pike Street—is anticipated to be expanded and completed by 2025. This area is expected to offer an additional approximately 1.23 acres of recreational open space and would include new seating and play equipment along the waterfront.

In the event of a storm under the No Action Alternative, no flood protection measures would be implemented, and open spaces in the study area could experience adverse effects similar to what was experienced during Hurricane Sandy, or potentially worse with future sea level rise.

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

Project Area

By elevating the park, the Preferred Alternative provides the opportunity for a holistic reconstruction, reimagining, and expansion of the types of user experiences in East River Park, while also enhancing neighborhood connectivity and resiliency.

Under the Preferred Alternative, the existing programming within East River Park would be reconfigured. The existing amphitheater would be relocated towards the waterfront with the programming replaced in kind, and a multi-use lawn with stepped seating and a stage would be constructed in its place. The two existing embayments along the shoreline would be relocated and designed for enhanced user interaction with the East River shoreline and views. The Corlears Hook Bridge and the East Houston Street overpass would lead the park user directly to newly designed embayments, providing maximum opportunities for the community to connect with the waterfront. The relocated and reconfigured park-side bridge ramps would integrate into the raised park's landscape and would require the relocation of the existing basketball courts and multi-use turf field towards the Williamsburg Bridge. Ball Fields 3 through 6 would be reconfigured and relocated to allow for a new East Houston Street park entrance, which would create smoother transitions to the fields, raised landscape, and shared-use path. Existing playground, picnic, and barbecue areas would be rebuilt and expanded, and Ball Fields No. 7 and 8 would be combined into one multi-use field, resulting in the loss of one ballfield. The Preferred Alternative would

enhance open spaces, open space resiliency, and improve access to East River Park via reconstruction of three bridges spanning the FDR Drive (Corlears Hook Bridge, Delancey Street Bridge, and East 10th Street Bridge), and improving the East Houston Street Bridge landing.

The Preferred Alternative would allow for the continued recreational usage of the park. Similarly, the portion of East River Park that received LWCFAs funds between East 6th Street to East 10th would be renovated and continue to provide for outdoor recreational use. As with the rest of the park, the LWCFAs area would be protected from inundation during storm events and from sea level rise. The LWCFAs area would be universally accessible through reconstructed bridges at 10th Street and the shared-use flyover bridge, which would be completed and opened to the public in 2025. Per a letter from OPRHP dated August 22, 2019, OPRHP determined and NPS concurred that the proposed project is for park operations and maintenance and is necessary for the preservation of LWCFAs-funded outdoor recreational activities and is therefore in compliance with LWCFAs (see Appendix N).

Under the Preferred Alternative, modifications of the existing park landscape in East River Park would result in minor redistributions of active and passive open spaces. Of the 23.05 acres of active space in East River Park under the No Action Alternative, 0.06 acres would be converted to passive open space under the Preferred Alternative, resulting in 22.99 acres of active space and 22.89 acres of passive space. East River Park's overall amount of open space would remain 45.88 acres. The flood protection features would not impede park patrons' usage of the open space and the addition of aforementioned resiliency features within East River Park would allow for user interaction to resume more quickly following a storm event.

The Preferred Alternative would remove 991 trees within the project area and vicinity, but trees would be replaced or replanted in accordance with a NYC Parks-approved landscape restoration plan. The landscape restoration plan is comprised of a several elements. First, to the extent practicable, the City would transplant existing park trees that are in excellent condition and, based on prior NYC Parks arborist experiences and approvals, are suitable for a successful transplanting. Second, approximately 1,815 trees are proposed to be planted as part of the landscape design within the project areas, which would result in a net increase of 745 trees over the existing conditions. The value of this restoration plan, in combination with approximately \$32.9 million of restitution, would be in compliance with Chapter 5 of Title 56 of the Rules of New York (NYC Department of Parks and Recreation Rules) and Local Law 3 of 2010. The restitution funds would be used towards targeted tree planting and urban forest enhancements throughout the adjacent communities, including the Lower East Side greening program, which proposes to plant up to 1,000 trees in parks and streets, and create up to 40 bioswales starting in fall of 2019.

The landscape restoration plan will also aim to improve ecological habitat and be resistant to the effects of salt spray and wind using the concept of different spatial planting concepts, which will be featured in an ecological mosaic throughout the project areas. Figure 5.6-8 displays the planting key plan for East River Park and Figure 5.6-9 shows the corresponding spatial concepts. The landscape restoration plan will incorporate these planting concepts with a diverse mix of tree species, shrubs, and groundcover for ecology, shade, and resiliency and will depart from the existing formal landscape to allow the park user to experience an escape from the hard surfaces of the urban landscape (see Figure 5.6-10).

