

3.11.2 Construction Open Space

3.11.2.1 Introduction

This section assesses the potential impacts on open space during the construction period. According to the *City Environmental Quality Review (CEQR) Technical Manual*, an open space is defined as publicly accessible, publicly or privately owned land that is available for leisure, play, or sport, or serves to protect and enhance the natural environment. An assessment of the effects of construction on open space is necessary when a project has direct effects, such as temporarily removing or altering a publicly accessible open space as a result of construction. Other direct effects to be considered are the potential increases in noise or air pollutant emissions during construction. An assessment of indirect effects is also necessary when construction would result in the temporary closure of existing open spaces, resulting in potential increases in utilization of other open spaces in the surrounding area. This analysis considers the direct and indirect effects of construction on open space resources in the Project Area and surrounding Study Area.

3.11.2.2 Principal Conclusions

As detailed in Section 3.11.1, “Construction Overview,” construction of the Proposed Project would begin in mid-2025 and conclude by mid-2030. While the Proposed Project would be constructed reach by reach, the peak construction year is 2028, when the greatest number of open spaces in the Project Area would be temporarily closed for construction. The “Proposed Action Conditions” section provides a detailed summary of the anticipated construction activities by reach. There would be a temporary significant adverse impact to open space resources in the Nonresidential Study Area during the entire construction period due to the closure of open spaces during project construction. However, in the Residential Study Area, impacts would not rise to the level of significance in 2029 and 2030 as portions of the Project Area begin to reopen to the public.

At the peak of construction, six of the project reaches would experience some degree of construction in 2028. Construction in Reach 7 would be completed in 2027, just before the peak analysis year. Reaches 2 and 6 would wrap up construction in 2028, followed by completion of Reach 1 in early 2030. The remaining Reaches 3, 4, and 5 would be completed in the first half of 2030.

The temporary closure of open space in the Project Area during construction would redirect users to other Study Area open spaces that would in turn experience increased demand, thereby resulting in potential indirect impacts on the Study Area open space ratios during project construction.

In the Nonresidential Study Area (i.e., the quarter-mile radius surrounding the Project Area) during the peak construction year of 2028, the passive open space ratio is anticipated to be 0.25 acres per 1,000 nonresidents in the Proposed Action condition (a decrease from 0.32 acres per 1,000 nonresidents under the No Action condition), which would continue to be above New York City’s planning guideline of 0.15 acres per 1,000 nonresidents outlined in the *CEQR Technical Manual*. Though the total open space ratio for the Nonresidential Study Area would decrease by approximately 15 percent, the displacement of open

spaces would be temporary and staggered, with portions of the Project Area reopening as early as 2027. The surrounding open space resources that are expected to experience the greatest increases in use from the diverted populations (specifically the “15 to 19,” “20 to 64,” and “65 and over” user groups) are those that offer similar amenities to the displaced resources.

In the Residential Study Area (i.e., the half-mile radius surrounding the Project Area), the active open space ratio would decrease slightly from 0.48 to 0.47 acres per 1,000 residents and the total and passive open space ratios would temporarily decrease from 1.76 to 1.63 and 1.29 to 1.16, respectively. The total and active open space ratios would continue to be below City guidelines; however, the passive open space ratio would remain above the City guidelines. For active spaces, the Proposed Project would result in the temporary closure of the Esplanade for biking and jogging, Rockefeller Park playground, and basketball and handball courts and a number of other recreational features between 2025 and 2030, that would reduce by 0.5 acres the Residential Study Area’s existing 36.68 acres of active open space.

While the construction impact on open space would extend over the full construction period and would result in a temporary, significant adverse impact, it has been phased to minimize these impacts to the maximum extent practicable, recognizing that the flood protection system is largely aligned along the public open spaces of Battery Park City. Furthermore, Rockefeller Park would remain open throughout construction.

While the temporary closure of park space in the Project Area would result in the indirect use of other nearby open space resources, there are a number of large, publicly accessible park spaces that provide active and passive uses and are within close proximity to the Proposed Project. For example, the analysis takes into account that the South Battery Park City Resiliency Project (SBPCR Project) will be completed at about the same time construction starts on the Proposed Project in mid-2025. The SBPCR Project is rebuilding several southern sections of the Battery Park City Esplanade, including Wagner Park, as well as Pier A plaza. While the segments of the Battery Park City Esplanade, Wagner Park, and The Battery in the SBPCR Project area are currently closed for construction, they are projected to reopen in spring 2025 with no changes to open space acreage, just before construction would commence on the Proposed Project.

In addition to the completion of the SBPCR Project, two other projects are projected to be completed in the Study Area: the Battery Coastal Resilience Project and the Battery Park Underpass and Route 9A/West Street Underpass Project. The Battery Park Underpass and Route 9A/West Street Underpass Project is anticipated to be completed by December 2024. It is not anticipated to have any impact on The Battery parkland. The Battery Coastal Resilience Project is elevating the waterfront Esplanade in The Battery; Phase 1 is projected to be completed by August 2025 and will reopen that open space, while Phase 2, which plans to reconstruct the eastern portion of the wharf and adjacent areas, is scheduled to begin after Phase 1 concludes and is targeted to reopen in 2026. Given that these projects are expected to reopen on or about the time the Proposed Project begins construction, they are not anticipated to have any direct impacts on open space within the Project Area or Study Areas.

The temporary closure of passive and active open spaces in the Project Area during construction can also be supplemented by nearby open space resources. For example, the Washington Market Park, located

adjacent to the Project Area offers a variety of courts to the general public. In addition, the basketball courts at Harrison Street are located just north of the Project Area in Hudson River Park and the Battery Park City Ballfields along Route 9A/West Street are just east of the Project Area. These nearby sport courts are located adjacent to the Project Area and are within the Nonresidential and Residential Study Areas and would continue to serve the community throughout the construction of the Proposed Project. Teardrop Park, another Battery Park City Park, is tucked between several buildings across from the Rockefeller Park basketball court and playground; the northern portion of this park includes plantings, nature play areas, a children's slide, grass lawns, and benches, while the southern portion of the park is dedicated to passive open space with additional winding paths, benches, a small amphitheater, and plantings. This park would continue to serve the community throughout construction.

In addition, the Hudson River Park is located partially within the Project Area and Study Areas and connects the western waterfront edge of Manhattan. The larger park offers recreational piers, natural habitats, pathways for running and walking, playgrounds, and various seating opportunities. The park provides in-water activities, such as kayaking and rowing, as well as a number of sport courts and fields for active recreation.

In addition to the resources provided by Battery Park City in the Study Area, there is also ferry access from the Battery Maritime Building to the large open spaces at Governor's Island, a 172-acre open space with ball fields, lawns, playgrounds, and miles of pedestrian pathways and bike lanes.

At project completion, there would also be the open space benefits of enhanced accessibility by improving pedestrian circulation, elevating platforms and pathways, and creating switchbacks and winding pathways to enhance passive open spaces in the Project Area. Additionally, the Proposed Project would protect open space resources upland and within the Protected Area from future storm events. Open spaces west of the flood barrier system would also be updated with drainage improvements and green infrastructure enhancements, like high-performance rain guards.

3.11.2.3 Regulatory Context

As detailed in Chapter 3.2, "Open Space," open space resources within the Project Area are primarily under the jurisdiction of the Battery Park City Authority (BPCA) and the larger Study Area includes resources under the jurisdiction of the City of New York through the Department of Parks and Recreation (NYC Parks), the Department of Small Business Services (NYCSBS), the Department of Education (NYCDOE), the New York State Department of Transportation (NYSDOT), the New York City Department of Transportation (NYCDOT), the Hudson River Park Trust (HRPT), private organizations operating privately owned public spaces (POPS), and the Port Authority of New York and New Jersey (PANYNJ). These entities are responsible for maintaining the open spaces as well as enforcing applicable rules and regulations.

3.11.2.4 Methodology

3.11.2.4.1 Direct Effects

Construction of a project directly affects open space resources if it causes the loss of publicly accessible open space, changes the use of an open space such that it no longer serves the same user population, limits public access to an open space, or results in increased noise or air pollutant emissions that would temporarily or permanently affect the use of publicly accessible open space. This section uses information from other sections of the construction chapter to help determine whether construction of the Proposed Project would have the potential to have direct and significant adverse impacts on any open spaces within or near the Project Area.

3.11.2.4.2 Indirect Effects

There may be indirect open space effects when project construction would temporarily reduce the availability of open space in an area, causing nearby residential and nonresidential populations to utilize other open space resources in a study area, temporarily diminishing the ability of the surrounding area's open space to serve area populations. Due to the direct effects of temporary displacement of open space resources, the area's open space capacity could be affected, causing indirect open space effects.

The following sections describe the methodology for the analysis of indirect effects on open space, including establishing the study area, identifying open space user populations, creating an inventory of open space resources, and assessing the adequacy of open space resources.

Study Area

Establishing a study area is the first step in the process of assessing indirect effects on open space. The study area is based on the distance that users are likely to walk for an open space resource. NYC Parks has a Walk to a Park Initiative which seeks to have 85 percent of City residents within a walking distance of a park by 2030. As seen in **Figure 3.11-2-1**, the Project Area is entirely located within a Walk to a Park Service Area, indicating a large proximity of open spaces are within walking distance for residents.

While the Proposed Project would not introduce any permanent populations during construction, residents and workers who utilize the open space resources in the Project Area and surrounding Study Area would be temporarily impacted by the closure of open spaces. Therefore, residential and nonresidential study areas were identified to evaluate construction period open space impacts. Nonresidents are assumed to walk approximately 10 minutes, or up to $\frac{1}{4}$ mile, to passive open spaces. Residents are assumed to walk approximately 20 minutes, or up to $\frac{1}{2}$ mile, to an active or passive open space. The adequacy of open space resources for nonresidents was assessed for a study area extending $\frac{1}{4}$ mile from the Project Area, which was adjusted to include all census tracts with at least 50 percent of their area within a $\frac{1}{4}$ -mile boundary. Similarly, the adequacy of open space resources for residents was assessed for a study area extending $\frac{1}{2}$ mile from the Project Area, adjusted to include all census tracts with at least 50 percent of their area within the $\frac{1}{2}$ -mile boundary. This adjustment to the study area allows analysis of both the open space resources in the study area, as well as population data.



- Project Site
- Residential Study Area
- Study Area (1/2-mile perimeter)
- Walk to a Park Service Area
- Nonresidential Study Area

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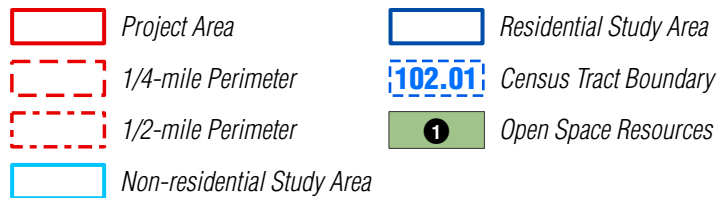
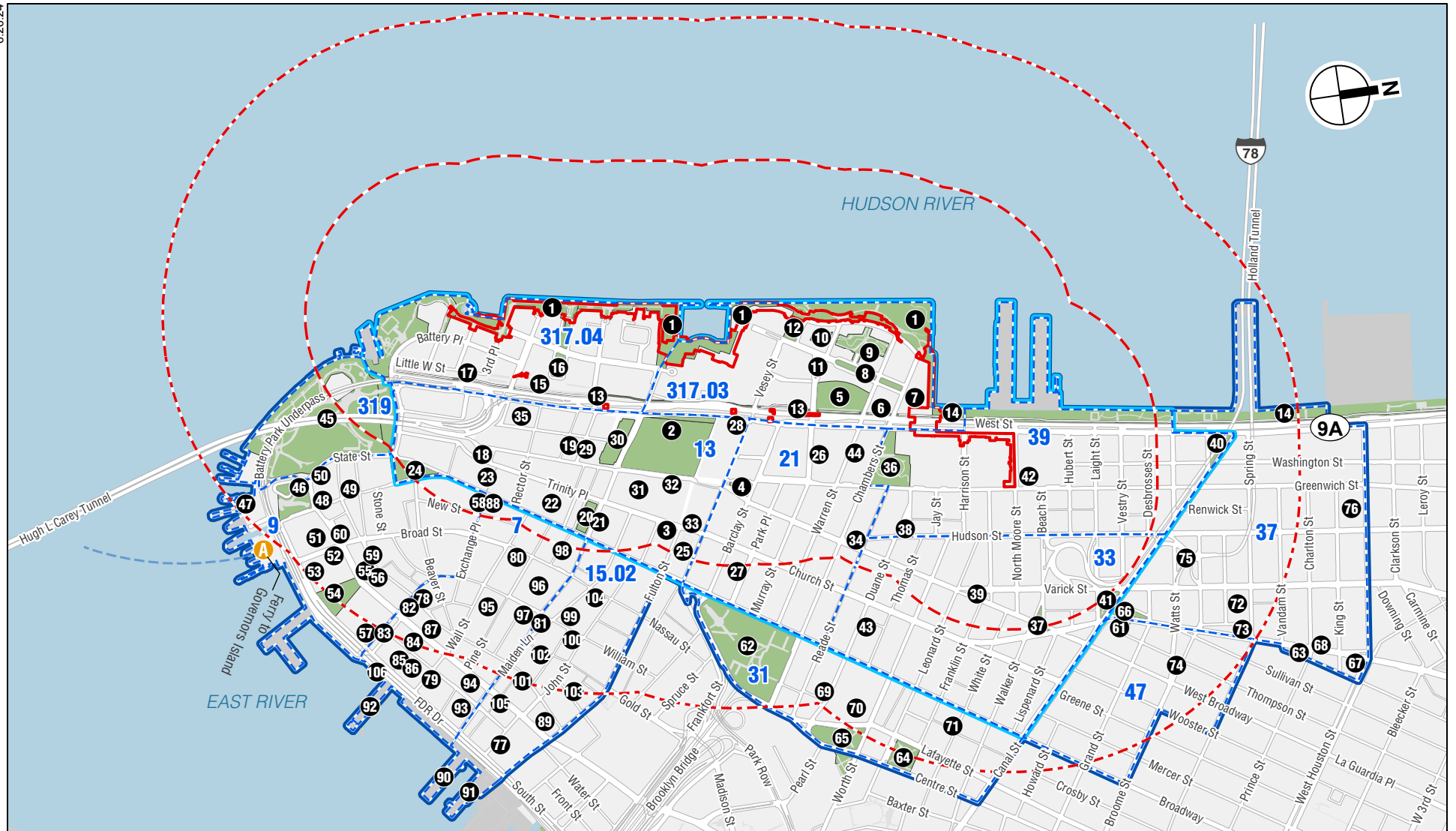
Figure 3.11.2-2 illustrates the open space Study Areas and the census tracts in the Study Area. The ¼-mile perimeter included the following six 2020 U.S. Census Tracts: 13, 21, 33, 39, 317.03, and 317.04 forming the nonresidential Study Area. The ½-mile perimeter included the following 13 2020 U.S. Census Tracts: 7, 9, 13, 15.02, 21, 31, 33, 37, 39, 47, 317.03, 317.04, and 319 forming the residential Study Area. These census tracts are predominately mapped within Manhattan Community District 1 and a portion of Community District 2.

