

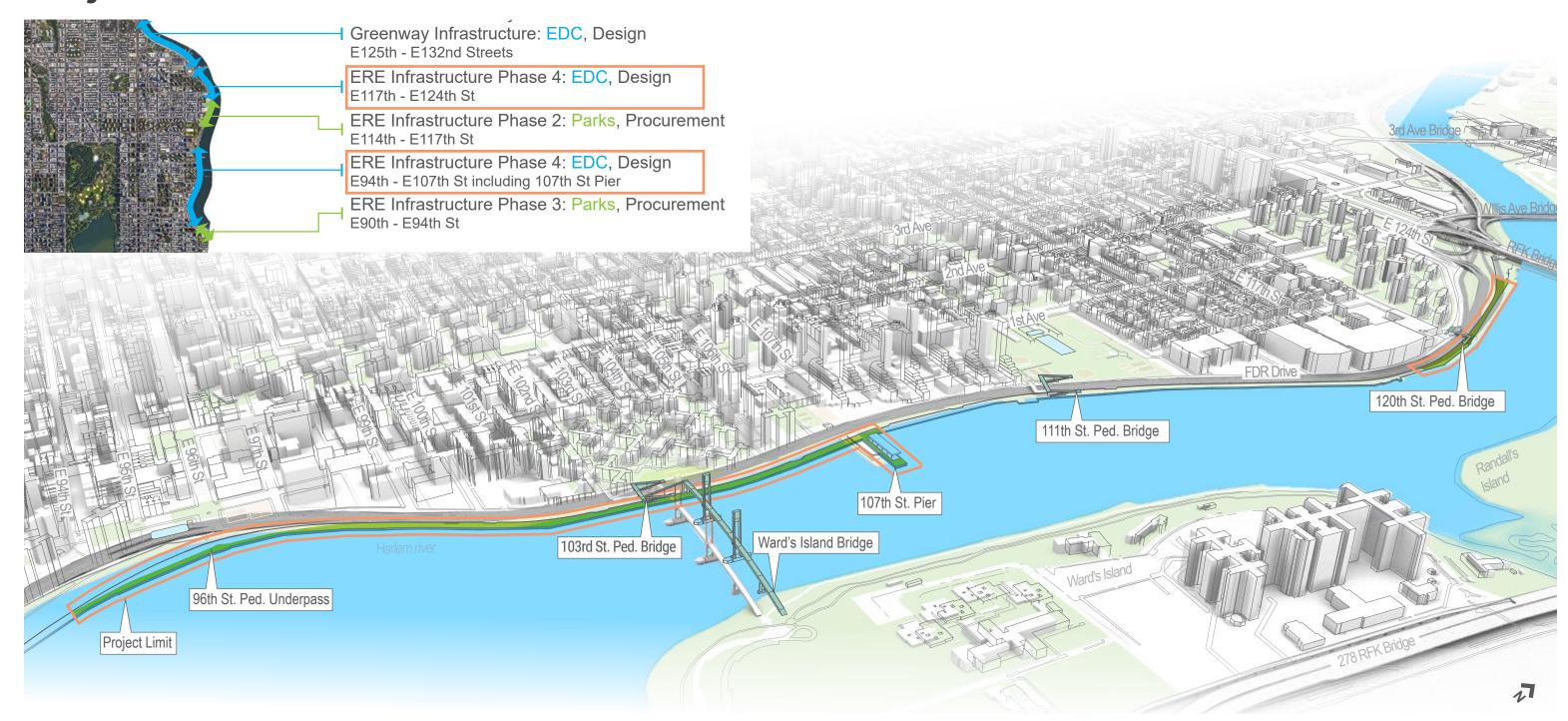
107th STREET PIER and BOBBY WAGNER WALK

Public Design Commission - Preliminary Review





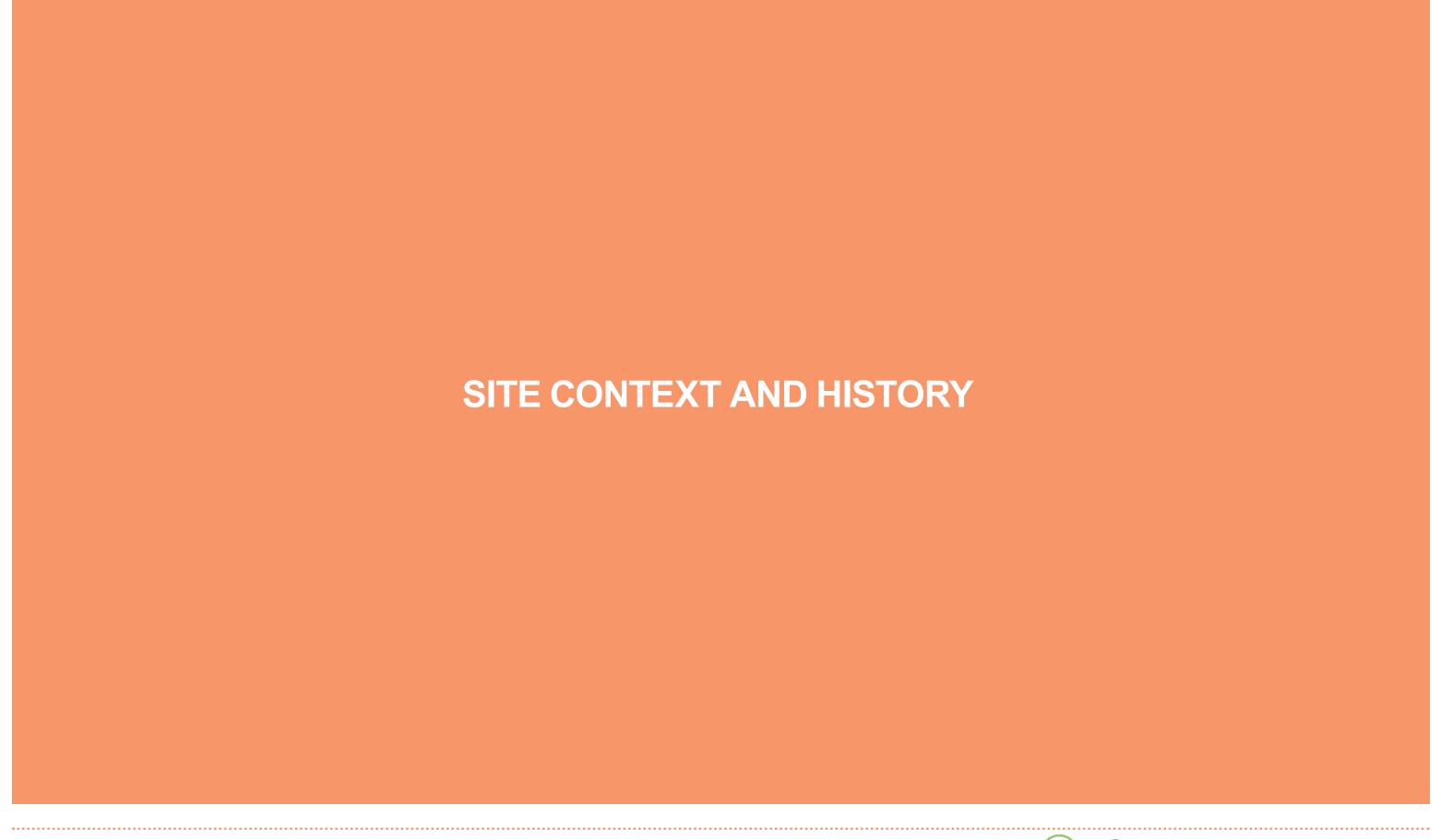
Project Overview



THE PROPOSED PROJECT WILL:

- Rebuild and rehabilitate the esplanade between 94th St 107th St
- Rebuild and rehabilitate the esplanade between <u>117th St 124th St</u>
- Reconstruct existing 107th St Pier



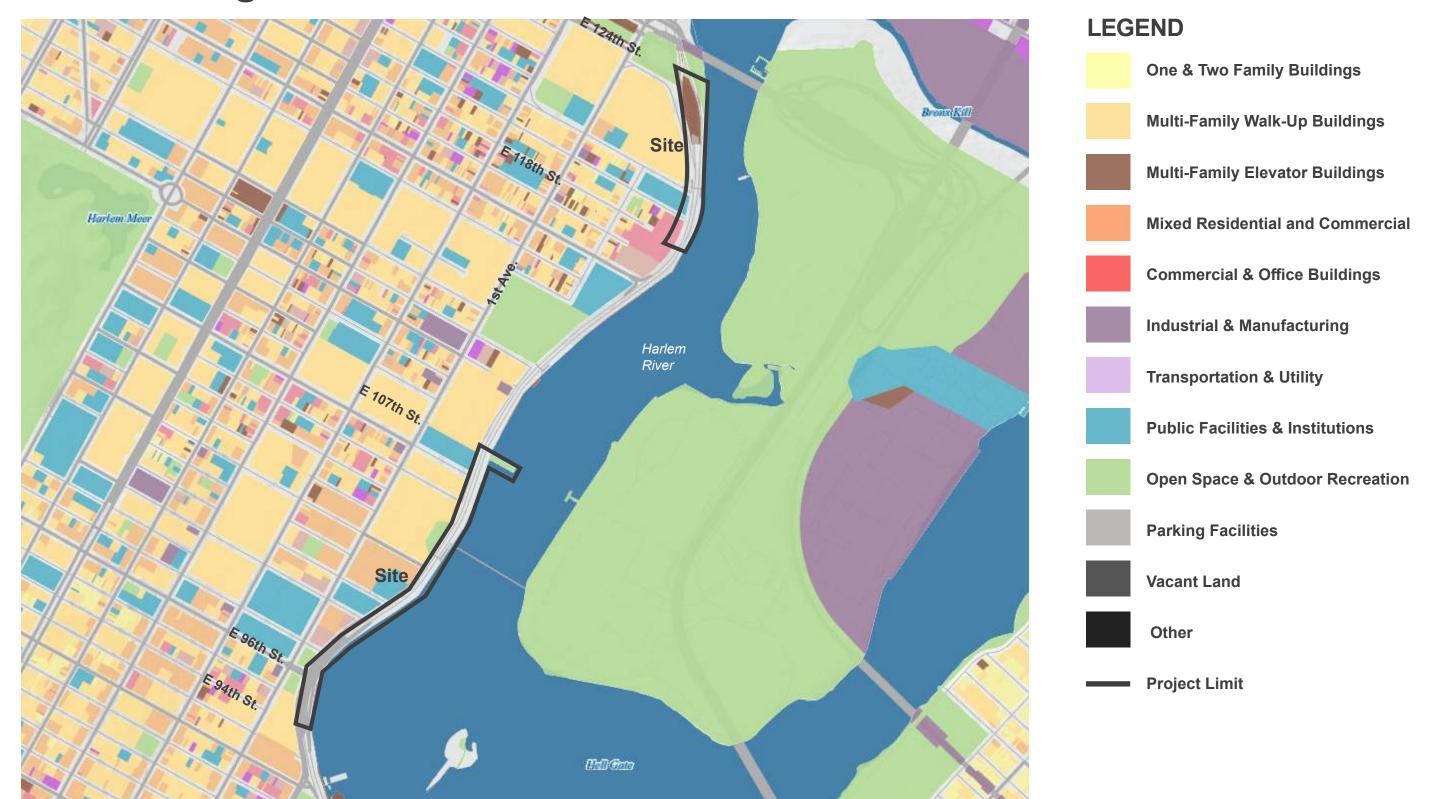




Project Location



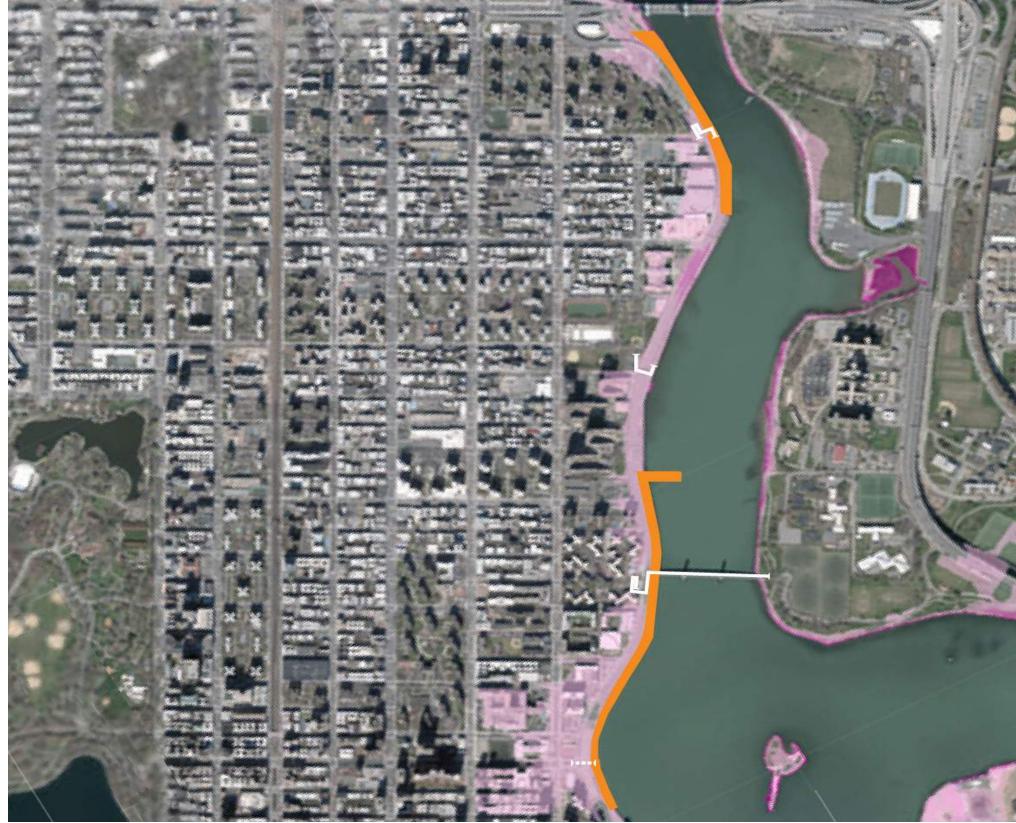
Surrounding Land Use







Flood Risk (2100 High Tide)



HIGH TIDE 2100

Low Estimate (15" SLR)

Middle Estimate (36" SLR)

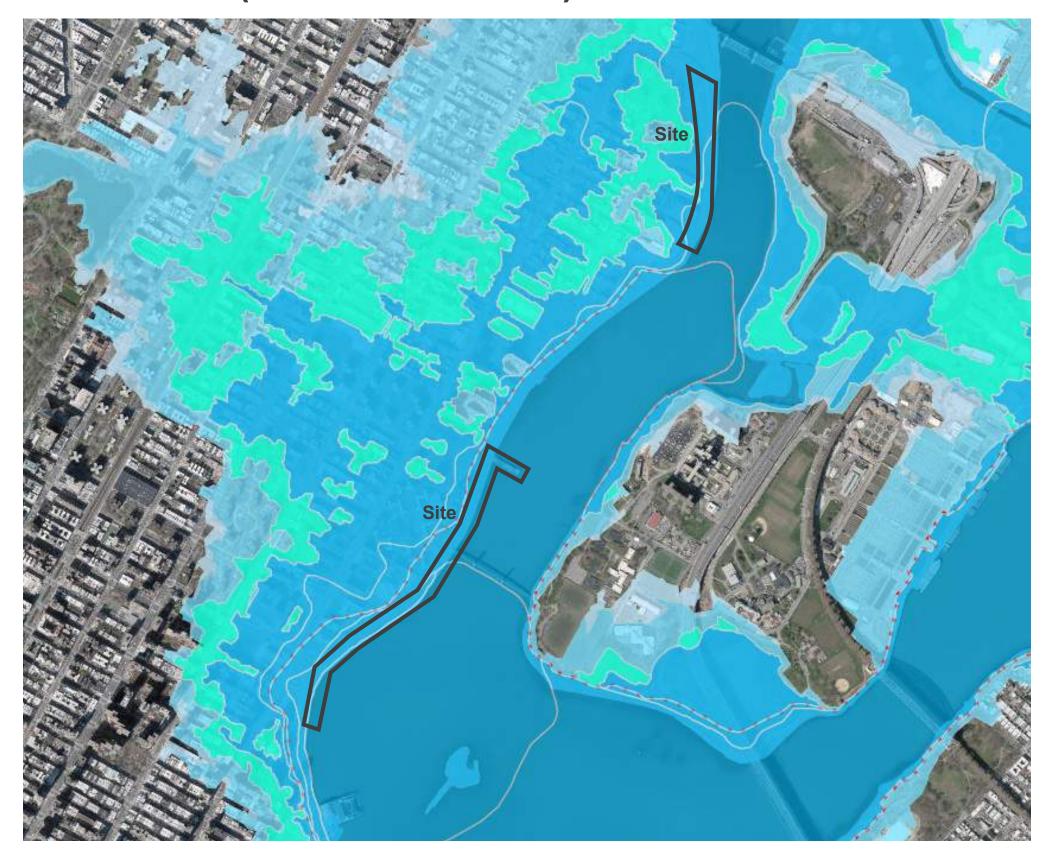
High Estimate (75" SLR)







Flood Risk (Coastal - Storms)



FLOOD HAZARD ZONES

2015 Preliminary Flood Insurance Rate Map

V Zone (100-year floodplain subject to wave action) Areas along coasts subject to inundation by the 1% annual chance flood event with additional hazards associated with storm-induced waves.

A Zone (100-year floodplain)

Areas subject to inundation by the 1% annual chance flood

Shaded X Zone (500-year floodplain)

Areas within the 0.2% annual chance floodplain, areas of 1% annual chance flooding where average depths are less than 1 foot, areas of 1% annual chance flooding where the contributing drainage area is less than 1 square mile, and areas protected from the 1% annual chance flood by a levee.

Limit of Moderate Wave Action (LiMWA) The inland limit of the area expected to receive 1.5ft or greater breaking waves during the 1% annual chance flood event. Data from 2015 PFIRMs.