Most significantly, by raising the park, this alternative would provide protection to the majority of East River Park from future storm flooding and sea level rise without losing any acres of usable public space. This alternative would also result in new and updated park buildings, amenities, and underground infrastructure. Following the completion of the park enhancements and flood

protection installation of the Preferred Alternative in 2023, the flyover bridge superstructure would be installed and opened to the public in 2025. The approximately 15-foot wide flyover bridge would be constructed to alleviate shared-use path congestion at the “pinch point.” These activities would leave existing park amenities largely intact as design features of the Preferred Alternative have been configured to result in minimal intrusion into open spaces as they exist currently.

Study Area

The Preferred Alternative would not add residential or worker populations in the study area and no changes to open space in the broader study area are expected. Under the Preferred Alternative, the active and passive open space ratio would remain the same as compared to the No Action Alternative at 0.32 acres per 1,000 residents for active space and 0.20 per 1,000 residents for passive space. As with other alternatives, the study area’s total open space ratio would remain 0.52 acres per 1,000 residents (see **Table 5.3-5**), substantially less than the City’s planning goal of 2.5 acres per 1,000 residents. These ratios fall short of the City’s planning goals of 2.0 acres per 1,000 residents for active space and 0.5 acres per 1,000 residents for passive space.

**Table 5.3-5
½-Mile Study Area Preferred Alternative Conditions**

| Study Area Population | |
|--|----------------------------|
| Residents | 174,631 |
| Open Space Acreage | |
| Active | 55.01 |
| Passive | 35.80 |
| Total | 90.81 |
| Open Space Ratios | |
| Active | 0.32 acres/1,000 residents |
| Passive | 0.20 acres/1,000 residents |
| Total | 0.52 acres/1,000 residents |
| Note: | |
| *This table has been revised for the FEIS. | |

Operation and Maintenance

As described in Chapter 2.0, “Project Alternatives,” operation and maintenance during non-storm conditions would include routine inspection of the closure structures, levees, floodwalls, and drainage components. The equipment would be tested regularly, and staff would practice deployment and emergency operations. The level of maintenance required of floodwalls and gates would vary depending on the type of structure and type of maintenance required, such as slope maintenance, erosion repair, crack repair, turf repair, and filling. Activities associated with regular maintenance of the flood protection structure are not anticipated to impede the use of open spaces within the project area.

In the event of a design storm under the Preferred Alternative, flood protection features within the project area would be in place and waterfront parks, including those within the project area, would be closed for public safety. During the storm event, the flood protection system would be in operation, including mobilization of closure structures and, as applicable, drainage management components. Post-storm, the open spaces would be cleared of debris and restored.

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

Project Area

Within Project Area One, the landscape south of the Williamsburg Bridge would rise to meet the reconfigured Delancey Street Bridge ramp, which would require the relocation of the existing basketball courts to an area located north of the Williamsburg Bridge. This would also result in a loss of the un-programmed asphalt area adjacent to the existing basketball courts. The new raised landscape and reconfigured Delancey Street Bridge ramp would result in the elimination of the multi-purpose field. The multi-purpose field would be removed from use and would not be relocated or replaced. To support park operations, vehicular roads and maintenance areas are a necessary component of East River Park. Under Alternative 2, vehicular roads within the park and existing buildings would be retained for park maintenance and operations purposes, would not increase in size, or reduce the amount of open space within East River Park. The current and future vehicular roads would not result in a reduction of open space, and where applicable, would double as both recreational space for runners and maintenance access for vehicles when needed (consistent with how they function today). Further, the two maintenance areas located north of the soccer field and south of the tennis courts, respectively, would remain in their current condition and size. The portion of East River Park that received LWCFR funds between East 6th Street to East 10th Street would continue to provide for outdoor recreational uses.

Compared to the No Action Alternative, the conversion of active to passive space in East River Park would moderately reduce active open space to 22.60 acres from 23.05 acres and increase passive open space to 23.28 acres from 22.83 acres. A loss of a multi-use field would occur. However, the total open space within East River Park would remain the same.

Alternative 2 would result in minor changes to the features within existing open spaces that span the project area. The existing shared-use path would be reconstructed and passive recreation and landscaped spaces within East River Park and Stuyvesant Cove Park would be enhanced.

As described in Chapter 5.6, “Natural Resources,” construction of the proposed project would require removal of 265 trees; however, a NYC Parks-approved landscape restoration plan to address the proposed tree removal would dictate the replacement or replanting of trees within these parks. Once construction is completed, this alternative would allow for the continued recreational usage of all open spaces within the project area.