3.11.2.4.3 Analysis Framework

Publicly accessible open spaces and recreational facilities were inventoried to determine their size, character, utilization, amenities, and condition. Open spaces that are not accessible to the general public or that do not offer usable recreational areas, such as spaces where seating is unavailable, were excluded from the survey. In accordance with the *CEQR Technical Manual*, publicly accessible open space is defined as facilities open to the public at designated hours on a regular basis and is assessed for impacts using both a quantitative and qualitative analysis, whereas private open space is not accessible to the general public on a regular basis and is considered qualitatively. Field surveys conducted in June 2022 and secondary sources, such as NYC Parks, New York City Department of Informational Technology and Telecommunications (DoITT), and Geographic Information System (GIS) data, were used to determine the number, size, availability, and condition of publicly accessible open space resources in the residential Study Area.

With an inventory of available open space resources and potential users, the adequacy of open space in the Study Area can be assessed both quantitatively and qualitatively. The quantitative approach calculates the ratio of open space acreage to the residential and nonresidential populations in the Study Area (i.e., acres of open space per 1,000 residents) and compares this ratio with certain guidelines. The qualitative assessment examines other factors that may affect conclusions about adequacy, including proximity to additional resources beyond the Study Area, the availability of private recreational facilities, and the demographic characteristics of the area's population. Specifically, the analysis includes the following:

- Open space Nonresidential and Residential Study Area population and characteristics of the workers and residents likely to utilize Study Area open spaces. The resident population of the Residential Study Area was compiled from 2020 U.S. Census data supplemented by data from the New York City Department of City Planning's (NYCDP) Housing Database. The worker population of Nonresidential Study Area was compiled from the U.S. Census Bureau, Center for Economic Studies, LEHD, 2021.
- An inventory of all publicly accessible recreational facilities in the residential open space Study Area.
- An assessment of the quantitative ratio of open space in the Study Area is calculated by computing the ratio of open space acreage to the population in the Study Area and comparing this open space ratio with certain guidelines. In New York City, local open space ratios vary widely, and the median ratio at the citywide community district level is 1.5 acres of open space per 1,000 residents. Typically, for the assessment of both direct and indirect effects, citywide guidelines have been calculated for comparison and analysis. As a planning goal, a ratio of 2.5 acres per 1,000 residents represents an area well-served by open spaces and is consequently used as an optimal benchmark for residential



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Open Space Study Area and Resources

NORTH/WEST BATTERY PARK CITY RESILIENCY

Figure 3.11.2-2

populations. This goal is often not feasible for many areas of the City and does not constitute an impact threshold. Rather, it is a benchmark that represents how well an area is served by open space. For nonresidents, who tend to use passive open space, for example workers taking a break in the park, the optimal ratio for nonresidential populations is 0.15 acres of passive open space per 1,000 nonresidents.

- An evaluation of qualitative factors affecting open space use.
- A determination of the adequacy of open space in the residential and nonresidential open space Study Areas in existing conditions, the No Action condition, and the Proposed Action condition.

An assessment of expected changes in future levels of open space supply and demand through the 2028 peak analysis year, based on other planned development projects within the open space Study Area. The projection of No Action condition assumes each of these projects would be completed by the 2028 peak analysis year. To estimate the population expected in the Study Area in the No Action condition, an average household size of 2.02 persons¹ was applied to the number of new dwelling units (DUs) expected in the Study Area. Any new open space or recreational facilities that are anticipated to be operational by the analysis year are also taken into consideration. Open space ratios are then calculated for No Action and Proposed Action conditions (i.e., during construction) and compared to determine changes in future levels of adequacy.

3.11.2.5 Existing Conditions

3.11.2.5.1 Populations

Nonresidential Study Area

There are an estimated 136,150 workers in the Nonresidential Study Area in the existing condition (see Table 3.11.2-1).

Table 3.11.2-1
Nonresidential Study Area Worker Population

Census Tract	Worker Population
13	41,333
21	34,797
33	19,504
39	15,730
317.03	22,056
317.04	2,730
Census Tracts Total Worker Population	136,150
Source: U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics 2021, Total Primary Jobs (the latest available)	

¹ The average household size in Manhattan Community District 1 is 2.01 (U.S. Census Bureau 2020).

Residential Study Area

As shown in **Table 3.11.2-2**, the Residential Study Area has a population of 76,519 residents in the existing condition.

Table 3.11.2-2
Residential Study Area Population

Census Tract	Population
7	10,542
9	2,016
13	5,402
15.02	10,378
21	7,811
31	2,989
33	6,458
37	3,092
39	7,036
47	2,644
317.03	5,847
317.04	10,422
319	3
Census Tracts Total Population	74,640
DCP Housing Database Additional Residents¹	1,879
Residential Study Area Total Population	76,519
Note: ¹ NYCDP's Housing Database shows a net increase of 1,072 housing units in the Study Area since the Census data collection in April of 2020, according to NYCDP Housing Database 2023 Q4 (the latest available). Assuming a rental vacancy rate of 13.2 percent and an average household size of 2.02 within Manhattan CD 1, an additional 1,879 people are estimated to have joined the 74,640 residents identified in the 2020 Census for an existing population estimate of 76,519 residents. Source: 2020 U.S. Census Bureau Decennial Census; NYCDP Housing Database 2023	

3.11.2.5.2 Open Space Resources

Project Area

As detailed in Chapter 3.2, "Open Space," the Project Area includes the majority of the Battery Park City waterfront, small sections of built area within Battery Park City, and a number of inland blocks along Hudson River Park, Route 9A/West Street, and Tribeca.

Study Area

Within the ¼-mile nonresidential Study Area, there are 45 publicly accessible open space resources that provided a total of approximately 72.01 acres of open space, comprises 26.55 acres of active open space and 45.46 acres of passive open space. The residential Study Area provides an additional 62 resources, for a total of 108 publicly accessible open spaces resources. The residential Study Area contains approximately 135.70 acres of open space, including 36.68 acres of active open space and 99.02 acres of passive open space.

Both Study Areas feature a wide variety of open spaces, ranging from large active and passive spaces in parks such as the Hudson River Park and Battery Park to smaller plazas that provide a wide variety of active and passive features. These spaces are under the jurisdiction of a mix of city, state, and federal agencies, as well as by private operators who maintain POPS that are required to be open to the public. The largest open spaces are the Battery Park City Esplanade (26.04 acres),² The Battery (21.88 acres), Hudson River Park (12.63 acres in the nonresidential Study Area, 17.79 acres in the residential Study Area, 550 acres total), City Hall Park (8.08 acres), and the World Trade Center Memorial Plaza (5.75 acres).

The Battery Park City Esplanade and Hudson River Park are described in greater detail in Chapter 3.2, “Open Space.” The Battery is a large park at the tip of Manhattan in the former location of a gun battery. It includes a continuation of the waterfront esplanade, pathways, benches, memorial spaces, monuments, eateries, restrooms, lawn areas, a carousel, as well as a new playground. City Hall Park is another large park in the center of downtown, with passive amenities such as pathways, benches, and plantings well suited to serving nonresidential and senior populations. The National September 11 Memorial and Museum is located within the superblock bound by Fulton Street, Greenwich Street, Liberty Street, and Route 9A/West Street and was built to commemorate the victims of the 1993 and 2001 terrorist attacks on the site. A large passive open space, it features two large fountains marking the locations of the former Twin Towers, the 9/11 Memorial Museum, as well as plantings, plaza areas, and benches.

Other open space resources include playgrounds, ball fields, cemeteries, plazas, dog parks, and pocket parks. See **Table 3.11.2-3** below for a full list of open space resources and **Figure 3.11.2-2** for a map of open space resources.

² Wagner Park, currently under construction, is part of the Battery Park City Esplanade park spaces and is included in both Study Areas.

Table 3.11.2-3
Inventory of Existing Publicly Accessible Open Space Resources

Map ID No.	Name	Location	Owner	Total Acres	Active Acres	Passive Acres	Amenities	Condition/Utilization
Nonresidential Study Area (1/4-mile Census Tract Based)								
1	Battery Park City Esplanade (includes Rockefeller, Pumphouse, and Wagner Parks, Belvedere Plaza, and North and South Coves) ⁽¹⁾	Along Hudson River between Battery Place and Harrison Street	BPCA	26.04	13.02	13.02	Lawns, trees, benches, plantings, artwork, esplanade, tables and chairs, playgrounds, basketball courts, volleyball courts, restrooms, pathways, marinas	Excellent/Heavy
2	National September 11 Memorial and Museum	World Trade Center Site	PANYNJ	5.75	0	5.75	Beaches, trees, plaza areas, WTC Memorial and Museum including two large fountains.	Excellent/Heavy
3	Millennium Hilton Plaza	Fulton Street at Church Street	Private (POPS)	0.12	0	0.12	Planters, seating, trees	Excellent/Moderate
4	Tower 7 Plaza (Silverstein Family Park)	South of Barclay Street between Greenwich Street and West Broadway	The City of New York	0.50	0	0.50	Plaza, fountain, trees, shrubs, benches	Excellent/Moderate
5	Ball Fields	Between Murray Street and Warren Street along Route 9A/West Street	BPCA	1.90	1.90	0	Ball fields, seating, plantings, trees	Excellent/Moderate
6	IS/PS 89 Playground ⁽²⁾	201 Warren Street	NYCDOE	0.25	0.20	0.05	Playground, basketball courts, benches	Good/Low
7	Stuyvesant High School Plaza	Route 9A/West Street, north of Chambers Street	NYCDOE	0.83	0	0.83	Trees, plants, seating	Good/Low
8	North End Avenue Medians	North End Avenue between Murray Street and Chambers Street	BPCA	0.58	0	0.58	Plantings, trees, seating, dog run	Good/Moderate

Table 3.11.2-3 (cont'd)
Inventory of Existing Publicly Accessible Open Space Resources

Map ID No.	Name	Location	Owner	Total Acres	Active Acres	Passive Acres	Amenities	Condition/Utilization
9	Teardrop Park	Between Warren Street and Murray Street, River Terrace, and North End Avenue	BPCA	1.80	0.36	1.44	Paths, plantings, trees, play equipment, lawn	Good/Moderate
10	Teardrop Park South	2 River Terrace	BPCA	0.34	0	0.34	Seating, trees, plantings	Good/Low
11	Murray Street Triangle	North End Avenue at Murray Street	BPCA	0.18	0	0.18	Plantings, trees, seating, dog run	Good/Low
12	Irish Hunger Memorial	North End Avenue at Vesey Street	BPCA	0.50	0	0.50	Sloped hill, stone house ruin, planting, seating	Good/Low
13	Hudson River Greenway	Along Route 9A/West Street between Battery Place and Chambers Street	NYS DOT	1.49	1.49	0	Bike path	Excellent/Heavy
14	Hudson River Park	Along the Hudson River between Harrison Street and 59th Street	HRPT	18.79 ⁽³⁾	9.40	9.40	Pathway, waterfront esplanade with pedestrian path and seating, lawn areas, tables and chairs, basketball courts, sculptures, beach volleyball, minigolf, playgrounds, spray fountains, Tribeca skatepark, a boating facility, a turf field, lawn, dog-friendly areas, kayaking, tennis courts	Good/Heavy
15	West Thames Park	Route 9A/West Street, north of West Thames Street	BPCA	1.30	1.04	0.26	Play equipment, spray showers, benches and tables, basketball court, turf field, community garden	Excellent/Low
16	Rector Park	Rector Place at South End Ave	BPCA	0.77	0	0.77	Trees, plants, seating	Good/Low
17	Little West Dog Run	Route 9A/West Street between Thames Street and 3rd Place	BPCA	0.14	0	0.14	Dog-friendly areas	Good/Moderate
18	Elizabeth H Berger Plaza/Trinity Plaza	Between Greenwich Street and Broadway at Edgar Street	TBTA	0.37	0	0.37	Benches, trees, planters, lighting, subway entrance	Good/Low
19	123 Washington Street (Gwathmey Plaza)	Between Albany Street and Carlisle Street	Private (POPS)	0.14	0	0.14	Seating, tables, trees	Good/moderate

Table 3.11.2-3 (cont'd)
Inventory of Existing Publicly Accessible Open Space Resources

Map ID No.	Name	Location	Owner	Total Acres	Active Acres	Passive Acres	Amenities	Condition/Utilization
20	Liberty Plaza (Zuccotti Park)	Between Broadway, Liberty Street, Trinity Street, and Cedar Streets	Private (POPS)	0.82	0	0.82	Trees, plantings, benches, lighting, tables, sculptures	Good/Heavy
21	One Liberty Plaza	Between Broadway, Liberty Street, Church Street, and Cortlandt Streets	Private (POPS)	0.64	0	0.64	Trees, planters, seating	Good/Low
22	Trinity Church Cemetery	Between Church Street and Broadway	Trinity Church Corp	1.43	0	1.43	Trees, benches, footpaths, grass, tables	Good/Low
23	55 Broadway/1 Exchange Plaza	55 Broadway	Private (POPS)	0.15	0	0.15	Plantings, seating	Fair/Low
24	Bowling Green	Broadway and Whitehall Street	NYC Parks	1.02	0	1.02	Benches, trees, fountain, garden, lighting, lawn, sculpture	Excellent/Heavy
25	St Paul's Chapel Cemetery	Church Street, Broadway, Vesey Street, and Fulton Street	Parish of Trinity Church	1.20	0	1.20	Cemetery, benches, paths, trees	Good/Low
26	111 Murray Street Plaza	Murray Street between Route 9A/West Street and Greenwich Street	Private (POPS)	0.20	0	0.20	Benches, tables, plants, small lawn, fountain	Excellent/Moderate
27	30 Park Plaza	Between Park Place, Barclay Street, Church Street, and Broadway	Private (POPS)	0.28	0	0.28	Seating and tables, lighting, sculpture, plants, trees	Excellent/Moderate
28	One World Trade Plaza	One World Trade Center along Route 9A/West Street	PANYNJ	0.29	0	0.29	Open plaza, planters, seating	Good/Low
29	Albany Street Plaza	Albany Street between Washington Street and Greenwich Street	PANYNJ	0.21	0	0.21	Benches, seating, planters, trees, artwork	Good/Low
30	Liberty Park	Between Cedar Street, Route 9A/West Street,	PANYNJ	1.40	0	1.40	Elevated pathways with plantings, benches, sculptures/monuments, and St Nicholas National Shrine	Excellent/Moderate

