

**TECHNICAL MEMORANDUM 001
EAST SIDE COASTAL RESILIENCY
CEQR No. 15DPR013M
ULURP Nos. N190356ZRM and 190357PQM
November 12, 2019**

A. INTRODUCTION

The City of New York is proposing the East Side Coastal Resiliency Project (the proposed project), which involves the construction of a coastal flood protection system along a portion of the east side of Manhattan and related improvements to City infrastructure, to reduce coastal flooding vulnerability and risk while enhancing waterfront open spaces and access to the waterfront. On September 13, 2019, New York City Department of Parks and Recreation (NYC Parks), as Lead Agency under the State Environmental Quality Review Act (SEQRA) and City Environmental Quality Review (CEQR), together with New York City Office of Management and Budget (OMB), as Lead Agency under the National Environmental Policy Act (NEPA), issued a Final Environmental Impact Statement (FEIS) for the proposed project. In accordance with the City's Uniform Land Use Review Procedures (ULURP), the City Planning Commission (CPC) approved the proposal on September 23, 2019 and then referred the application to the City Council.

Pursuant to 24 CFR Part 58 (Environmental Review Procedures for Entities assuming the U.S. Department of Housing and Urban Development [HUD] Environmental Responsibilities), and as the recipient of Community Development Block Grant-Disaster Recovery (CDBG-DR) funds for the design and construction of the proposed project, OMB has assumed the environmental review responsibilities which would otherwise apply to HUD. As such, OMB is the HUD-designated responsible entity and has assumed Lead Agency status under NEPA. The environmental review process provides decision-makers with the necessary information to systematically consider the proposed project's potential adverse environmental effects. This includes evaluating the potential adverse environmental effects from reasonable alternatives, and identifying and mitigating, where practicable, the effects identified as part of this process. The City evaluated and reviewed the proposed alternatives' conceptual design against the purpose and need and principal objectives for the project, including providing a reliable flood protection system for the protected area, improving access to and enhancing open space resources along the waterfront, and meeting HUD funding deadlines for federal spending, along with the goal to minimize potential adverse environmental effects and disruptions to the community. The Flood Protection System with a Raised East River Park Alternative best meets the principal objectives for the project and therefore was selected as the Preferred Alternative. The proposed project is subject to two land use ULURP actions, for the acquisition of real property by the City in the form of easements, and a zoning text amendment related to the City's waterfront zoning regulations. A future City map change action is also needed for the reconstruction of the two pedestrian bridges and will be prepared once final design and implementation are completed to record grade and treatment line adjustments, if needed.

A number of minor enhancements have been proposed in the design of the Preferred Alternative. This Technical Memorandum examines whether these modifications would result in any new or different significant adverse environmental impacts not already identified in the FEIS. As described in greater detail below, this Technical Memorandum concludes that the modified

Preferred Alternative would not result in any new significant adverse effects not already identified in the FEIS.

PROPOSED PROJECT AREA

As presented in the FEIS, the proposed project area is comprised of two sub areas:

- Project Area One extends from Montgomery Street on the south to the north end of East River Park at about East 13th Street. Project Area One and consists primarily of East River Park, the Franklin Delano Roosevelt East River Drive (FDR Drive) right-of-way, and a portion of Pier 42 and Corlears Hook Park. The majority of Project Area One is within East River Park and includes four existing pedestrian bridges across the FDR Drive to East River Park (the Corlears Hook, Delancey Street, East 6th Street, and East 10th Street Bridges) and the East Houston Street overpass.
- Project Area Two extends north and east from Project Area One, from East 13th Street to East 25th Street. In addition to the FDR Drive right-of-way, Project Area Two includes the Con Edison Complex, Captain Patrick J. Brown Walk, Murphy Brothers Playground, Stuyvesant Cove Park, Asser Levy Recreation Center and Playground, the Veterans Affairs (VA) Medical Center, and in-street segments along East 20th Street, East 25th Street, and along and under the FDR Drive.

B. DESCRIPTION OF THE PREFERRED ALTERNATIVE MODIFICATIONS

INTRODUCTION

The modified Preferred Alternative includes a revised construction phasing plan, the reconfiguration of the Stuyvesant Cove parking lot under the elevated FDR Drive, conservative operational procedures for closure of the drainage isolation gates (i.e., the interceptor gates and regulator M-39 gate), and a number of project enhancements including flood proofing the Fireboat House and reconstructing the bulkhead and support structures beneath this section of the waterfront esplanade, reconstructing a canopy structure at the proposed East River Park amphitheater, adding a comfort station at the redesigned Murphy Brothers Playground, elevating the area south of the amphitheater, and revising the esplanade structural support design at the existing and proposed embayments.¹ These project modifications are described in further detail below in Sections D through G of this Technical Memorandum. Separate from the Preferred Alternative modifications, the Pier 42 deck is anticipated to be repaired to provide new interim recreational space (i.e., a synthetic turf field and potentially other sports fields and seating). The Pier 42 deck repair and improvements project is being led by the New York City Economic Development Corporation (EDC), is subject to its own separate review and approval process.

The modified Preferred Alternative will also include a revised zoning text amendment to modify NYC Zoning Resolution Section 62-59, “Special Regulations for Zoning Lots That Include Parks” (see **Attachment A**), consisting of minor revisions that do not change the requirements of the

¹ Since the release of the FEIS, the 2015 East Side Coastal Resiliency Project Coastal Hydraulics Report, which was referenced in the FEIS, was updated to reflect the revised alignment of the tidal flood protection system during the progression from conceptual to final design (completed October 2019). This update did not affect the analyses presented in the FEIS.

zoning text. The zoning text amendment would apply to the Stuyvesant Cove Park segment of the project area.

REVISED CONSTRUCTION PHASING PLAN

A preliminary construction schedule was developed for the EIS to determine the potential construction phasing and timing for project components under each of the project alternatives. These construction schedules served as the basis of the technical analyses presented in the EIS to identify the range of potential environmental effects anticipated during construction of the proposed project. As presented in the FEIS, construction under the Preferred Alternative would take place over a 3.5-year construction period with completion of the flood protection system and open space improvements in 2023 with the completion of the flyover bridge in 2025.

Subsequent to the FEIS, the City identified a phased construction approach in Project Area One for the Preferred Alternative where portions of East River Park would be kept open throughout the construction period to partially mitigate significant adverse construction effects on open space resources. As with the construction schedule presented in the FEIS, activities under the revised construction phasing plan would commence in March 2020 and the flood protection system would be in place by the hurricane season of 2023. Although access and open space improvements for the entire project area would not be completed until 2025 under the revised construction phasing plan, unlike the previous construction plan, a substantial part of East River Park would always be available for public use during the construction period. **Figures 1 through 6** illustrate how construction activities within East River Park would be phased over the 5-year construction period and identify the resources within East River Park that would be available to the public during that time.

Under the revised construction phasing plan, early construction package activities would be initiated with tree transplanting and creating interim recreation space in the southern section of East River Park during the spring and summer of 2020. During this period, the majority of East River Park, including all existing open space facilities, would remain open. Construction in the park would then commence in the fall of 2020 continuing through spring 2023 in approximately half of East River Park (see **Figures 1 and 2**), with closures to Ballfields No. 1 and 2, water play area, track and field complex, track house, Ballfields No. 5 and 6, and Ballfields No. 7 and 8. Access to the open portions of the park during this time would be maintained via Montgomery Street under the East River Drive (after construction activities for the Pier 42 upland project are completed in 2022), Corlears Hook Bridge², Delancey Street Bridge, East 10th Street, and the north end of East River Park. Resources within East River Park that would be closed from summer of 2023 to the fall/winter of 2025 (see **Figures 3, 4, and 5**) would include the amphitheater, multi-use turf, passive lawn and basketball/volleyball courts south of the Williamsburg Bridge, tennis courts, tennis house, dance circle, Ballfields No. 3 and 4, East 10th Street playground, East 10th Street comfort station, and the barbeque area and basketball courts in the northern end of East River Park. Access to the open portions of the park during this time would be maintained via Montgomery Street, Corlears Hook Bridge, Houston Street overpass, and East 6th Street Bridge. **Table 1**

² Corlears Hook Bridge would be temporarily closed for a portion of this construction phase for reconstruction. During this time, an interim bridge may be used to provide access to East River Park at this location.

summarizes the availability of resources within East River Park and their anticipated closures during the 5-year construction period under the revised construction phasing plan.

Unlike the previous construction plan where the entire esplanade closed for the 3.5-year construction duration, only the portions of the esplanade that are closest to the work activities would be closed during the construction period under the revised construction phasing plan (see **Figures 1 through 5**). As with the previous construction plan, direct north-south routes (i.e., East River Greenway or the esplanade) along the entirety of East River Park during construction cannot be maintained under the revised construction phasing plan. However, there would be limited pedestrian and bicyclist circulation at the portions of the park that would be open during construction. As described by the FEIS, Corlears Hook ferry service will remain in operation throughout the construction period under the revised construction phasing plan and access will continue to be maintained via Corlears Hook Bridge and/or Montgomery Street.

Subsequent to the FEIS, the City has also identified a phased construction approach in Project Area Two for the Preferred Alternative with less overlapping of activities among open space resources: construction activities at open space resources in Project Area Two would occur over an approximately 4-year period under the revised construction phasing plan compared to the approximately 3-year period identified in the previous construction plan presented in the FEIS. However, the flood protection system would still be in place by the hurricane season of 2023 under the revised construction phasing plan. **Table 2** summarizes the anticipated construction schedules for Asser Levy Playground, Stuyvesant Cove Park, and Murphy Brothers Playground presented in the FEIS and under the revised construction phasing plan. As with the FEIS, Stuyvesant Cove ferry service will be in operation throughout the construction period under the revised construction phasing plan and access will continue to be maintained.

Table 1
Availability of East River Park Resources during Construction

East River Park Resource ¹	Anticipated Start of Construction	Anticipated Re-Opening	Duration of Closure
Ballfield No. 1	Fall 2020	Summer 2023	27–30 months
Ballfield No. 2	Fall 2020	Summer 2023	27–30 months
Water Play [Existing] / Nature Exploration and Water Play [Planned]	Fall 2020	Summer 2023	27–30 months
Multi-Use Turf	Fall 2020	Summer 2023	27–30 months
Ballfield No. 5	Fall 2020	Summer 2023	27–30 months
Ballfield No. 6	Fall 2020	Summer 2023	27–30 months
Track and Field Complex	Fall 2020	Summer 2023	27–30 months
Track House	Fall 2020	Summer 2023	27–30 months
Ballfield No. 7	Fall 2020	Summer 2023	27–30 months
Ballfield No. 8 [Combined with Ballfield No.7 in future condition]	Fall 2020	Summer 2023	27–30 months
Amphitheater	Summer 2023	Fall/Winter 2025	27–30 months
Passive Lawn [Existing – south of Williamsburg Bridge] / Passive Lawn [Planned – north of Williamsburg Bridge]	Summer 2023	Fall/Winter 2025	27–30 months
Basketball/Volleyball Courts [Existing] / Basketball Courts [Planned]	Summer 2023	Fall/Winter 2025	27–30 months
Tennis Courts	Summer 2023	Fall/Winter 2025	27–30 months
Tennis House	Summer 2023	Fall/Winter 2025	27–30 months
Dance Circle [Existing; located west of Fields No. 3 and 4] / Passive Lawn [Planned; located east of Fields No. 3 and 4]	Summer 2023	Fall/Winter 2025	27–30 months
Ballfield No. 3	Summer 2023	Fall/Winter 2025	27–30 months
Ballfield No. 4	Summer 2023	Fall/Winter 2025	27–30 months
10th Street Playground	Summer 2023	Fall/Winter 2025	27–30 months
10th Street Comfort Station	Summer 2023	Fall/Winter 2025	27–30 months
Barbeque Area (North)	Summer 2023	Fall/Winter 2025	27–30 months
Basketball Courts (North)	Summer 2023	Fall/Winter 2025	27–30 months
Barbeque Area (South) [New]	NA	-	-

Note:
¹ Unlike the previous construction plan where the esplanade and the East River Greenway would be closed for the entire 3.5-year duration, the closures of the esplanade and East River Greenway would be phased under the revised construction phasing plan; for a majority of the 5-year construction period, only the portion that is closest to the active work areas would be closed to facilitate construction. (see **Figures 1 through 5**).

Table 2
Preliminary Construction Schedules
Project Area Two

Open Space Resource	Anticipated Construction Start	Anticipated Construction End	Duration of Closure
Previous Construction Plan			
Asser Levy Playground	Summer 2021	Spring 2023	18–21 months
Stuyvesant Cove Park	Summer 2020	Spring 2022	23 months
Murphy Brothers Playground	Fall 2021	Winter (4th quarter) 2022	18 months
Revised Construction Phasing Plan			
Asser Levy Playground	Summer 2020	Fall 2021	18–21 months
Stuyvesant Cove Park	Fall 2021	Summer 2023 ¹	23 months
Murphy Brothers Playground	Fall 2022	Winter (1st quarter) 2024 ¹	18 months

Note:
¹ The flood protection system would be in place by the hurricane season of 2023.

CONSTRUCTION TECHNIQUES AND PRACTICES

The construction methods under the revised construction phasing plan would be similar to those discussed in the FEIS. For example, construction activities would involve earthwork (excavation and grading); drilling shafts; installation of piles, foundations, and piers; installation, replacement, and relocation of water and sewer infrastructure; paving and pouring of concrete; fabrication and installation of steel gates; flood-proofing; and installation of park facilities. Upon completion of construction activities, site restoration and decommissioning activities would commence, including final grading, installation of erosion control or slope stabilization measures, as needed, removing barriers, seeding and planting, and replacement or reinstallation of fences and other temporarily removed obstructions. All work would be performed in accordance with applicable methods and standards approved by NYC Parks for parks in its jurisdiction and construction near street trees. Any required temporary lane and road closures would be coordinated with the New York City Department of Transportation (NYCDOT) to ensure compliance with applicable restrictions and employment of proper methods. Temporary construction access agreements at a number of properties would also be required to allow site access during construction.

As with the previous construction plan presented in the FEIS, construction activities under the revised construction phasing plan would involve the use of numerous types of equipment and vehicles. As applicable to each phase of construction, earthwork would necessitate the use of excavators, loaders, dump trucks, bulldozers, graders, and vacuum trucks. Cranes, vibratory or impact pile drivers, hydraulic press-in hammers, concrete mixers, and concrete pumps would support installation of project components. Delivery trucks would be utilized throughout the construction period to support a variety of construction activities. Barges are also expected to be used for delivery and removal of materials, and flaggers would assist with traffic control at entry and exit points and as necessary, the loading and unloading of barges. The sources of clean soil or fill materials to be used anywhere on the project site would be determined by the construction contractors, with review and approval by New York City Department of Environmental Protection (DEP) and/or New York State Department of Environmental Conservation (NYSDEC), and are dictated by a number of factors that include composition, certification of suitability of intended use, quality, availability, cost, and the proximity of the soil/clean fill provider's loading site to the project area.