Future Floodplain 2100s

Future 1% Annual Chance Floodplain (100-year)

Future 0.2% Annual Chance Floodplain (500-year)

This project intends to mitigate the impacts of future high tide, which is shown on the previous slide. While this area is also vulnerable to coastal flooding, its flooding is exacerbated by lack of adequate inland drainage.

Neighborhood-scale drainage improvements are outside the scope of this project.





Archaeology

BWW-107th STREET PIER 1820 Shoreline with Old Terrain and Waterways on Manhattan Grid (Viele 1865, detail), 1955 Bulkhead and Location of Future 107th Street Pier



BWW-107th STREET PIER 1820 and 1867 East and Harlem River Shoreline, 1955 FDR Drive and Bulkhead (Randel 1820; Harrison/Dripps 1867; Bromley 1955, details) and

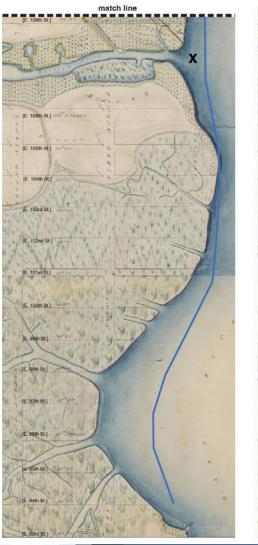


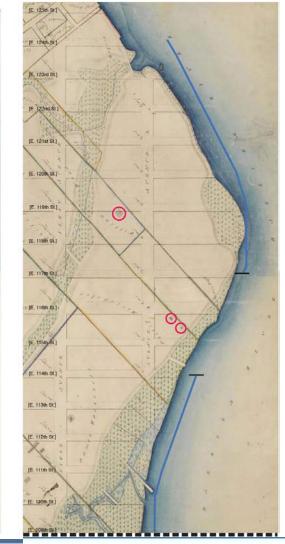




Bromley 1955 bulkhead line

BWW-107th STREET PIER 1820 Randel with Structures East of First Avenue, 1955 Bulkhead, and 107th Street Pier Location





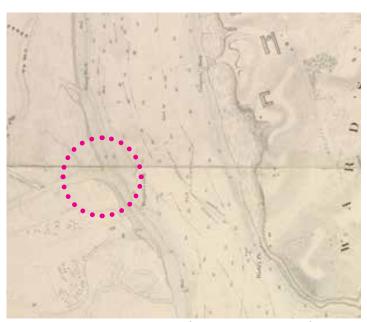




Historical Context | 107th Street Pier



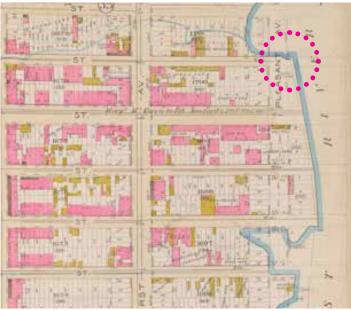
The earliest known inhabitants in the area were the Lenape



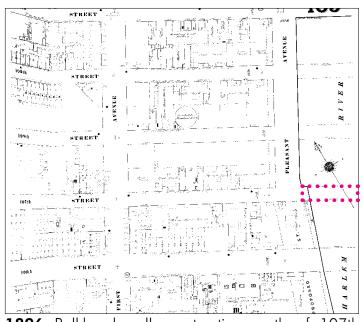
1851 Farmland around future location of 107th Street pier



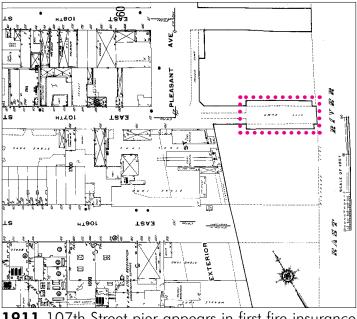
1879 City grid and Harlem Creek visible



1891 Bulkhead wall appears to be completed between 104th and 107th streets



1896 Bulkhead wall construction north of 107th Street appears to be completed; plan for a street south of 107th Street along the waterfront also recorded



1911 107th Street pier appears in first fire insurance maps as "City Dump"



1923 107th Street pier "dump" indicated as a wood frame structure with metal cladding; large coal, marble and lumber yards seen at water's edge



1930 107th Street pier indicated as a wood frame structure with brick cladding; coal yards and building material warehouses seen at water's edge



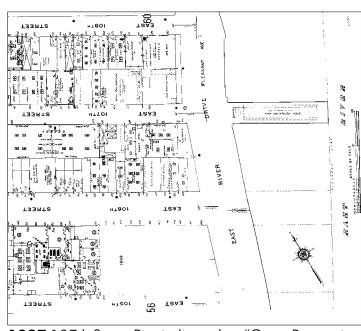
Historical Context | 107th Street Pier



1934 East 107th Street Pier



1936 Pier begins redevelopment as a recreational pier



1937 107th Street Pier indicated as "Open Recreation Pier"; construction of East River Drive



1940 Tax photo of East 107th Street Pier



1955 107th Street pier identified as "Recreation Pier"; 1- and 2-story garages present west of FDR Drive.



1989 NYC Public Development Corporation selects Cavaglieri/Sultan Architects for the pier's restoration



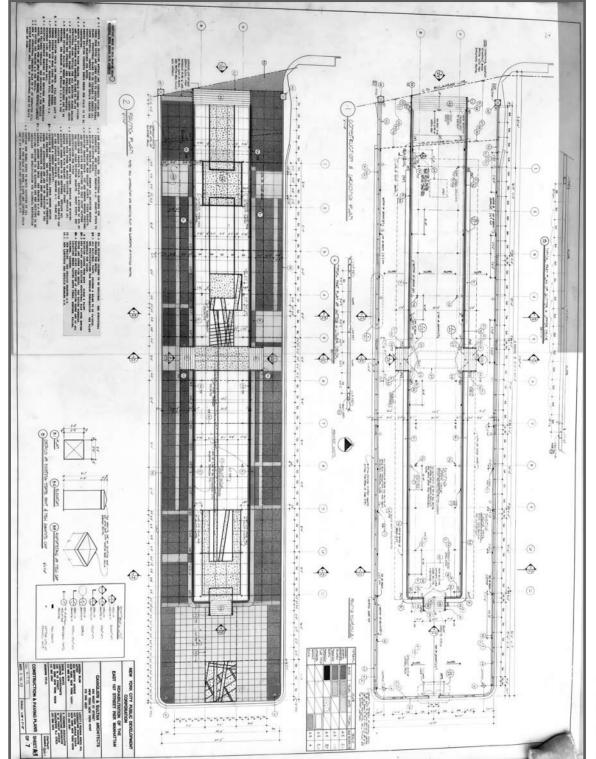
1991 Cavaglieri/Sultan Restoration completed



2018 Pier closed to the public due to structural deterioration



Historical Material | 107th Street Pier





HISTORICAL DRAWINGS OF 107TH ST PIER

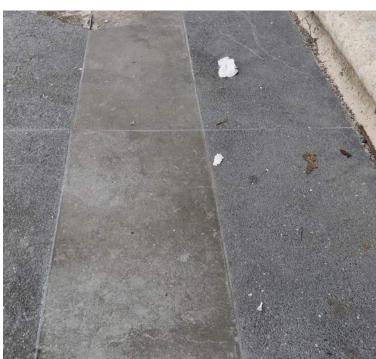


HISTORICAL PHOTOS OF 107TH ST PIER











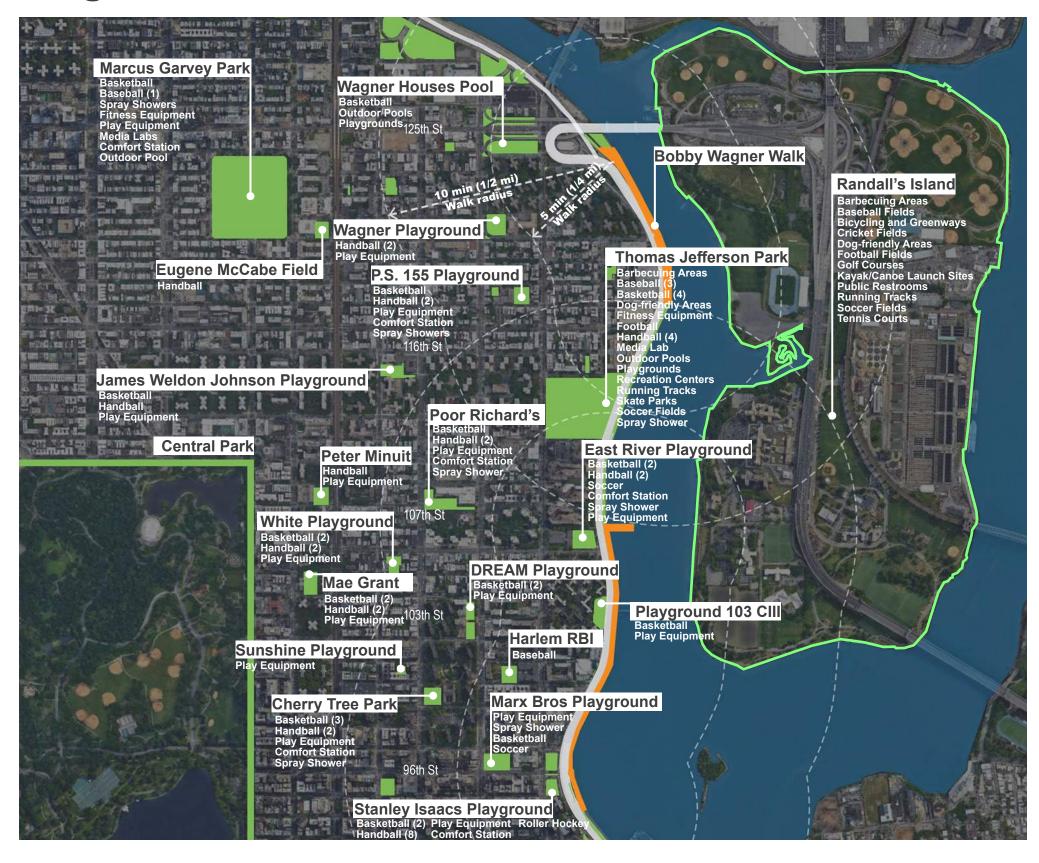
SHPO Process Overview

- The 107th Street Pier was determined eligible for listing on the New York State and National Registers of Historic Places (NR/SR). An eligibility determination for the East River Bulkhead, within the project extents must be made by NY-SHPO.
- A Section 106 Review, in accordance with the National Historic Preservation Act, will be required.
- A Joint Application to the United States Army Corps of Engineers (USACE) will be submitted in April 2024; after which USACE will serve as the Lead Federal Agency for the Section 106 Review.
- USACE's formal initiation letter will be required to initiate the Section 106 Review process.
- NY-SHPO determined the proposed demolition of the historic 107th Street Pier will result in an Adverse Effect.
- In response to NY-SHPO's request, an Alternatives Analysis was prepared and NY-SHPO concurred that no prudent and feasible alternative was possible to the proposed undertaking.
- NY-SHPO asked that the team prepare a draft Memorandum of Agreement (MOA) with potential mitigation stipulations to address the Adverse Effect.
- USACE is currently evaluating the East River Bulkhead documentation for potential SR/NR eligibility that will then be subject to NY-SHPO evaluation; the Archaeological Phase 1A Report; the Consulting Parties List; Draft Memorandum of Agreement Stipulations to mitigate adverse effects; and Stantec's existing conditions report.

Where we are in the process: October 2022 & March 2023 FORMAL INITIATION OF SECTIVE REVIEW BY USACE