Table 3.11.2-3 (cont'd)
Inventory of Existing Publicly Accessible Open Space Resources

Map ID No.	Name	Location	Owner	Total Acres	Active Acres	Passive Acres	Amenities	Condition/Utilization
		Greenwich Street, and Liberty Street						
31	Cortlandt Way	Cortlandt Way between Greenwich Street and Church Street (Plaza between 3 WTC and 4 WTC)	PANYNJ	0.37	0	0.37	Open plaza, trees, seating	Excellent/Moderate
32	Oculus Plaza	Between Fulton Street, Dey Street, Church Street, and Greenwich Street (Plaza round Oculus)	PANYNJ	1.20	0	1.20	Open plaza, trees, seating	Excellent/Moderate
33	Wedge of Light Plaza	Along Fulton Street and Church Street, below Vesey Street	PANYNJ	0.45	0	0.45	Tables, seating, planters, artwork	Excellent/Low
34	Bogardus Plaza	Hudson Street, Chambers Street, and Reade Street	NYCDOT	0.23	0	0.23	Greenstreet planters, seating, planters	Excellent/Moderate
35	50 West Plaza	Between Route 9A/West Street, Joseph P Ward Street, and Washington Street	Private (POPS)	0.14	0	0.14	Seating, plantings	Excellent/Low
36	Washington Market Park	Chamber Street between Greenwich Street and Route 9A/West Street	NYC Parks	2.15	1.72	0.43	Playground, garden, benches, grass field, gazebo, picnic tables, spray fountain, basketball courts, tennis courts, bathrooms	Excellent/Moderate
37	Tribeca Park	Walker Street, Beach Street, between John's Lane and Sixth Avenue	NYC Parks/NYCDOT	0.32	0	0.32	Benches, plantings, sculpture	Good/Moderate
38	Duane Park	Hudson Street, Duane Street, Thomas Street	NYC Parks	0.12	0	0.12	Benches and trees	Excellent/Moderate
39	Finn Square	Franklin Street, Varick Street, West Broadway	NYCDOT	0.12	0	0.12	Plantings, bench	Fair/Low

Table 3.11.2-3 (cont'd)
Inventory of Existing Publicly Accessible Open Space Resources

Map ID No.	Name	Location	Owner	Total Acres	Active Acres	Passive Acres	Amenities	Condition/ Utilization
40	Canal Park	Canal Street between Route 9A/West Street and Washington Street	NYC Parks/NYCDOT	0.67	0	0.67	Benches, trees, plantings	Excellent/Low
41	Albert Capsouto Park	Laight Street, Canal Street, and Varick Street	NYC Parks/NYCDOT	0.37	0	0.37	Plantings, benches, chess tables, sculpture, historic plaques, lawn areas	Excellent/Low
42	Salmon Smith Barney Plaza	Greenwich Street and North Moore Street	Private (POPS)	0.47	0	0.47	Benches, trees, tables, shade structures	Excellent/Low
43	Tribeca Tower	Duane Street between Broadway and Trimble Place	Private (POPS)	0.23	0	0.23	Plantings, seating areas	Good/Low
44	Tribeca Dog Run	Warren Street between Greenwich Street and Route 9A/West Street	NYC Parks	0.10	0	0.10	Dog-friendly areas	Good/Moderate
45	Pier A and Pier A Plaza ⁽⁴⁾	Along Hudson River between Wagner Park and The Battery	NYCSBS/BPCA	1.52	0	1.52	Seating, tables, Pier A Harbor House with visitor center	Good/Low
46	Pier 26 Science Play Area	Along Hudson River at North Moore Street	HRPT	0.09	0.09	0.00	Playground, plantings, seating, and educational programming	Excellent/Moderate
Nonresidential Study Area Totals				68.00	26.55	41.46		
Residential Study Area (1/2-mile Census Tract Based)								
47	The Battery	Southwestern tip of Manhattan	NYC Parks	21.88	5.47	16.41	Lawn, benches, sculptures, esplanade, eateries, bathrooms, carousel, playscape (under construction), harbor cruise docks, memorials	Excellent/Heavy
48	Peter Minuit Plaza	South of State Street and west of Whitehall Street	NYC Parks	1.30	0	1.30	Benches, plantings, information booth	Good/Heavy
49	State Island Ferry Whitehall Terminal	Whitehall Street and South Street	NYCSBS	0.60	0	0.60	Elevated plaza, benches, panoramic views	Good/Moderate

Table 3.11.2-3 (cont'd)
Inventory of Existing Publicly Accessible Open Space Resources

Map ID No.	Name	Location	Owner	Total Acres	Active Acres	Passive Acres	Amenities	Condition/Utilization
50	1 State Street Plaza	West side of Whitehall Street north of State Street	Private (POPS)	0.22	0	0.22	Plaza, planters, plantings, trees, seating	Good/Low
51	1 Battery Park Plaza	Southwest corner of Bridge Street and Whitehall Street	Private (POPS)	0.27	0	0.27	Plaza, planters, flagpoles, seating	Good/Low
52	17 State Street	Pearl Street west of State Street	Private (POPS)	0.14	0	0.14	Plaza, plantings, statue, seating, trees	Excellent/Low
53	1 New York Plaza	State Street between Broad Street and Whitehall Street	Private (POPS)	0.90	0	0.90	Plaza, planters, seating	Good/Low
54	4 New York Plaza	115 Broad Street	Private (POPS)	0.23	0	0.23	Open plaza, planters, seating, trees	Good/Low
55	2 New York Plaza	125 Broad Street	Private (POPS)	0.57	0	0.57	Plaza, planters, seating, trees	Good/Low
56	Vietnam Veterans Plaza	South Street between Broad Street and Old Slip	NYC Parks	0.73	0	0.73	Benches, trees, monument, steps, amphitheater, fountain	Excellent/Low
57	Coenties Slip	Corner of Water Street and Coenties Slip	NYC Parks	0.13	0	0.13	Benches, seating, trees, plants, sculpture	Good/Low
58	7 Hanover Square	Water Street to Pearl Street between Coenties Alley and Hanover Square	Private (POPS)	0.17	0	0.17	Through block covered arcade with seating and planters	Good/Low
59	55 Water Street Elevated Plaza and Arcade	Water Street between Coenties Alley and Old Slip	Private (POPS)	2.10	0	2.10	Tables, chairs, benches, lawn, trees, plantings, open plaza	Excellent/Low
60	52 Broadway	Broadway between Exchange Place and Morris Street	Private (POPS)	0.11	0	0.11	Indoor space with tables and chairs	Fair/Low
61	85 Broad Street	Broad Street between Pearl Street and South William Street	Private (POPS)	0.52	0	0.52	Seating, planters, lighting, trees	Good/Low
62	New York Plaza	Whitehall Street, Broad Street, and Water Street	NYCDOT	0.37	0	0.37	Softscaped plaza, planters, benches	Good/Low

Table 3.11.2-3 (cont'd)
Inventory of Existing Publicly Accessible Open Space Resources

Map ID No.	Name	Location	Owner	Total Acres	Active Acres	Passive Acres	Amenities	Condition/Utilization
63	Grand Canal Court	Thompson Street, Canal Street, and Sixth Avenue	NYC Parks	0.13	0.13	0	Basketball court, playground	Good/Low
64	City Hall Park	Broadway, Park Row, and Chambers Street	NYC Parks	8.08	0	8.08	A large fountain, a plaza area, art installations, plantings, tree coverage, statues, chess tables, wifi hotspots, eateries, benches	Good/Heavy
65	Father Fagan Park	Sixth Avenue, Prince Street, and Spring Street	NYC Parks	0.15	0	0.15	Benches and trees	Good/Moderate
66	Collect Pond Park	Leonard Street, Centre Street, and Lafayette Street	NYC Parks	0.99	0	0.99	A pond, a plaza area, planters, water fountains, trees, tables, benches	Good/Moderate
67	Thomas Paine Park	Lafayette Street, Centre Street, and Worth Street	NYC Parks	1.88	0	1.88	Benches, lawn areas, a plaza area, a large fountain, statues, a garden, tree coverage, wifi hotspots	Good/Moderate
68	Duarte Square	Sixth Avenue, Canal Street, and Grand Street	NYC Parks	0.45	0	0.45	Statue of Juan Pablo Duarte, benches, trees, Citibike station	Fair/Low
69	Playground of the Americas	Sixth Avenue and West Houston Street	NYC Parks	0.08	0.08	0	Playground, trees, benches, plantings	Excellent/Low
70	Charlton Plaza	Sixth Avenue and Charlton Street	NYC Parks	0.04	0	0.04	Benches, game tables, plantings, and mural artwork	Excellent/Low
71	African Burial Ground National Monument	Duane Street between Elk Street and Broadway	National Parks Service	0.11	0	0.11	Monument, plantings, a plaza area, benches	Good/Moderate
72	Jackob K Javits Federal Building Plazas	Lafayette Street, Duane Street, Broadway, and Worth Street	U.S. General Services Admin.	1.39	0	1.39	Plaza areas, benches, plantings, planters, a fountain, sculptures	Good/Moderate
73	Mandarin Plaza	Broadway and White Street	Private (POPS)	0.08	0	0.08	Large planters, water fountain, pergola, seating area with benches, bike racks	Fair/Low
74	The Dominick	Spring Street between Varick	Private (POPS)	0.16	0	0.16	Benches, plantings, trees, tables and chairs	Excellent/Moderate

Table 3.11.2-3 (cont'd)
Inventory of Existing Publicly Accessible Open Space Resources

Map ID No.	Name	Location	Owner	Total Acres	Active Acres	Passive Acres	Amenities	Condition/Utilization
		Street and Sixth Avenue						
75	Soho Square	Sixth Avenue and Spring Street	NYC Parks/DOT	0.58	0	0.58	Gen. Jose Artigas Monument, benches, tree coverage	Good/Moderate
76	Open Space at Watts and Broome	Watts Street, Broome Street, and Thompson Street	NYC Parks/DOT	0.04	0	0.04	Benches and plantings	Good/Moderate
77	Freeman Plaza	Broome Street, Varick Street, Watts Street, and Hudson Streets (Entrance to Holland Tunnel)	NYCDOT	0.78	0	0.78	Tables and chairs, lawn chairs, trees, benches	Good/Moderate
78	375 Hudson Street	Block bounded by West Houston Street, Hudson Street, King Street, and Greenwich Street	Private (POPS)	0.30	0	0.30	Planters	Good/Low
79	Imagination Playground	John Street, South Street, and Front Street	NYC Parks	0.39	0.312	0.078	Playground, benches	Excellent/Heavy
80	QE II 9/11 Garden	Hanover Street, Pearl Street, and William Street	NYC Parks	0.12	0	0.12	Seating, statue, planters, trees, plantings	Excellent/Low
81	Mannahatta Park	Wall Street between Water Street and South Street	NYC Parks	0.47	0	0.47	Trees, fountain, seating	Fair/Low
82	Federal Hall Steps	Wall Street, Broad Street, and Nassau Street	National Parks Service	0.06	0	0.06	Steps, statue	Fair/Moderate
83	Louise Nevelson Plaza	Maiden Lane and William Street	NYCDOT	0.25	0	0.25	Benches, trees, sculpture, lighting	Fair/Low
84	86 Water Street/10 Hanover Square	Pearl Street, Water Street, William Street	Private (POPS)	0.08	0	0.08	Stairs, tables, seating, plantings	Fair/Low
85	Old Slip Plaza	Old Slip and South Street	NYC Parks	0.05	0	0.05	Trees, lighting, fountain, plantings, benches	Fair/Moderate

Table 3.11.2-3 (cont'd)
Inventory of Existing Publicly Accessible Open Space Resources

Map ID No.	Name	Location	Owner	Total Acres	Active Acres	Passive Acres	Amenities	Condition/Utilization
86	Bennett Park (77 Water Street Plaza)	Water Street, Front Street and Gouverneur Lane	Private (POPS)	0.32	0	0.32	Benches, fountains, trees, sculpture	Fair/Low
87	Gouverneur Lane (32 Old Slip)	Front Street, South Street, Gouverneur Lane	Private (POPS)	0.41	0	0.41	Trees, benches, lighting	Fair/Low
88	111 Wall Street Plaza	Front Street, Gouverneur Lane, Wall Street	Private (POPS)	0.31	0	0.31	Benches, trees, planters, bike racks	Fair/Low
89	75 Wall Street Plaza	Water Street and Pearl Street	Private (POPS)	0.30	0	0.3	Seating, planters, trees	Fair /Low
90	Bank of New York Plaza	Broadway and Exchange Place	Private (POPS)	0.11	0	0.11	Seating, planters, trees	Under Reconstruction/ N/A
91	200 Water Street	Pearl Street, Fulton Street, Water Street	Private (POPS)	0.17	0	0.17	Art, seating, tables, plantings	Fair/Moderate
92	Pier 15	South Street	NYCSBS	0.69	0	0.69	Grass, plantings, seating, panoramic views	Excellent/Moderate
93	Pier 16	South Street	NYCSBS	1.57	0	1.57	Seating, panoramic views	Fair/Moderate
94	Pier 11	Gouverneur Lane and South Street	NYCSBS	0.76	0	0.76	Benches, covered waiting areas, ferries	Fair/Heavy
95	180 Maiden Lane	Front Street, South Street, Maiden Lane	Private (POPS)	0.52	0	0.52	Benches, trees, indoor open space, lighting	Fair/Low
96	Wall Street Plaza/88 Pine Street	Water Street, Front Street, Pine Street	Private (POPS)	0.23	0	0.23	Benches, trees, sculpture, water feature, lighting	Fair/Moderate
97	60 Wall Street/JP Morgan	Wall Street and Hanover Street	Private (POPS)	0.35	0	0.35	Indoor space with seating, plants, restrooms, pedestrian thoroughway	Fair/Moderate
98	Chase Manhattan Plaza	William Street and Cedar Street	Private (POPS)	1.31	0	1.31	Benches, trees, planters, lighting, sculpture	Excellent/Moderate
99	10 Liberty Street	Cedar Street between William Street and Pearl Street	Private (POPS)	0.11	0	0.11	Plantings, seating, trees, water feature	Fair/Low
100	140 Broadway Plaza, south side	Cedar Street between Broadway and Broad Street	Private (POPS)	0.46	0	0.46	Planters, trees, seating, sculpture	Fair/Low
101	Home Insurance Company Plaza	Maiden Lane and William Street	Private (POPS)	0.19	0	0.19	Seating, plantings, lighting, trees	Fair/Low