New York City laws and regulations allow construction activities between 7:00 AM and 6:00 PM on weekdays. As with the previous construction plan, to account for potential weather delays and/or other possible construction delays and to meet the project construction schedule as determined by the City it is assumed that additional evening, overnight and Saturday construction would be required for project implementation under the revised construction phasing plan. All necessary work permits would be obtained for work outside of the permissible construction hours.

There is one existing vehicular access/egress location to East River Park at Montgomery Street and the FDR on-ramp. This location would serve as the access/egress point to East River Park for construction vehicles as well as emergency and NYC Parks maintenance vehicles during construction in Project Area One. As with the previous construction plan, a potential temporary construction truck access/egress point via the northbound FDR Drive off-ramp/on-ramp near East Houston Street may also be established.

All safety requirements would be followed, and construction activities under the revised construction phasing plan would be conducted with care to minimize the disruption to the community. In addition, the New York City Department of Design and Construction (DDC) is committed to safe construction sites. The contractor would be required to develop a Construction Health and Safety Plan (CHASP) prior to initiating construction. This plan would guide all

contractor activities to ensure emergency plans are in place in the event of emergency conditions, including a storm event. In the event of a storm, the contractor would be required to safely secure all construction equipment and contain any fill that is stockpiled on site using applicable Best Management Practices (BMPs), including impervious surface covers or temporary seeding for any fill that would be held on site for extended periods of time. These measures would reduce erosion or runoff potential to the community or East River in the event of a storm and would provide dust control in dry weather. Furthermore, since a portion of East River Park would always be accessible under the revised construction phasing plan, additional measures (e.g., fencing, safety signs, flaggers, etc.) would be implemented to ensure the safety of the users of East River Park during construction.

As with the FEIS, the modified Preferred Alternative would have a robust community outreach plan. A team of Community Construction Liaisons (CCLs) would be available from pre-construction through the completion of the modified Preferred Alternative to serve as contacts for the community and local leaders, and would be available to address concerns or problems that may arise during construction. The CCLs would maintain direct communication with the construction project managers and would be able to quickly troubleshoot and respond to construction-related inquiries. The CCLs would keep the communities informed during the entire construction period and send out email advisories and notifications, weekly construction bulletins, newsletters, and other forms of information through the Neighborhood Network Notification (NNN) list. The CCLs would also attend meetings held by District Service Cabinet, Community Boards, Elected Officials and other types of community meetings as necessary. Furthermore, subsequent to the release of the FEIS, the City has established a Community Advisory Group (CAG) composed of local stakeholders who will provide community input on the proposed project throughout the final design process and during construction.

RECONFIGURATION OF THE STUYVESANT COVE PARKING LOT

The Stuyvesant Cove parking lot under the elevated FDR Drive between approximately East 18th and East 23rd Streets is City owned and operated by the New York City Economic Development Corporation (EDC). This parking lot is anticipated to be used as a staging area to facilitate construction activities at the adjacent Stuyvesant Cove Park. Once construction is complete, the parking lot is proposed to be reconfigured to enhance pedestrian access to the waterfront and to accommodate the flood protection system alignment near East 23rd Street.

The parking lot reconfiguration, which is anticipated to be implemented after the reconstruction of Stuyvesant Cove Park is complete in 2023, is expected to be complete by 2025. The proposed improvements include: realigning the crosswalk at Avenue C and Avenue C Loop; relocating the south lot entrance at East 20th Street to midblock between East 18th Street and East 20th Street for the monthly parking area; creating a new pedestrian plaza at East 20th Street; and reconfiguring the north lot entrance/exit just south of East 23rd Street to accommodate expanded daily parking as well as realigning the East River Greenway to minimize traffic conflicts at this location (see **Figures 7 and 8**).

The proposed pedestrian plaza at East 20th Street would allow for improved waterfront access from East 20th Street while preserving the view corridor and improved internal vehicle circulation.

For the area south of the intersection of East 23rd Street and Avenue C, south of the BP Gas Station, the reconfiguration of the north lot entrance/exit would eliminate the potential conflict between bicyclists and pedestrians. Currently, the egress from the BP Gas Station runs parallel to Stuyvesant Cove Park for approximately 100 feet before turning underneath the elevated FDR

Drive. The proposed reconfiguration at this location would reroute the egress from the gas station to a portion underneath the elevated FDR Drive where there is currently no parking. Access would be maintained to the BP gas station during construction.

DEPLOYMENT PROCEDURES FOR DRAINAGE COMPONENTS

As stated in the FEIS, the interceptor gates and regulator M-39 isolation gate would be designed to allow for operational flexibility during design storm events to control flow from the upstream areas into the drainage protected area, from the Water and Sewer Infrastructure study area as defined in the FEIS, according to a protocol established by a pre-approved operations and maintenance plan. Subsequent to the FEIS, operational procedures for closure of the drainage isolation gates on a more conservative timeline have been discussed as an option to ensure protection of the drainage protected area from storm surge inundation through the sewer system. These timelines consider closures in advance of rainfall and/or storm surge arrival, as determined necessary by DEP and per the operations and maintenance manual.

PROJECT ENHANCEMENTS

Since the release of the FEIS, additional elements have been incorporated into the proposed project based on input from the community, elected officials, and permitting agencies. These enhancements include:

- **Flood proofing the Fireboat House and Reconstructing the Esplanade.** This includes provisions to flood proof the Fireboat House, harden key elements on the ground floor, relocate the mechanical, electrical, and plumbing (MEP) systems in the building, and reconstruct the esplanade deck, bulkhead, and support structures. Additionally, repairs to the Fireboat House to address water penetration in the hose tower would be completed as well as repainting work and leak repairs on all facades. In keeping with proposed project's goals as a model of long-term resiliency and climate-change adaptation, all improvements and systems upgrades of the Fireboat House would comply with the City's sustainable Local Laws (LL06, LL31, and LL32) as applicable to the Fireboat House component of the project. The flood proofing of the Fireboat House would be completed by the Preferred Alternative's build year of 2025.
- **Reconstructing a canopy structure at the proposed East River amphitheater.** As with the existing amphitheater, which has a canopy structure over the stage, a canopy structure would be built over the stage of the proposed East River amphitheater for the Preferred Alternative under the modified project. The reconstruction of the amphitheater would be completed by the Preferred Alternative's build year of 2025.
- **Adding a comfort station at the redesigned Murphy Brothers Playground.** A comfort station would be added at the redesigned Murphy Brothers Playground for the Preferred Alternative under the modified project. The construction of the comfort station would be completed within the construction timeline of the Murphy Brothers Playground, which is anticipated to be completed by 2024 under the revised construction phasing plan.
- **Elevating the area south of the amphitheater.** The area south of the amphitheater would be elevated for the Preferred Alternative under the modified project to make this area more resilient. This work would be completed within the construction timeline for East River Park, which is anticipated to be completed by the Preferred Alternative's build year of 2025.

- **Revising the esplanade structural support design at the existing and proposed embayments.** Subsequent to the FEIS, a new design that lessens effects on jurisdictional waters was identified for the esplanade structural supports at the existing embayments, as well as at the north and south edges of the proposed embayments that uses a pile-supported structure instead of the use of bulk fill material. This work would be completed within the construction timeline for East River Park, which is anticipated to be completed by the Preferred Alternative’s build year of 2025.

C. NEW YORK CITY’S WATERFRONT REVITALIZATION PROGRAM (WRP)

The potential effects of the revised construction phasing plan, the reconfiguration of the Stuyvesant Cove parking lot, and the deployment procedures for drainage components under the modified Preferred Alternative are discussed in Sections D through F of this Technical Memorandum, respectively. The section examines whether the modified Preferred Alternative would affect the conclusions identified in the FEIS for the applicable WRP policies.

LAND USE, ZONING, AND PUBLIC POLICY

The proposed project is located in the Coastal Zone as designated by New York State and New York City, and is therefore subject to City and State coastal management policies aimed at protecting resources in the coastal zone. As such, an analysis of the proposed project’s compliance with New York City’s Waterfront Revitalization Program (WRP) was completed on March 27, 2019 date (WRP #15-067), which concluded that the proposed project would not substantially hinder the achievement of any WRP policy. The modified Preferred Alternative as described above would not affect this conclusion and would likewise be consistent with applicable WRP policies.

D. ENVIRONMENTAL EFFECTS OF REVISED CONSTRUCTION PHASING PLAN FOR THE MODIFIED PREFERRED ALTERNATIVE

This section examines whether the revised construction phasing plan would result in any new or different significant adverse environmental impacts not already identified in the FEIS.

Since the revised construction phasing plan for the Preferred Alternative would not affect operational condition, the conclusions of the FEIS with respect to the technical areas under the operational condition would not be affected. An assessment of the technical areas under the construction condition that could be affected by the modified Preferred Alternative—socioeconomic conditions, open space, historic and cultural resources, urban design, natural resources, hazardous materials, water and sewer infrastructure, energy, transportation, air quality, greenhouse gas, noise and vibration, and public health—is provided below.

Overall, while the revised construction phasing plan for the Preferred Alternative would result in different overlapping of construction activities (completion of the flood protection system in 2023 with the completion of open space improvements and the flyover bridge in 2025) as compared to the previous construction plan presented in the FEIS (completion of the flood protection system and open space improvements in 2023 with the completion of the flyover bridge in 2025), each individual construction task under the revised construction phasing plan would be comparable to that for the Preferred Alternative. The revised construction phasing plan would have less overlap between construction activities and fewer simultaneous construction work areas, and would allow

for significant portions of the park to remain available to the public during that time. Therefore, as presented below, the temporary disruption to the surrounding community would generally be less under the revised construction phasing plan as compared to the previous construction plan presented in the FEIS.

SOCIOECONOMICS

Neither the previous construction plan presented in the FEIS nor the revised construction phasing plan would result in significant adverse effects on socioeconomics during construction. Since East River Park would not be entirely closed under the revised construction phasing plan, the operators of two pushcarts within East River Park may be accommodated within East River Park during project construction. NYC Parks will work with the tennis pro concessionaire regarding accommodation options during the time period in which the tennis courts will be under construction. The economic benefits—including construction-related jobs, wages and salaries, and the total economic output of construction—under the revised construction phasing plan would be similar to those estimated in the FEIS, although the total project cost could increase incrementally for additional temporary measures that may be required for the phased construction approach.

OPEN SPACE

This section assesses the potential for temporary significant adverse effects on publicly accessible open space resources under the revised construction phasing plan. The analysis considers the direct and indirect effects of construction using the same methodology as those used in the FEIS, taking into account the revised construction phasing plan. As discussed above, since a portion of East River Park would always be accessible under the revised construction phasing plan, additional measures (e.g., fencing, safety signs, flaggers, etc.) would be implemented to ensure the safety of the users of East River Park during construction.

METHODOLOGY

Direct Effects

The analysis within the FEIS disclosed the availability of other open space resources within close proximity to the unavailable resources that would provide similar recreational opportunities to the public. As described in the FEIS, there are comparable resources of similar type and quality available for public use within the ½-mile study area with the exception of shared-use pathways or grilling areas outside of East River Park. This affects the 20–64 age range user group and families and users of all ages. The revised construction phasing schedule for the modified Preferred Alternative lessens this direct effect of the Preferred Alternative by reducing the duration of displacement of these park facilities.

Indirect Effects

The potential direct and indirect effects under the revised construction phasing plan are assessed for each analysis year (2020–2025) of the proposed five-year construction period. As analyzed in the FEIS, the open space study area is based on a ½-mile distance from the boundaries of Project Areas One and Two. A detailed description of open space resources in the study area is provided in Chapter 5.3, “Open Space,” of the FEIS. As described in Chapter 5.3, “Open Space,” of the FEIS, 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), equating to an overall open space ratio of approximately 0.55 acres per 1,000 residents (0.20 passive and 0.35 passive). 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.

The open spaces temporarily displaced for construction are described in detail within FEIS Chapter 6.2, “Construction—Open Space.” That section of the FEIS includes a description of open space facilities within East River Park, Murphy Brothers Playground and Captain Patrick J. Brown Walk, Stuyvesant Cove Park, and Asser Levy Playground and the comparable nearby open space resource(s) with similar facilities that would be available to the public during the temporary displacement of those resources. The construction phasing during which the recreational facilities within East River Park, Murphy Brothers Playground and Captain Patrick J. Brown Walk, Stuyvesant Cove Park, and Asser Levy Playground would be available and unavailable to the public under the revised construction phasing plan is described below.

ENVIRONMENTAL EFFECTS

No Action Alternative

Direct Effects

The approved NYC Parks Pier 42 project³, which is separate from the proposed Pier 42 deck repair and improvements project, is anticipated to be complete by 2022 (this project was assumed to be complete by 2021 in the FEIS) and will introduce approximately 2.93 acres of new passive open space.

As stated in the FEIS, EDC’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.

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 2022 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 of the FEIS and **Table 3**, below).

Table 3
No Action Alternative: 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	86.65	54.46	32.19
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 2022 analysis year; EDC’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.			

³ As described in the FEIS, NYC Parks is separately constructing Pier 42 as a public waterfront open space, increasing the accessible open space within the study area. Phase 1A of the Pier 42 Project included the demolition of the pier shed. Phase 1B of the Pier 42 Project would include the redevelopment of the upland park with amenities such as an entry garden, 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.

Indirect Effects

The open space ratios for the No Action Alternative were calculated for each analysis year, accounting for the planned open spaces and new residents from planned projects. The open space ratios in **Table 4** were calculated by dividing the existing and projected open space acreages within the ½-mile study area from **Table 3** by the combined residential population and projected residential population anticipated to be generated from projected developments in the study area. The open space ratios under existing conditions and the No Action Alternative are used as the baseline condition for the indirect effects analysis for the modified Preferred Alternative.

As shown in **Table 4**, during each analysis year total open space ratios will continue to be below the Citywide Community District median ratio of 1.5 acres per 1,000 residents.

Table 4
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	0.52	0.33	0.19
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

Modified Preferred Alternative

Direct Effect Analysis

With the modified Preferred Alternative, the revised construction phasing plan would allow for a reduction in the amount and duration of displaced open spaces. Therefore, there would not be new temporary significant adverse effects on open space during construction as analyzed in the FEIS.

The construction schedule for the Preferred Alternative was revised to allow for parts of East River Park to remain open throughout the construction period. **Table 1** summarizes the availability of resources within East River Park and their anticipated closures during the 5-year construction period under the revised construction phasing plan. Activities within the open space resources (East River Park, Stuyvesant Cove Park, Murphy Brothers Playground, Asser Levy Playground, and Captain Patrick J. Brown Walk) are anticipated to range in duration from approximately 1 to 2.5 years with periods of overlapping activities when work on multiple open space resources would occur concurrently during a particular year.

For the purposes of the construction open space analysis, the information provided in **Table 5** was developed based on the revised construction phasing schedule and information on existing open spaces as detailed in the FEIS in order to evaluate the temporary displacement of open space resources for each analysis year over the 5-year construction period.