Study Area

Under Alternative 2, the residential open space ratio within the study area would remain 0.52 acres per 1,000 residents (see **Table 5.3-6**), the same as under the No Action Alternative and substantially less than the planning goal of 2.5 acres per 1,000 residents. Under Alternative 2, the active open space ratio would decrease from 0.32 to 0.31 acres per 1,000 residents, and the passive open space ratio would increase from 0.20 to 0.21 acres per 1,000 residents in comparison to the No Action Alternative. These fall short of the City’s planning goals of 2.0 acres per 1,000 residents for active space and 0.5 acres per 1,000 residents for passive space.

Table 5.3-6
½-Mile Study Area Alternative 2 Conditions

| Study Area Population | |
|--|----------------------------|
| Residents | 174,631 |
| Open Space Acreage | |
| Active | 54.62 |
| Passive | 36.19 |
| Total | 90.81 |
| Open Space Ratios | |
| Active | 0.31 acres/1,000 residents |
| Passive | 0.21 acres/1,000 residents |
| Total | 0.52 acres/1,000 residents |
| Note: *This table has been revised for the FEIS. | |

Operation and Maintenance

Operations and maintenance would be similar to the Preferred Alternative, although more unavoidable adverse effects from a design storm would be anticipated within East River Park. These adverse effects would be temporary and open spaces would gradually return to pre-storm conditions upon restoration, though the severity of the storm event and level of effort to repair existing facilities within unprotected areas may prolong the complete restoration of open spaces. Following the storm event, maintenance crews would clean debris from parks. Following the completion of post-storm maintenance and operations, the flood protection system would be returned to non-storm conditions. Alternative 2 would have flood protection systems in place by 2025, as compared to 2023 for the Preferred Alternative.

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

Project Area

Under Alternative 3, the project would incorporate a more extensive reconfiguration and reconstruction of the bulk of the East River Park landscape, recreational fields, playgrounds, and amenities. The topography of the park would be elevated along the line of protection and slope down towards the existing at-grade esplanade. In addition, the existing pedestrian bridges and bridge landings at Delancey and East 10th Streets would be completely reconstructed to provide universal access, and a new raised and landscaped park-side plaza landing at the entrance to the park from the East Houston Street overpass would be created.

The relocated and reconfigured Delancey Street Bridge ramps would become gentle sloping paths integrated into the raised landscape. The park-side Delancey Street Bridge ramp and shared-use path would require the relocation of the existing sports courts to the area directly south of the Williamsburg Bridge. The adjacent area north of the Williamsburg Bridge would be converted to a NYC Parks maintenance yard. In addition, the new raised landscape at Delancey Street would result in shifting and enlarging the location of the existing 12 tennis courts. The existing Tennis House would remain. The Reflections Labyrinth located north of the tennis courts would be converted to a vegetated passive area connecting the shared-use path to the west, with the pedestrian circulation area to the east.

At the existing East Houston Street entryway, a combination of ramps and an entry plaza would connect the Shared-use path directly to the East Houston Street entrance. This new entry plaza

would create smoother transitions between the fields, shared-use path, and East Houston Street overpass and provide passive open space for park visitors to view adjacent recreational fields. The existing NYC Parks service yard would be relocated adjacent to the FDR Drive and replaced with pedestrian paths and planted areas. Near East 10th Street, the two ballfields would be combined into a single field surrounded by raised spectating areas, and the playground, picnic and barbecue areas would be rebuilt and expanded. Additional green space is proposed in this location to create a greener entry into East River Park. The portion of East River Park that received LWCFR funds between East 6th Street to East 10th Street would continue to provide for outdoor recreational use. While some portions of East River Park would be raised above the current grade, most of East River Park would remain within the 100-year floodplain and would not meet the design flood criteria. Furthermore, facilities within the Park would not be reinforced or otherwise protected from flooding.

Under Alternative 3, modifications of the existing park landscape in East River Park would result in a transfer of 2.93 acres of active open space to passive open space compared to the No Action Alternative, resulting in 20.12 acres of active space and 25.76 acres of passive space. East River Park's overall amount of open space would remain 45.88 acres.

In Project Area Two, similar to Alternative 2, a floodwall is proposed along the western edge of FDR Drive at Murphy Brothers Playground and Asser Levy Park. The floodwall would replace the existing playground fence. Unlike Alternative 2, these playgrounds would be reconfigured and reconstructed. Additionally, portions of Stuyvesant Cove Park would be constructed as a raised landscape and the shared use path would be enhanced due to the construction of the shared-use flyover bridge.