Table 3.11.2-3 (cont'd)
Inventory of Existing Publicly Accessible Open Space Resources

Map ID No.	Name	Location	Owner	Total Acres	Active Acres	Passive Acres	Amenities	Condition/Utilization
102	100 William Street	William Street between Dey Street and Fulton Street	Private (POPS)	0.12	0	0.12	Covered pedestrian space, seating	Fair/Low
103	160 Water Street	Pearl Street and Fletcher Street	Private (POPS)	0.13	0	0.13	Open plaza	Fair/Low
104	2 Gold Street	Platt Street between Gold Street and Pearl Street	Private (POPS)	0.19	0	0.19	Seating, trees	Fair/Moderate
105	Cliff Street Plaza	Cliff Street between John Street and Fulton Street	Private (POPS)	0.04	0	0.04	Seating, plants, trees	Excellent/Low
106	Two Federal Reserve Plaza	Nassau street and Dey Street	Private (POPS)	0.10	0	0.10	Covered pedestrian space, seating	Excellent/Low
107	175 Water Street	Water Street, Fletcher Street, and John Street	Private (POPS)	0.13	0	0.13	Open plaza	Good/Low
108	East River Waterfront Esplanade	East River between Old Slip and Catherine Street	NYC Parks	3.12	1.56	1.56	Seating, plantings, tables, dog run, pedestrian path, bike lane	Fair/Heavy
Residential Study Area Totals				131.70	36.68	95.02		
Notes: ⁽¹⁾ Wagner Park totals approximately 3.30 acres of the Battery Park City Esplanade and Parks and is temporarily under construction as part of the South Battery Park City Resiliency Project. ⁽²⁾ Part of the Schoolyards to Playgrounds Program ⁽³⁾ Only 13.63 acres of this resource are within the Nonresidential Study Area (split between 6.82 active and 6.82 passive). ⁽⁴⁾ Pier A and the Pier A Plaza are temporarily under construction as part of the South Battery Park City Resiliency Project.								

3.11.2.5.3 Open Space Ratios

Nonresidential Study Area

The nonresidential Study Area has a passive open space ratio of 0.30 acres per 1,000 nonresidents, which is double New York City's planning guideline of 0.15 acres per 1,000 nonresidents (see **Table 3.11.2-4**).

Table 3.11.2-4

Adequacy of Nonresidential Study Area Open Space Resources: Existing Conditions

Existing Nonresidential Worker Population	Acres of Passive Open Space	Passive Open Space Ratio
136,150	41.46	0.30
Note: Ratios in acres per 1,000 people		

Residential Study Area

The residential Study Area has an open space ratio of 1.71 acres per 1,000 residents (see **Table 3.11.2-5**). The active open space ratio is 0.48 acres per 1,000 residents and the passive open space ratio is 1.24 acres per 1,000 residents. The total and active open space ratios are below City guidelines; however, the passive open space ratio is higher than City guidelines.

Table 3.11.2-5

Adequacy of Residential Study Area Open Space Resources: Existing Conditions

Residential Population	Open Space Acreage			Open Space Ratios			City Open Space Goals		
	Total	Active	Passive	Total	Active	Passive	Total	Active	Passive
76,519	131.70	36.68	95.02	1.72	0.48	1.24	2.5	2	0.5
Note: Ratios in acres per 1,000 people									

3.11.2.6 No Action Conditions

In the No Action condition, there is no construction of the flood barrier system or the associated direct or indirect effects on open space, and the Protected Area will continue to be subject to greater flood risk. However, an independent project within Battery Park City that will move forward under the direction of BPCA are targeted drainage improvements in Rockefeller Park with the objective of repairing and improving the existing drainage system and including repair and replacement of inlets coupled with the replacement of broken pipes, where needed. These improvements, which include raising seven currently buried/covered inlet structures, restoring full drainage function at four inlets, and cleaning out twenty inlets, would have very limited and targeted areas of disturbance and are expected to be completed in 2025. The improvements would not impact the overall acreage of open space available within Rockefeller Park.

3.11.2.6.1 Populations

In the future without the Proposed Project, several developments are anticipated to be completed in the surrounding Study Areas; this will affect the open space ratios by introducing new nonresidential and residential populations. These developments are shown in **Table 3.11.2-6**. As noted above, for the purpose of this analysis, the new developments in the Study Area are expected to be complete by 2030. As a result of these developments, the nonresidential population is anticipated to increase by 9,600 to 145,750 nonresidents, and the residential population is anticipated to increase by 739 to 77,258 residents.

**Table 3.11.2-6
No Action Development Projects in the Open Space Study Areas**

Map ID No.	Name/Address	Program
Nonresidential Study Area (1/4-mile Census Tract Based)		
1	2 World Trade Center	2,300,000 gsf of office use; 143,000 gsf of retail use
2	45 Park Place	50 Dus
3	265-267 Broadway	30 DUs; 109 hotel rooms
4	South Battery Park City Resiliency Project	Resilience project to install an integrated coastal flood management system in portions of Wagner Park and The Battery.
5	Battery Park Underpass and Route 9A/West Street Underpass Project	Resiliency project to protect Battery Park Underpass and Route 9A/West Street Underpass from sea level rise and storm surge through installation of flood gates within portals.
6	Battery Coastal Resilience Project	Resilience project to elevate the waterfront esplanade and integrate grassy berm in The Battery
7	Hudson River Park Estuarium	10,000 gsf environmental education and research facility
Nonresidential Study Area Totals		80 DUs; 144,252 gsf of retail uses; 2,300,000 gsf of office uses; 10,000 gsf of community facility uses; 109 hotel rooms
Residential Study Area (1/2-mile Census Tract Based)		
8	11 Greene Street	36 DUs; 13,987 gsf of retail uses
9	7 Platt Street	250 DUs; 172 hotel rooms
Residential Study Area Totals (Includes projects listed above)		366 DUs; 157,239 gsf of retail uses; 2,300,000 gsf of office uses; 281 hotel rooms

3.11.2.6.2 Open Space Resources

Several changes to open space resources in the Study Areas are anticipated under the No Action condition. One resource, the Albany Street Plaza (#29 in **Table 3.11.2-3**), is located on the site of the planned WTC Tower 5 and will be displaced when construction commences. This will eliminate 0.21 acres of passive open space from both the nonresidential and residential Study Areas.

Another project, the South Battery Park City Resiliency (SBPCR) Project, will also be completed. The SBPCR Project is rebuilding several southern sections of the Battery Park City Esplanade, along with other Battery Park City parks including Wagner Park and Pier A plaza. In addition to replacing the open space, this project will create an integrated coastal flood risk management system by raising portions of these parks and installing flip-up deployable floodgates, glass-topped floodwalls, buried floodwalls beneath terraced slopes, exposed floodwalls, and bermed floodwalls. While the segments of the Battery Park City Esplanade, Wagner Park, and The Battery within the SBPCR Project area are currently closed for construction, they are projected to reopen in spring 2025 with no changes to open space acreage. The Proposed Project is to connect or “tie in” to the SBPCR Project at 1st Place.

In addition to the completion of the SBPCR Project, two other projects are projected to be complete in the Study Area: The Battery Coastal Resilience Project and the Battery Park Underpass and the Route 9A/West Street Underpass Project. The Battery Coastal Resilience Project is elevating the waterfront esplanade in The Battery and is projected to be complete by August 2025. The Battery Park Underpass and Route 9A/West Street Underpass Project is anticipated to be completed by December 2024. Given that these projects are expected to reopen before the construction analysis year, they are included as part of the total open space resources available to the public under the No Action condition.

HRPT recently constructed the Pier 26 Science Play Area for children. In addition to the new play area, HRPT has started the design process for a new Estuarium in the upland area between Piers 25 and 26. While there is no fixed date, construction could start as soon as two years from now. Absent the Proposed Project, the new Estuarium would serve as a new environmental education and research facility for community members, educators, and scientists. The 10,000-gsf facility would offer a laboratory, public exhibit, and learning space designed to provide hands-on programs about urban ecology in the New York Harbor and larger Hudson River ecosystem.

Based on the above, the amount of open space in the nonresidential Study Area will increase from 68.00 acres to 72.61 acres of total open space and from 41.46 acres to 46.07 acres of passive open space. The amount of open space in the residential Study Area will increase slightly from 131.70 to 136.31 acres of total open space and from 95.02 to 99.63 acres of passive open space. There will be no change in the amount of active open space.

3.11.2.6.3 Open Space Ratios

Nonresidential Study Area

In the No Action condition, the nonresidential Study Area's passive open space ratio is anticipated to increase from 0.30 to 0.32 acres per 1,000 nonresidents in the No Action condition, as shown in **Table 3.11.2-7**. The passive open space ratio will continue to be nearly double New York City's planning guideline of 0.15 acres per 1,000 nonresidents.

Table 3.11.2-7

Adequacy of Nonresidential Study Area Open Space Resources: No Action Condition

Existing Nonresidential Worker Population	Acres of Passive Open Space	Passive Open Space Ratio
	Total	Total
145,750	46.07	0.32
Note: Ratios in acres per 1,000 people		

Residential Study Area

In the No Action condition, the residential Study Area's open space ratio is anticipated to increase from 1.72 to 1.76 acres per 1,000 residents in the No Action condition, as shown in **Table 3.11.2-8**. The active open space ratio will remain at 0.48 acres per 1,000 residents and the passive open space ratio will

increase from 1.24 to 1.29 acres per 1,000 residents. The total and active open space ratios will continue to be below City guidelines; however, the passive open space ratio will remain higher than City guidelines.

Table 3.11.2-8**Adequacy of Residential Study Area Open Space Resources: No Action Condition**

Residential Population	Open Space Acreage			Open Space Ratios			City Open Space Goals		
	Total	Active	Passive	Total	Active	Passive	Total	Active	Passive
77,258	136.31	36.68	99.63	1.76	0.48	1.29	2.5	2	0.5

Note: Ratios in acres per 1,000 people

3.11.2.7 Proposed Action Conditions

The analysis below examines the temporary effects on public open spaces (direct effects) during project construction and the phasing described in Section 3.11.1, “Construction Overview.” These effects are summarized in **Table 3.11.2-9** for each open space in each of the seven project reaches and provided below is a description of the direct and indirect effects of the Proposed Project during construction. There are also a number of construction subtasks that are referred to as Early Works Packages (EWP) necessary to advance the project and reduce potential conflicts and interferences with the flood barrier system installation. Activities related to the EWPs are anticipated to commence in July 2025 and are not expected to result in the closure of open space resources.

Table 3.11.2-9**Open Space Resources Temporarily Closed During Construction**

Project Element	Affected Resource	Start Date	End Date	Acres ¹
Reach 1	Plantings, Hudson River Park, Hudson River Greenway	4th Quarter 2025	4th Quarter 2029	0.44
Reach 2	Esplanade, seating, planting areas	4th Quarter 2025	4rd Quarter 2028	1.07
Reach 3	Esplanade, Rockefeller Park lawn, plantings, seating, sculptures, playground, and basketball and handball courts	1st Quarter 2028	2nd Quarter 2030	1.93
Reach 4	Esplanade, seating, plantings	3rd Quarter 2027	1st Quarter 2030	0.90
Reach 5	Esplanade, seating, plantings, volleyball court, Pumphouse Park lawn, plaza	4th Quarter 2025	2nd Quarter 2030	3.23
Reach 6	Esplanade, seating, plantings	4th Quarter 2025	4th Quarter 2028	3.05
Reach 7	Esplanade, seating, plantings, and game tables	4th Quarter 2025	4th Quarter 2027	1.12
Total²				11.74

Notes: ¹ Open space resource acreages do not include staging areas in the NYCDOT roadway, parking lane, and/or traffic median.

² The total acreage is estimated for the 2028 construction analysis year.

Source:

Turner-EE Cruz JV, May 30, 2024

3.11.2.7.1 Construction Sequencing**2025 Analysis Year**

Under the proposed phasing, construction activities are proposed to commence in the 4th Quarter of 2025 across Reaches 1, 2, 5, 6, and 7, closing portions of the Esplanade, the North Cove Marina, Kowksy

and Belvedere Plazas, and South Cove. As a result, approximately 8.91 acres would be closed by the last Quarter of 2025.

2026 Analysis Year

In 2026 the five reaches identified above would continue to be under construction. No new construction in the remaining two reaches would begin throughout the Project Area and the 8.91 acres closed at the end of 2025 would remain under construction. Pump station construction would also commence along Reach 1 in the latter half of 2026 adjacent to the Greenway.

2027 Analysis Year

Construction activities would continue throughout 2027 and would commence in Reach 4 resulting in the temporary closure of 10.62 acres of open space after the first six months of the year. However, by the 4th Quarter of 2027, open spaces would begin to reopen to the public starting with Reach 7. South Cove and the southern segment of the Esplanade in Reach 6 would become fully accessible to the public once again with a restored connection to the improvements at Wagner Park. Pump station construction would also be underway adjacent to the Greenway.

2028 Analysis Year

In 2028 construction would continue along the remaining five reaches of the Proposed Project for the first half of 2028, and construction would commence in Reach 3 along Rockefeller Park. In the first half of the year, approximately 10.62 acres of open space would be closed to the public. However, by mid-2028, Reach 2 is anticipated to reopen and by the end of the year, Reach 6 would reopen, allowing for large portions of the Esplanade to reopen to the public by the end of the summer. Finally, Reach 3 would conclude construction by December 2028. During this analysis year the Proposed Project would also reopen the basketball courts and playground equipment in Reach 3 with similar infrastructure and a similar footprint as the existing condition and No Action condition. Pump station construction would also be underway adjacent to the Greenway.

2029 Analysis Year

At the beginning of 2029, approximately 4.1 acres would reopen to the public from construction completion the previous year leaving approximately 6.5 acres temporarily closed in Reaches 1, 3, 4 and 5. During this year, Pumphouse Park in Reach 5 would be fully reopened, maintaining a similar footprint as the existing condition, while portions of Kowsky Park and Belvedere Plaza remain temporarily closed to the public. Pump station construction would also be underway adjacent to the Greenway through the 3rd Quarter of 2029.