Neighborhood Parks and Amenities





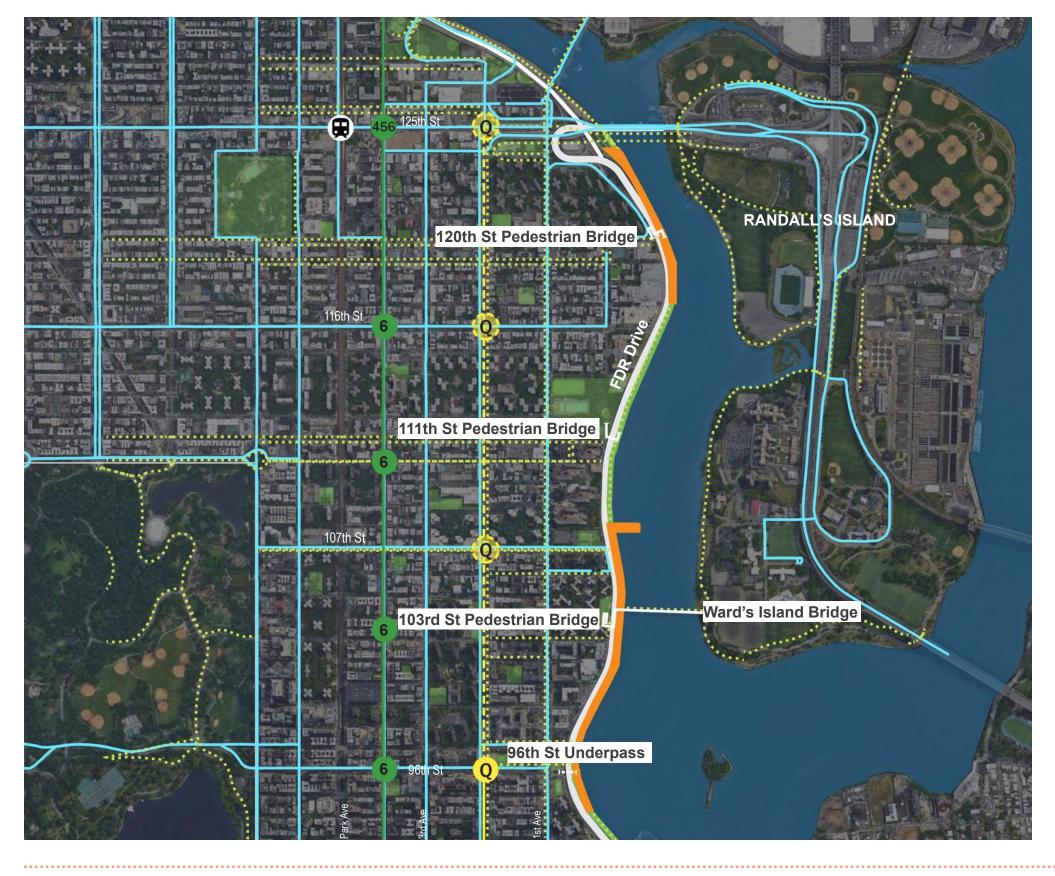
Project Limit

Parks & Open Spaces





Transit



LEGEND

Project Limit

Bike Lane

Bus Route

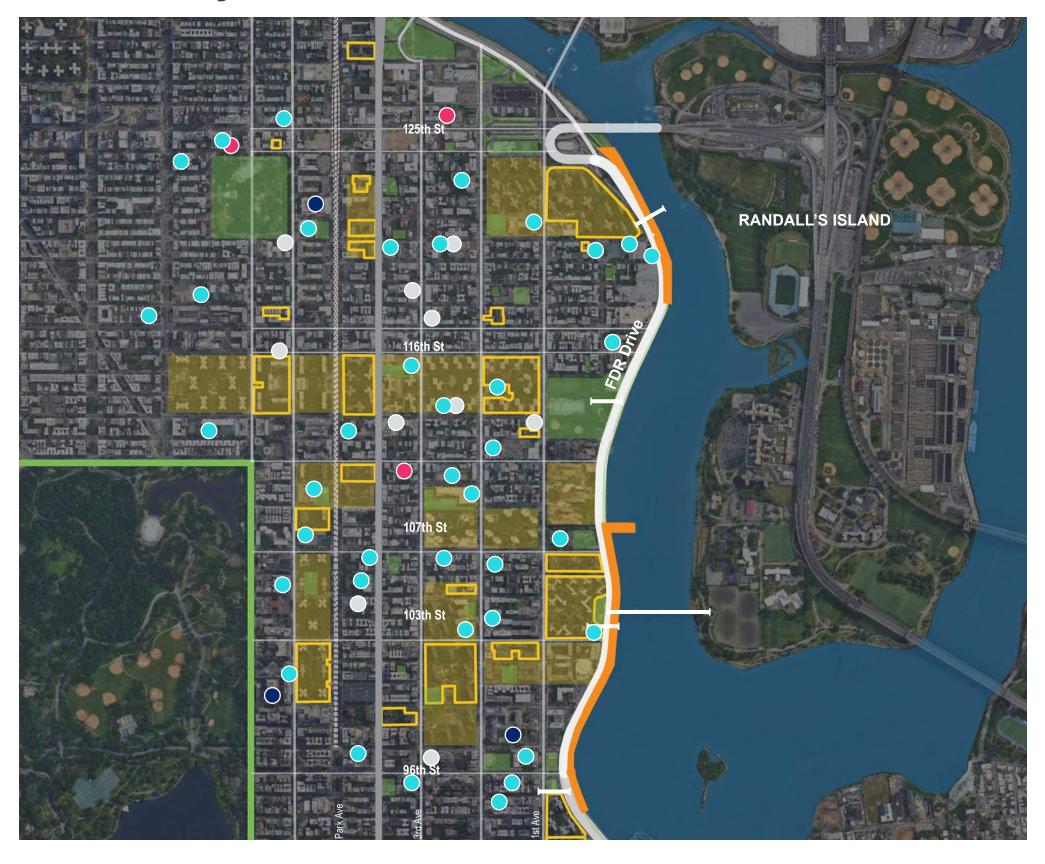
Subway

Future Subway

Subway Station



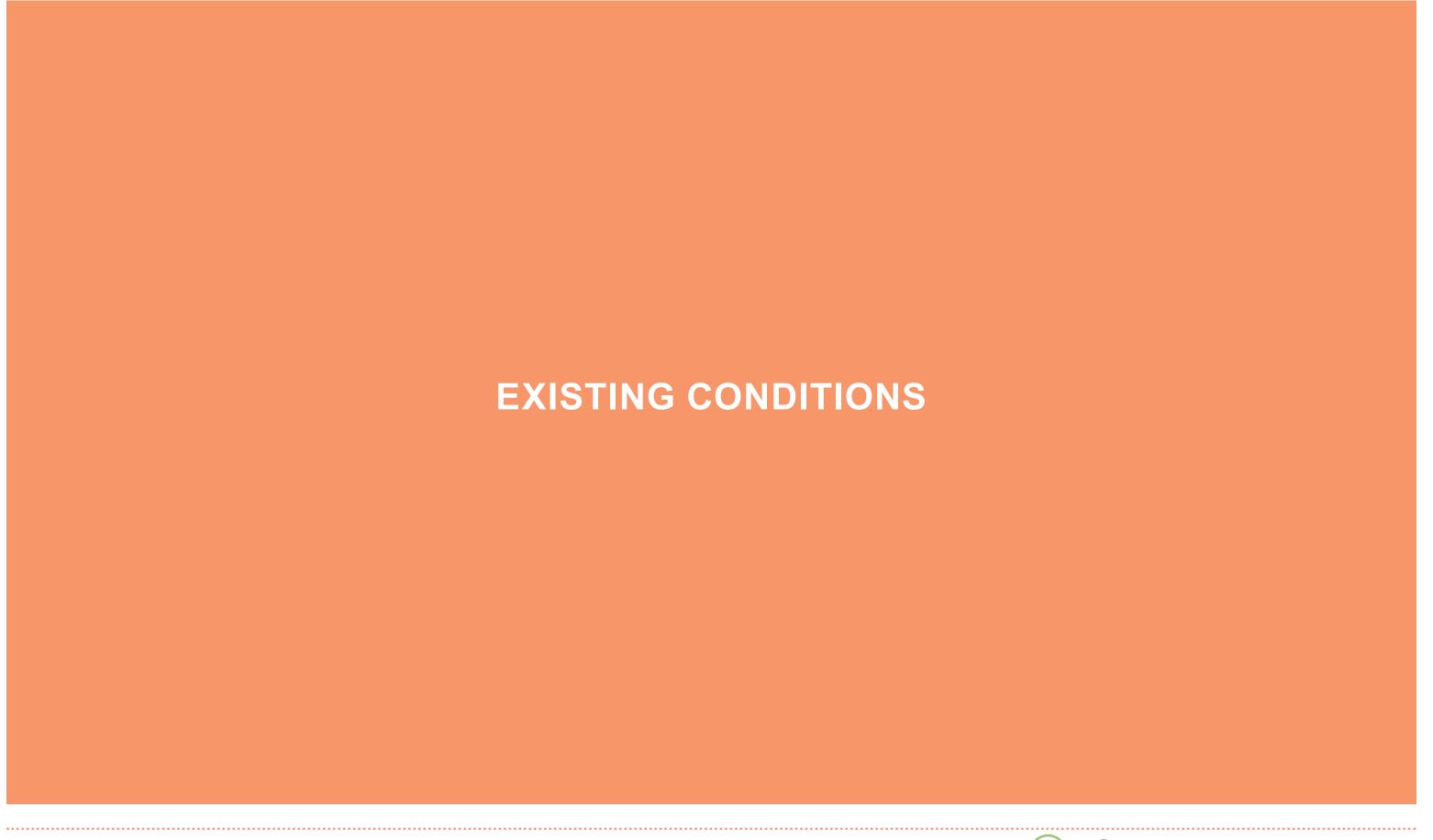
Community Services



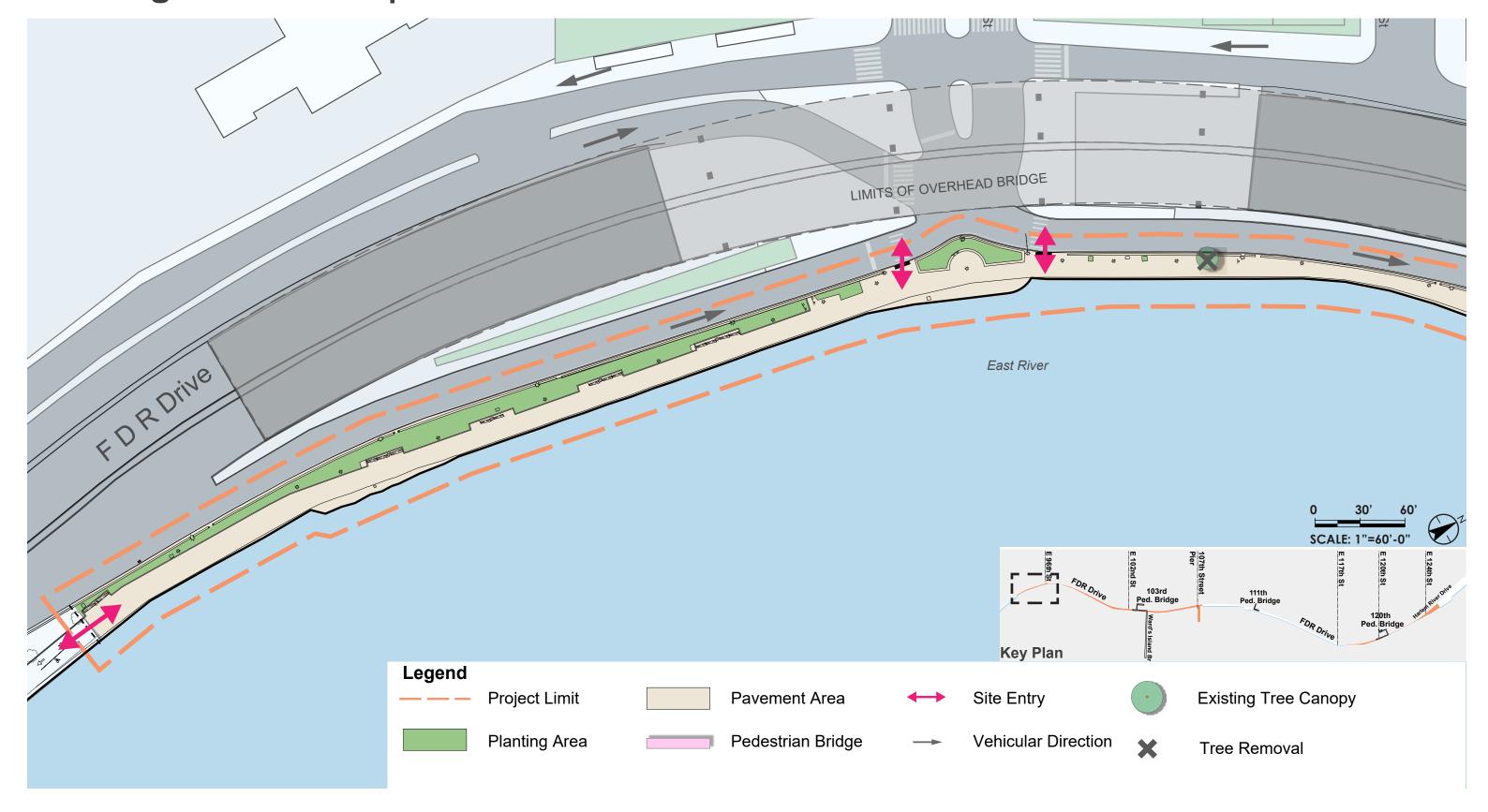
LEGEND

- **Project Limit**
- School
- Hospital
- **Religious Entity**
- Library
- **NYCHA**
- **Large Scale Housing**





Existing Conditions | 94th-96thStreet

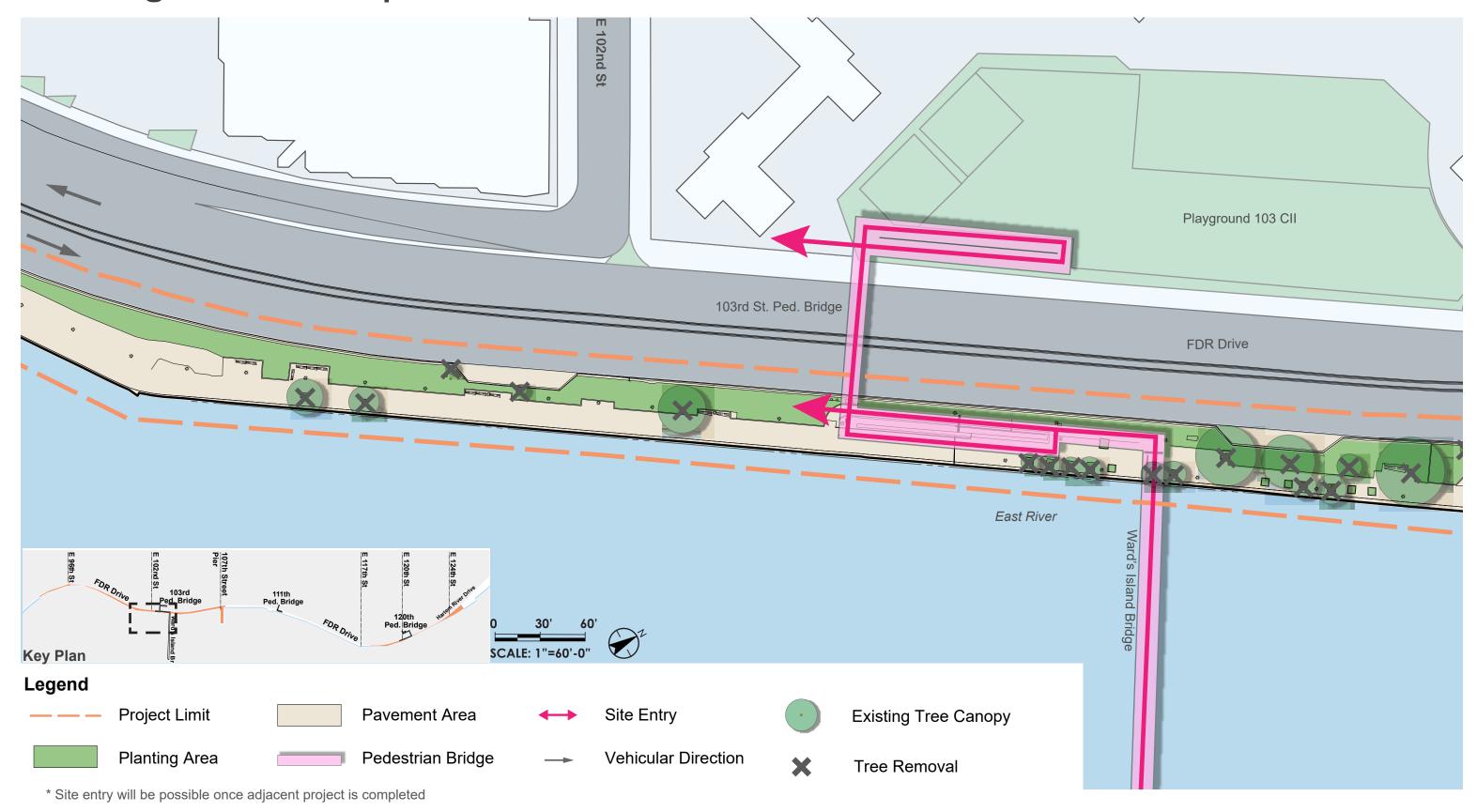




Existing Conditions | 97th- 100th Street



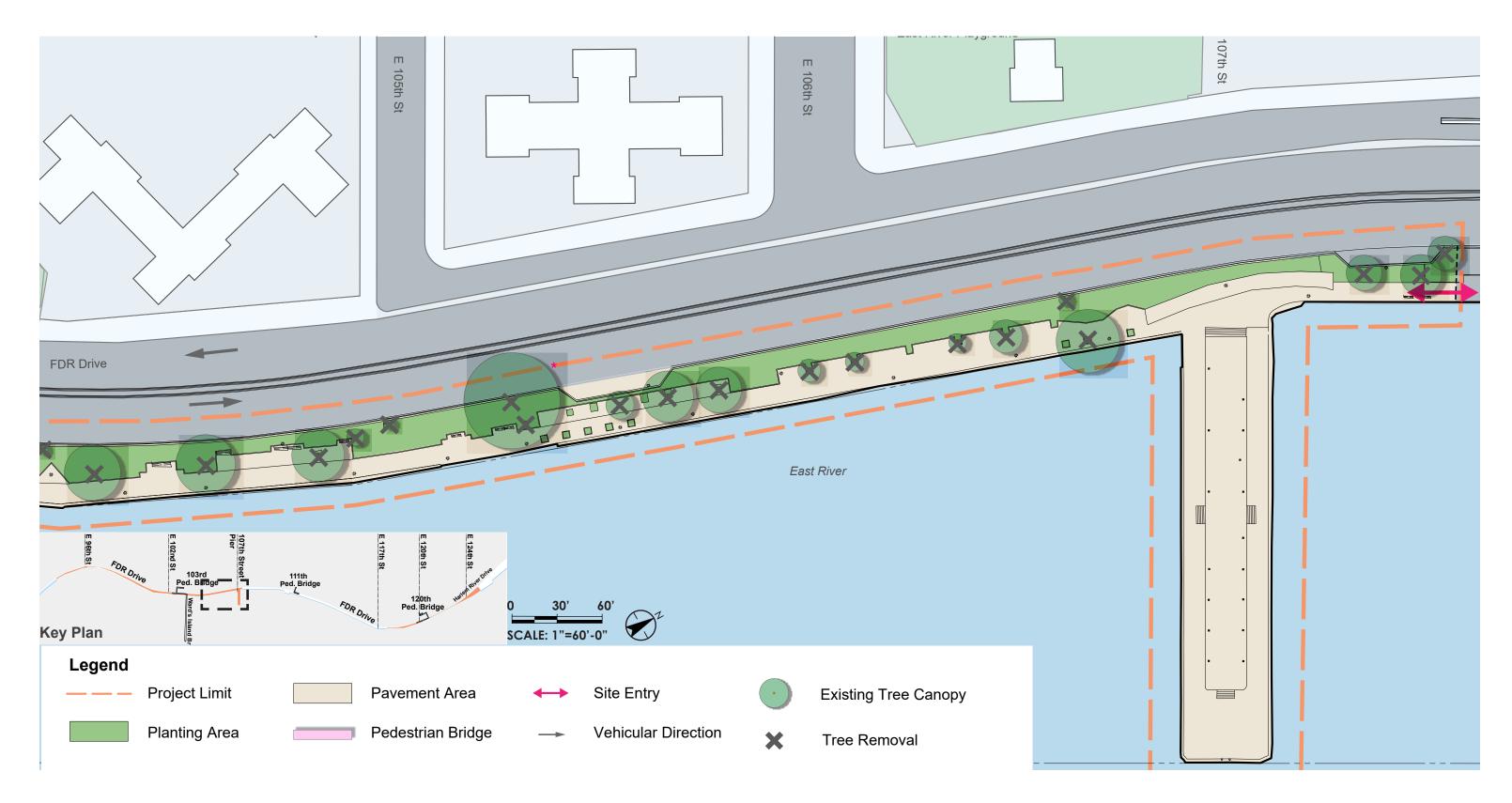
Existing Conditions | 101th-103nd Street