As described in Chapter 5.6, "Natural Resources," 776 trees would require removal for the implementation of Alternative 3, but trees would be replaced or replanted according to a NYC-Parks approved landscape restoration plan. Once implemented, Alternative 3 would not preclude the continued recreational usage of all open space within the entire project area, and in fact would enhance several open spaces.

Study Area

Alternative 3 would not add residential or worker populations in the study area but would alter the percentage of active to passive recreation space within the study area as compared to the No Action Alternative. However, overall open space acreage would remain the same. Under Alternative 3, the active open space ratio would decrease from 0.32 to 0.30 acres per 1,000 residents, and the passive open space ratio would increase from 0.20 to 0.22 acres per 1,000 residents in comparison to the No Action Alternative. The decrease in active open space is due to the loss of one ballfield and reconfiguration of active space amenities, like tennis courts, basketball courts, and athletic fields, to allow for some regulation-sized sports facilities while incorporating new passive spaces into previously underutilized spaces surrounding fields where possible. The study area's total open space ratio would remain 0.52 acres per 1,000 residents (see **Table 5.3-7**), substantially less than the City's planning goal of 2.5 acres per 1,000 residents. Also, these ratios fall short of the City's planning goals of 2.0 acres per 1,000 residents for active space and 0.5 acres per 1,000 residents for passive space.

Table 5.3-7
½-Mile Study Area Alternative 3 Conditions

| Study Area Population | |
|--|-----------------------------------|
| Residents | <u>174.631</u> |
| Open Space Acreage | |
| Active | <u>52.14</u> |
| Passive | <u>38.67</u> |
| Total | <u>90.81</u> |
| Open Space Ratios | |
| Active | <u>0.30 acres/1,000 residents</u> |
| Passive | <u>0.22 acres/1,000 residents</u> |
| Total | <u>0.52 acres/1,000 residents</u> |
| Note: | |
| *This table has been revised for the FEIS. | |

Operation and Maintenance

Operation and maintenance of Alternative 3 would be similar to those described in Alternative 2. In the event of a storm under Alternative 3, flood protection features within the project area would be in place. Under Alternative 3, storm-related adverse effects would be reduced or avoided for certain park elements in East River Park with proposed resiliency measures.

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

Open space programming and availability within the project and study areas under Alternative 5 would be the same as what was described above for the Preferred Alternative but assumes a build year of 5 years and would be completed in 2025. Operation and maintenance of Alternative 5 would be similar to the Preferred Alternative; however, the raised northbound lanes of the FDR Drive would eliminate the need for closure structures between East 13th Street and East 18th Street, further reducing the operations and maintenance effort in this area.

MITIGATION

The Preferred Alternative would not introduce a residential or worker population, placing an increased demand on open space; reduce the quality of open space features, conditions, or usability of open space; or induce a significant physical effect on open space by increasing shadow, noise, air pollutant emissions, or odors as compared to the No Action Alternative. Therefore, no mitigation is required beyond the NYC Parks-approved landscape restoration plan

The Preferred Alternative would remove 991 trees within the project area and vicinity, but trees would be replaced or replanted in accordance with a NYC Parks-approved landscape restoration plan. The landscape restoration plan is comprised of a several elements. First, to the extent practicable, the City would transplant existing park trees that are in excellent condition and, based on prior NYC Parks arborist experiences and approvals, are suitable for a successful transplanting. Second, approximately 1,815 trees are proposed to be planted as part of the landscape design within the project areas, which would result in a net increase of 745 trees over the existing conditions. The value of this restoration plan, in combination with approximately \$32.9 million of restitution, would be in compliance with Chapter 5 of Title 56 of the Rules of New York (NYC Department of Parks and Recreation Rules) and Local Law 3 of 2010. The restitution funds would be used towards targeted tree planting and urban forest enhancements throughout the adjacent

East Side Coastal Resiliency Project EIS

communities, including the Lower East Side greening program, which proposes to plant up to 1,000 trees in parks and streets, and create up to 40 bioswales starting in fall of 2019.

The landscape restoration plan will also aim to improve ecological habitat and be resistant to the effects of salt spray and wind using the concept of different spatial planting concepts, which will be featured in an ecological mosaic throughout the project areas. The landscape restoration plan will incorporate these planting concepts with a diverse mix of tree species, shrubs, and groundcover for ecology, shade, and resiliency and will depart from the existing formal landscape to allow the park user to experience an escape from the hard surfaces of the urban landscape. *