Table 5
Construction Open Space Direct Effects Analysis
The Preferred Alternative: Summary Table

Analysis Year (Summer of)	Unavailable Open Space Resource/Amenity ^{1,2}	Approximate Displaced Open Space (Acres)
2020	Asser Levy Playground	0.77
2021	Asser Levy Playground and East River Park (Field No. 1 and 2; Existing Water Play Area; Existing Passive Lawn south of the Williamsburg Bridge; Field No. 5 and 6; Track and Field Complex; Track House; Field No. 7 and 8; and the North Basketball Courts)	24
2022	Stuyvesant Cove Park and East River Park (Field No. 1 and 2; Existing Water Play Area; Existing Passive Lawn south of the Williamsburg Bridge; Field No. 5 and 6; Track and Field Complex; Track House; Field No. 7 and 8; and the North Basketball Courts)	25
2023	Murphy Brothers Playground, Stuyvesant Cove Park, and East River Park (Amphitheater; Basketball/Volleyball Courts; Tennis Courts; Tennis House; Field No. 3 and 4; 10th Street Playground; 10th Street Comfort Station; and the North BBQ Area)	21
2024	Murphy Brothers Playground and East River Park (Amphitheater; Multi-use turf; Basketball/Volleyball Courts; Tennis Courts; Tennis House; Field No. 3 and 4; 10th Street Playground; 10th Street Comfort Station; and the North BBQ Area)	19
2025	East River Park (Amphitheater; Multi-use turf; Basketball/Volleyball Courts; Tennis Courts; Tennis House; Field No. 3 and 4; 10th Street Playground; 10th Street Comfort Station; and the North BBQ Area)	18
Notes:		
¹ The open space resources or facilities within the Project Areas that are engaged in construction activities and therefore temporarily unavailable to the public (see Figures 1 through 6).		
² As a conservative estimate, if a resource or amenity is unavailable for all or a portion of the summer, it has been included in the displaced open space acreage.		

A description of the open space resources that would be available to the public prior to the start of construction and newly reconstructed open space resources that would be available to the public once construction is complete, are described below and for Project Area One are illustrated in **Figures 1 through 6**. A description of unavailable and available open space resources is also captured in the indirect effects analysis below.

Summer of 2020

The FEIS indicated that nearly half of the open space resource acreage in the study area, including almost all of East River Park would be unavailable during construction. However, for the modified Preferred Alternative. With the exception of Asser Levy Playground (approximately 0.77 acres) which would be closed for construction during summer 2020, it is anticipated that East River Park, Murphy Brothers Playground, Captain Patrick J. Brown Walk, and Stuyvesant Cove Park would remain open to the public as construction work at these locations would not start until after the summer of 2020. As with the construction plan presented in the FEIS, it is anticipated that construction activities around the Asser Levy outdoor pool would take place during the off-season of the pools (mid-September to early June) and not affect the operational season of the pools. The displacement of approximately 0.77 acres is not anticipated to result in temporary significant adverse direct effects during the summer of 2020.

Summer of 2021

It is anticipated that Asser Levy Playground would remain unavailable to the public (approximately 0.77 acres) during the summer of 2021. However, as with the construction plan presented in the FEIS, it is anticipated that construction activities around the Asser Levy outdoor pool would take place during the off-season of the pools (mid-September to early June) and not

affect the operational season of the pools. Within East River Park, the following facilities would be unavailable to the public: Field No. 1 and 2; Existing Water Play Area; Existing Passive Lawn south of the Williamsburg Bridge; Field No. 5 and 6; Track and Field Complex; Track House; Field No. 7 and 8; and the North Basketball Courts. Due to the temporary displacement of approximately 24 acres (inclusive of 0.77 acres of Asser Levy Playground), there is the potential for temporary significant adverse direct effects during the summer of 2021.

Summer of 2022

It is anticipated that Stuyvesant Cove Park (approximately 1.90 acres) would be unavailable to the public in the summer of 2022. Within East River Park, the following facilities would be unavailable to the public: Field No. 1 and 2; Existing Water Play Area; Existing Passive Lawn south of the Williamsburg Bridge; Field No. 5 and 6; Track and Field Complex; Track House; Field No. 7 and 8; and the North Basketball Courts. By the summer of 2022, the Pier 42 project will introduce approximately 2.93 acres of passive space to the study area. Asser Levy Playground is anticipated to be reopened by the summer of 2022 and would introduce 0.77 acre of reconstructed open space resources to the public. The temporary displacement of approximately 25 acres, would result in the potential for temporary significant adverse direct effects to open space during the summer of 2022.

As with the FEIS, construction on the flyover bridge is assumed to commence during this analysis year under the revised construction phasing plan. Therefore, temporary displacement of Captain Patrick J. Brown Walk would occur. However, this displacement (approximately 1 acre) is minimal compared to the overall temporary displacement of open space resources during this analysis year.

Summer of 2023

Construction activities would result in Murphy Brothers Playground (approximately 1.27 acres) and Stuyvesant Cove Park (approximately 1.90 acres) being closed to the public during the summer of 2023. Within East River Park, the following facilities would be unavailable to the public: Amphitheater; Multi-Use Turf; Basketball/Volleyball Courts; Tennis Courts; Tennis House; Field No. 3 and 4; East 10th Street Playground; East 10th Street Comfort Station; and the North BBQ Area. The following facilities within East River Park are anticipated to be reopened and would introduce reconstructed open space resources to the public: Field No. 1 and 2; Nature Exploration and Water Play Area; Passive Lawn north of Williamsburg Bridge; Field No. 5 and 6; Track and Field Complex; Track House; and Field No. 7. The temporary displacement of approximately 21 acres, would result in the potential for temporary significant adverse direct effects to open space during the summer of 2023.

Summer of 2024

Construction activities would result in Murphy Brothers Playground (approximately 1.27 acres) being closed to the public during the summer of 2024. Within East River Park, the following facilities would be unavailable to the public: Amphitheater; Multi-Use Turf; Basketball/Volleyball Courts; Tennis Courts; Tennis House; Field No. 3 and 4; East 10th Street Playground; East 10th Street Comfort Station; and the North BBQ Area. The waterfront esplanade from East Houston Street to Field No. 7 and Stuyvesant Cove Park are anticipated to be reopened and would introduce reconstructed open space resources to the public. The temporary displacement of approximately 19 acres would result in the potential for temporary significant adverse effects to open space during the summer of 2024.

Summer of 2025

Construction activities would result in the following facilities in East River Park unavailable to the public: Amphitheater; Multi-Use Turf; Basketball/Volleyball Courts; Tennis Courts; Tennis House; Field No. 3 and 4; East 10th Street Playground; East 10th Street Comfort Station; and the North BBQ Area. The waterfront esplanade from the Amphitheater to the Passive Lawn south of the Williamsburg Bridge and Murphy Brothers Playground are anticipated to be reopened and would introduce reconstructed open space resources to the public. The temporary displacement of approximately 18 acres would result in the potential for temporary significant adverse effects to open space during the summer of 2025.

By the fall/winter of 2025, construction would be complete. 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 modified Preferred Alternative would result in temporary significant adverse direct effects on open space from the fall of 2020 to the winter of 2025 during the construction period. However, these effects have been substantially reduced from the Preferred Alternative analyzed in the FEIS as nearly half of East River Park would remain open from fall of 2020 through winter of 2025. Although the modified Preferred Alternative extends the temporary significant adverse effects on the availability of open space identified in the FEIS to 2024 and 2025, a majority of construction activities under the modified project would start in the fall of 2020 instead of the spring of 2020, such that these temporary significant adverse open space effects would be extended for approximately 1.5 years in portions of the park. Under the modified Preferred Alternative, the significant effects would also be lessened because approximately 19 to 25 acres of open space in East River Park between the fall of 2020 and winter of 2025 would remain available for public use while under the Preferred Alternative presented in the FEIS, the entire park would be closed while construction was ongoing. Therefore, over the course of construction, there will be greater availability of active and passive open space available to the public under the modified project. The on- and off-site measures proposed in the FEIS to mitigate the effect to the greatest extent practicable would still be implemented by the City.

Although there is the potential for temporary significant adverse effects on open space during construction for the 2021 to 2025 analysis years under the revised construction phasing plan, once completed, the modified Preferred Alternative would have a positive direct effect on East River Park, Stuyvesant Cove Park, Murphy Brothers Playground, and Asser Levy Playground as it would provide the public with refurbished and improved open spaces. The modified Preferred Alternative would result in reconstructed open space resources with upgraded facilities and improved connectivity that would ultimately enhance the user experience of these open space resources.

Construction Air Quality and Noise and Vibration

The potential air quality and noise effects on open spaces that would remain accessible during construction are described in detail in the Air Quality and Noise and Vibration sections below.

Indirect Effects Analysis

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 focuses on the quantification of displaced open space discussed in the direct effects analysis above. 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 modified Preferred Alternative from the No Action Alternative. The indirect effects analysis is summarized in **Table 6**.

Table 6
Construction Open Space Indirect Effects Analysis
The Preferred Alternative: Summary Table

Analysis Year (Summer of)	No Action Open Space Ratio (Acres/1,000)	Construction Open Space Ratio (Acres/1,000)	Percent Change	Significant Adverse Effect
Alternative 4				
2020	0.54	0.54	-0.89%	No
2021	0.52	0.38	-27.88%	Yes
2022	0.53	0.38	-28.23%	Yes
2023	0.55	0.42	-23.11%	Yes
2024	0.53	0.42	-20.99%	Yes
2025	0.52	0.42	-19.30%	Yes
Note: The revised construction phasing plan improves the availability of open spaces substantially compared to the previous construction schedule presented in the FEIS as the modified Preferred Alternative eliminates the temporary significant adverse direct and indirect effects during the spring and summer of 2020. The modified Preferred Alternative also reduces the temporary significant adverse direct and indirect effects construction has on open space availability by nearly half from fall of 2020 through 2023.				

The FEIS indicated a significant adverse indirect effect for the 2020 to 2023 analysis years since the park was to be fully closed. However, as shown in **Table 6**, with the proposed modifications, there are no significant adverse indirect effects for the summer of 2020 (or the spring of 2020 during early construction package activities). As the revised construction phasing plan would also reduce open space ratios over 5 percent from the fall of 2020 (when activities at East River Park is anticipated to begin) to 2025, with a maximum of 28.23 percent in 2022, the modified Preferred Alternative, like the previous construction plan presented in the FEIS, would result in potential temporary significant adverse indirect effects on open space resources within the study area. However, the Modified Preferred Alternative with the revised construction phasing plan substantially improves the availability of open spaces as compared to the construction schedule presented in the FEIS as the modified Preferred Alternative eliminates the temporary significant adverse direct and indirect effects during the spring and summer of 2020. The modified Preferred Alternative also reduces the temporary significant adverse direct and indirect effects construction has on open space availability by nearly half from fall of 2020 through 2023. The modified Preferred Alternative extends the temporary significant adverse effects on the availability of open space identified in the FEIS to 2024 and 2025. However, with the majority of construction beginning in the fall of 2020 under the modified project instead of the spring of 2020, temporary significant adverse open space effects for a portion of the park would be extended for approximately 18 months.

The open space resources that are most at risk to experience the effects of increased demand are those that offer similar facilities to the resources in East River Park, Stuyvesant Cove Park, Murphy Brothers Playground, Asser Levy Playground, and Captain Patrick J. Brown Walk, that would be temporarily displaced by the construction of the modified Preferred Alternative. The revised construction phasing plan reduces the effects of the Preferred Alternative for the 15 to 19, 20 to 64, and 65 and over user groups that would be the most affected by the displacement of open space resources during construction of the modified Preferred Alternative.

MITIGATION OF EFFECTS

Subsequent to the FEIS, the City has identified a phased construction approach where portions of East River Park would be kept open throughout the construction period to partially mitigate significant adverse construction effects on open space resources. In addition, since the release of the FEIS, the City has also committed to the following:

- Installing amenities to activate the open space area in Waterside Pier, which may include synthetic turf, additional seating, and programming;
- Opening various Lower East Side (and broader Manhattan) New York City Department of Education (DOE) schoolyards and athletic fields to the public; and
- Reusing the recently installed turf at the Track and Field Complex in East River Park providing that the quality of the turf is in good condition when it is time for reconstruction.⁴

In addition, the mitigation measures outlined in the FEIS would remain commitments for the modified project. These commitments include the following:

- 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 the New York City Housing Authority (NYCHA), to identify recreational resources that may be opened to the community during construction;
- 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 Preferred Alternative;
 - 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, and Robert Moses Playground
 - Turf improvements at two sites: Columbus Park and 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, and 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;

⁴ Although not considered a mitigation measure for the proposed project, the Pier 42 deck is anticipated to be repaired with the creation of new interim recreational space in this area (i.e., a synthetic turf field and potentially other sports fields and seating). The Pier 42 deck repair and improvements project is subject to its own separate review and approval process.

East Side Coastal Resiliency

- Install 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-stripped to formalize tennis area
 - Queensboro Oval (in Manhattan) will be opened to NYC Parks tennis permit holders as of the summer of 2019, and for even more time (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, as well as 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
- 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 with the FEIS, the following measures would be implemented to accommodate pedestrians and bicyclists at this area during construction under the revised construction phasing plan:

- During construction, the East River Greenway would be closed from East 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. 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 30 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 East 20th Street.

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, as with the FEIS, the modified Preferred Alternative would substantially improve

existing open space resources. All temporary displacement would be met with the refurbishment and re-construction of the displaced open space facilities. 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 construction, 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, as with the FEIS, the modified Preferred Alternative would be beneficial for the open space resources in East River Park, as park features would be enhanced 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

Consistent with the guidance in the 2014 *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, the result of implementing the Preferred Alternative would be refurbished open space resources. After construction, East River Park would be a newly landscaped and raised park with pathways, which would enhance the user experience of the park. 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 modified Preferred Alternative would be 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, as well as sea level rise. The flood protection measures proposed to be integrated into park features aim to reduce the effects from future storm events on the community. The modified 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 Preferred Alternative would be considered partial mitigation. By remedying a long-standing restriction/obstacle at the “pinch-point,” the modified Preferred 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

As with the FEIS, the modified 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.

As with the FEIS, the modified Preferred Alternative 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. Consistent with guidance 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 usability and access to the greenway would be substantially improved.