2030 Analysis Year

At the start of 2030, only a small portion of the Esplanade along Reaches 3 and 4, and Kowsky Park within Reach 5 would remain closed due to construction. However, by the end of the 2nd Quarter of 2030, it is anticipated that construction would reach completion and the entirety of the Project Area would once

again be reopened to the public. Therefore, it is assumed that in Winter 2030, public access to the open spaces would be fully reestablished.

3.11.2.7.2 Direct Impact Assessment

Project Area

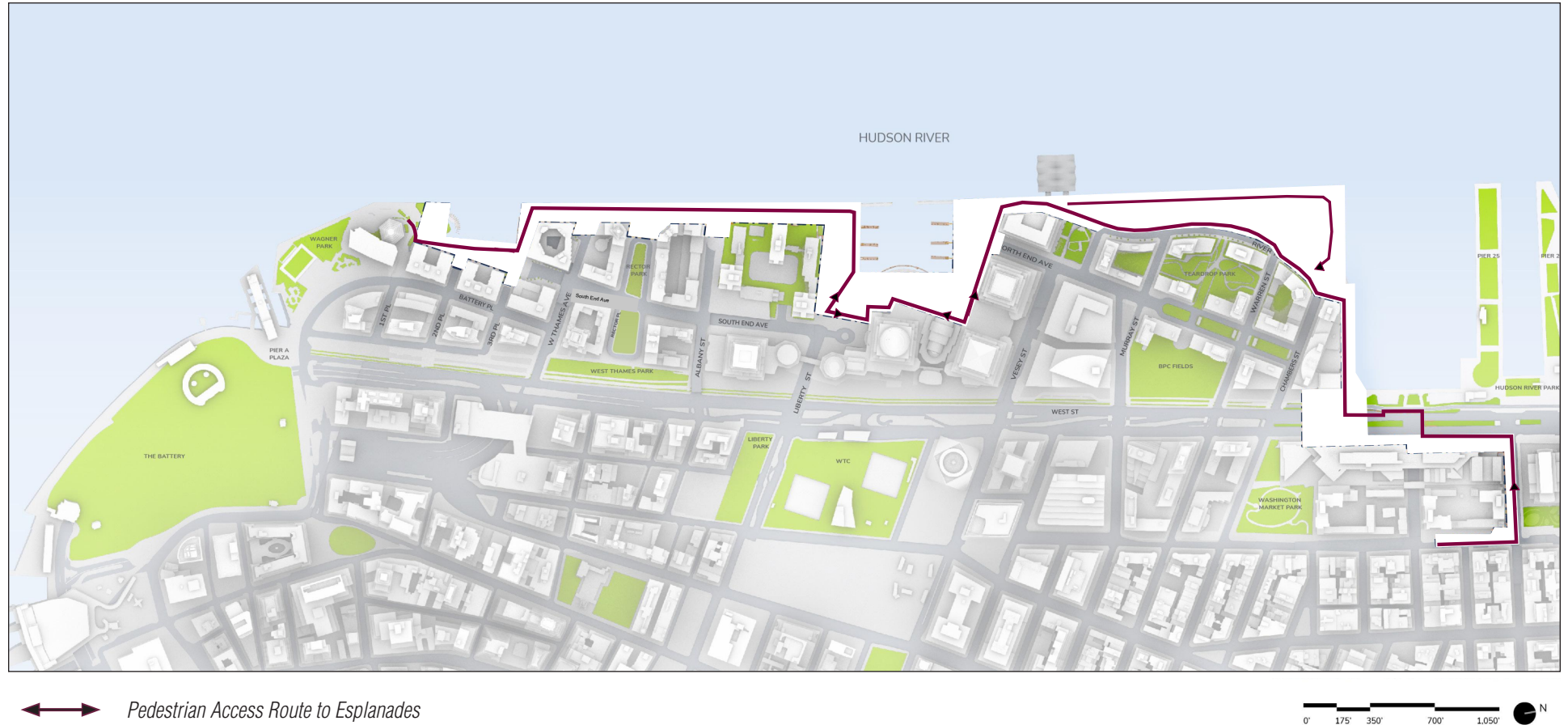
Affected Open Spaces

The Project Area is largely within the 26.04 acres of the Battery Park City Esplanade and waterfront parks and includes segments of the Battery Park City Esplanade and open spaces such as Pumphouse Park and Belvedere Plaza, North Cove, South Cove and the interconnecting esplanade; in addition to the Battery Park City open spaces, the Project Area also includes a portion of Hudson River Park to the north and the Hudson River Greenway to the east.

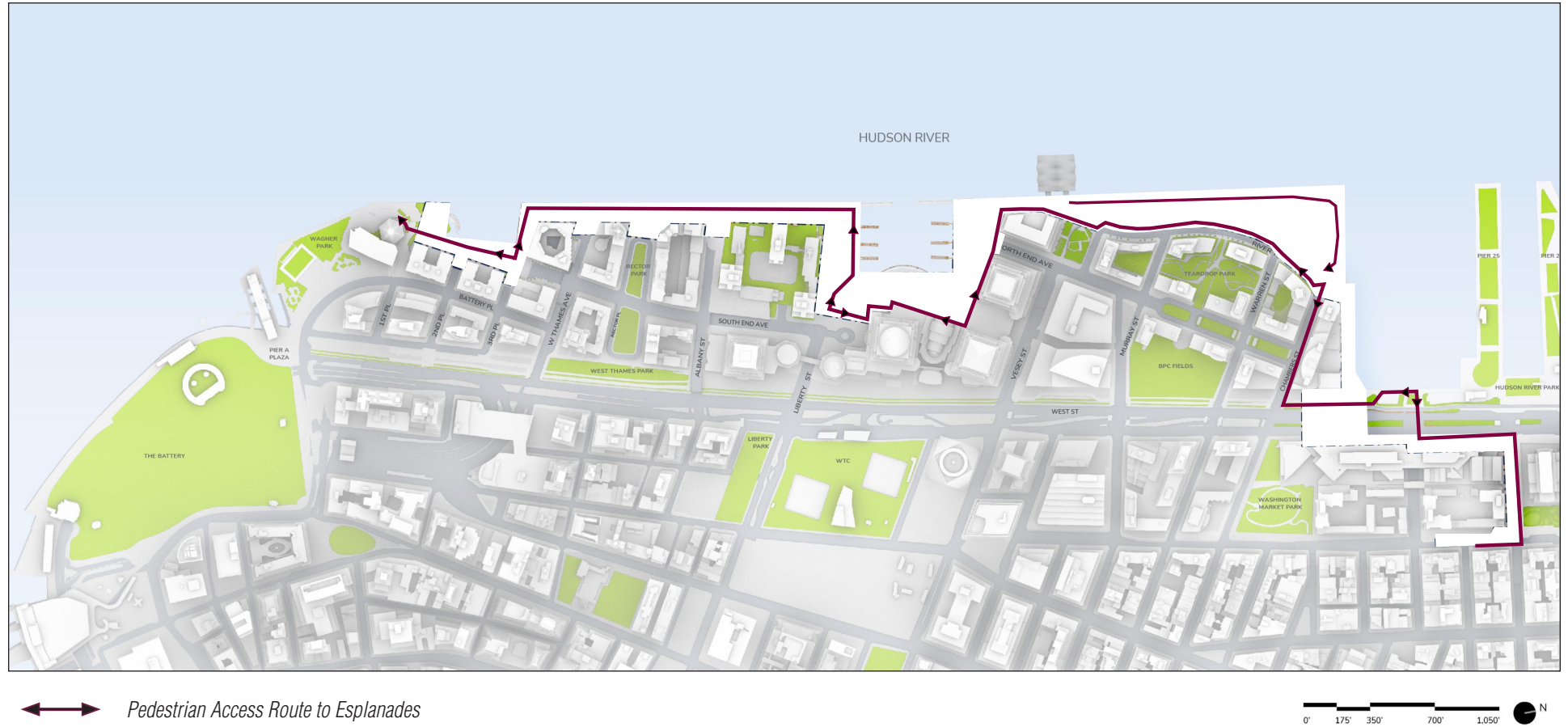
To understand the construction period impacts on open space, as described above, a preliminary construction schedule was developed for the Proposed Project that identifies the construction sequencing across the seven project reaches and open spaces. As also described above, in the peak construction analysis year for open space impacts, approximately 10.62 acres of open space in the Project Area would be temporarily under construction (see **Table 3.11.2-9**).

Under the Proposed Project, construction is projected to begin simultaneously in Reaches 1, 2, 5, 6, and 7 in the 4th Quarter of 2025. Construction in Reach 1 would primarily be along street rights-of-way including North Moore and Harrison Streets and Route 9A/West Street and would not affect open space resources. However, Reach 1 extends across Route 9A/West Street to Stuyvesant Plaza where it crosses the Hudson River Greenway and Hudson River Park before transitioning into Reach 2. During construction of Reach 1, approximately 0.44 acres of open space would be temporarily closed between 2025 and 2029 in order to construct the foundations of the proposed swing gates that are designed to flank the Greenway and the central support column. Since the Greenway is a critical linear open space, it will be necessary to construct these gate foundations in a manner that minimizes impacts on use of the Greenway, recognizing that periodic closures and detours would be necessary to install foundational elements and to hang the gate installations. In order to provide for continuity of pedestrian flows path in the Greenway, it will be necessary to establish a temporary narrow and offset rerouting of pedestrians and bicyclists adjacent to the portions of the Greenway that would be closed due to construction (see **Figures 3.11.2-3a through 3.11.2-3l**). A construction access agreement would be required with NYSDOT for work within the Greenway.

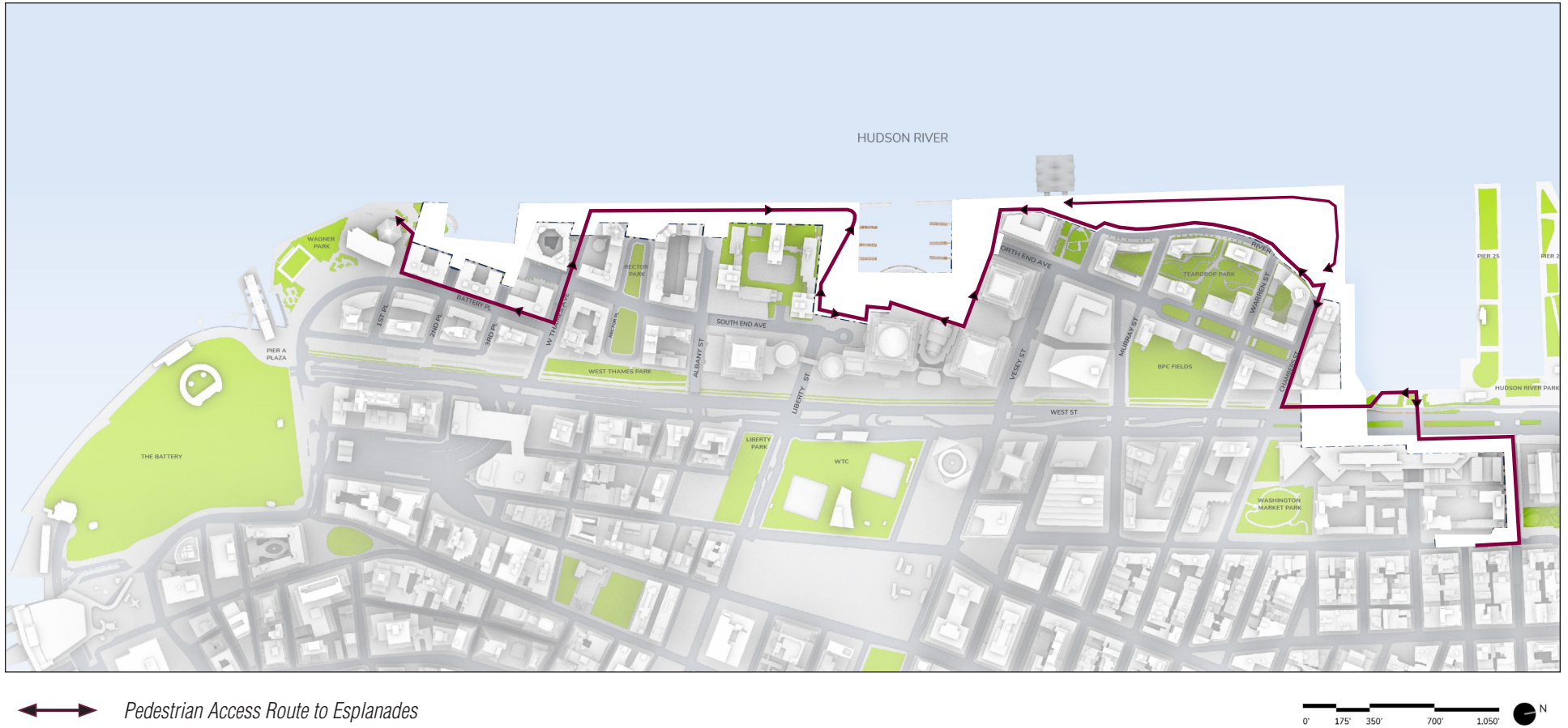
The proposed pump station would be located in the plaza area between Stuyvesant High School and the Greenway. It is expected that the construction of the pump station would begin in the 4th Quarter of 2026 and continue through the 4th Quarter of 2029. Since the construction site is adjacent to the Greenway, it is expected that there will be temporary disruptions during the course of construction for equipment operation and access. It is also expected that any temporary access or use of the Greenway during pump station construction would also be subject to a construction access agreement with NYSDOT.