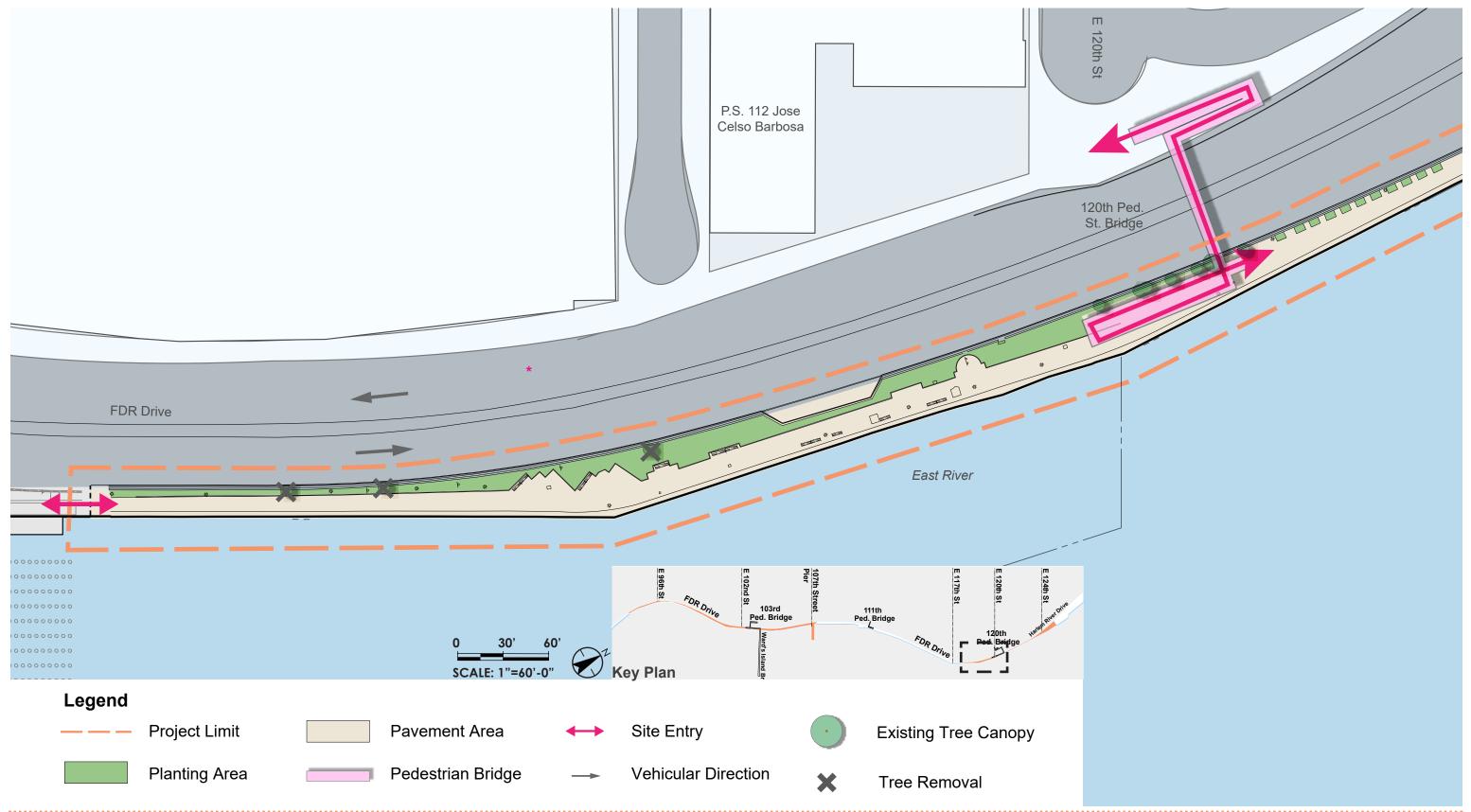


Existing Conditions | 104th-107th Street





Existing Conditions | 117th-120th Street





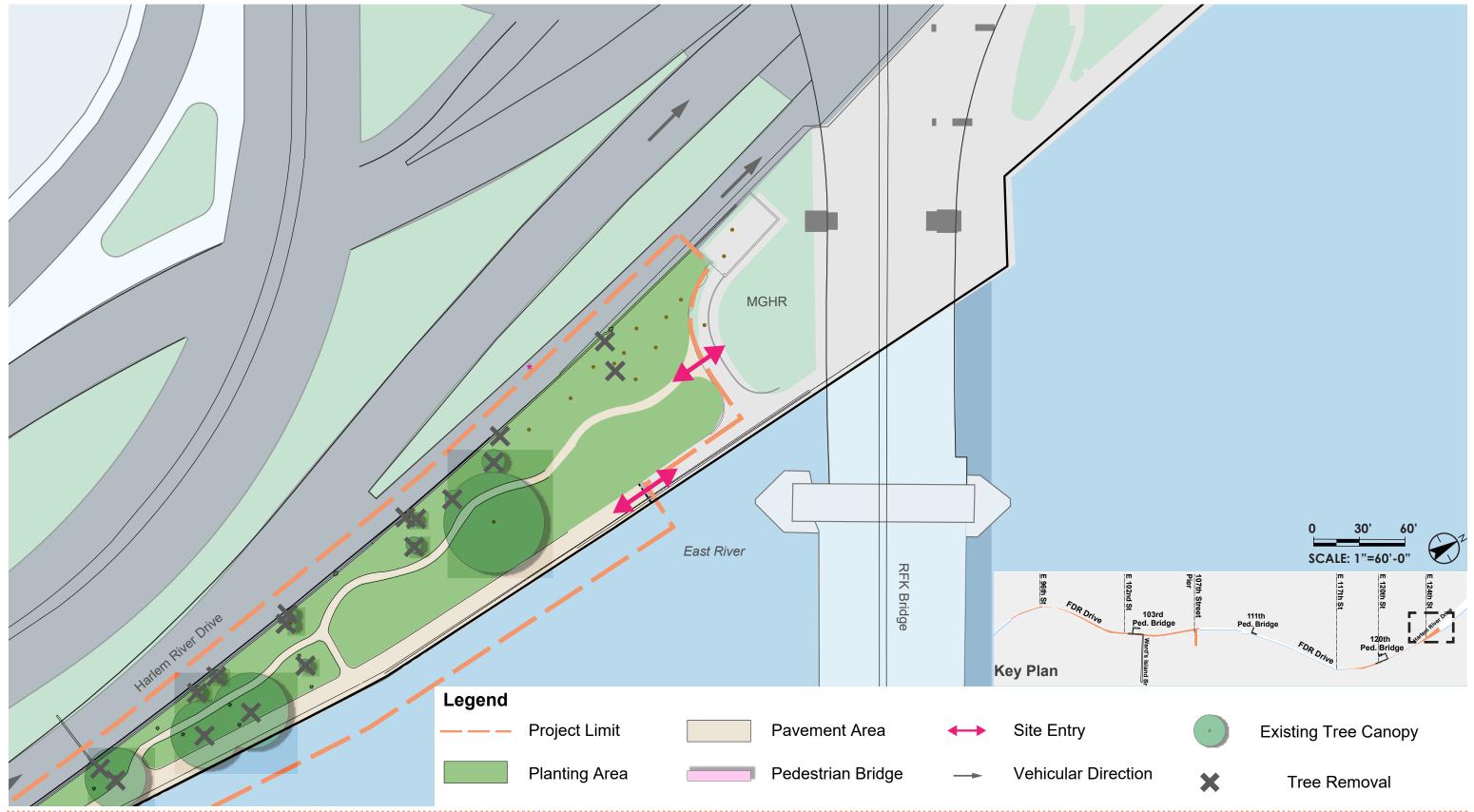
Existing Conditions | 120th-122nd Street







Existing Conditions | 123rd-124th Street











1. 94th Street looking northwest

2. 96th Street entrance with planters, looking north









3. 97th Street looking northeast

4. Between 101st and 102rd Street, looking northeast









5. 102nd Street, looking at 103rd Street Pedestrian Bridge

6. 103rd Street Pedestrian Bridge, under bridge ramp looking north









7. 104th Street looking northeast

8. Between 105th and 106th Street, looking northeast









9. Current entrance to 107th Street Pier, closed to public

10. 107th Street, looking at pier from south side











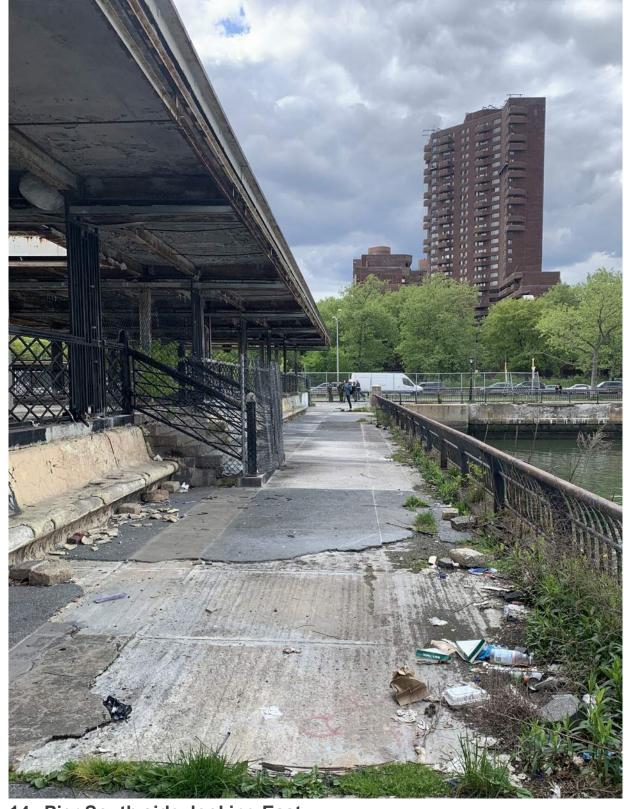
11. Pier and the pavilion, looking West on the pier