HISTORIC AND CULTURAL RESOURCES

ARCHAEOLOGICAL RESOURCES

The revised construction phasing plan for the Preferred Alternative would not affect the conclusions of the FEIS regarding archaeological resources. In accordance with the FEIS commitments, additional archaeological investigation will be performed in accordance with Section 106 regulations, based on a scope of work reviewed and approved by the New York City Landmarks Preservation Commission (LPC) and the New York State Historic Preservation Office (SHPO); this archaeological investigation would include pre-construction testing and/or monitoring during project construction performed in accordance with the *Secretary of the Interior's Standards and Guidelines for Archaeology*, the Advisory Council on Historic Preservation's (ACHP) *Section 106 Archaeological Guidance*, and the New York Archaeological Council's *Standards for Cultural Resource Investigations and Curation of Archaeological Collections*. The scope of work for additional archaeology would include the following: a sampling strategy that will select specific areas of the Area of Potential Effect (APE) to be further investigated; identification of those areas that are believed to be most sensitive for recovering landfill retaining structures across the overall APE; a description of the basis for the proposed sampling design, including a tabulation of the various archaeological contexts within the APE and a quantification of the sample fraction for each context; and an unanticipated discoveries protocol. If significant archaeological resources are identified during testing and/or monitoring, further archaeology and/or mitigation would be completed in accordance with Section 106 regulations and consistent with the guidelines in the *CEQR Technical Manual*. In written communications dated April and May 2016, representatives of the Delaware Nation, Delaware Tribe of Indians, and Stockbridge-Munsee Community Band of Mohicans requested, in the case of an unanticipated discovery of an archaeological site or artifacts, that work be halted until the tribe is notified and the artifact can be evaluated by an archaeologist. The additional archaeological investigation is stipulated in a Programmatic Agreement (PA) that is being prepared; a draft PA was included in Appendix E of the FEIS. The PA will be executed among OMB, SHPO, and ACHP, and also signed by five consulting parties: NYC Parks, LPC, the Municipal Art Society, the Lower East Side Preservation Initiative (LESPI), and the New York Landmarks Conservancy.

ARCHITECTURAL RESOURCES

The revised construction phasing plan for the Preferred Alternative would not affect the conclusions of the FEIS regarding architectural resources and the addition of the flood proofing measures to the Fireboat House will be integrated to the Programmatic Agreement being prepared for the Preferred Alternative (see below). As described in the FEIS and as stipulated in the PA, construction affecting the FDR Drive would be coordinated with NYCDOT to ensure that it is protected during construction of the Preferred Alternative.

As described in the FEIS, construction of the Preferred Alternative and/or the drainage management components would occur within 90 feet of the following architectural resources: the FDR Drive (#1, S/NR-eligible); Williamsburg Bridge (#2, S/NR-eligible); East River Bulkhead (#3, S/NR-eligible); Engine Co. 66 Fireboat House (#4, S/NR-eligible); Gouverneur Hospital (#5, S/NR); Gouverneur Hospital Dispensary (#6, S/NR-eligible); a portion of the Vladeck Houses within the Lower East Side Historic District (#7, S/NR); a portion of the Baruch Houses (#9,

S/NR-eligible); Asser Levy Public Baths (#12, S/NR, NYCL); a portion of the East River Housing Cooperative (#13, S/NR-eligible); a portion of the Jacob Riis Houses (#15, S/NR-eligible); a portion of Stuyvesant Town (#16, S/NR-eligible); and a portion of Peter Cooper Village (#17, S/NR-eligible). Therefore, as stipulated in the PA, the City, in consultation with LPC and SHPO, would develop and implement Construction Protection Plans (CPPs) for these architectural resources to avoid inadvertent construction-period damage from ground-borne vibrations, falling debris, collapse, dewatering, subsidence, or construction equipment. The CPPs would also be developed in consultation with NYC Parks, the Municipal Art Society, LESPI, and the New York Landmarks Conservancy.

URBAN DESIGN AND VISUAL RESOURCES

Neither the previous construction plan presented in the FEIS nor the revised construction phasing plan would result in significant adverse effects on urban design and visual resources during construction. Construction areas would be fenced off to keep the public out of the working areas. These closed and fenced construction areas would obstruct views from the FDR Drive and upland neighborhood towards the East River. Therefore, construction of the Preferred Alternative under either construction phasing plan could detract from the experience of pedestrians in the vicinity and would have temporary adverse visual effects. In addition, under the revised construction phasing plan, the public would have access to open spaces resources within East River Park during construction and their experience of the park would also be temporarily affected during construction.

NATURAL RESOURCES

The modified Preferred Alternative would result in similar effects to natural resources during construction as compared to those presented in the FEIS. As described in the FEIS, construction of the Preferred Alternative would be performed in accordance with all applicable rules and regulations from Federal, State, and City agencies.

As described above in the project modifications, the previous construction plan proposed that the esplanade would be closed for the entire 3.5-year duration. The modified Preferred Alternative proposes that the esplanade would only be fully closed for one year, from the fall of 2022 to the summer of 2023, under the revised construction phasing. At other times during the construction period, the portion of the esplanade that is closest to the work activities would be closed to facilitate construction. Barging activities would continue throughout the duration of the project construction, extending from 3.5 years to 5 years. However, the total volume of fill and other materials anticipated to be barged to the site is not anticipated to change, resulting in the same approximate total number of barges. The potential for temporary adverse effects to NYSDEC unvegetated littoral zone tidal wetlands and United States Army Corps of Engineers (USACE) Waters of the United States, surface water resources, benthic resources, essential fish habitat (EFH), and threatened and endangered species remains the same. Turbidity curtains, water-tight cofferdams, and debris nets would be used as applicable to minimize the potential for these effects and would be mitigated for in accordance with NYSDEC and USACE permit conditions. Cofferdams would not be installed in areas shallower than six meters between January 15 and May 31 to avoid adversely affecting winter flounder early life stage EFH in compliance with consultations completed with the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA NMFS). The number of tree removals proposed in the FEIS would remain the same under the modified Preferred Alternative and restitution would be provided 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.

HAZARDOUS MATERIALS

As with the previous construction plan presented in the FEIS, activities under the revised construction phasing plan would have the potential to disturb subsurface hazardous materials in existing structures and the subsurface, as it would involve demolition and excavation activities. However, with the implementation of appropriate measures governing the construction (such as air monitoring, proper storage and handling of materials, and, if required, odor suppression), the potential for significant adverse effects related to hazardous materials would be avoided. As presented in the FEIS, the measures to be included as part of the construction specifications would include a Materials Handling Plan, a Community Air Monitoring Plan (CAMP), a Mitigation Work Plan (MWP), a Remedial Action Plan (RAP), a CHASP, and Site Management Plans (SMPs).

WATER AND SEWER INFRASTRUCTURE

The modification to the construction phasing plan for the Preferred Alternative is not anticipated to affect the conclusions of water and sewer infrastructure analysis in the FEIS. As described in the FEIS, construction of water and sewer infrastructure associated with the Preferred Alternative would be performed in accordance with all methods and standards approved by NYSDEC, DEP, DDC, and other appropriate regulatory agencies and procedures. Prior to excavation, interferences with existing water and sewer infrastructure would be identified. Existing water and sewer infrastructure would be protected, supported, and maintained in place throughout the duration of work. Water mains and sewers will be replaced, where required, per DEP and DDC standards. All construction activity associated with drainage isolation, drainage management, infrastructure reconstruction, or relocation/replacement of existing water and sewer infrastructure would be undertaken without affecting the conveyance of flow through the water or combined sewer system. Therefore, no disruption to existing water or sewer services is anticipated, and no adverse impacts to water or sewer infrastructure would occur.

ENERGY

Both the construction plan presented in the FEIS and the revised construction phasing plan would involve excavation, pile driving, and other potentially disruptive construction activities in proximity to existing energy transmission and generation infrastructure. In order to avoid damage to or disruption of the transmission lines during the construction, measures would be taken to minimize vibration, to carefully control excavation around existing infrastructure, and to manage the placement of fill and soil stockpiles. With the implementation of these measures, consistent with the conclusion presented in the FEIS, there would not be the potential to result in significant adverse energy effects under the revised construction phasing plan.

TRANSPORTATION

The FEIS concluded that the Preferred Alternative would have the potential to result in significant adverse traffic effects at the intersections of East 23rd Street and First Avenue and East 23rd Street and Avenue C during the 6:00 to 7:00 AM construction analysis peak traffic hour, which could be fully mitigated with the implementation of standard traffic mitigation measures (e.g., signal timing changes). The FEIS also concluded that the Preferred Alternative could result in temporary significant adverse effects for users of the East River bikeway/walkway and that construction under the Preferred Alternative would not result in any significant adverse transit and parking effects.

As presented in the FEIS, construction of the Preferred Alternative was projected to be completed in 2023, with a 3.5-year construction schedule. As part of the Preferred Alternative, a full closure

of East River Park would take place for the entire 3.5-year construction schedule. With the revised construction phasing plan, the construction period would be extended from 3.5 years to 5 years in order to avoid a full closure of East River Park at any time throughout the entire construction period. This extended construction schedule would reduce the daily magnitude of construction workers and trucks during the peak quarter of construction, as compared to those presented in the FEIS. Based on the revised construction schedule and the levels of service (LOS) presented in the FEIS for the Preferred Alternative, an assessment was prepared below to show that the modified Preferred Alternative would not alter the findings presented in the FEIS. The extended construction schedule would not alter the conclusions presented in the FEIS for transit, pedestrian, and parking conditions, and therefore, additional assessments for these components are not warranted. From fall of 2020 to summer of 2023, access to East River Park would be maintained at Montgomery Street (after construction activities for the Pier 42 upland project are completed in 2022), the Corlears Hook Bridge (except when this bridge is being reconstructed during this phase of construction), the Delancey Street Bridge, the East 10th Street Bridge, and via the esplanade at the north end of East River Park, but closed at Montgomery Street, the East Houston Street overpass, and East 6th Street Bridge. From fall of 2023 through the fall/winter of 2025, access to the park would be maintained at Montgomery Street, the Corlears Hook Bridge, the East Houston Street overpass, and East 6th Street Bridge, but closed at Delancey Street Bridge, the East 10th Street Bridge, and via the esplanade the north end of East River Park. Although certain access points would be temporarily closed for a portion of the 5-year construction duration, access to East River Park would be maintained with at least three different locations at all times during the construction period. Closure of certain portions of the park during the various phases of construction is also anticipated to result in reduced park usage such that the temporary rerouting of pedestrian traffic is expected to be adequately dispersed to available access points and would not result in significant adverse pedestrian effects during construction.

TRAFFIC

As presented in the FEIS, the Preferred Alternative would generate approximately 250 workers per day and 147 trucks per day within Project Area One and 140 workers per day and 44 trucks per day within Project Area Two during the peak quarter of construction. Based on the revised construction phasing plan, it is expected that the Preferred Alternative would generate approximately 140 workers per day and 112 trucks per day within Project Area One and approximate 120 workers per day and 40 trucks per day within Project Area Two during the peak quarter of construction. Therefore, the Preferred Alternative under the revised construction phasing plan would generate approximately 110 fewer workers per day and 35 fewer trucks per day within Project Area One and 20 fewer workers per day and 4 fewer trucks per day within Project Area Two during the peak construction period compared to the Preferred Alternative.

In the FEIS, quantified traffic analyses were prepared at six intersections for the 6:00 to 7:00 AM peak hour and at one intersection for the 3:00 to 4:00 PM peak hour. Details on LOS, v/c ratios, and average delays from the FEIS are presented in **Table 7** as reference. As shown in the table and discussed above, significant adverse traffic effects were identified at the intersections of East 23rd Street and First Avenue and East 23rd Street and Avenue C during the weekday AM peak hour. As shown in **Table 8** which summarizes the LOS, v/c ratios, and average delays for the No Action, the Preferred Alternative, and Mitigation from the FEIS, these effects could be mitigated with the implementation of standard traffic mitigation measures (e.g., signal timing changes).

Table 7

FEIS No Action and the Preferred Alternative's Level of Service Analysis

Intersection	AM Peak Hour (6:00 AM to 7:00 AM)								PM Peak Hour (3:00 PM to 4:00 PM)							
	No Action				Preferred Alternative				No Action				Preferred Alternative			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
East 23rd Street and Second Avenue																
EB	TR	0.66	32.3	C	TR	0.68	33.2	C	Analysis not warranted during PM peak hour.							
WB	LT	0.72	36.3	D	LT	0.83	44.2	D								
SB	L	0.75	47.5	D	L	0.75	47.9	D								
	TR	0.60	12.6	B	TR	0.60	12.7	B								
	Intersection			C	Intersection			C								
East 23rd Street and First Avenue																
EB	L	0.64	55.8	E	L	0.64	55.8	E	Analysis not warranted during PM peak hour.							
	T	0.36	16.2	B	T	0.36	16.2	B								
WB	T	0.34	26.4	C	T	0.37	26.9	C								
	R	0.93	90.8	F	R	0.95	97.2	F+								
NB	L	0.80	71.4	E	L	0.82	74.9	E								
	TR	0.70	28.0	C	TR	0.70	28.2	C								
	Intersection			C	Intersection			C								
East 23rd Street and Avenue C																
EB (Mainline)	LTR	0.88	47.1	D	LTR	0.89	49.1	D	Analysis not warranted during PM peak hour.							
WB	LTR	0.08	14.1	B	LTR	0.10	14.2	B								
NB	LTR	0.43	18.9	B	LTR	0.43	18.9	B								
SB	LTR	1.02	77.5	E	LTR	1.05	86.0	F+								
EB (Service Road)	R	0.23	38.0	D	R	0.23	38.0	D								
	Intersection			D	Intersection			D								
East Broadway and Allen Street/Pike Street																
EB	LT	0.54	29.7	C	LT	0.55	29.9	C	Analysis not warranted during PM peak hour.							
	R	0.11	21.5	C	R	0.11	21.5	C								
WB	LTR	0.50	28.7	C	LTR	0.53	29.7	C								
NB	L	0.42	46.3	D	L	0.42	46.3	D								
	TR	0.26	18.2	B	TR	0.27	18.3	B								
SB	L	0.19	41.9	D	L	0.19	41.9	D								
	T	0.29	19.7	B	T	0.30	19.9	B								
	Intersection			C	Intersection			C								
South Street and Allen Street/Pike Street																
EB	L	0.32	11.1	B	L	0.32	11.2	B	Analysis not warranted during PM peak hour.							
	T	0.37	21.3	C	T	0.38	21.4	C								
WB	TR	0.57	25.8	C	TR	0.59	26.4	C								
SB	L	0.33	32.9	C	L	0.38	34.0	C								
	R	0.33	33.0	C	R	0.33	33.0	C								
	Intersection			C	Intersection			C								
South Street and Montgomery Street																
EB	LTR	0.19	10.9	B	LTR	0.22	11.1	B	LTR	0.27	11.6	B	LTR	0.28	11.6	B
WB	LTR	0.35	12.4	B	LTR	0.35	12.4	B	LTR	0.89	28.9	C	LTR	0.94	35.4	D
NB	LTR	0.06	20.0	B	LTR	0.10	20.6	C	LTR	0.04	19.8	B	LTR	0.05	19.8	B
SB	LTR	0.31	23.4	C	LTR	0.35	23.9	C	LTR	0.37	24.5	C	LTR	0.40	25.2	C
	Intersection			B	Intersection			B	Intersection			C	Intersection			C

Notes: L = Left Turn, T = Through, R = Right Turn, LOS = Level of Service, EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound, Int. = Intersection
+ Denotes a significant adverse traffic effect.