Public Access and Construction Staging Phasing
Existing Conditions (Month 0)
Figure 3.11.2-3a

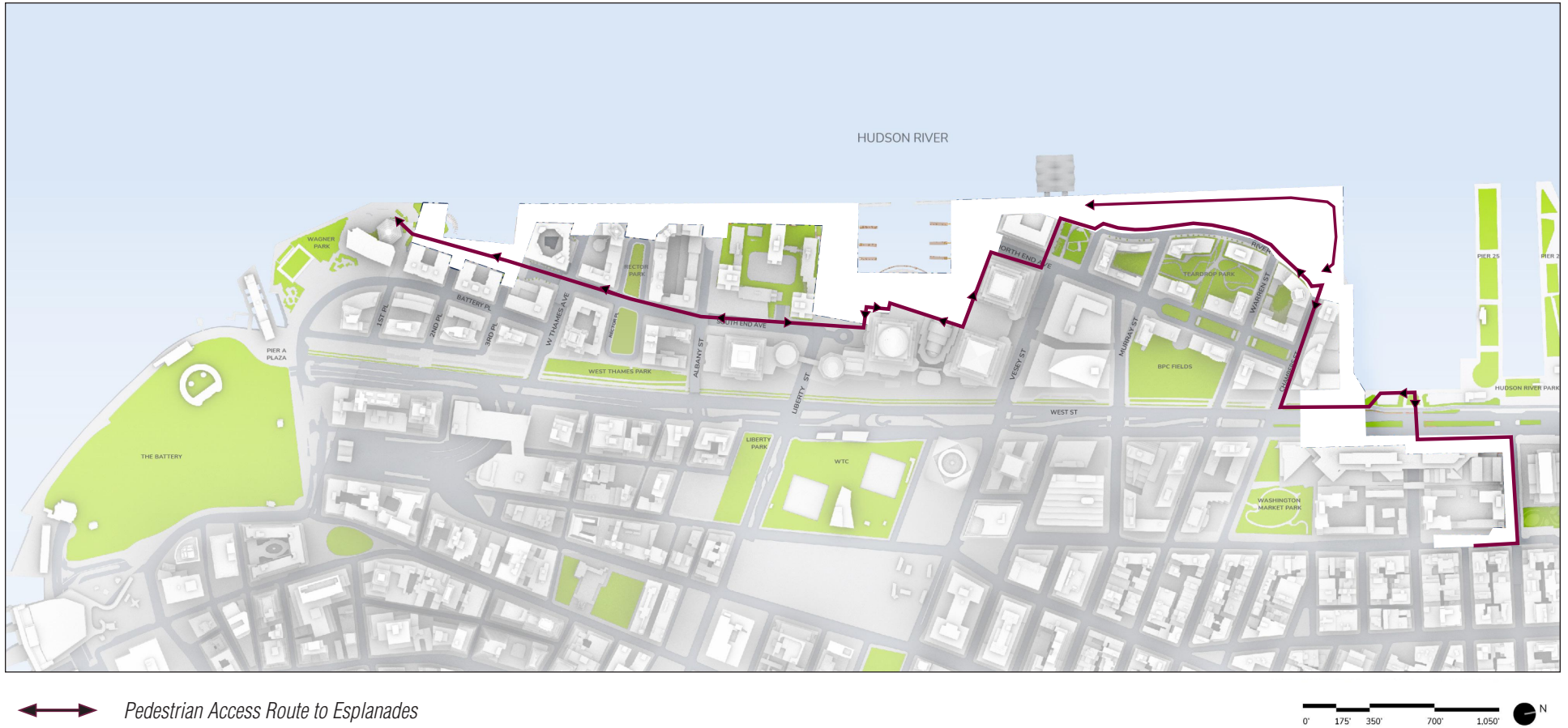


Public Access and Construction Staging Phasing
Month 1 - Stages Under Construction
Figure 3.11.2-3b

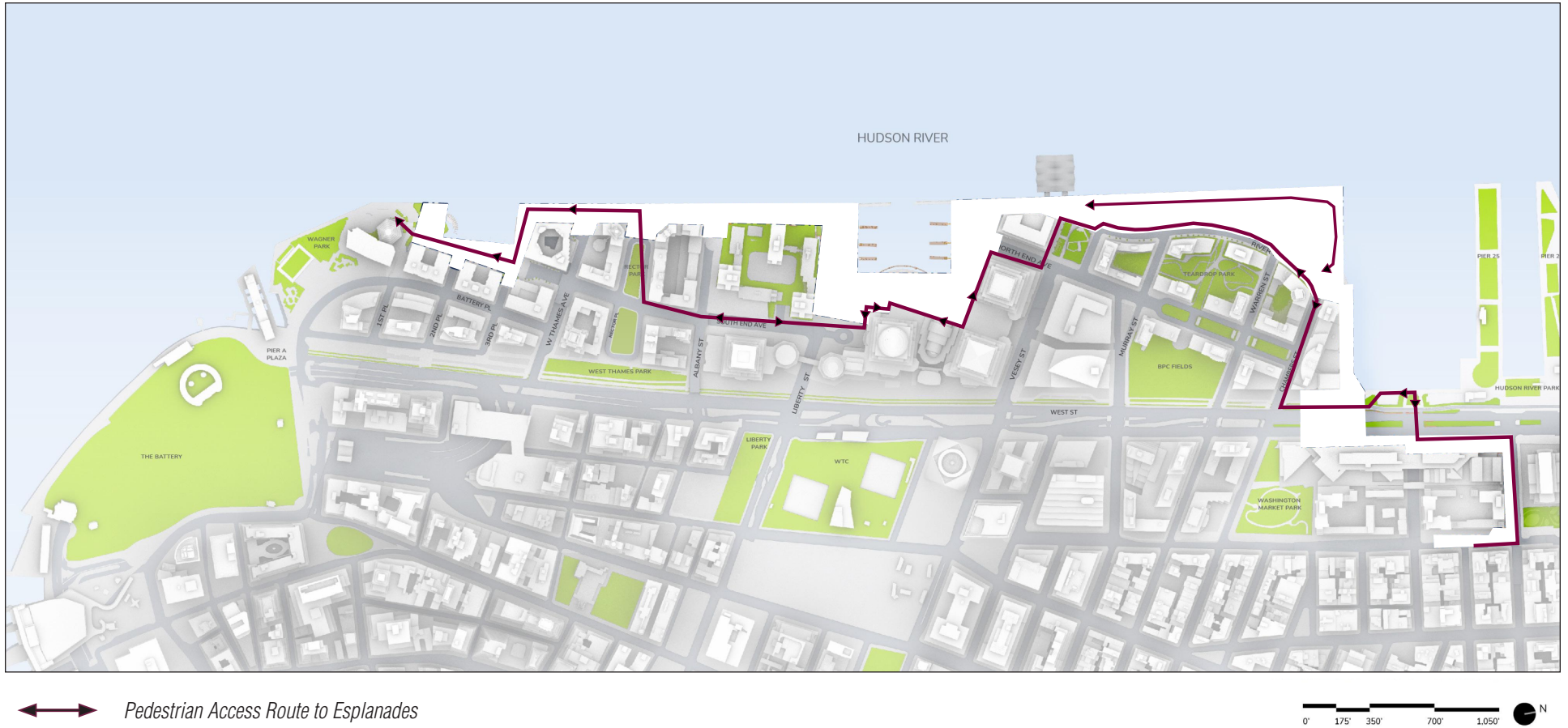


Public Access and Construction Staging Phasing
Month 7 - Stages Under Construction
Figure 3.11.2-3c

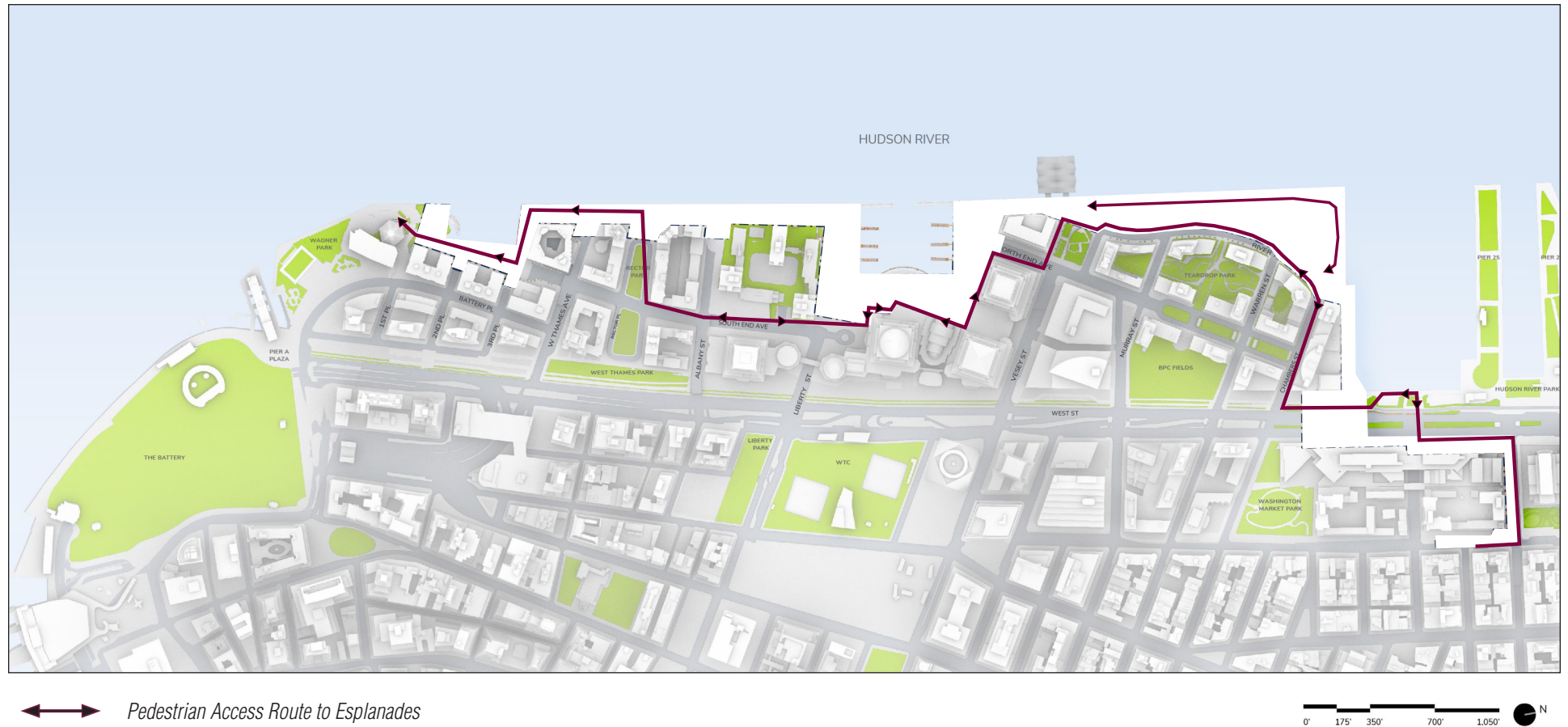
Public Access and Construction Staging Phasing
Month 13 - Stages Under Construction
Figure 3.11.2-3d



Public Access and Construction Staging Phasing
Month 19 - Stages Under Construction
Figure 3.11.2-3e

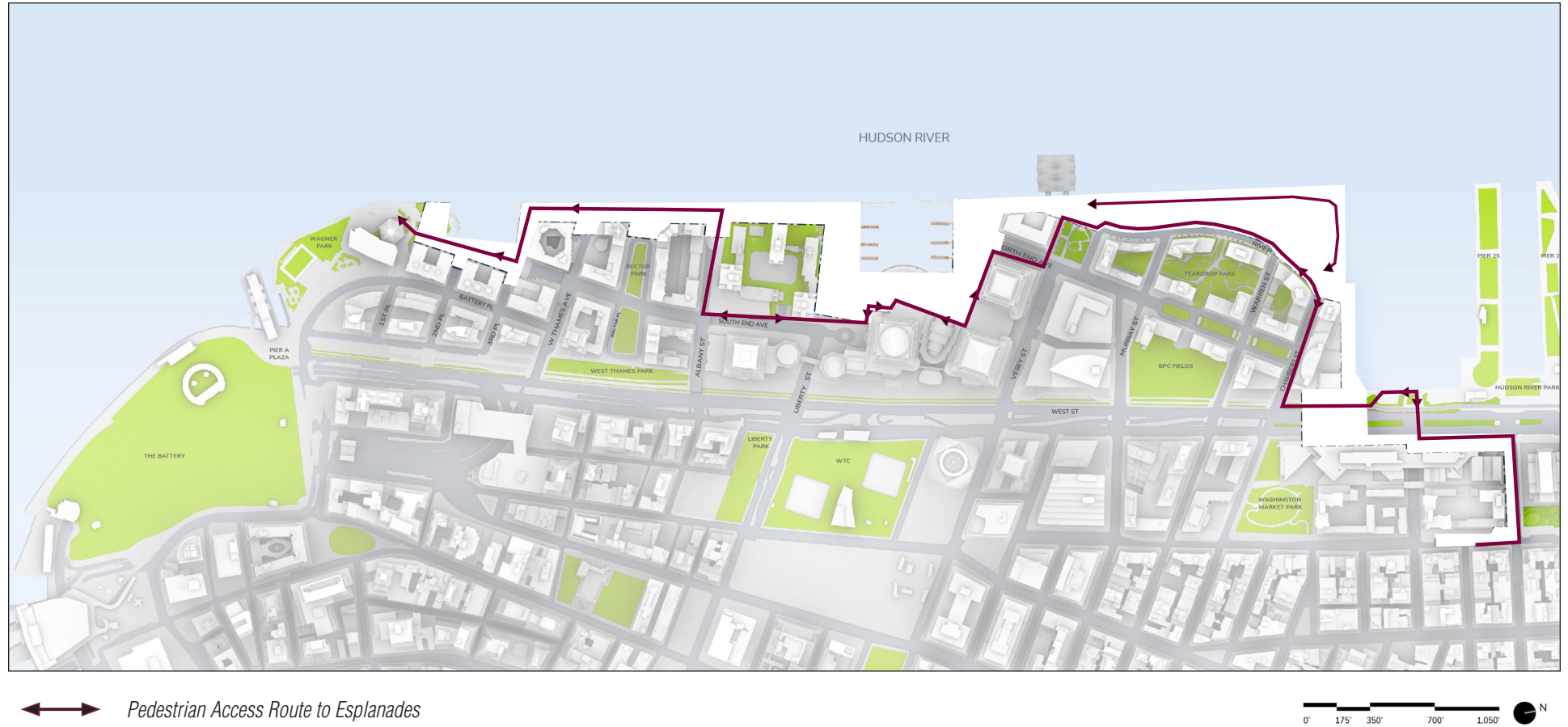


Public Access and Construction Staging Phasing
Month 25 - Stages Under Construction
Figure 3.11.2-3f