12. Pier entrance, looking East from the esplanade









13. Pier North side, looking East

14. Pier South side, looking East









15. Pier North side, looking Northwest

16. Pier South side, looking South







17. 117th Street, looking southwest

18. 119th Street looking southwest









19. 120th Street, looking at 120th Street Pedestrian Bridge

20. 120th Street Pedestrian Bridge, ramps on esplanade side



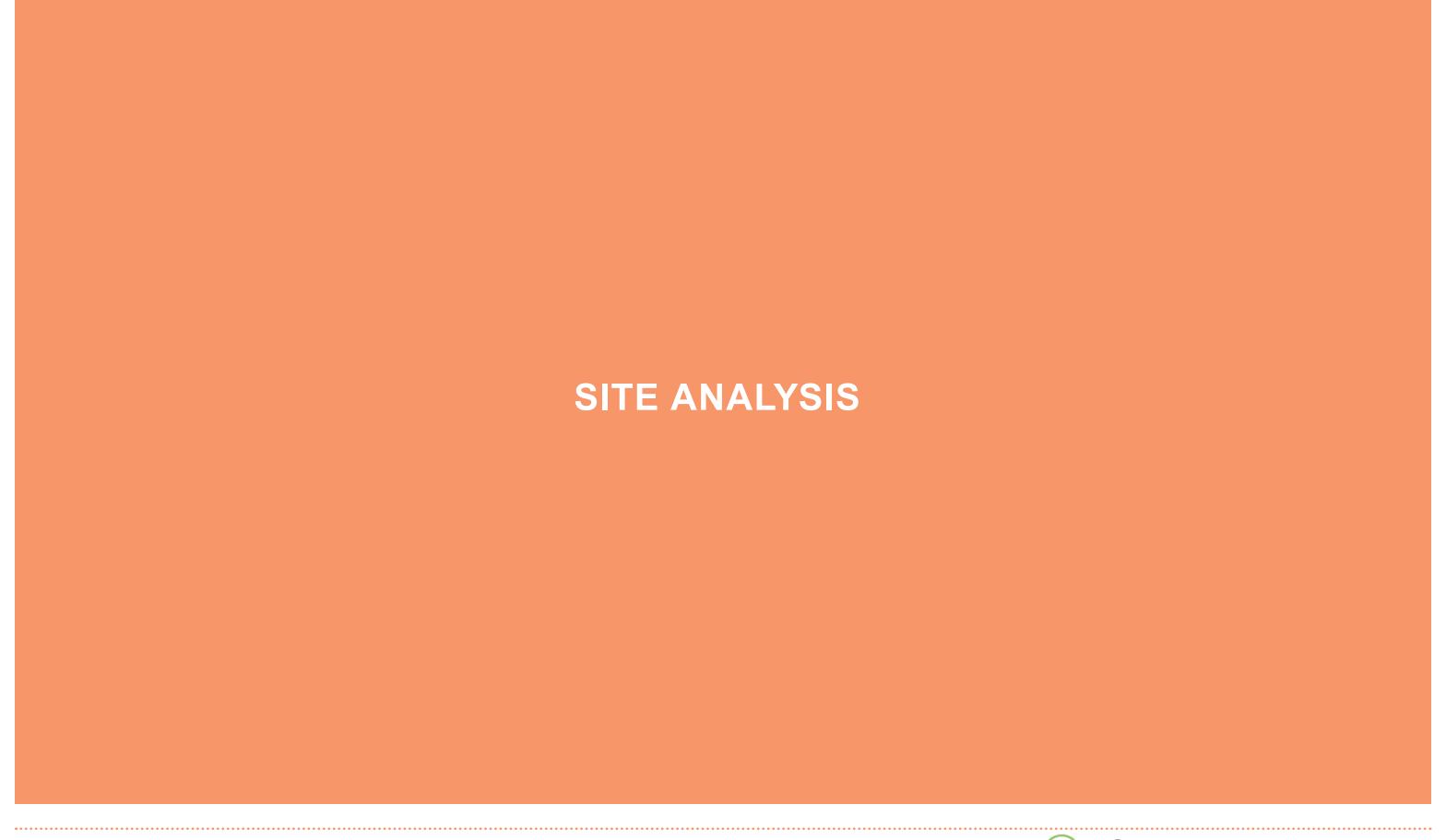






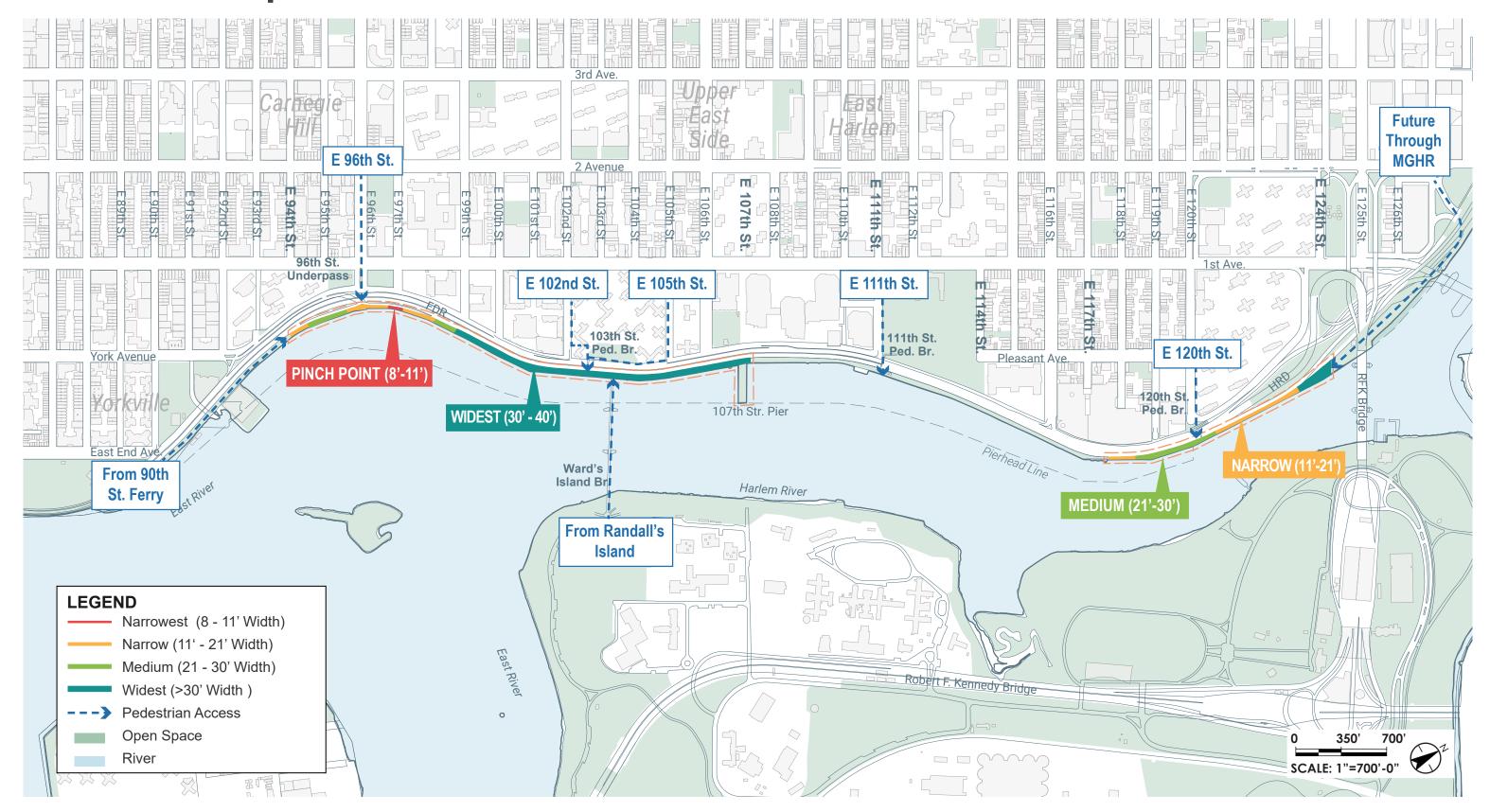
21. 121st Street looking northeast

22. 124th Street looking north



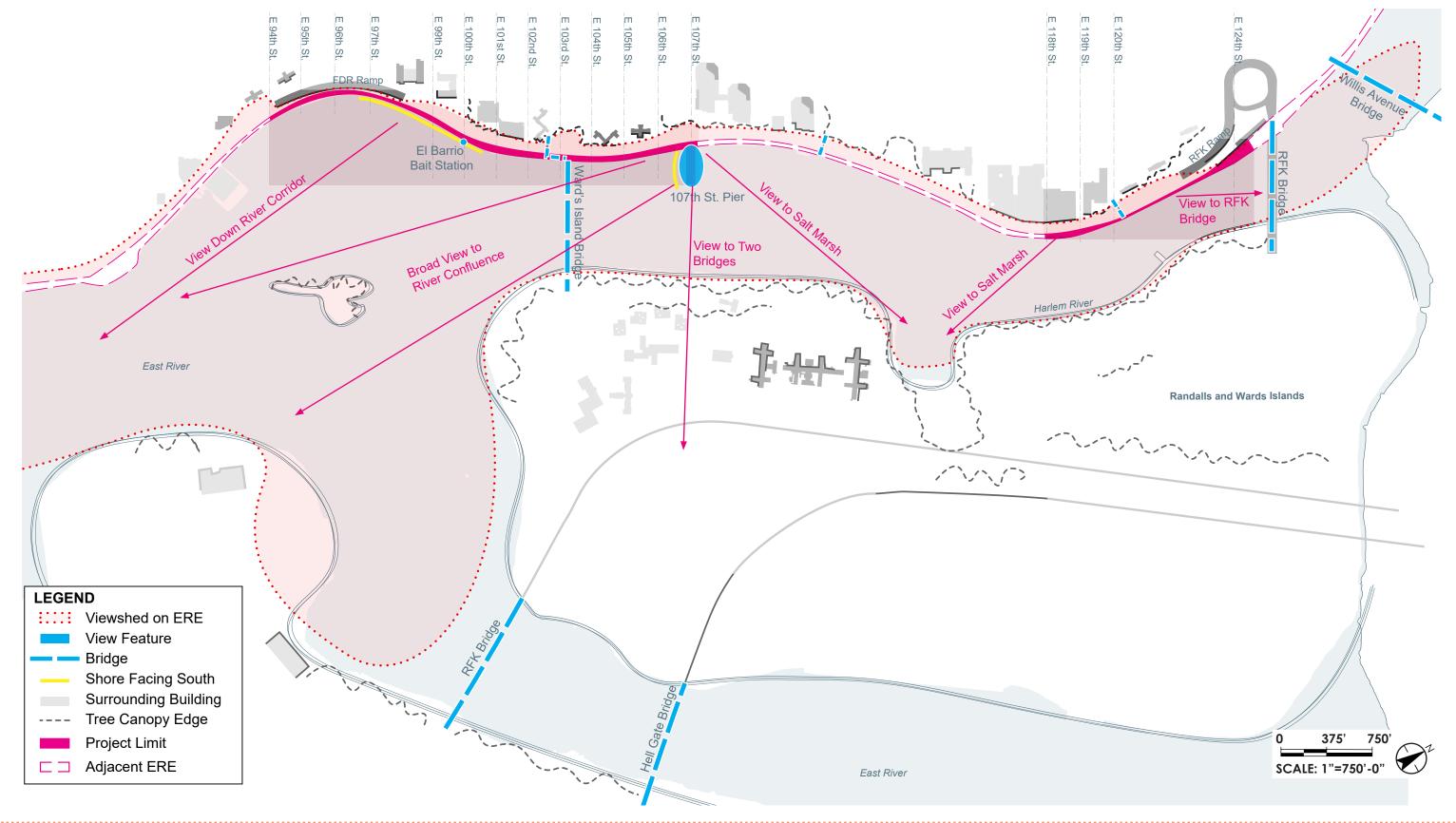


Access and Spatial Width



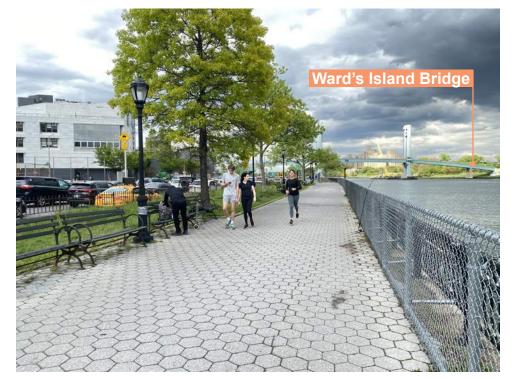


Views





Views from Esplanade







VIEW OF EAST RIVER AT 100TH STREET



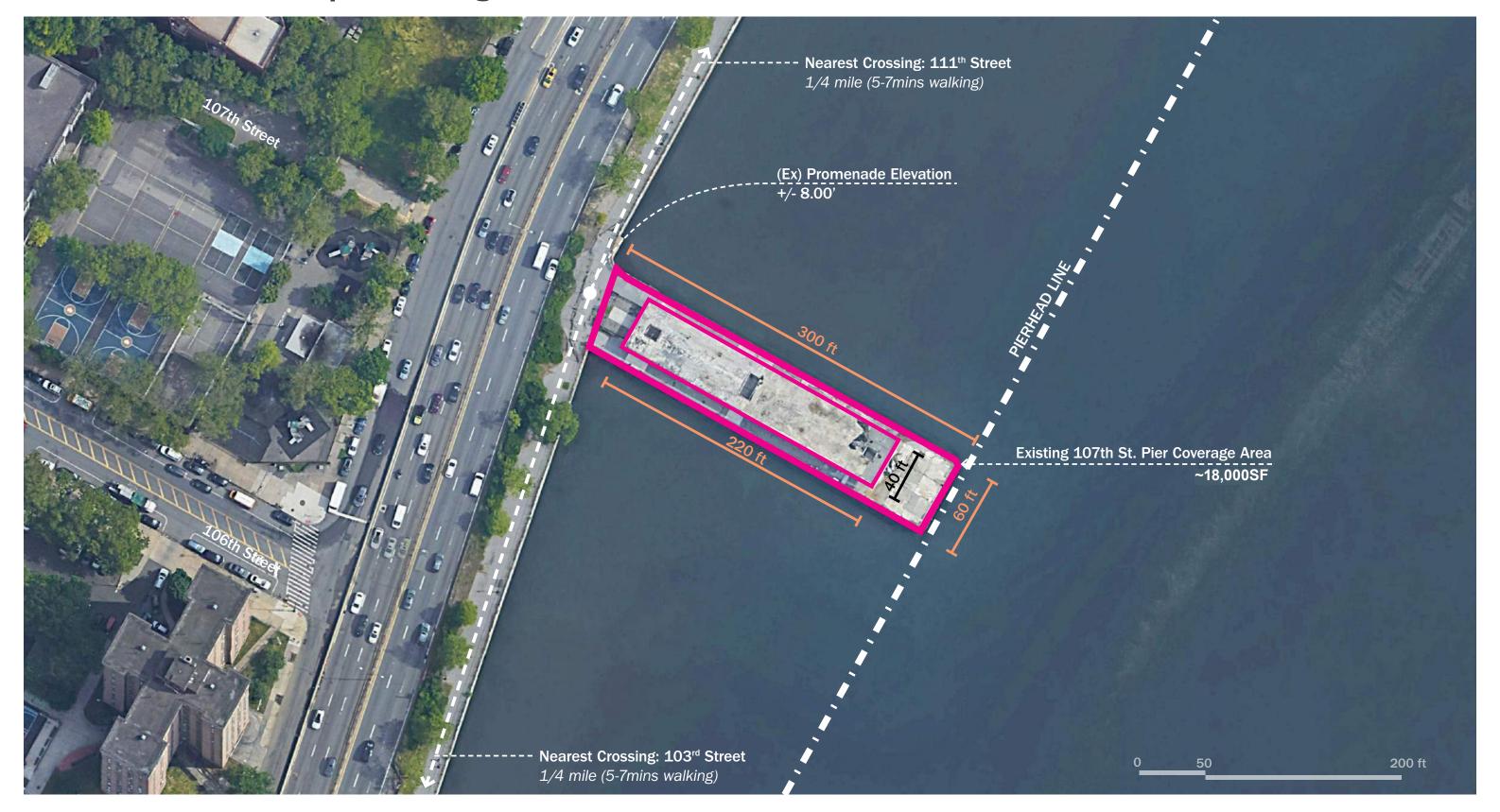
VIEW TO THE SOUTH AT 117TH STREET



VIEW TO THE NORTH AT 124TH STREET

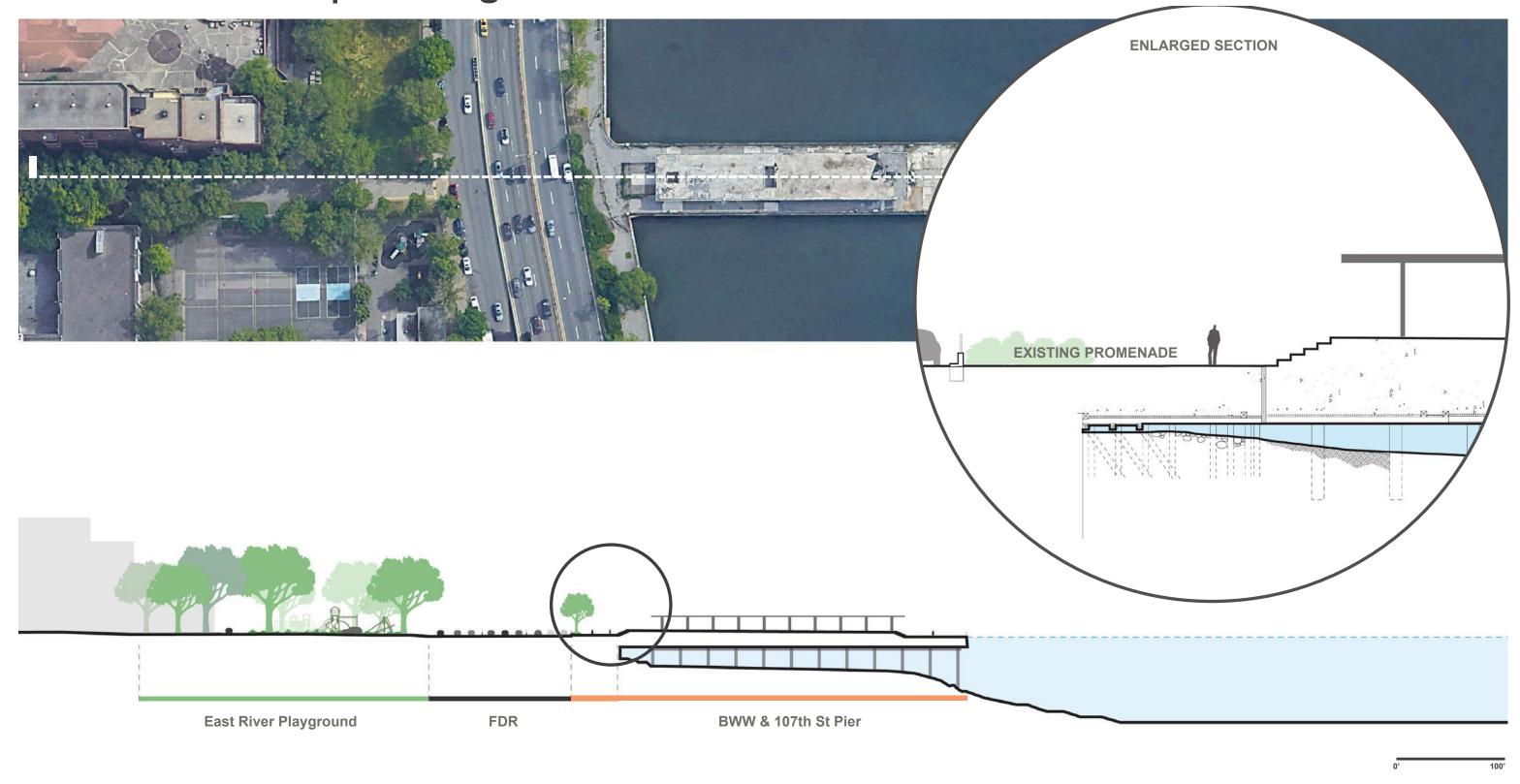


107th Street Pier | Existing Plan

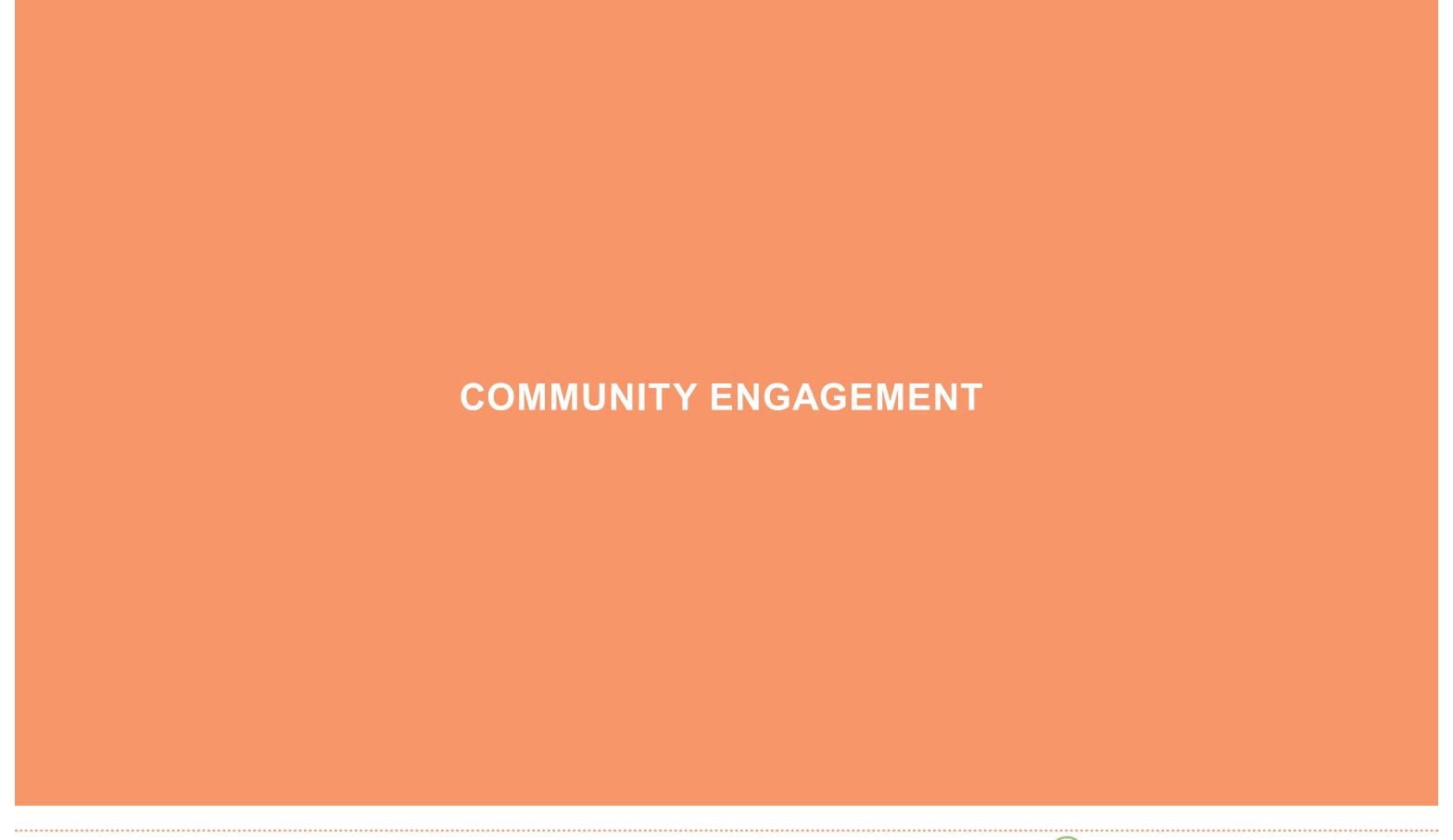




107th Street Pier | Existing Section









Community Engagement Process









Online Survey

• 332 responses received

Information Meeting - Jan 25

• 55 attendees

Workshop #1 - Virtual, Feb 9

• 35 attendees

Workshop #1 - In-Person, Feb 13

• 25 attendees

Esplanade Walkthrough - Feb 11

• 34 attendees + 1 dog

Pop Up - Feb 26

Met 66 neighbors

Community Board 11 - March 2

Parks Committee

Community Board 11 - Jun 1

Parks Committee

Workshop #2 - In-Person, July 11

• 30 attendees

Workshop #2 - Virtual, July 13

• 22 attendees

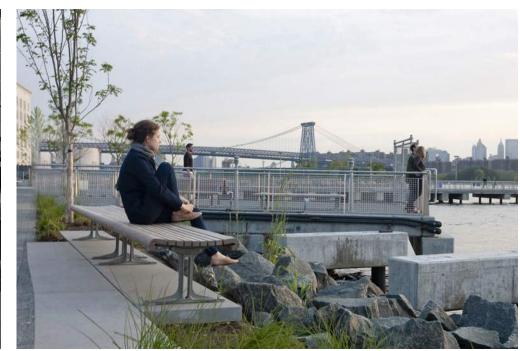


Community Engagement Takeaways | Esplanade

- It's very important that the Esplanade provides a safe and continuous path along the waterfront.
- It's important that the Esplanade provides new activities and is also a place of calm and quiet.
- It's somewhat not important that the Esplanade maintains its current character.







safe and continuous path

new activities

place of calm and quiet



Community Engagement Takeaways | Esplanade

• Would like to see/experience...







separated bike lane tree canopy bench seating





native planting

vegetative buffer

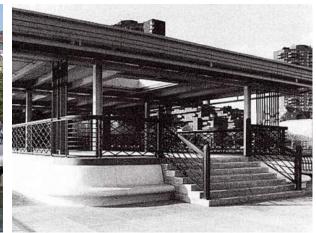
Community Engagement Takeaways | 107th Street Pier

- It's very important that the Pier enhances and promotes native ecology, is a place of community gathering, allows interaction with the water, and reflects the neighborhood's history.
- It's also **important** that the Pier is a place of **quiet and comfort**, but less so compared to the Esplanade.











promotes ecology

place of gathering

interaction with water

reflects local history

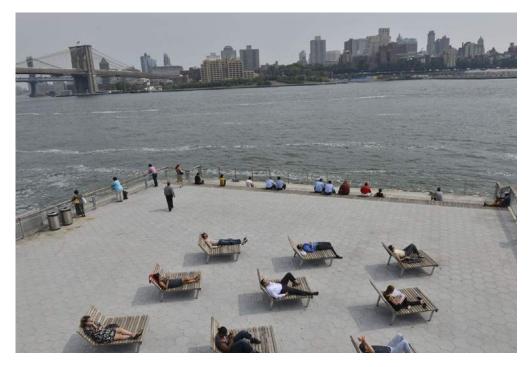
place of quiet and comfort

Community Engagement Takeaways | 107th Street Pier

• Would like to see/experience...







shade structure

multi-use gathering area

seating



fishing



eco enhancements & learning





DESIGN GOALS



- Enliven the waterfront by providing a high-quality design open space and range of communitysupported uses.
- Provide seating, lighting, and other amenities along the length of the esplanade.
- Engage the community in selecting desired amenities.

Accessible

Connected to the local community both physically and programmatically

- Rehabilitate, reconstruct, and improve the esplanade.
- Create continuity with the East River Esplanade and larger Manhattan Waterfront Greenway.
- Create seamless connections N-S and E-W (at existing FDR crossings).
- Apply principles of universal design.

Resilient

Durable, low-maintenance, and designed to withstand rising sea levels

- Provide for seasonal comfort.
- Incorporate trees and planting along the length of the esplanade.
- Incorporate resiliency features considering 2100 SLR.
- Work with MOCEJ and incorporate NYC CRDG.
- Integrate green infrastructure.

Ecologically Beneficial

Support and connect human and marine • ecosystems • •

- Provide benefits to the in-water ecological system.
- Increase in-water habitat structure for aquatic species
- Incorporate native and ecologically beneficial plant communities.