Table 8
Level of Service Analysis
FEIS Weekday AM Peak Hour – Preferred Alternative

Intersection	Weekday 6:00 AM to 7:00 AM											
	No Action Alternative				Preferred Alternative				Mitigation			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
East 23rd Street and First Avenue												
EB	L	0.64	55.8	E	L	0.64	55.8	E	L	0.64	55.8	E
	T	0.36	16.2	B	T	0.36	16.2	B	T	0.35	15.5	B
WB	T	0.34	26.4	C	T	0.37	26.9	C	T	0.36	26.0	C
	R	0.93	90.8	F	R	0.95	97.2	F+	R	0.89	81.5	F
NB	L	0.80	71.4	E	L	0.82	74.9	E	L	0.82	74.9	E
	TR	0.70	28.0	C	TR	0.70	28.2	C	TR	0.73	29.5	C
	Intersection			C	Intersection			C	Intersection			C
East 23rd Street and Avenue C												
EB (Mainline)	LTR	0.88	47.1	D	LTR	0.89	49.1	D	LTR	0.89	49.1	D
WB	LTR	0.08	14.1	B	LTR	0.10	14.2	B	LTR	0.10	14.8	B
NB	LTR	0.43	18.9	B	LTR	0.43	18.9	B	LTR	0.42	18.2	B
SB	LTR	1.02	77.5	E	LTR	1.05	86.0	F+	LTR	0.99	70.0	E
EB (Service Road)	R	0.23	38.0	D	R	0.23	38.0	D	R	0.25	39.7	D
	Intersection			D	Intersection			D	Intersection			D
Notes: L = Left Turn, T = Through, R = Right Turn, LOS = Level of Service, EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound, Int. = Intersection + Denotes a significant adverse traffic effect.												

Based on the FEIS Preferred Alternative analysis results presented above and the expected decrease in the daily magnitude of workers and trucks during the peak quarter of construction of approximately 110 fewer workers per day and 35 fewer trucks per day within Project Area One and 20 fewer workers per day and 4 fewer trucks per day within Project Area Two, it can be concluded that the Preferred Alternative under the revised construction phasing plan would result in equal or lesser delay and significant adverse traffic effects as compared to the FEIS. Therefore, the revised construction phasing plan under the modified Preferred Alternative would not alter the findings related to transportation during construction that were presented in the FEIS.

AIR QUALITY

The FEIS assessed the potential for significant air quality effects during construction from the proposed project, including the Preferred Alternative. The analyses included assessment of local pollutant concentrations for comparison to ambient air quality standards (microscale analysis) and an assessment of annual regional emissions for comparison to federal *de minimis* criteria defined in the general conformity regulations. The FEIS concluded that construction of the either alternative would not result in any predicted concentrations above the applicable National Ambient Air Quality Standards (NAAQS) or *de minimis* thresholds. Annual emissions from nonroad and on-road sources would also not exceed any of the *de minimis* criteria. Therefore, no significant adverse air quality impacts were predicted, and the Preferred Alternative would conform to the relevant State Implementation Plan (SIP).

While the revised construction phasing plan for the Preferred Alternative would result in different overlapping of construction activities (completion of the flood protection system in 2023 with the completion of open space improvements and the flyover bridge in 2025) as compared to the previous construction plan presented in the FEIS (completion of the flood protection system and open space improvements in 2023 with the completion of the flyover bridge in 2025), each

individual construction task under the revised construction phasing plan would be comparable to that for the Preferred Alternative. The revised construction phasing plan would result in less overlap between construction activities and fewer simultaneous construction work areas and may result in construction occurring in a different sequence than that assumed in the Preferred Alternative. Therefore, in any given short-term or annual periods, the reduced overlap of activities would result in peak emission intensities similar to or less than that assumed in the Preferred Alternative. Consequently, short-term and long-term concentrations at nearby receptors are not anticipated to exceed those concentrations predicted under the Preferred Alternative presented in the FEIS.

Under the revised construction plan, open spaces within East River Park would remain open during construction and would have the potential to experience elevated levels of air pollutant concentrations during construction. The construction air quality analysis for the Preferred Alternative presented in the FEIS assumed such spaces would not be open, and therefore did not consider these open spaces as potential receptors. However, the air quality analysis presented in the FEIS predicted potential concentrations for receptors at Corlears Hook Park and the ferry landing approach at Stuyvesant Cove Park, which were assumed to remain open and are immediately adjacent to construction work areas. Therefore, concentrations at open space receptors within East River Park under the revised construction phasing plan are anticipated to be similar to the concentrations for receptors at Corlears Hook Park and the ferry landing approach at Stuyvesant Cove Park from the quantitative analysis conducted for the FEIS (see **Table 9**), which were predicted to be well below the applicable thresholds.

Table 9
Pollutant Concentrations from Construction Site Sources ($\mu\text{g}/\text{m}^3$)
Preferred Alternative

Pollutant	Averaging Period	Maximum Predicted Increment	Background Concentration	Maximum Predicted Total Concentration	De Minimis Criteria ¹	NAAQS
<i>Corlears Hook Park Receptors</i>						
PM _{2.5}	24-hour	1.20	20.7	-	7.2	35
	Annual	0.16	-	-	0.3	15
PM ₁₀	24-hour	4.13	44	48.1	-	150
NO ₂	Annual	6.2	38.9	45.1	-	100
CO	1-hour	0.4	2.3	2.7	-	35 ppm
	8-hour	0.1	1.5	1.6	-	9 ppm
<i>Stuyvesant Park Cove Receptors</i>						
PM _{2.5}	24-hour	2.9	20.7	-	7.2	35
	Annual	0.29	-	-	0.3	15
PM ₁₀	24-hour	8.0	44	52.0	-	150
NO ₂	Annual	15.0	38.9	53.9	-	100
CO	1-hour	1.4	2.3	3.7	-	35 ppm
	8-hour	0.2	1.5	1.7	-	9 ppm
Notes:						
PM _{2.5} concentration increments are compared to the <i>de minimis</i> criteria. Increments of all other pollutants are compared with the NAAQS to evaluate the magnitude of the increments. Comparison to the NAAQS is based on total concentrations.						
¹ PM _{2.5} <i>de minimis</i> criteria is defined as 24-hour average not to exceed more than half the difference between the background concentration and the 24-hour NAAQS; annual average not to exceed more than 0.3 $\mu\text{g}/\text{m}^3$ at discrete receptor locations.						

Consequently, since short-term and long-term construction intensities are anticipated to decrease due to less overlap of activities, pollutant concentrations at nearby receptors, including locations within East River Park, are anticipated to be similar to or less than those predicted in the FEIS. Therefore, no significant adverse air quality effects are predicted under the revised construction phasing plan, and the Preferred Alternative would remain in conforming to the relevant SIP.

GREENHOUSE GAS

While the revised construction phasing plan for the Preferred Alternative would result in different overlapping of construction activities (completion of the flood protection system in 2023 with the completion of open space improvements and the flyover bridge in 2025) as compared to the previous construction plan presented in the FEIS (completion of the flood protection system and open space improvements in 2023 with the completion of the flyover bridge in 2025), each individual construction task under the revised construction phasing plan would be comparable to that for the Preferred Alternative. The revised construction phasing plan would result in less overlap between construction activities and fewer simultaneous construction work areas. However, since the duration and emissions intensity of each individual construction task under the revised construction plan would be comparable to that under the construction schedule assumed in the FEIS, the total greenhouse gas emissions are anticipated to be similar to those predicted in the FEIS. Accordingly, as with the FEIS, the revised construction plan would not result in significant adverse effects to greenhouse gases during construction.

NOISE AND VIBRATION

The construction noise analysis presented in the FEIS found that the Preferred Alternative under the previous construction plan would result in significant adverse noise effects at 621 Water Street, 605 Water Street, 309 Avenue C Loop, 315-321 Avenue C, 620 East 20th Street, 601 East 20th Street, 8 Peter Cooper Road, 7 Peter Cooper Road, 530 East 23rd Street, 765 Franklin Delano Roosevelt East River Drive (FDR Drive), 819 FDR Drive, 911 FDR Drive, 1023 FDR Drive, 1115 FDR Drive, 1141 FDR Drive, 1223 FDR Drive, 570 Grand Street, 455 FDR Drive, 71 Jackson Street, 367 FDR Drive, 645 Water Street, 322 FDR Drive, 525 FDR Drive, 555 FDR Drive, 60 Baruch Drive, 132 Avenue D, 465 East 10th Street, 520 East 23rd Street, 123 Mangin Street, and the Asser Levy Recreation Center. The predicted significant adverse construction noise effects would be of limited duration and would be up to the mid-80s dBA during daytime construction and up to the mid-70s dBA during nighttime construction.

The predicted noise impacts at each receptor resulted primarily from construction adjacent to the receptor. The revised construction phasing plan would result in less overlap between construction activities and fewer simultaneous construction work areas as compared to that assumed in the FEIS for the Preferred Alternative and may therefore result in construction occurring in a different sequence than that assumed in the FEIS. However, the duration of each individual construction task would be similar under the phased construction schedule as compared to that under the schedule assumed in the FEIS. Consequently, the revised construction phasing plan would not result in a longer duration of construction at any individual receptor. The revised construction phasing plan would also not result in a greater intensity of construction than that assumed in the FEIS. Therefore, for the receptors considered in the FEIS construction noise analysis for the Preferred Alternative, the revised construction phasing plan would not have the potential to result in additional effects beyond those identified in the FEIS, nor would it have the potential to result in effects of a greater intensity or duration than those identified in the FEIS.

Under the revised construction phasing plan, open spaces that would remain open during construction (see **Table 1**) would have the potential to experience elevated levels of noise during construction. Construction noise was not considered at these open spaces in the FEIS construction noise analysis, which assumed such spaces would not be open to the public. Construction noise at these spaces would be similar to what was predicted in the FEIS for Corlears Hook Park. Consequently, it is expected that at the open spaces that remain accessible, construction under the revised construction phasing plan would 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 is underway at the nearest distance. 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). However, noise levels in these areas also exceed CEQR recommended values for existing and No Action conditions. At these receptors noise level increases exceeding the CEQR construction noise screening thresholds are predicted to affect recreational open spaces during construction work hours for up to two years of construction. At each receptor location in the park, the construction activity that would produce the highest noise levels would be pile installation and grading, which are proposed in phases throughout the duration of construction. These activities are the dominant source of construction noise such that other construction activities do not contribute substantially to the maximum noise levels, and the proposed change in construction phasing would not result in different maximum noise levels, or extended periods of occurrence for the maximum levels resulting from the cumulative noise of multiple construction activities. Therefore, the maximum noise levels predicted by the construction noise analysis would not persist at a single receptor location throughout the entire construction period. Activities other than pile installation and grading work would result in lower construction noise levels but may still result in exceedances of CEQR construction noise screening thresholds at some times. However, these activities would generate noise levels that are substantially lower than the maximum levels during pile installation. While the noise from construction would be noticeable, the duration of construction noise at any given area of open space would fluctuate. The most intensive noise levels would be greatest at open space facilities that remain open and accessible closest to the construction activity. At other open space facilities farther from construction work areas, noise levels would be lower. Because the recommended threshold for open space is already exceeded in the existing condition, the temporary nature of the construction activities and the relocation of the most intense noise sources throughout the construction period and the expected levels of construction noise at open space would not occur continuously at a single receptor location; construction noise under the revised construction phasing plan at these receptors would not result in a significant adverse effect.

Since the revised construction phasing plan would not affect the amount or intensity of vibration-producing construction activities, vibration resulting from construction would be the same as that predicted in the FEIS for the Preferred Alternative.

ENVIRONMENTAL JUSTICE

As with the unphased construction plan presented in the FEIS, the phased construction plan under the modified Preferred Alternative would not result in any disproportionately high and adverse effects on minority or low-income communities for any of the analyzed alternatives. As described earlier in this technical memorandum, the modified Preferred Alternative would allow a substantial portion of East River Park to remain open and available to the community throughout project construction. A majority of construction activities under the modified project would start in

the fall of 2020 instead of the spring of 2020, such that construction activities would be extended for approximately 1.5 years in portions of the park. However, under the modified Preferred Alternative, the effects to East River Park would be lessened because approximately half the open space in East River Park between the fall of 2020 and winter of 2025 would remain available for public use while under the Preferred Alternative, the entire park would be closed while construction was ongoing. In addition, as described above, NYC Parks is implementing an extensive mitigation plan to enhance availability and usability of multiple open space resources in the community that currently uses the park resources within the project area. Moreover, as with the previous construction plan, the end result of the modified Preferred Alternative would be reconstructed open space resources with upgraded facilities and improved connectivity that would ultimately enhance the user experience of these open space resources. Residents in the project area, including minority and low-income populations, would benefit from the proposed coastal flood protection. Therefore, as with the FEIS, the modified Preferred Alternative would not result in adverse effects with respect to environmental justice.

PUBLIC HEALTH

As with the construction plan presented in the FEIS, the Preferred Alternative under the revised construction phasing plan would not result in unmitigated significant adverse effects in air quality, water quality, or hazardous materials, but could potentially result in unmitigated significant adverse construction-period noise effects at receptors in the vicinity of the construction work areas. As discussed above under Noise and Vibration, the revised construction phasing plan would not have the potential to result in additional effects beyond those identified in the FEIS, nor would it have the potential to result in effects of a greater intensity or duration than those identified in the FEIS. Therefore, as with the construction plan presented in the FEIS, construction of the Preferred Alternative would not result in a significant adverse public health effect.

E. ENVIRONMENTAL EFFECTS OF STUYVESANT COVE PARKING LOT RECONFIGURATION FOR THE MODIFIED PREFERRED ALTERNATIVE

An assessment of the technical areas—urban design and visual resources and transportation under the operational conditions—that could be affected by the reconfiguration of Stuyvesant Cove parking lot under the modified Preferred Alternative is provided below.

URBAN DESIGN AND VISUAL RESOURCES (OPERATIONAL)

Under the FDR Drive between East 18th and East 20th Streets, the modified Preferred Alternative would create a pedestrian plaza and optimized parking lot. Improving the existing parking lot in this location adjacent to Stuyvesant Cove Park would improve the pedestrian experience, resulting in a beneficial urban design effect. Further, the reconstructed canopy, comfort station, and pedestrian plaza would not alter waterfront views or result in adverse visual effects.

TRANSPORTATION (OPERATIONAL)

As discussed in the FEIS, there is an existing Stuyvesant Cove parking lot underneath the FDR Drive (from East 18th Street to East 23rd Street) owned by the City and operated by EDC, with access/egress at the intersection of East 20th Street and Avenue C. Currently, access/egress is permitted from all directions, with no turn restrictions into or out of the parking lot. As part of the

modified Preferred Alternative, this parking lot would be reconfigured and the entrance/exit would be moved to the north, approximately 150 feet south of East 23rd Street. As part of the relocation, access/egress to the parking lot would be limited to/from Avenue C in the northbound direction, and vehicles currently entering/exiting from East 20th Street and Avenue C in the southbound direction would be diverted to surrounding corridors. The existing hourly traffic volumes into and out of the parking lot at the intersection of East 20th Street and Avenue C are low, with fewer than 15 cumulative vehicles per hour. Since the number of diverted vehicles in a peak hour are below 50 vehicle trips, which is the *CEQR Technical Manual* minimum threshold warranting further traffic analysis, it is anticipated that the relocation of the entrance/exit would not result in any significant adverse traffic effects.