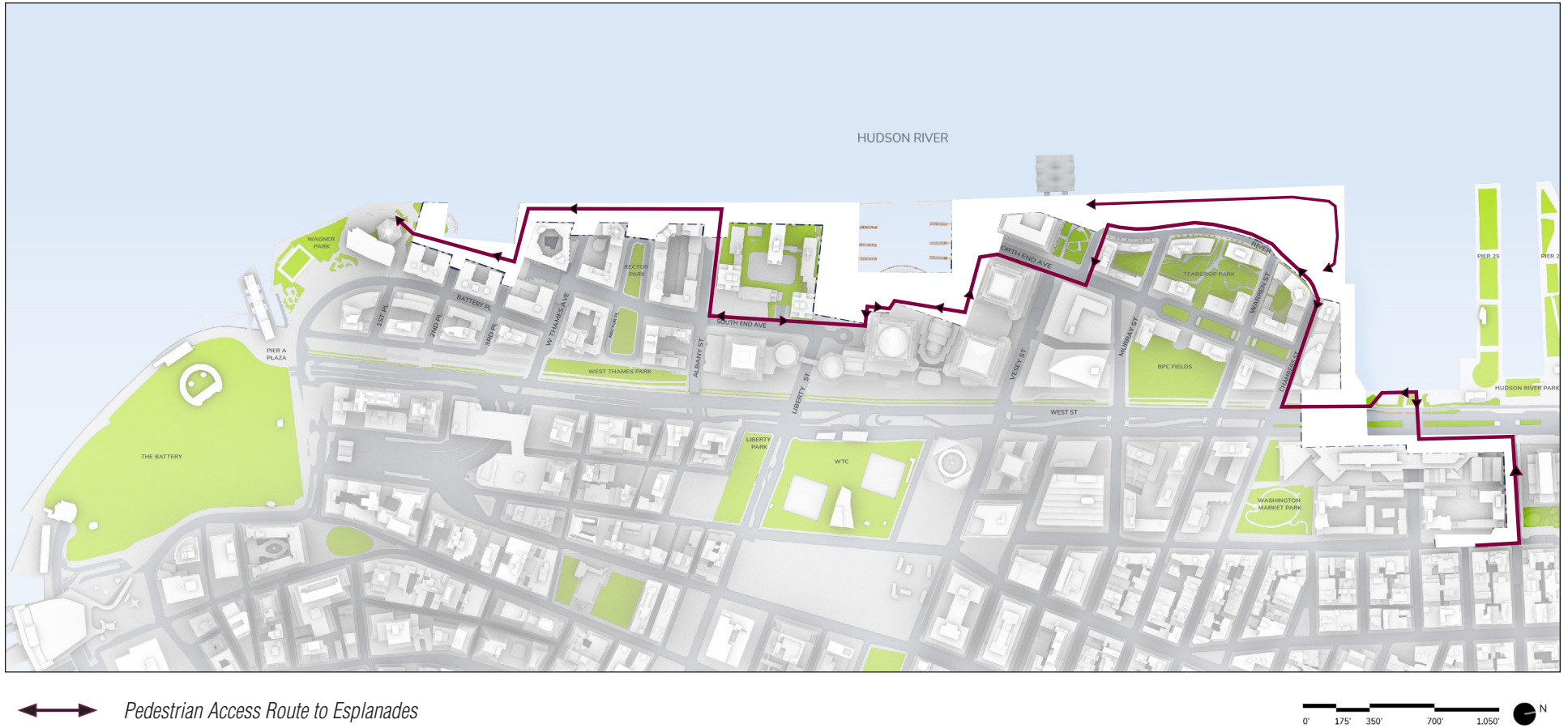


Public Access and Construction Staging Phasing
Month 31 - Stages Under Construction

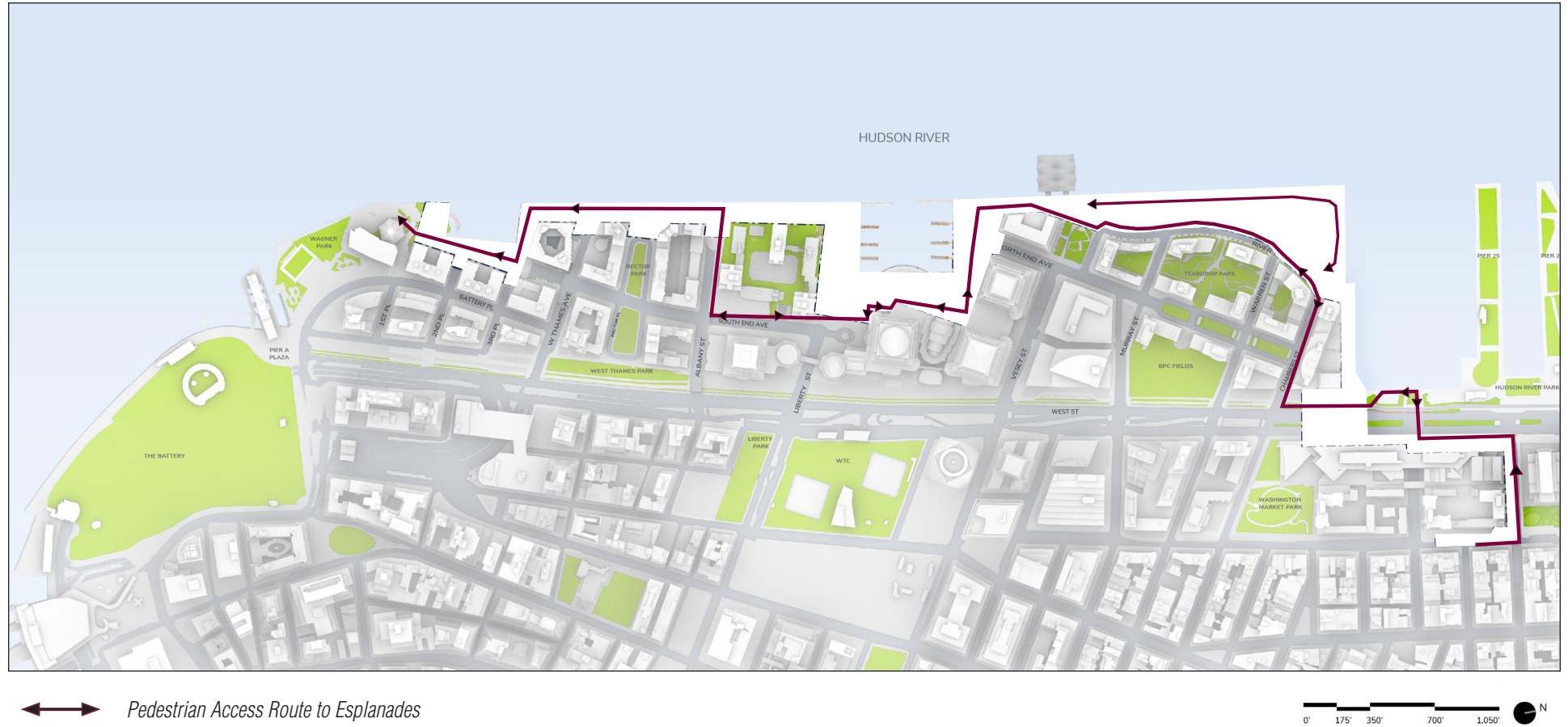
Figure 3.11.2-3g



Public Access and Construction Staging Phasing
Month 37 - Stages Under Construction
Figure 3.11.2-3h

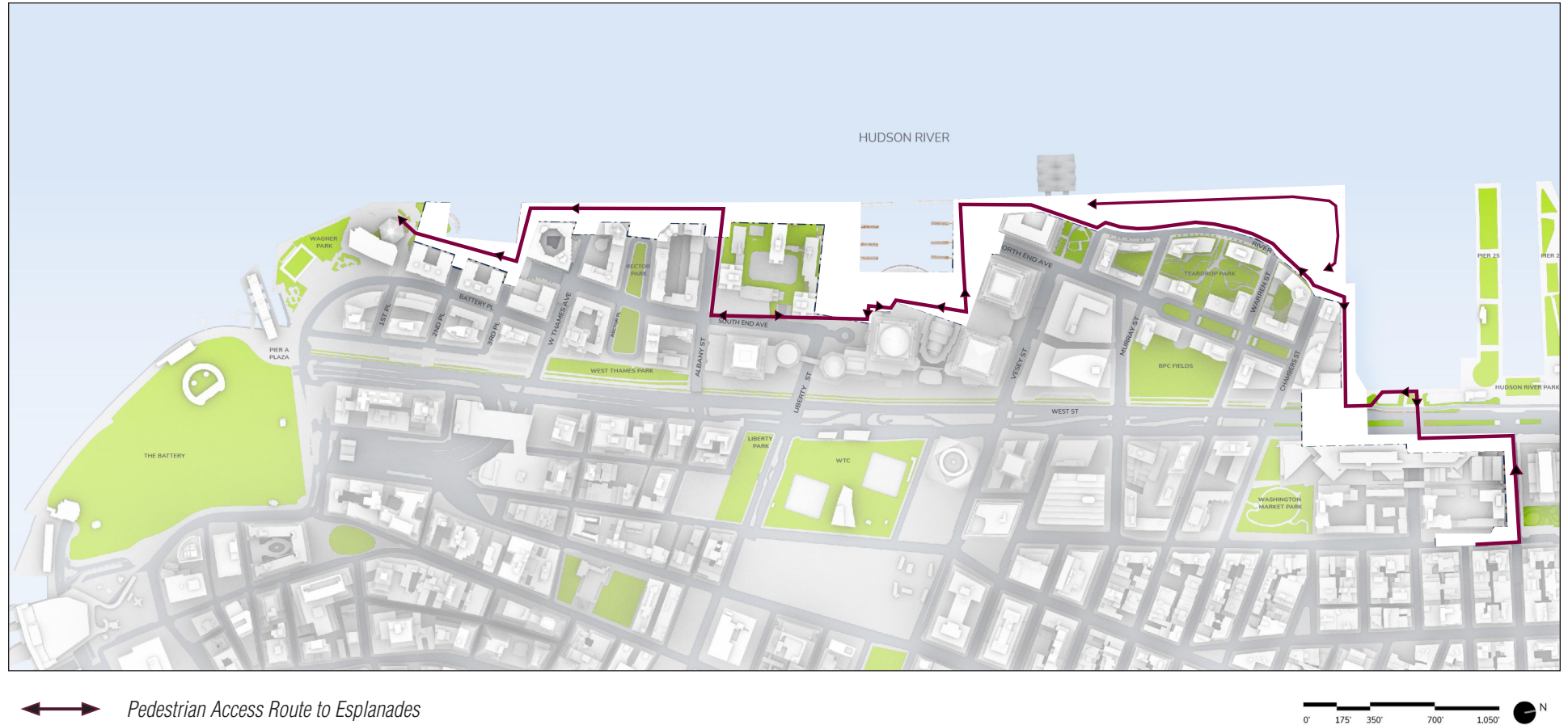


Public Access and Construction Staging Phasing
Month 43 - Stages Under Construction
Figure 3.11.2-3i

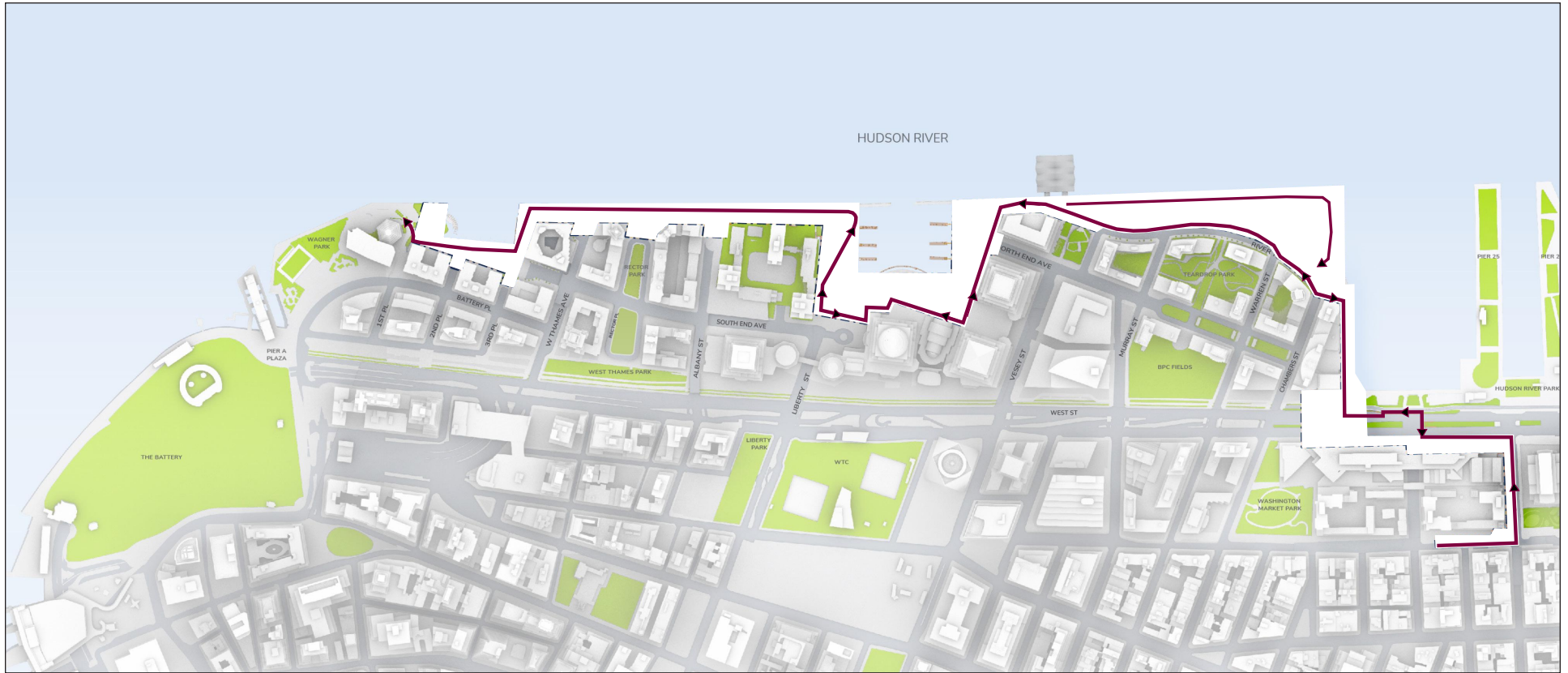


Public Access and Construction Staging Phasing
Month 49 - Stages Under Construction

Figure 3.11.2-3j



Public Access and Construction Staging Phasing
Month 55 - Stages Under Construction
Figure 3.11.2-3k



↔ Pedestrian Access Route to Esplanades

0' 175' 350' 700' 1,050' N

Reach 2 provides approximately 1.07 acres of passive open space and is projected to be closed between the 4th Quarter of 2025 and the 4th Quarter of 2028. Construction in this reach involves reconstruction and widening of the Esplanade north of Stuyvesant High School which would extend construction along both the immediate upland and water areas of Hudson River Park. This segment of construction is expected to require temporary access across a portion of the HRPT mooring field during the 2025 and 2026 summer seasons (up to 200 feet in width) for use by marine equipment to demolish the North Esplanade segment in Reach 2 and to install the piles and decking for the flood barrier system and replacement Esplanade. Most of the moorings in the Pier 25 Marina would be temporarily inaccessible as a result of construction. Once construction is completed, the temporarily displaced moorings would be restored at their current locations. These construction activities would also require implementing a temporary construction access agreement with NYSDEC, the New York State Office of General Services and/or HRPT.