<u>Sustainable</u>

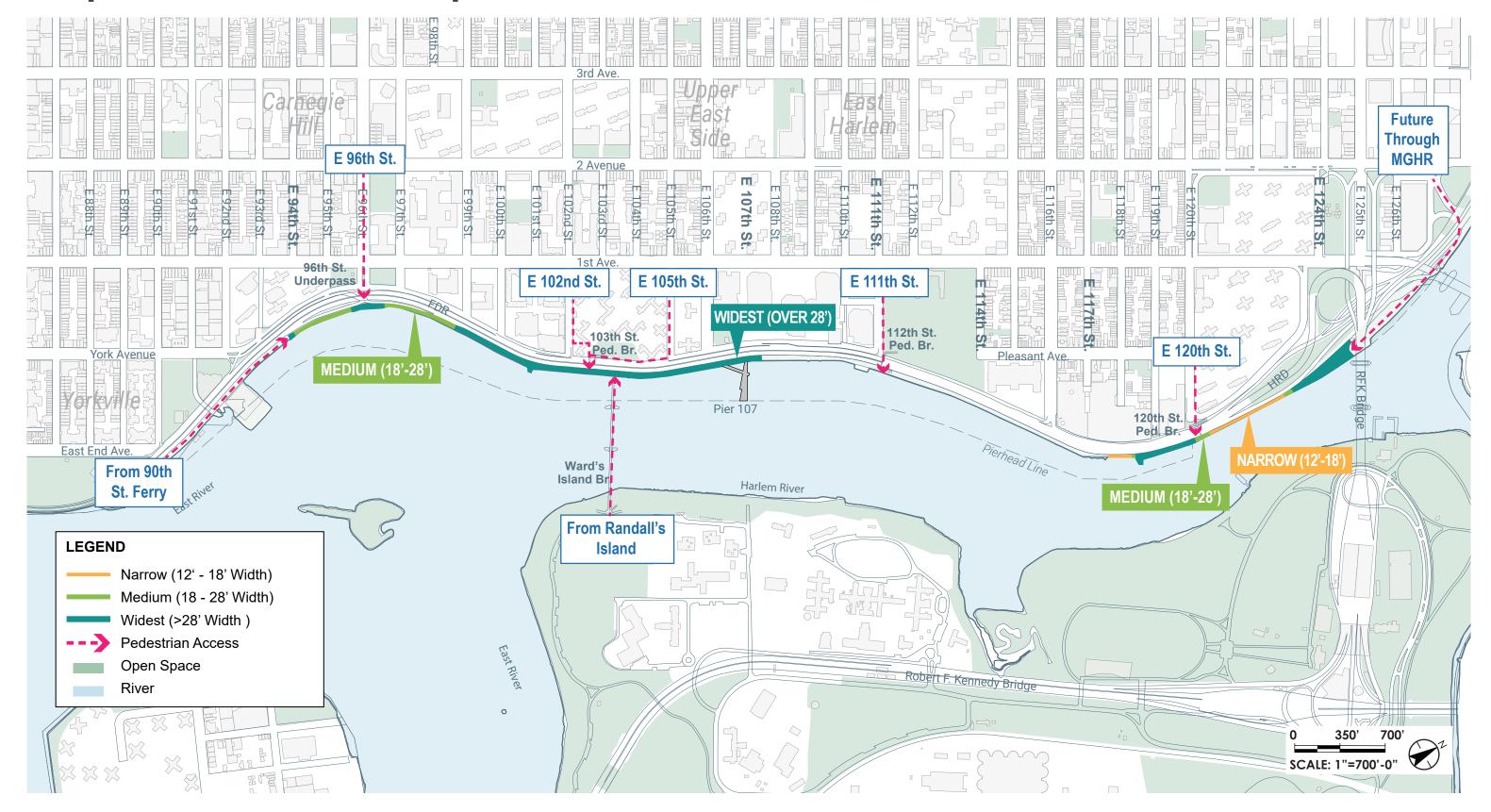
Reduce carbon footprint of materials and construction process

- Minimize construction waste going to landfill.
- Minimize life cycle greenhouse gas emissions (embodied and operational GHG).
- Minimize operational energy demand.
- Minimize operational water demand.
- Minimize use of virgin materials.



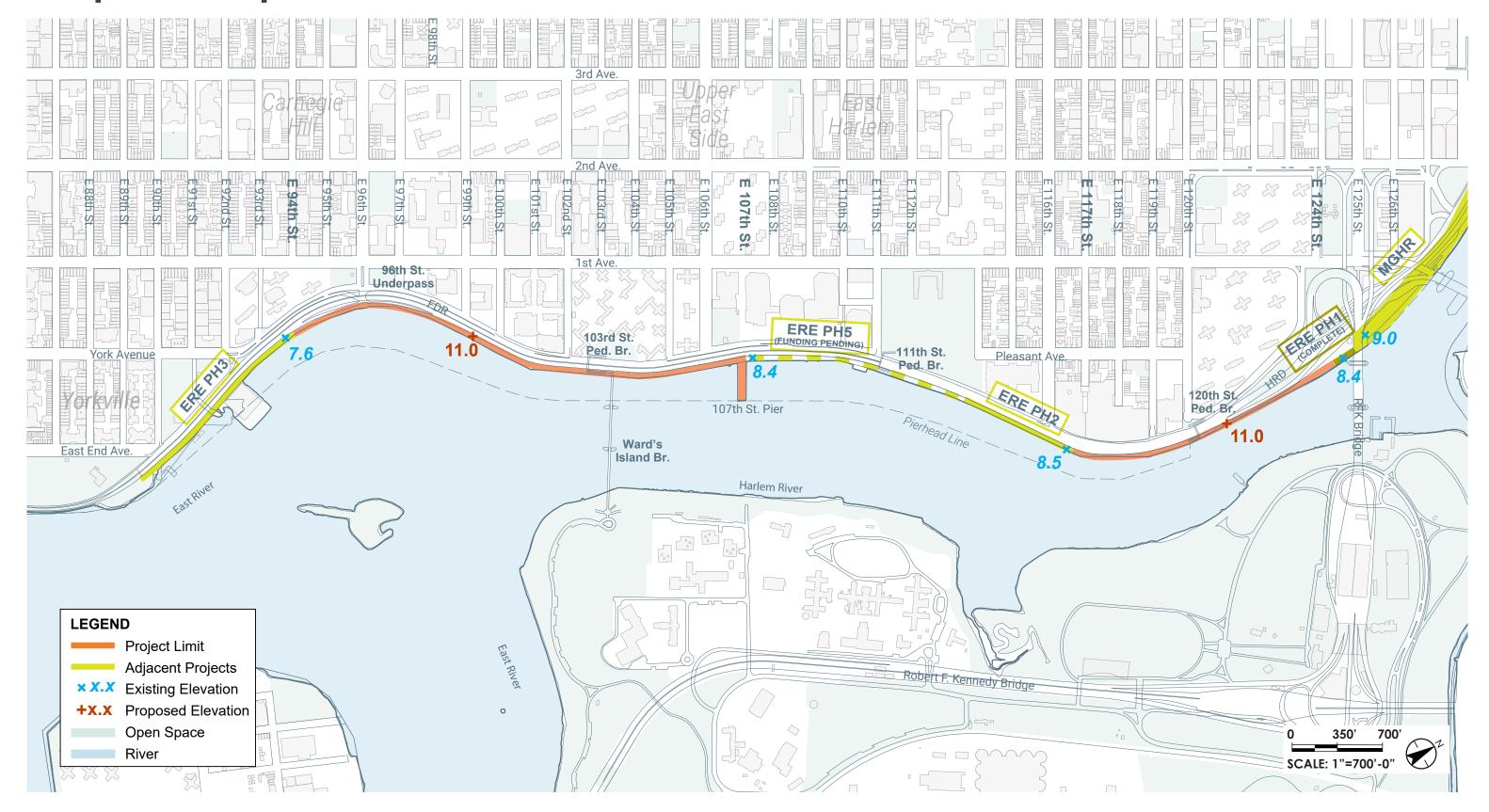


Proposed Access and Spatial Width

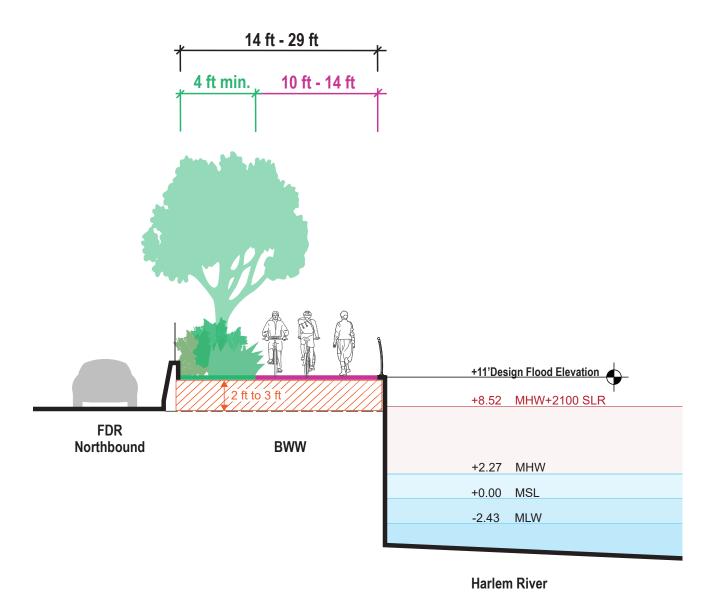




Proposed Esplanade Elevation







+11'Design Flood Elevation
+8.52 MHW+2100 SLR

FDR
Northbound

+2.27 MHW
+0.00 MSL
-2.43 MLW

30 ft - 40 ft

6 ft min.

4 ft

8 ft

12 ft

4 ft min.

NARROWER ESPLANADE

Approximately 66 existing trees will be removed due to elevation of esplanade. Approximately 11 existing trees will be preserved, and 137 new trees will be planted.

Ecological enhancement opportunities along the water's edge is in study. Subsurface conditions not shown for clarity. See slides 70 through 72 for structural sections, which vary by location.

WIDER ESPLANADE

Design Parameters:

Planting minimum width: 4 ft
Planting with shade tree minimum width: 6 ft
Separated bike lane clearance: 12 ft

Separated walkway clearance: 8 ft Shared use path clearance: 14 ft

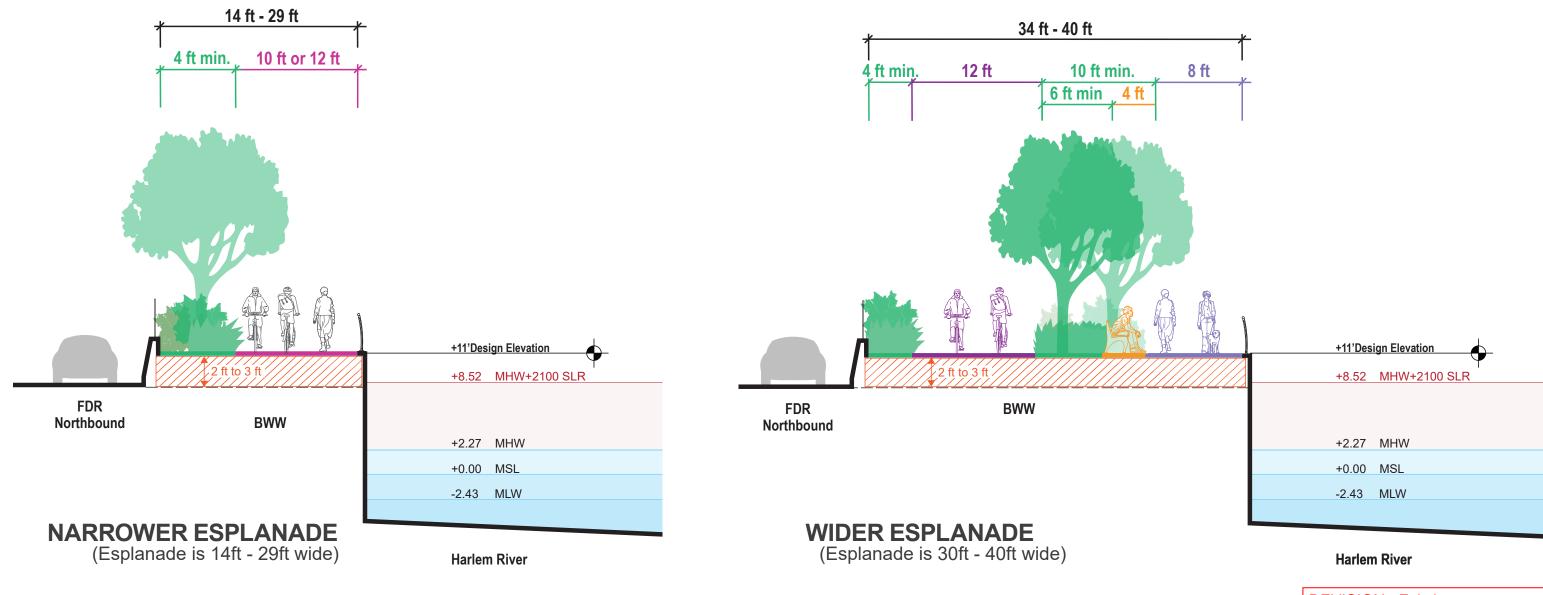
Minimum shared use path clearance: 10 ft

Harlem River





ESPLANADE DESIGN PARAMETERS



69 existing trees will be removed due to raising elevation of esplanade by 2 to 3 feet. 11 existing trees will be preserved and 262 new trees will be planted.

- Ecological enthancement opportunities along the water's edge is in development.

- Subsurface conditions not shown for clarity. See slides 137 through 144 for structural sections, which vary by location.

REVISION: Existing tree removal quantity changed due to project limits extending to accommodate grade changes.

Design Parameters:

Planting minimum width: 4 ft
Planting with shade tree minimum width: 6 ft

Separated bike lane clearance: 12 ft

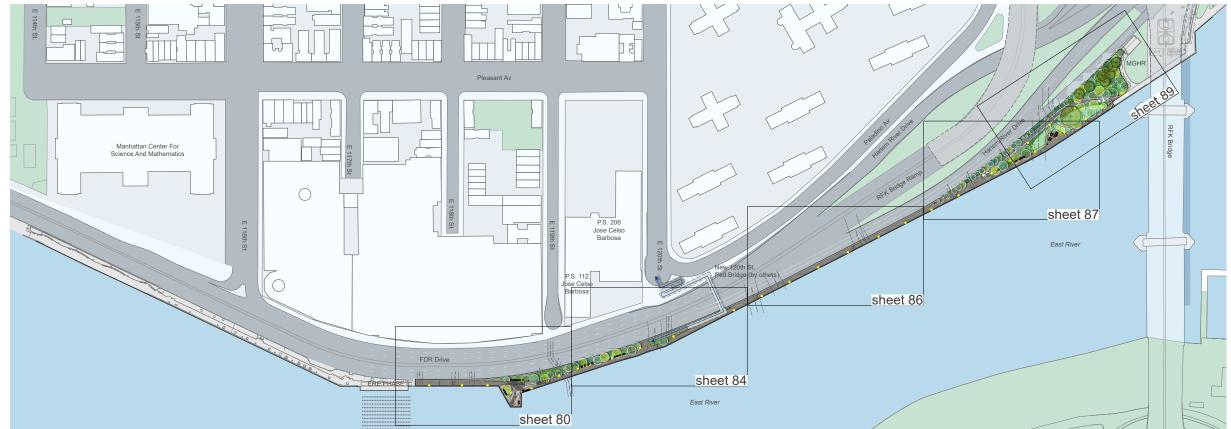
REVISION: Minimum clearance changed due to aligning FDR barrier to existing face of wall.