The parking lot reconfiguration would remove approximately 40 existing parking spaces within the Stuyvesant Cove parking lot. The FEIS concluded that the Preferred Alternative would not result in a parking shortfall or significant adverse parking effects within Project Area Two since there are 3,652 off-street parking spaces within ¼-mile of that Project Area with a daytime occupancy of 75 percent, leaving 915 spaces available. This available parking would easily accommodate the maximum construction worker parking demand of 52 spaces for Project Area Two, leaving 863 spaces available. The revised construction phasing plan would generate approximately 100 fewer workers per day, further lowering the maximum construction worker parking demand assessed in the FEIS. The loss of 40 off-street parking spaces within the Stuyvesant Cove parking lot would not result in a parking shortfall or significant adverse parking effects within Project Area Two, which was the same conclusion in the FEIS, since there would be 915 spaces available within ¼-mile of that Project Area. The loss of 40 off-street parking spaces would lower the available parking within ¼-mile of Project Area Two to 875 spaces.

F. ENVIRONMENTAL EFFECTS OF EMERGENCY RESPONSE PLAN PROCEDURES FOR DRAINAGE COMPONENTS

An assessment of the technical area—water and sewer infrastructure under the operational conditions—that could be affected by the conservative timeline for deployments as described in the modified Preferred Alternative is provided below.

WATER AND SEWER INFRASTRUCTURE (OPERATIONAL)

Before the arrival of the design storm and in accordance with a pre-approved operations and maintenance protocol, the interceptor gates and regulator M-39 isolation gate would be closed to isolate the drainage protected area from the Water and Sewer Infrastructure study area as defined in the FEIS. The interceptor gates would allow operational flexibility to manage the level of sewer service provided by the Manhattan Pump Station for areas upstream of the interceptor gates (i.e., outside of the protected area) via the smaller, secondary interceptor gates. Depending on the storm conditions and levels in the interceptor, the City may elect to close the secondary interceptor gates in advance of a storm surge to protect the drainage protected area from storm surge inundation through the sewer system.

Under this deployed condition, the hydraulic grade line (HGL) within the main interceptor to the north and the south of the drainage protected area would increase as the combined flow would no longer be conveyed to the Manhattan Pump Station. Since the main interceptor is fed by appurtenant branch interceptor pipes, the increased HGL within the main interceptor has the potential to result in increases in HGL within these branch interceptors and their upstream regulators, resulting in overflows through the combined sewer outfalls. If this occurs in advance

of rainfall, the overflows would be reported to DEC in accordance with the requirements of the Newtown Creek State Pollutant Discharge Elimination System (SPDES) permit.

G. ENVIRONMENTAL EFFECTS OF PROJECT ENHANCEMENTS

The proposed project enhancements (e.g., flood proofing the Fireboat House and replacing the esplanade and bulkhead, reconstructing a canopy structure at the East River Park amphitheater, adding a comfort station at the redesigned Murphy Brothers Playground, elevating the area south of the amphitheater within East River Park, revising the esplanade structural support design at the existing and proposed embayments) would be constructed within the proposed construction timelines for East River Park or Murphy Brothers Playground under the revised construction phasing plan and would involve minimal incremental construction activities beyond those identified for the flood protection system and open space improvements. Accordingly, the assessment below focuses on the technical areas—historic and cultural resources and urban design and visual resources under the operational conditions and natural resources under the construction and operational conditions—that could be affected by these proposed project enhancements in the modified Preferred Alternative.

HISTORIC AND CULTURAL RESOURCES

As described above, the City is proposing to protect the Engine Co. 66 Fireboat House (S/NR-eligible) against flooding. As part of the design analysis, four potential flood resilience measures alternatives were evaluated: wet flood proofing, dry flood proofing, wet flood proofing with the construction of an additional floor, and elevating the fireboat house. Elevating the building is not recommended because it would: likely result in a significant adverse effect (context) to the historic resource; present access challenges; risk damage to the masonry construction; and is not cost effective. Similarly, adding an additional floor to the fireboat house is not preferred, because it would result in a substantial alteration to the appearance of the historic resource and the requirements of the Americans with Disabilities Act (ADA) code compliance would could involve the need to construct an elevator, Dry flood proofing the fireboat house is also not a preferred option because it would involve constructing flood walls around the perimeter of the building, installing flood barriers at the building's doors and windows, sealing all infrastructure penetrations, reconstructing the ground and first floor slabs, and hardening of pipes. Compared to wet flood proofing, dry flood proofing would require a substantial effort in maintenance and operation with routine inspection of flood barriers and doors and the need to manually deploy the flood barriers prior to a flood. Dry flood proofing would also involve a substantial structural retrofit to the building. Therefore, the City's preferred flood resilience measure is wet flood proofing, which includes adding flood vents at the base of the building, hardening key elements on the ground floor, rehabilitating the deck and bulkhead to the front of the building, and relocating the MEP system. Wet flood proofing is the preferred option, because no flood door or flood barriers would be needed; it would have minimal structural retrofit and minimal deployment before flooding; it is the most cost effective of the options and would have the shortest design and construction duration; minimal routine maintenance would be needed; and there would be minimal exterior façade alterations to the historic resource compared to the other options. Wet flood proofing the fireboat house would involve physical interventions that could affect the appearance of the historic resource. Therefore, as stipulated in the Section 106 Programmatic Agreement, when the City identifies a feasible flood resilience measure, OMB, as the NEPA lead agency, will coordinate the design with SHPO and LPC so that it is compatible with the historic building, and the flood resilience measure will be undertaken in accordance with the Secretary of the Interior's

Standards for the Treatment of Historic Properties. OMB will submit the preliminary and pre-final design plans for the identified flood resilience measure to SHPO and LPC for review, as well as to the consulting parties.

URBAN DESIGN AND VISUAL RESOURCES

There are two elements of the modified Preferred Alternative that would affect the visual character of the Project Area and surrounding study area, but the effects would not be adverse, and the modified Preferred Alternative would not result in new adverse urban design effects. In addition, these new elements would not alter waterfront views or result in adverse visual effects.

The modified Preferred Alternative would reconstruct a canopy structure for the amphitheater stage as part of the proposed multi-use amphitheater lawn with stepped seating. It would be a low, arched structure composed of widely spaced ribs set directly in the ground surface, and it would have a roof covering. With its curved form, this canopy structure would reference the existing amphitheater bandshell and canopy, and it would be consistent with East River Park's character of a landscaped, recreational waterfront park with a performance venue. In addition, the reconstructed canopy would not block views of the river that are not currently blocked by the existing bandshell and canopy, and its open structural form and low profile would permit views through the structure from all angles.

In Project Area Two, the modified Preferred Alternative would include a comfort station as part of the redesigned Murphy Brothers Playground. The comfort station would be integrated into the redesign of the park and would be in keeping with public playgrounds throughout New York City, which generally have comfort stations.

NATURAL RESOURCES (OPERATION)

Two elements of the modified Preferred Alternative would affect wetland resources during the operational stage: (1) the rehabilitation required to the existing deck and platform near the Fireboat House; and (2) the revised esplanade support structure design for the existing and proposed embayments. Specifically, these elements would alter the permanent impacts to water resources as a result of placement of fill within NYSDEC Littoral Zone Wetlands and USACE Waters of the United States.

The Fireboat House foundation is currently pile supported, and inspection of the existing platform shows moderate to severe deterioration of the existing piles. To ensure the structural stability of the facility, rehabilitation of the supporting piles, deck, and bulkhead is proposed as follows:

- Removing and replacing select timber piles that exhibit advanced to severe deterioration from marine borer activity and rot and are nearing the end of their effective service lives.
- Encasing all timber elements in certain pile rows in concrete. Stay-in-place formwork would be placed between some adjacent pile rows and the area inshore of this formwork would be filled with lean concrete fill.
- Repairing non-bearing deck planks on certain pile rows as the timber deck planks exhibit advanced deterioration. This work would occur above tidal elevations and would not extend the deck seaward of the existing deck.

No effects to other natural resources beyond what was disclosed in the FEIS are anticipated.

The FEIS disclosed that operation of the Preferred Alternative would permanently affect 29,825 square feet (12,321 cubic yards) of wetlands. The final design completed after publication of the

FEIS uses a pile-supported structure instead of the use of bulk fill material for the proposed embayments, resulting in a significant reduction to area and fill impacts to jurisdictional waters. Therefore, although the rehabilitation of the deck and bulkhead work at the Fireboat House would result in an additional 291 cubic yards of permanent fill within tidal wetlands. However, the modified Preferred Alternative also includes these reductions in impact area and volume resulting in an overall reduction of permanent impact area and fill in jurisdictional waters from what was disclosed in the FEIS (see **Table 10**).

Table 10
Permanent Adverse Effects to Tidal Wetlands
under the Modified Preferred Alternative

Project Component	Adverse Effects (square feet)	Volume of Fill (cubic yards)
Flyover Bridge Shafts	260	1,008
Fill in Existing Northern Embayment	7,484	1,286
Fill in Existing Southern Embayment	5,042	960
Fill for New Pipe Piles at Existing Embayments	167	346
Fill for Riprap and EConcrete® Elements Seaward of Existing Bulkhead at Proposed Embayments	3,099	698
Fill for New Pipe Piles at Proposed Embayments	47	115
Fill for Fireboat House Deck and Bulkhead Rehabilitation	1,600	291
TOTAL	17,699	4,704

The modified Preferred Alternative reduces the area of effects to wetlands by 12,126 square feet and fill by 7,617 cubic yards, which would be addressed in accordance with all NYSDEC and USACE permit conditions and would conform with applicable regulations, including CWA, Section 10 of the Rivers and Harbors Act, ECL Article 25, NYCRR Part 661, and ECL Article 15, NYCRR Part 608. Mitigation would include in kind, on-site replacement of habitat as well as the purchase of credits from the Saw Mill Creek Wetland Mitigation Bank or the creation of new tidal wetland habitat off-site. EDC operates the Saw Mill Creek Wetland Mitigation Bank in Staten Island, NY, where credits may be purchased to mitigate adverse effects to tidal wetlands. As the proposed project is within the Primary Service Area for the mitigation bank, this option is being explored to fulfill the tidal wetland mitigation requirements. NYC Parks has also identified potential tidal wetland restoration sites. Selection and implementation of offsite tidal wetland mitigation will be coordinated with EDC, NYC Parks, and other involved agencies. It is anticipated that the design and construction of both the on-site and off-site tidal wetland mitigation would be completed by the proposed construction end date of 2025. As a result, no significant adverse impact to wetland resources is anticipated as a result of the modified Preferred Alternative.

NATURAL RESOURCES (CONSTRUCTION)

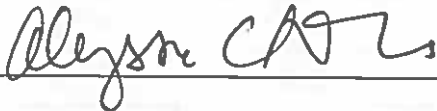
Construction to rehabilitate the decking and bulkhead near the Fireboat House would be similar to work that is anticipated along the bulkhead described in the FEIS. Although no pile driving is anticipated, the work associated with pile removal, replacement, and encasement below the Fireboat House deck has the potential to mobilize sediments and, as such, turbidity booms would be installed prior to commencing this work to minimize the potential for loosened sediments to disperse throughout the East River. These construction activities would increase the area that would be temporarily disturbed; however the use of engineering controls and BMPs such as turbidity booms will minimize the disturbance during construction and these areas would be anticipated to naturally restore to pre-construction conditions.

H. CUMULATIVE EFFECTS OF PROJECT MODIFICATIONS

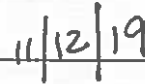
The cumulative effects of the project modifications described in Sections D through G of this Technical Memorandum would be minimal and would not have the potential to result in any adverse effects, either individually or cumulatively.

I. CONCLUSION

This Technical Memorandum concludes that the modified Preferred Alternative would not result in any new or different significant adverse effects not already identified in the FEIS.

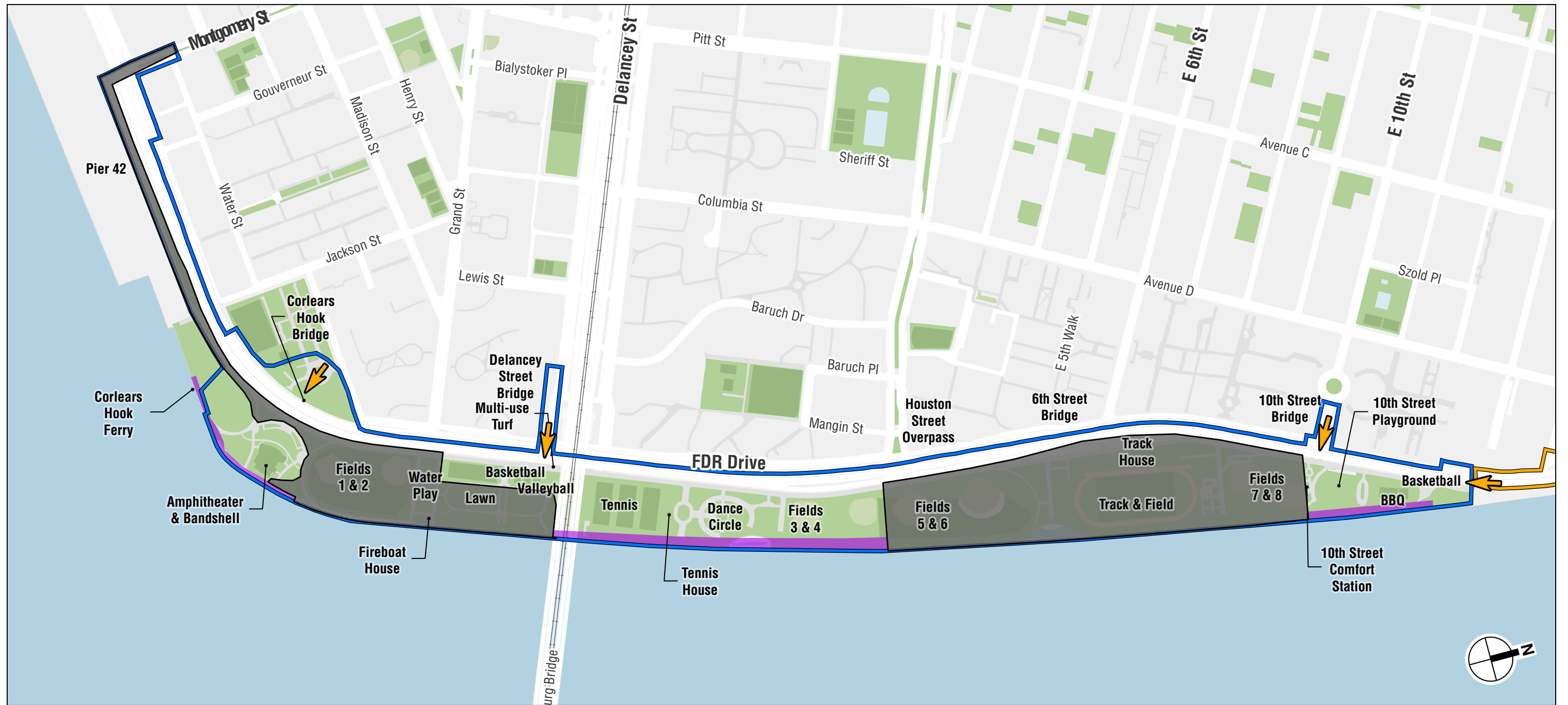


Alyssa Cobb Konon
Deputy Commissioner for Planning and Development
City of New York/NYC Parks