Reach 5 is projected to be under construction in the 4th Quarter of 2025 and continue through the 2nd Quarter of 2030.

Construction in Reach 5 would impact approximately 3.23 acres of public open space around North Cove and Pumphouse Park. The marina would also be closed during the duration of construction. Once construction is completed, the area of open space including the Esplanade and plaza would remain unchanged, though with some accessibility improvements such as ramps.

Similar to Reaches 1, 2, and 5, construction would commence in Reach 6 starting in the 4th Quarter of 2025 and the segment from West Thames through Albany Street would be completed through March 2028. The portion of the Esplanade along Gateway Property would be completed in the third quarter of 2028. Construction in this reach would require the temporary closure of 3.05 acres of the Esplanade space to install the proposed flood barrier system. Upon completion of construction, the Esplanade would be restored with replacement plantings and a secondary winding walkway to allow for more leisurely pedestrian flow.

Also in the 4th Quarter of 2025, construction would commence in Reach 7 near South Cove and approximately 1.12 acres of passive open space would be closed. Construction of the flood barrier system in Reach 7 would run adjacent to the existing privacy walls along the Regatta Condominium at 21 South End, the Riverwatch 70 Battery Place, and 50 Battery Place.

Reach 4 is projected to be under construction from the 3rd Quarter of 2027 through the 1st Quarter of 2030. Construction in Reach 4 would be completed in stages that allow for continuous access to the Ferry Terminal. However, there would be a temporary construction period loss of public access both along the Esplanade and at the Lily Pond. While these areas would be temporarily impacted during construction, at project completion the Lily Pond would remain in place with new planted areas and an immersive path south of the existing Lily Pond to optimize pedestrian circulation and enhance the native plantings and habitat value in the area.

Reach 3 construction would be the last segment to start construction, commencing in the 1st Quarter of 2028. Construction in this reach would temporarily close approximately 1.93 acres of public open space, most notably the basketball, handball courts, and playground area that comprise 0.5 acres of active open

space. These segments of Reach 3 would be used as construction staging areas and closed to the public until the first half of 2030. Independent of the Proposed Project, small portions of the Rockefeller Park lawn would also be temporarily closed to the public to implement necessary drainage improvements, as needed. As detailed above, these improvements would have very limited and targeted areas of disturbance and are expected to be completed in 2025, prior to construction activity in Reach 3. The majority of the lawn is to remain open to the public for the majority of the construction period and the overall footprint would remain unchanged once complete. Additionally, the active recreation spaces in Reach 3 would be replaced with the same play equipment and improved surface courts.

Quantitative Impact Assessment

As described above, six of the seven project reaches are expected to be under construction in 2028, which is the peak period of construction impact. Prior to the peak analysis year, open spaces would begin to reopen starting with Reach 7 in the latter half of 2027. During 2028, Reaches 2 and 6 are scheduled for completion. Reach 1, which has the least amount of open space, would then be completed a year later in 2029 along with the pump station adjacent to the Greenway, followed by completion of Reaches 3, 4, and 5 in 2030. Reach 5 open spaces would also be completed in subphases between 2028 and 2030.

The quantitative assessment of impacts during construction takes into account the open spaces in the larger study areas (shown on **Figure 3.11.2-4**) that would remain available while the open spaces within the Project Area would be under construction.

At project completion, all open spaces would be reopened with the benefits of enhanced accessibility with improved pedestrian circulation, elevated platforms, and pathways, and new switchbacks and winding pathways to enhance the passive open space experience in the Project Area. Additionally, the Proposed Project would protect open space resources upland of the flood barrier system and provide for more resilient open spaces within Battery Park City with drainage improvements and green infrastructure enhancements, like high-performance rain gardens.

3.11.2.7.3 Indirect

The temporary closure of open space during construction is expected to redirect users to other Study Area open spaces that would experience increased demand, thereby resulting in potential indirect effects. The indirect effects analysis below focuses on the quantification of displaced open space discussed in the direct effects analysis above during the peak analysis year of 2028. 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 future with the Proposed Project, as compared to the future without the Proposed Project (the No Action condition).

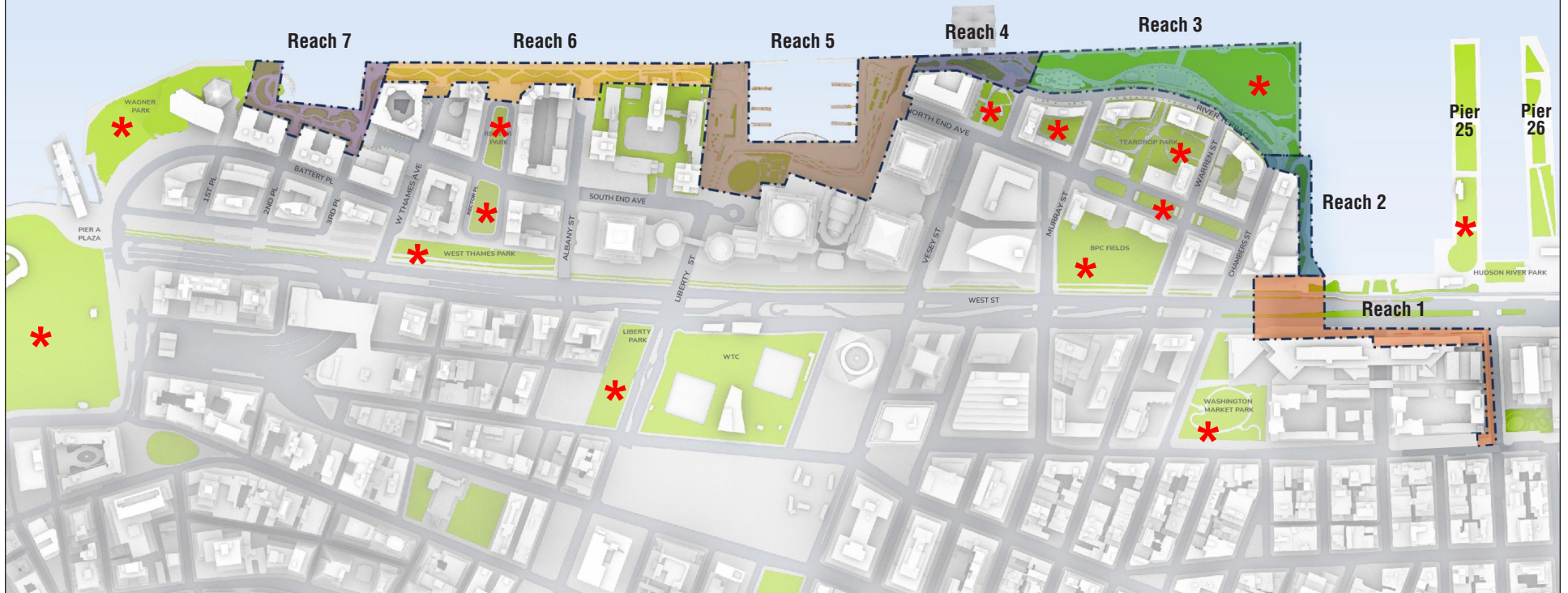
Nonresidential Study Area

As shown in **Table 3.11.2-10**, the peak 2028 construction period impact on the Nonresidential Study Area's passive open space ratio would result in a decrease to 0.25 acres per 1,000 nonresidents. While there is a decrease in this ratio, the passive open space ratio would continue to be above the City's planning guideline of 0.15 acres per 1,000 nonresidents. However, the decrease in passive and total open space surpasses the five percent threshold, which is considered a temporary, significant adverse impact to open

- **Wagner Park – OPEN**
- **BPC Ball Fields – OPEN**
- **Rector Park – OPEN**
- **Teardrop Park – OPEN**
- **West Thames Park – OPEN**
- **Rockefeller Park North Lawn – OPEN**

ALSO:

- **The Battery – OPEN**
- **Hudson River Park – OPEN**
- **Washington Market Park – OPEN**
- **Liberty Park – OPEN**



space for this peak period. Though the total open space ratio for the Nonresidential Study Area would decrease by approximately 15 percent, the displacement of open spaces would be temporary and staggered, with 4.1 acres of the Project Area reopening in by the end of 2028.

Table 3.11.2-10**Adequacy of Nonresidential Study Area Open Space Resources: Proposed Project**

Nonresidential Worker Population	Open Space Acreage			Open Space Ratios			Percent Change		
	Total	Active	Passive	Total	Active	Passive	Total	Active	Passive
145,750	61.99	26.05	35.95	0.43	0.18	0.25	-14.66%	-1.65%	-21.84%
Note: Ratios in acres per 1,000 people									

The open space resources that are expected to experience the greatest increases in use from the diverted populations are those that offer similar amenities to the displaced resources and those used by the “15 to 19,” “20 to 64,” and “65 and Over” user groups.

Residential Study Area

The peak construction period impact on the Residential Study Area’s total open space ratio is anticipated to decrease from 1.76 to 1.64 acres per 1,000 residents in the No Action condition (see **Table 3.11.2-11**). During this period, the active open space ratio would decrease slightly from 0.48 to 0.47 acres per 1,000 residents, while the passive open space ratio would decrease from 1.29 to 1.16 acres per 1,000 residents. The Residential Study Area total and passive open space ratios would temporarily decrease by more than 5 percent, indicating a temporary, significant adverse impact. The total and active open space ratios would continue to be below City guidelines; however, the passive open space ratio would remain higher than City guidelines.

Table 3.11.2-11**Adequacy of Residential Study Area Open Space Resources: Proposed Project**

Residential Population	Open Space Acreage			Open Space Ratios			Percent Change		
	Total	Active	Passive	Total	Active	Passive	Total	Active	Passive
77,258	125.69	36.18	89.51	1.63	0.47	1.16	-7.77%	-1.47%	-10.16%
Note: Ratios in acres per 1,000 people									

The Proposed Project would also require the temporary closure of the Rockefeller Park playground and basketball and handball courts between 2028 and 2030, reducing by 0.5 acres the Residential Study Area’s 36.68 acres of active open space typically used by the younger age demographics. While this temporary closure of open space would largely impact a younger age demographic, it is noted that this is only a small portion of the overall temporary closures throughout the Project Area. Open space resources largely utilized by the “14 years and younger” user group would not experience a higher risk of overburdened use in the surrounding Study Areas, as there are fewer such amenities for these uses groups in the temporarily displaced open space resources.

Annualized Assessment

To better understand the year-by-year impacts of construction on open space, the total open space ratios for the residential and nonresidential study areas were quantified for each year of construction. **Table 3.11.2-12** summarizes these impacts for each year.

Table 3.11.2-12
Construction Open Space: Indirect Impacts Analysis Summary Table

Analysis Year	No Action Open Space Ratio (Acres/1,000)		Proposed Action Open Space Ratio (Acres/1,000)		Percent Change		Significant Adverse Impact	
	Residential	Nonresidential	Residential	Nonresidential	Residential	Nonresidential	Residential	Nonresidential
2025	1.77	0.50	1.65	0.44	-6.7%	-12.3%	Yes	Yes
2026			1.65	0.44	-6.5%	-12.3%	Yes	Yes
2027			1.64	0.43	-7.2%	-13.5%	Yes	Yes
2028			1.63	0.43	-7.8%	-14.6%	Yes	Yes
2029			1.68	0.45	-4.8%	-9.0%	No	Yes
2030			1.69	0.46	-4.4%	-8.3%	No	Yes
Note: The No Action condition is the same for all construction years of analysis.								

As identified in the table above, the peak year of construction would be 2028, resulting in a change in open space ratio of 7.8 percent for the residential study area and 14.6 percent for the nonresidential study area. However, as presented in the summary table, the percent change in open space ratio begins to decrease in 2029 and does not rise to the level of a significant adverse impact in 2029 and 2030 for the Residential Study Area. Construction is slated for completion in the first half of 2030, ultimately resulting in no change in the total open space acreages available to the public by the end of the year. Additionally, these annualized open space ratios do not account for the phasing of construction by reach throughout the year. As described in detail above, portions of open space are expected to reopen to the public on a rolling basis, despite the analysis conservatively quantifying the total amount of open space impacted throughout the entire year. Furthermore, the passive open space ratio for the Residential Study Area would remain above the City guidelines throughout the entirety of the construction period.

3.11.2.7.4 Qualitative Analysis

While there is an impact on open spaces for the majority of the project construction period and a peak period of significant impacts, the temporary closure of passive and active open spaces in the Project Area during construction can be supplemented by the number of nearby open space resources in the interim period. For example, Washington Market Park, located adjacent to the Project Area on the northwest corner of Route 9A/West Street and Chambers Street, offers a variety of sport courts to the public. Additionally, the basketball courts at Harrison Street are located just north of the Project Area in Hudson River Park. These nearby sport courts are located adjacent to the Project Area and are within the Nonresidential and Residential Study Areas and will continue to serve the community throughout the construction of the Proposed Project.

Moreover, Hudson River Park immediately to the north is a 550-acre park that provides recreational piers with both active and passive spaces including, pathways for running and walking, sport courts and fields,

playgrounds, and various passive space and natural habitats. The park also provides unique in-water activities, such as kayaking and rowing.

In addition to the resources provided in Battery Park immediately to the south, there is also ferry access from the Battery Maritime Building to the large open spaces at Governor's Island, a 172-acre open space with ball fields, lawns, playgrounds, and miles of pedestrian pathways and bike lanes. While the temporary closure of park space within the Project Area may result in the indirect usage of other nearby open space resources, there are a number of large, publicly accessible park spaces that provide active and passive uses and are within close proximity of Battery Park City.

It is also recognized that the SBPCR Project in Battery Park City is scheduled for completion and reopening in Spring 2025 before the construction of the Proposed Project commences.

For impacts related to construction air and noise please see Sections 3.11.5, "Construction Air Quality," and 3.11.7, "Construction Noise." As explained in greater detail in "Construction Noise," given the proximity of the Proposed Project to open space and the cumulative noise emitting characteristics of certain types of equipment needed to construct it, there would be temporary significant adverse impacts on open spaces adjacent to phases of construction (i.e., Rockefeller Park in Reach 3 during the heavy construction phases of adjacent Reaches 2 and 4).