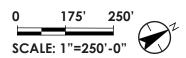




Preliminary Plan | Overall

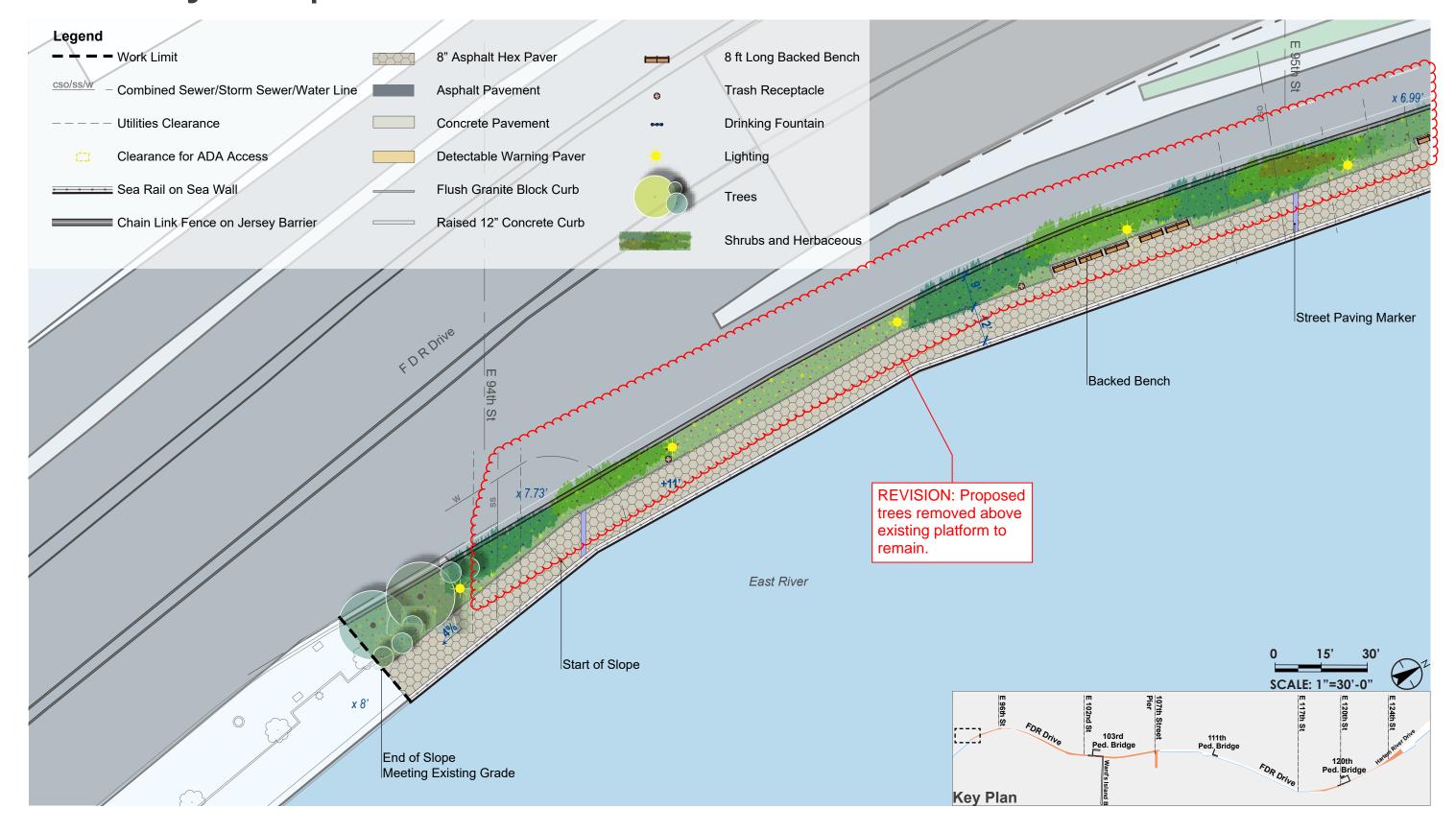








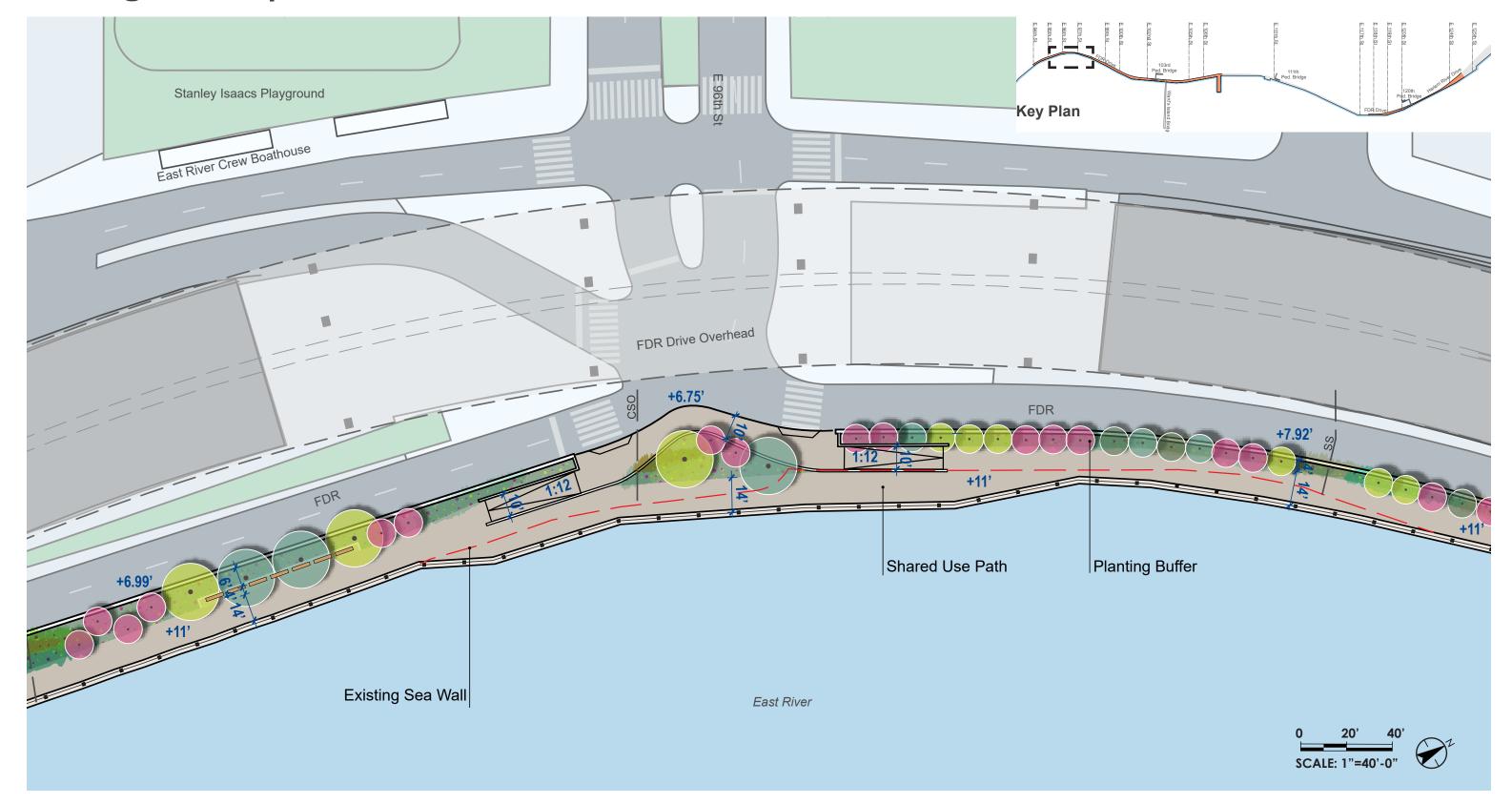
Preliminary Plan | 94th-95th Street





Enlargement | 96th Street Entrance

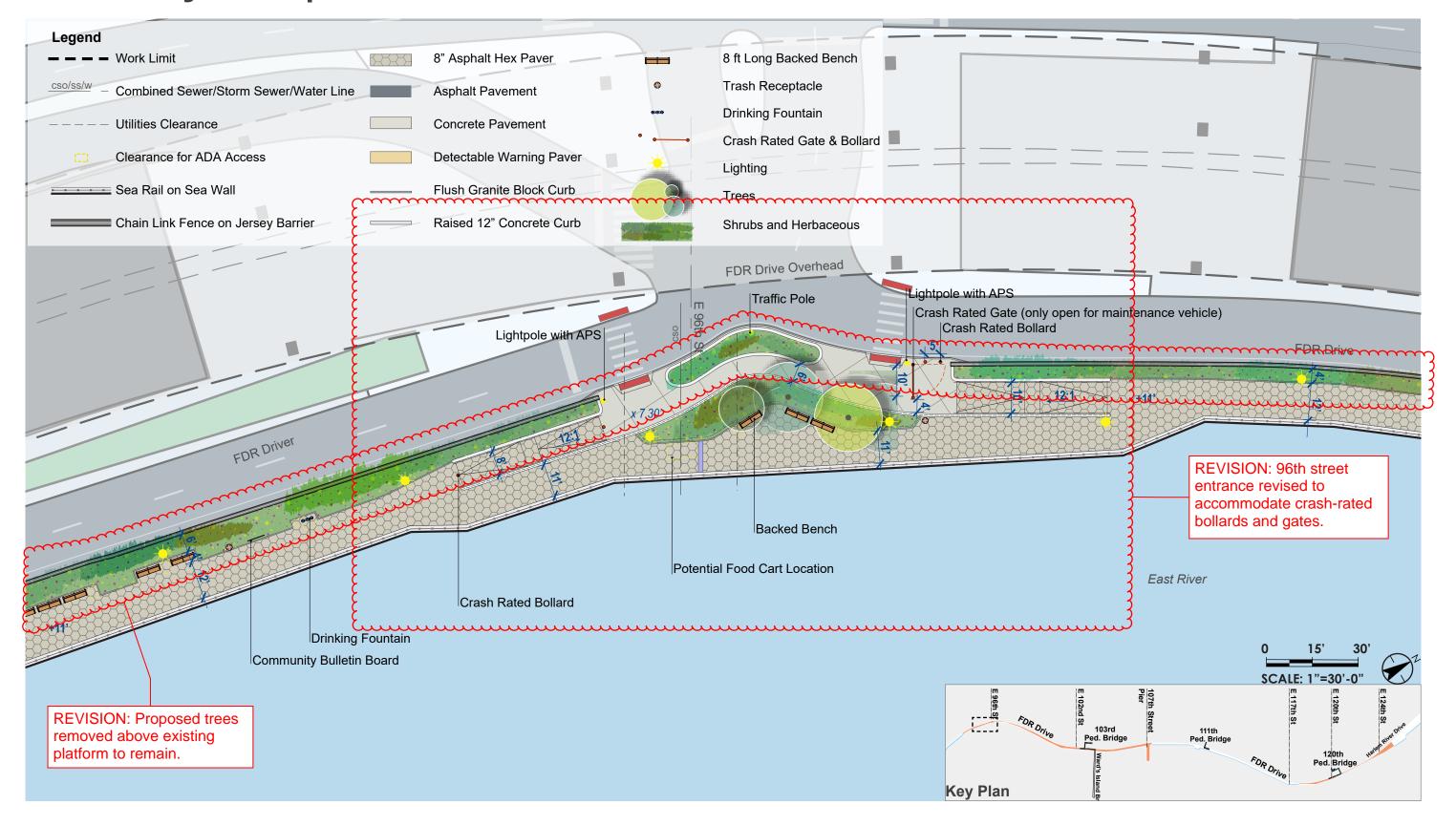
Approved at Conceptual Review







Preliminary Plan | 95th-96th Street















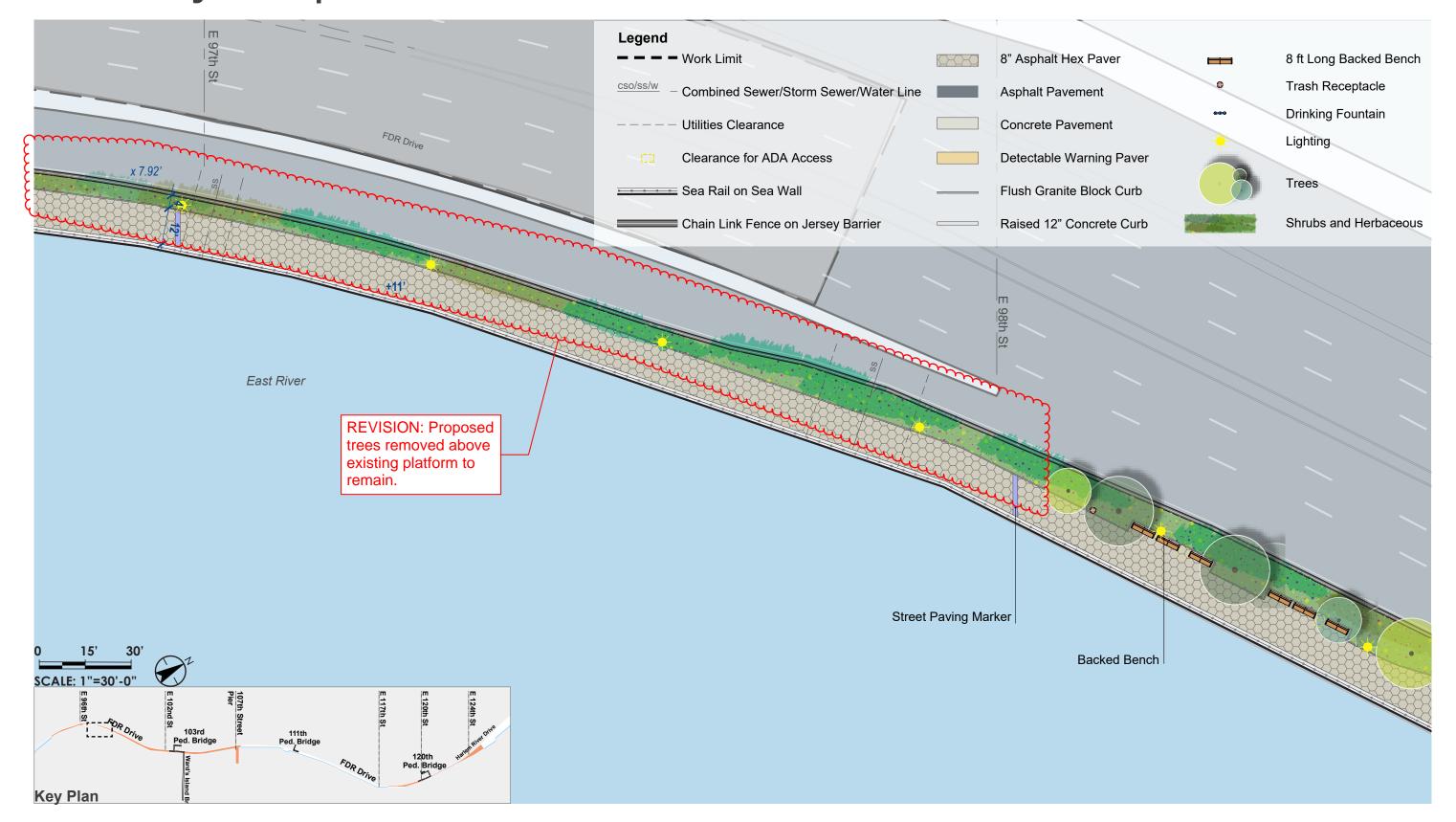






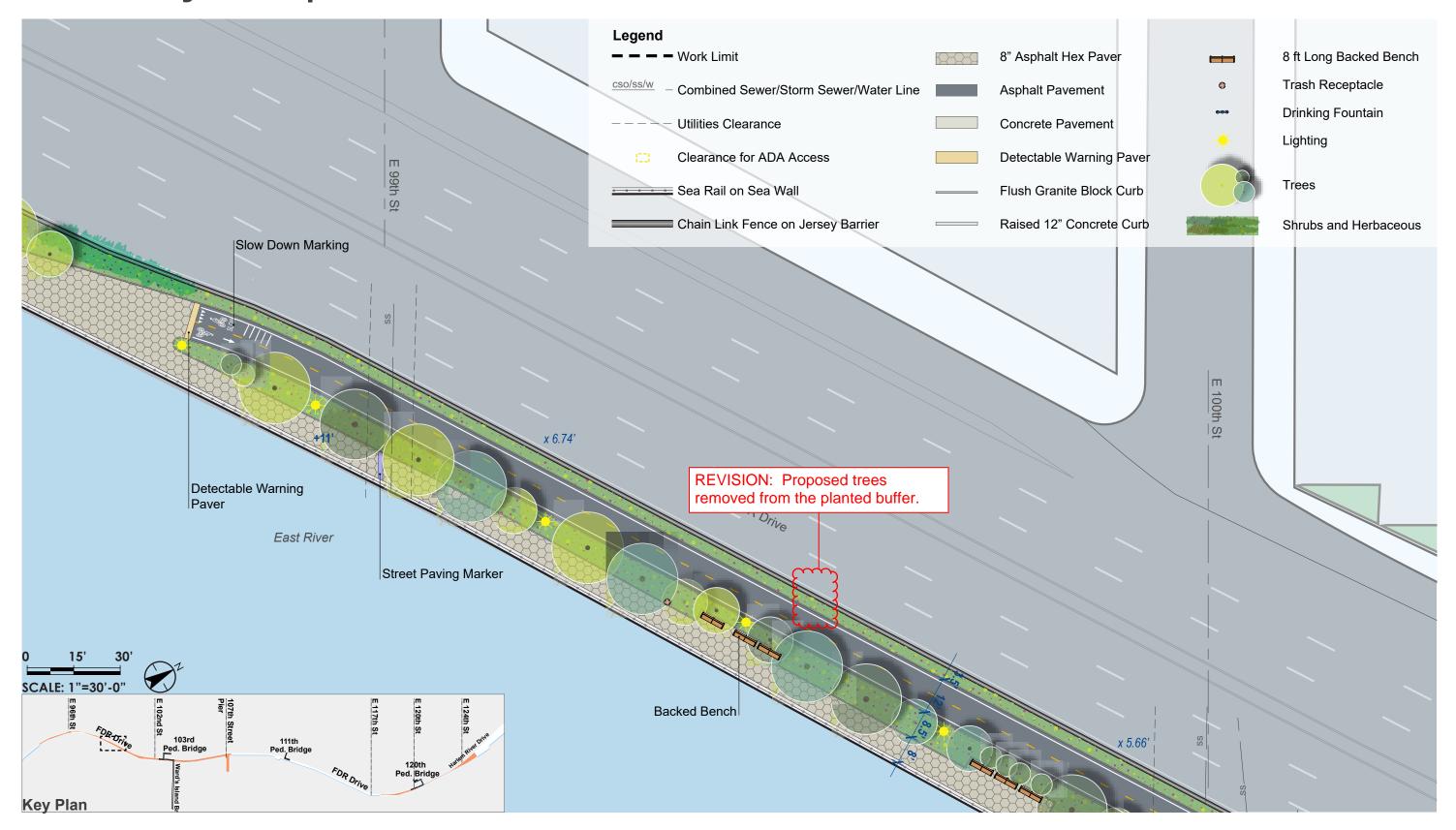


Preliminary Plan | 97th-98th Street





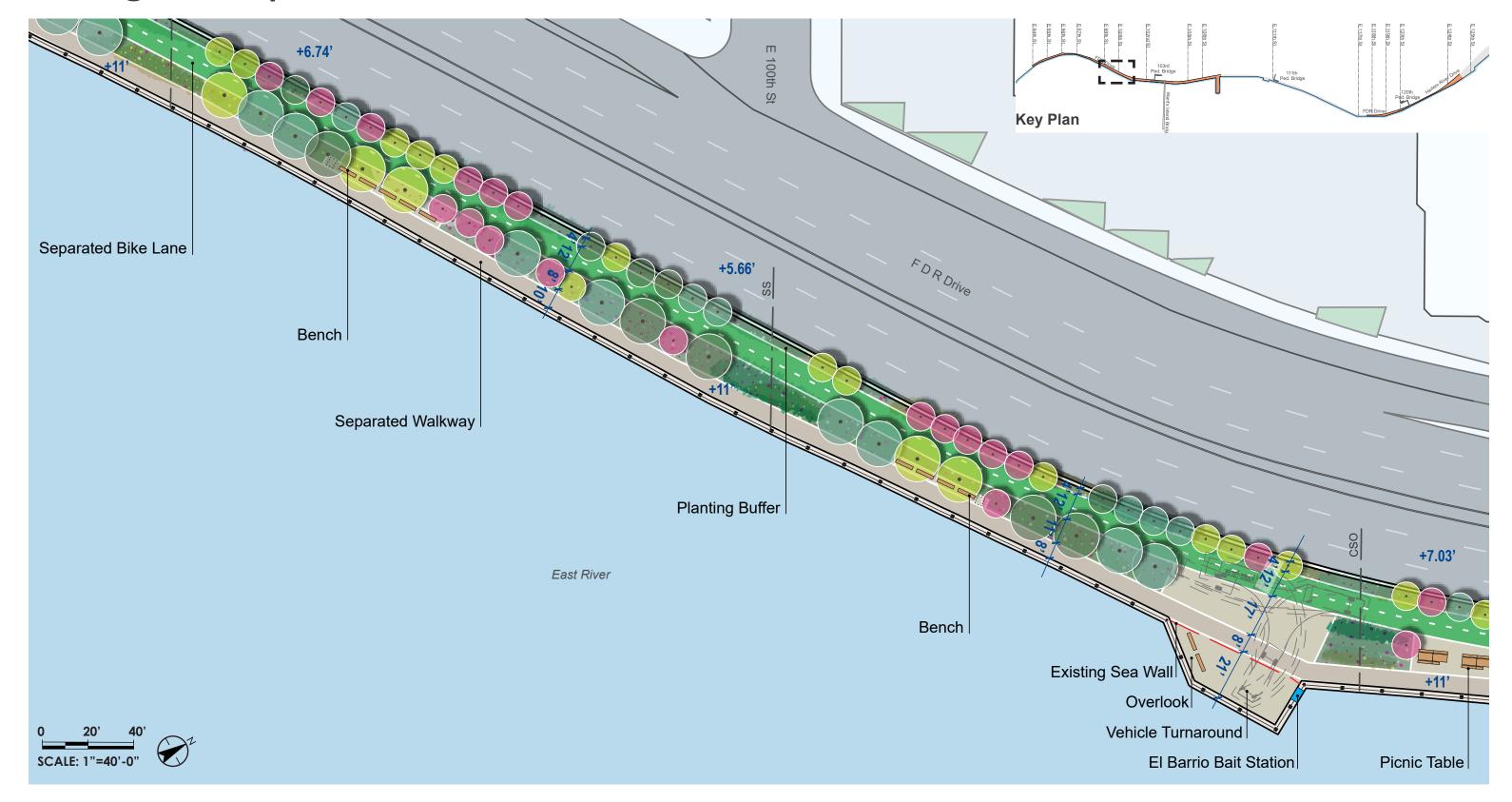