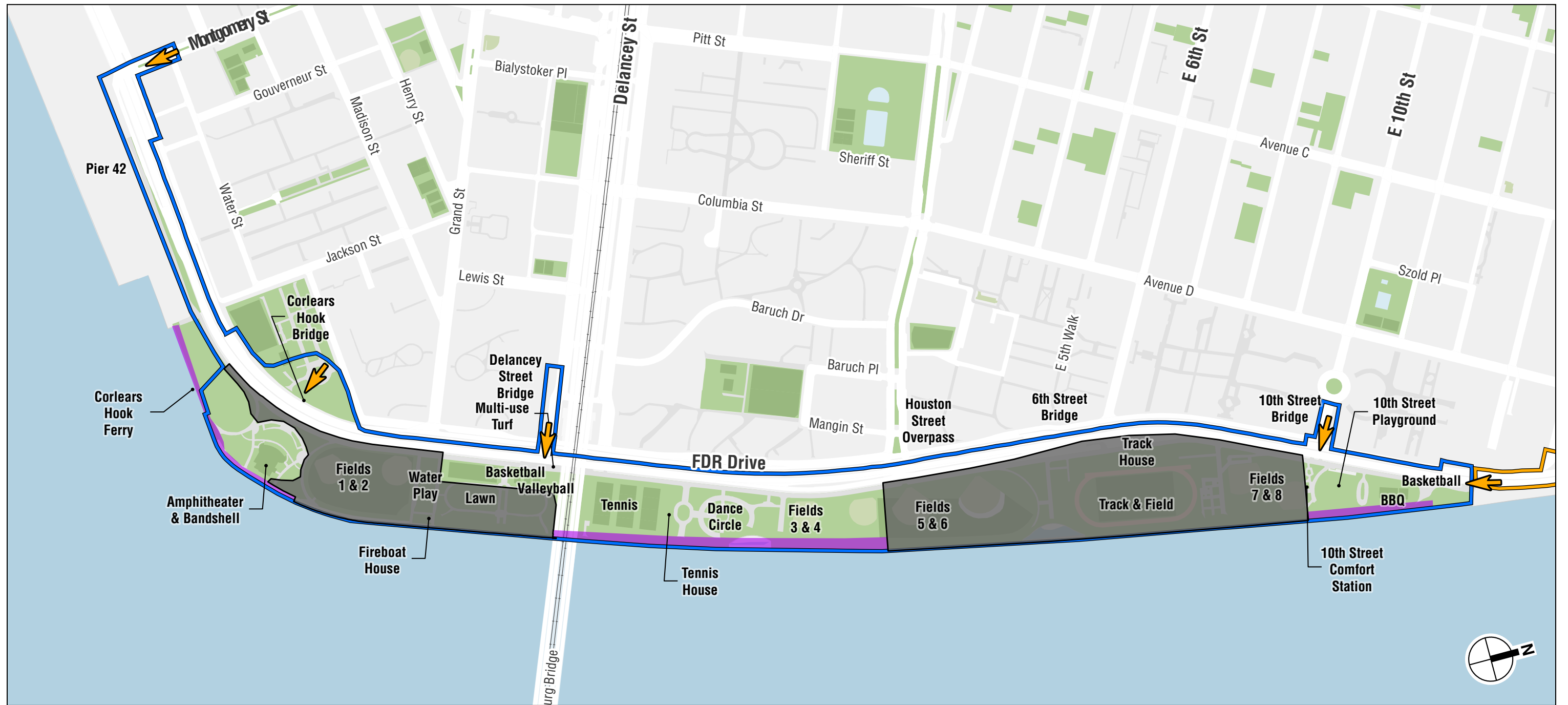
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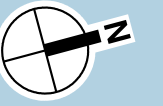
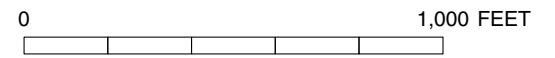


- Project Area One
- Esplanade Open to the Public
- Project Area Two
- ➔ Public Access to East River Park
- Closed Portions

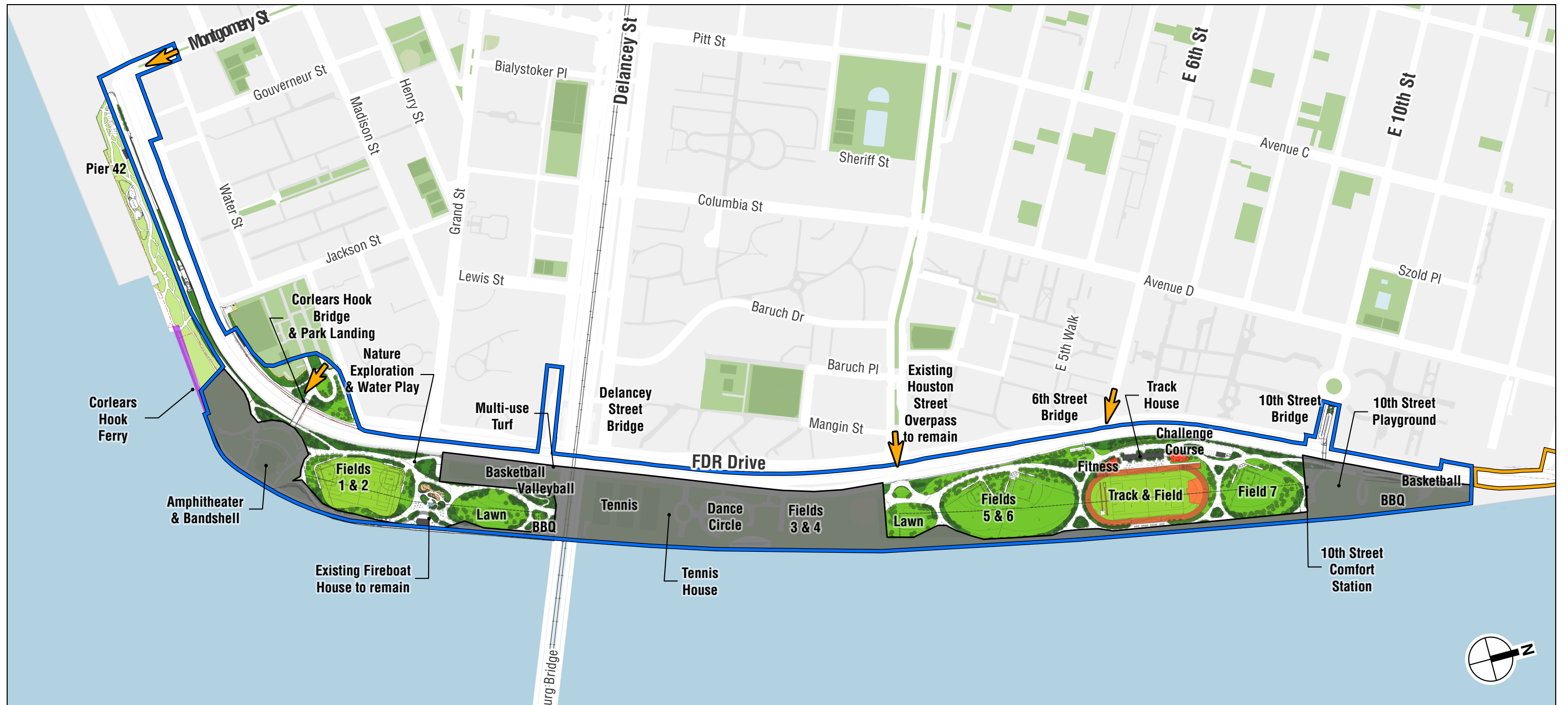
Note: Corlears Hook Bridge would be temporarily closed for a portion of this construction phase for reconstruction. During this time, an interim bridge may be used to provide access to East River Park at this location.








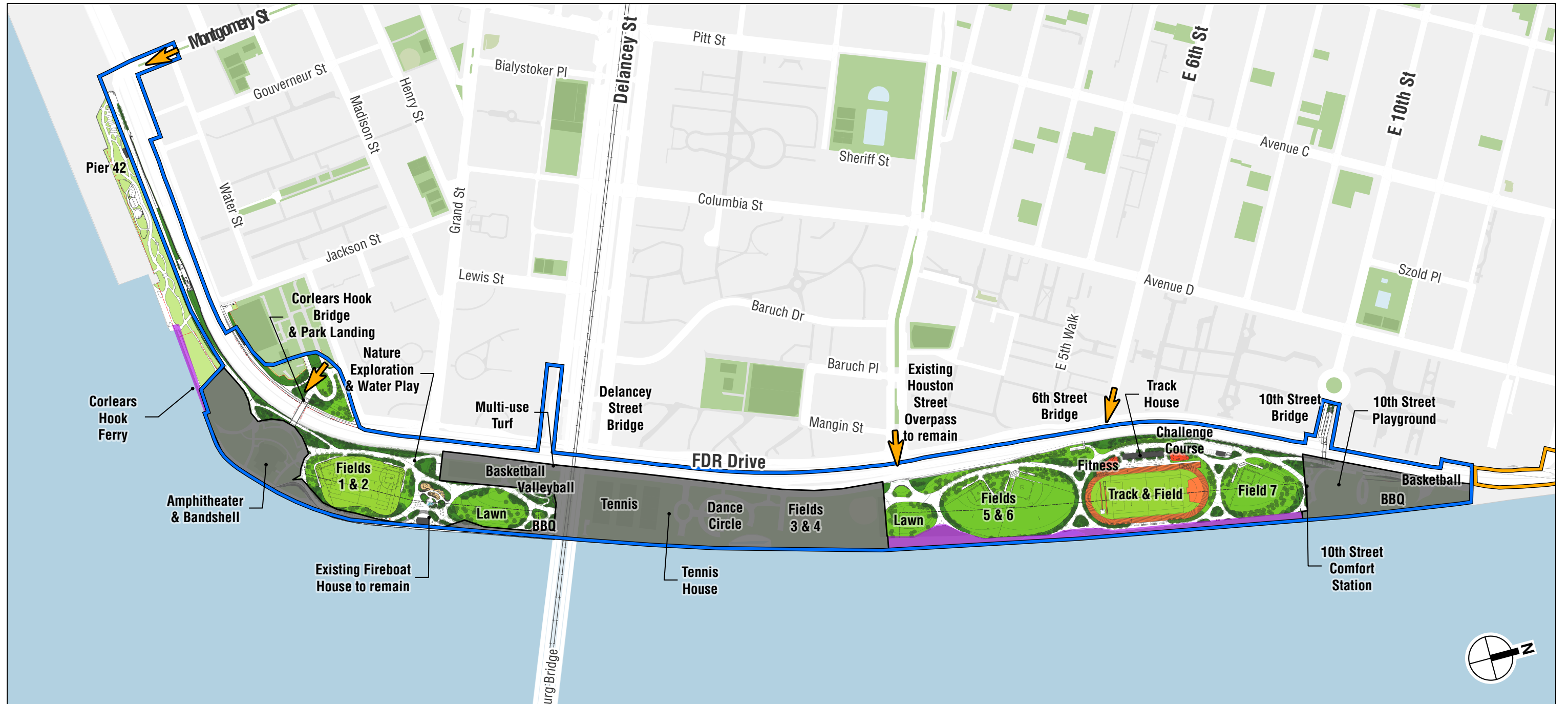
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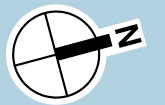
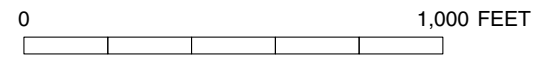
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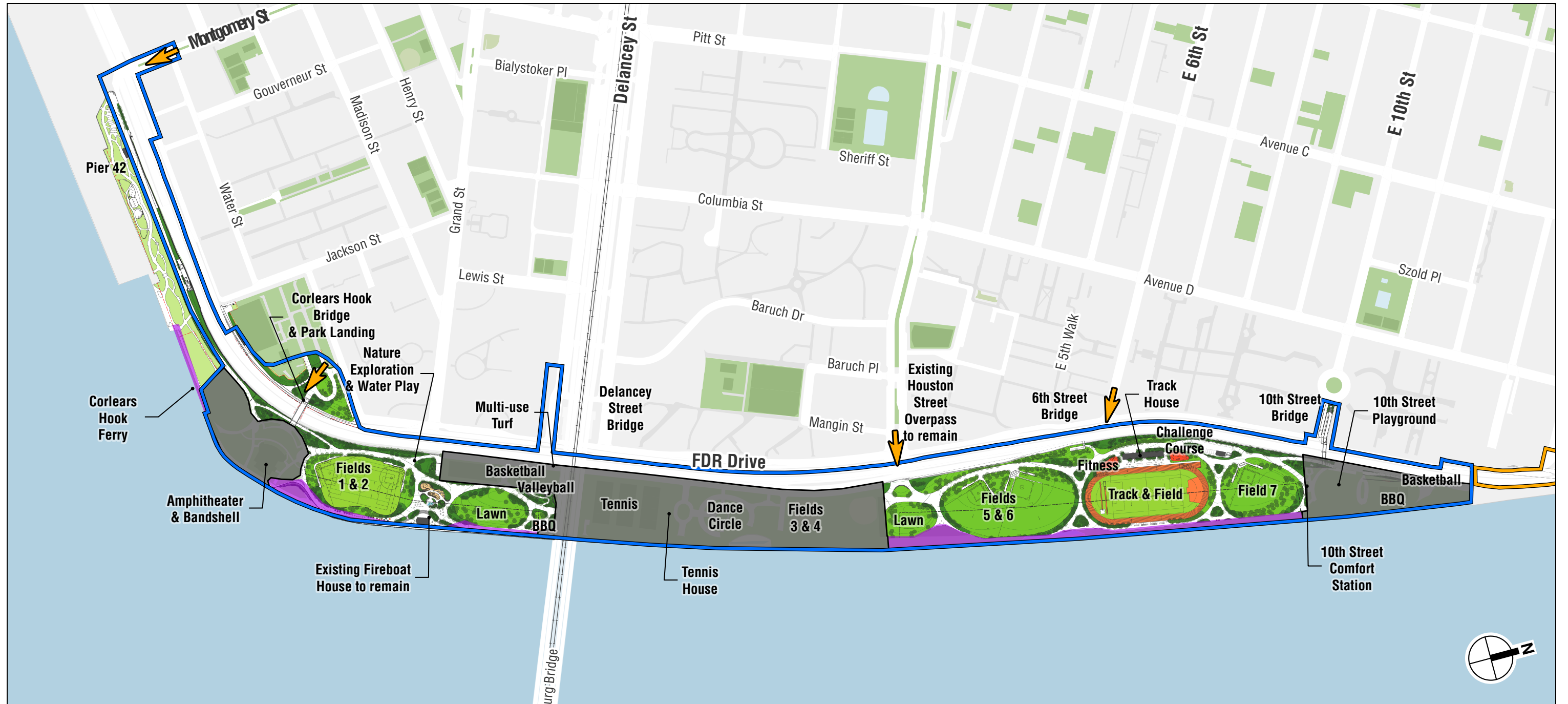







-  Project Area One
-  Project Area Two
-  Closed Portions
-  Esplanade Open to the Public
-  Public Access to East River Park



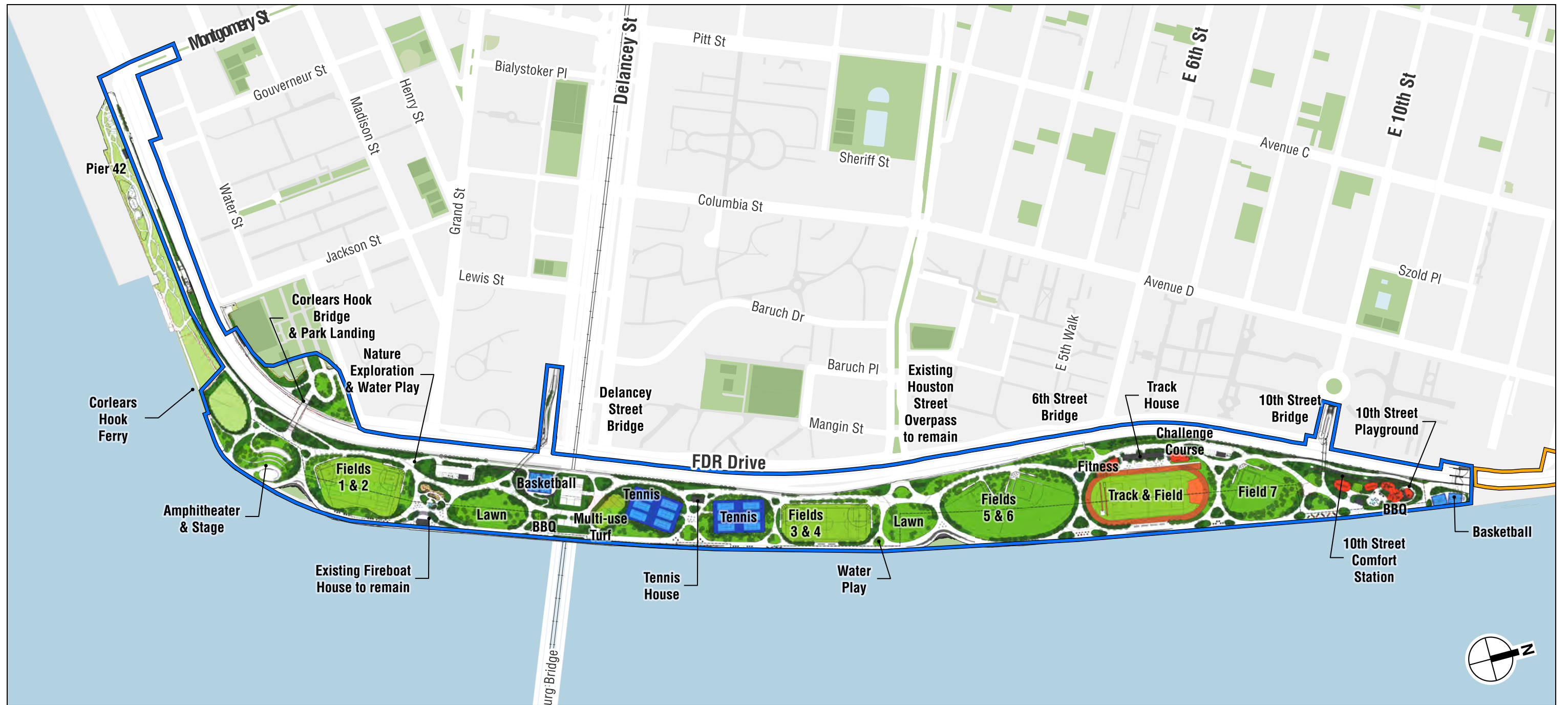
- Project Area One
- Project Area Two
- Closed Portions
- Esplanade Open to the Public
- ➔ Public Access to East River Park





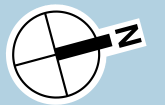
-  Project Area One
-  Project Area Two
-  Closed Portions
-  Esplanade Open to the Public
-  Public Access to East River Park

0 1,000 FEET

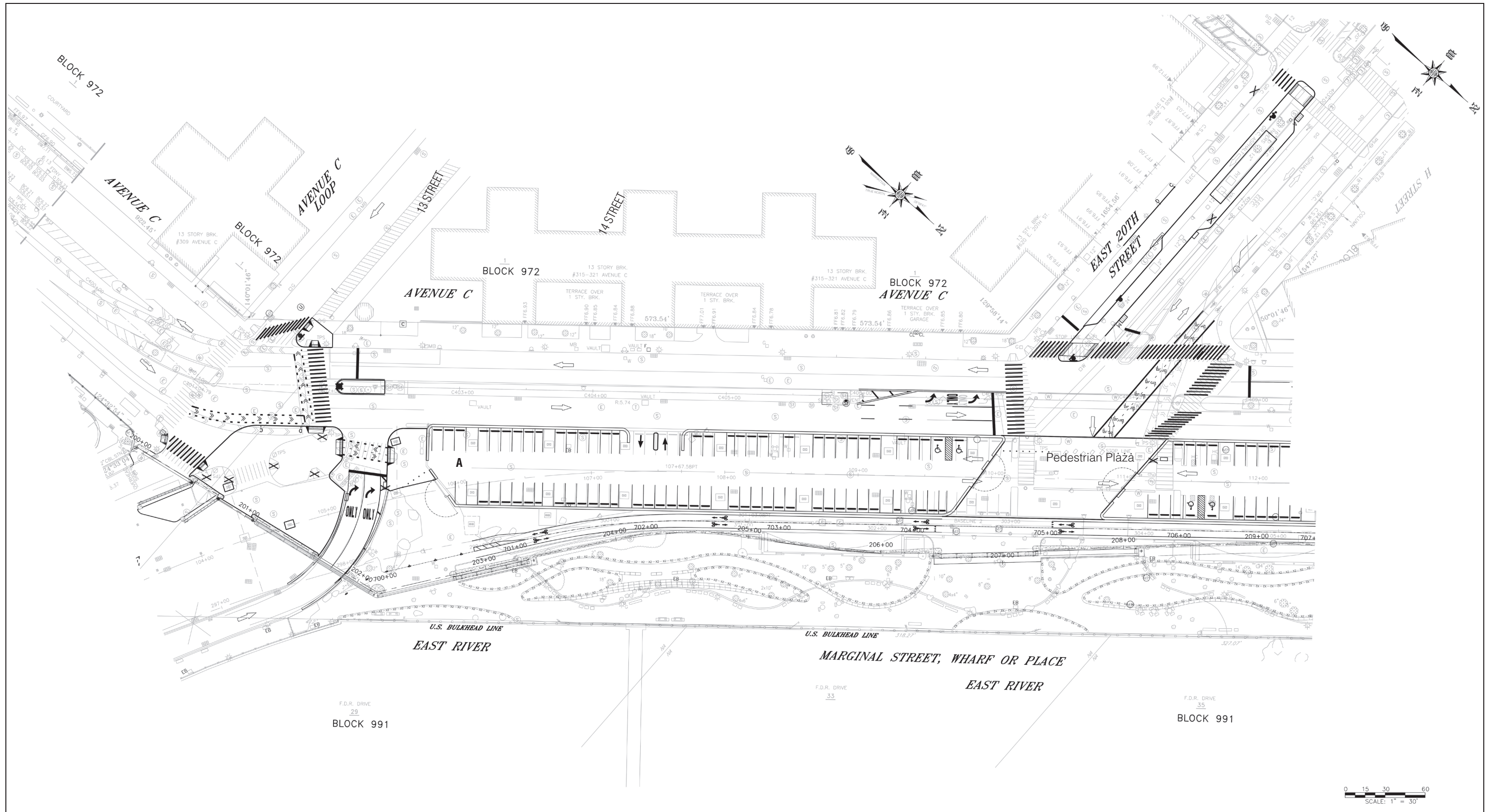


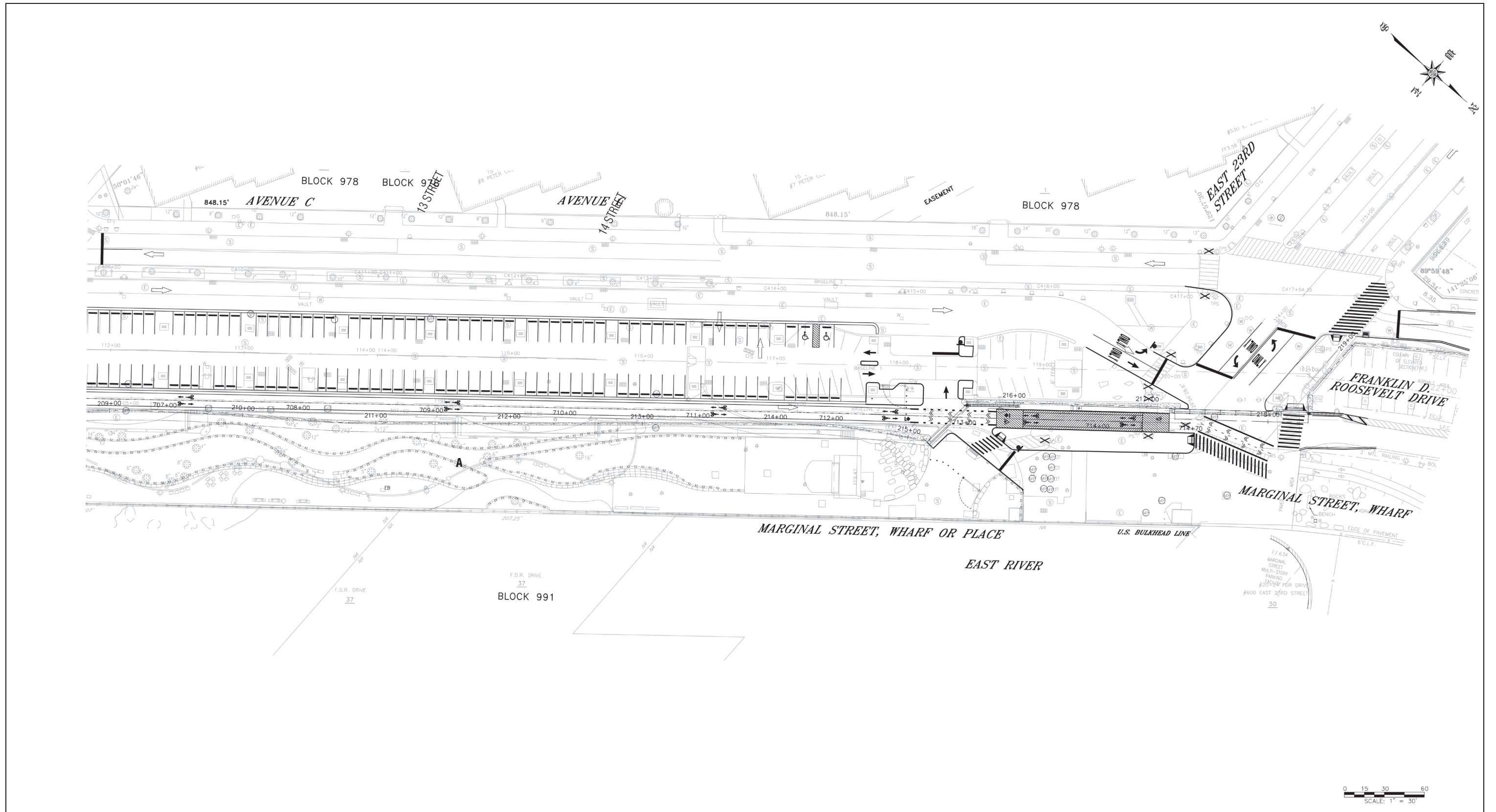
 Project Area One
 Project Area Two

0 1,000 FEET



*All of East River Park will be opened to the public.





ATTACHMENT A

EAST SIDE COASTAL RESILIENCY TEXT AMENDMENT

EAST SIDE COASTAL RESILIENCY TEXT AMENDMENT

CD 6

N 190356 ZRM

IN THE MATTER OF an application submitted by the New York City Department of Small Business Services, pursuant to Section 201 of the New York City Charter, for an amendment of Article VI, Chapter 2 (Special Regulations Applicable to Certain Areas) of the Zoning Resolution of the City of New York, modifying special regulations for zoning lots that include parks located in a marginal street, wharf or place in an M1-1 District in Manhattan Community District 6.

Matter in underline is new, to be added;

Matter in ~~strikeout~~ is to be deleted;

Matter with # # is defined in Section 12-10;

Matter ~~double struck out~~ is old, deleted by the City Council;

Matter double-underlined is new, added by the City Council

* * * indicates where unchanged text appears in the Zoning Resolution

Article VI

SPECIAL REGULATIONS APPLICABLE TO CERTAIN AREAS

Chapter 2

Special Regulations Applying in the Waterfront Area

* * *

62-59

Special Regulations for Zoning Lots that Include Parks

* * *

(c) In order to implement a portion of the East Side Coastal Resiliency Project described in the Final Environmental Impact Statement (FEIS) dated September 13, 2019, located in a marginal street, wharf or place used as a park, in an M1-1 District located in Manhattan Community District 6, for #zoning lots predominantly developed# as a park, the requirements of Section 62-50 (GENERAL REQUIREMENTS FOR VISUAL CORRIDORS AND WATERFRONT PUBLIC ACCESS AREAS), inclusive, and Section 62-60 (DESIGN REQUIREMENTS FOR WATERFRONT PUBLIC ACCESS AREAS), inclusive, shall be deemed satisfied, and the certification pursuant to Section 62-811 (Waterfront public access and visual corridors) shall not be required, provided that:

(1) the park will be open and accessible to the public at a minimum from dawn to dusk, except when hazardous conditions are present that would affect public safety; and

(2) a maintenance and operation agreement providing for the maintenance and operation of the park in good condition is entered into with the City of New York, except that no such maintenance and operation agreement shall be required for a park developed and maintained by the State or the City of New York, any subdivision or agency of the State or the City, or any public authority or other entity created pursuant to State or local statute for the purpose of operating such a park.

No excavation or building permit shall be issued within such #zoning lot predominantly developed# as a park, for the portion of the East Side Coastal Resiliency Project implemented pursuant to this paragraph (c), until all applicable Federal, State and local

permits and approvals have been received, including, without limitation, permits and approvals of the New York State Department of Environmental Conservation.

* * *