Preliminary Plan | 99th-100th Street





Enlargement | Harbor View

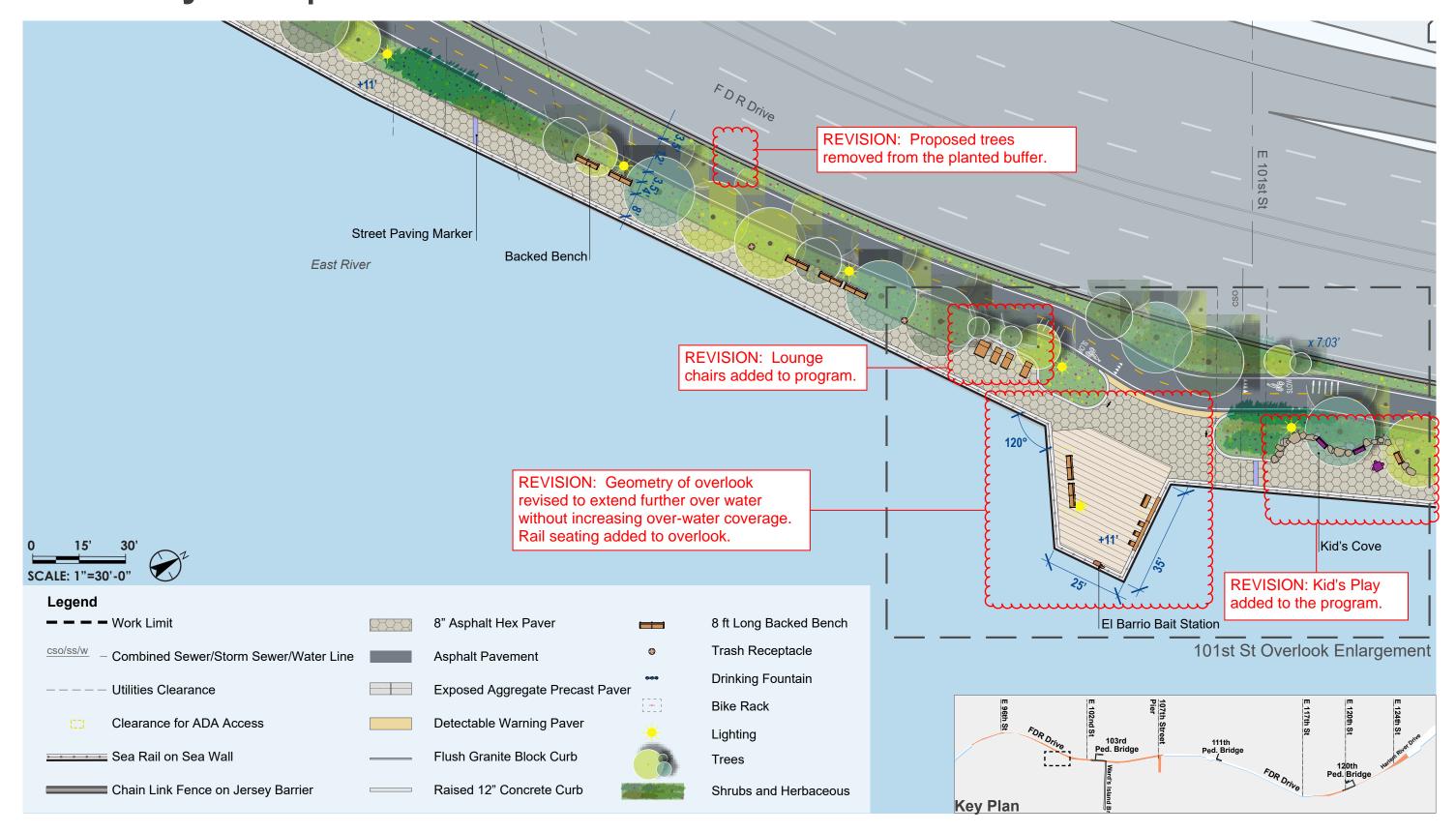
Approved at Conceptual Review





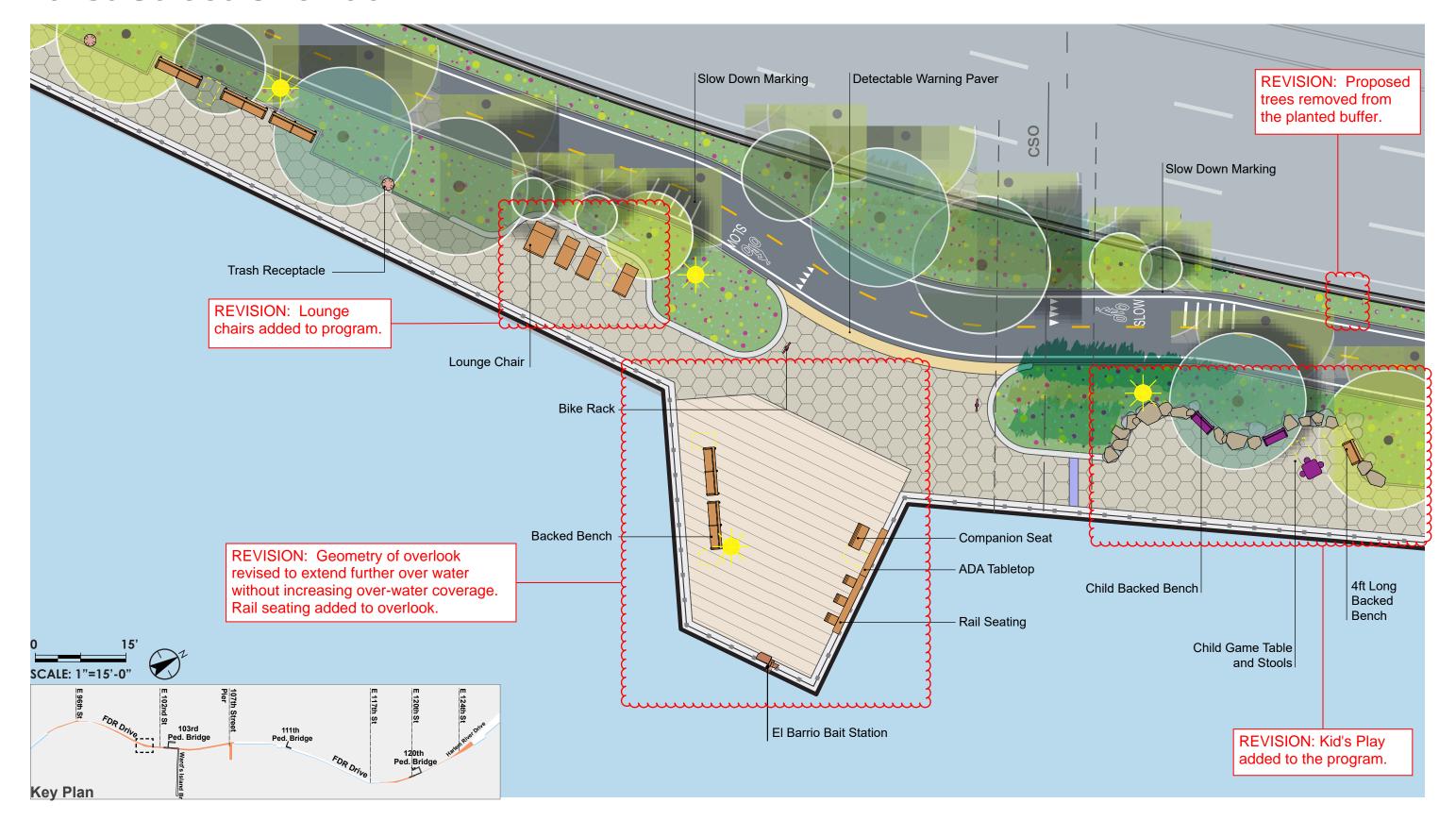


Preliminary Plan | 101st-102nd Street





101st Street Overlook





101st Street Overlook





101st Street Overlook





Preliminary Plan | 102nd-103rd Street







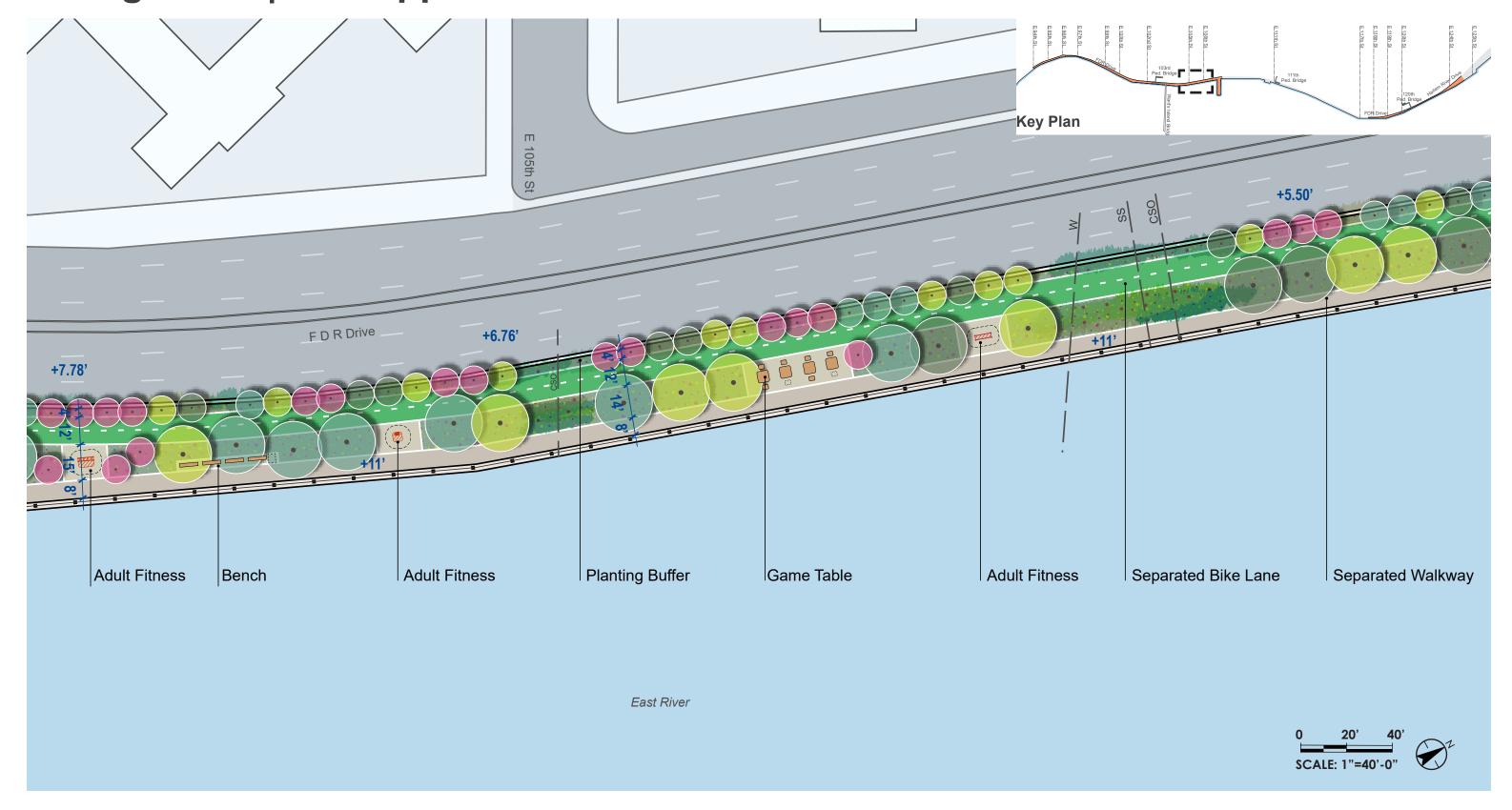
Typical Ped/Bike Merge Point at 102nd Street





Enlargement | Pier Approach

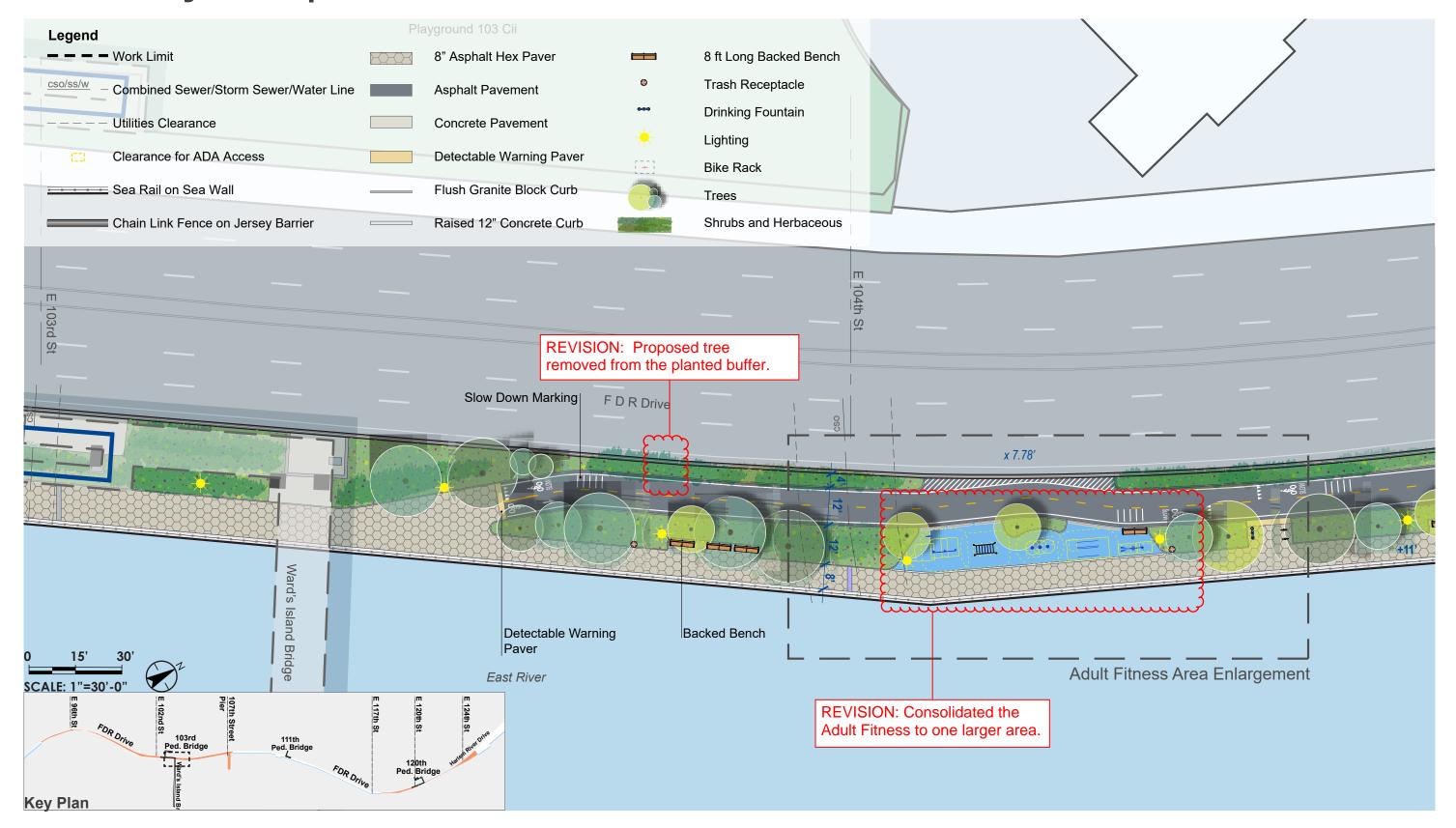
Approved at Conceptual Review





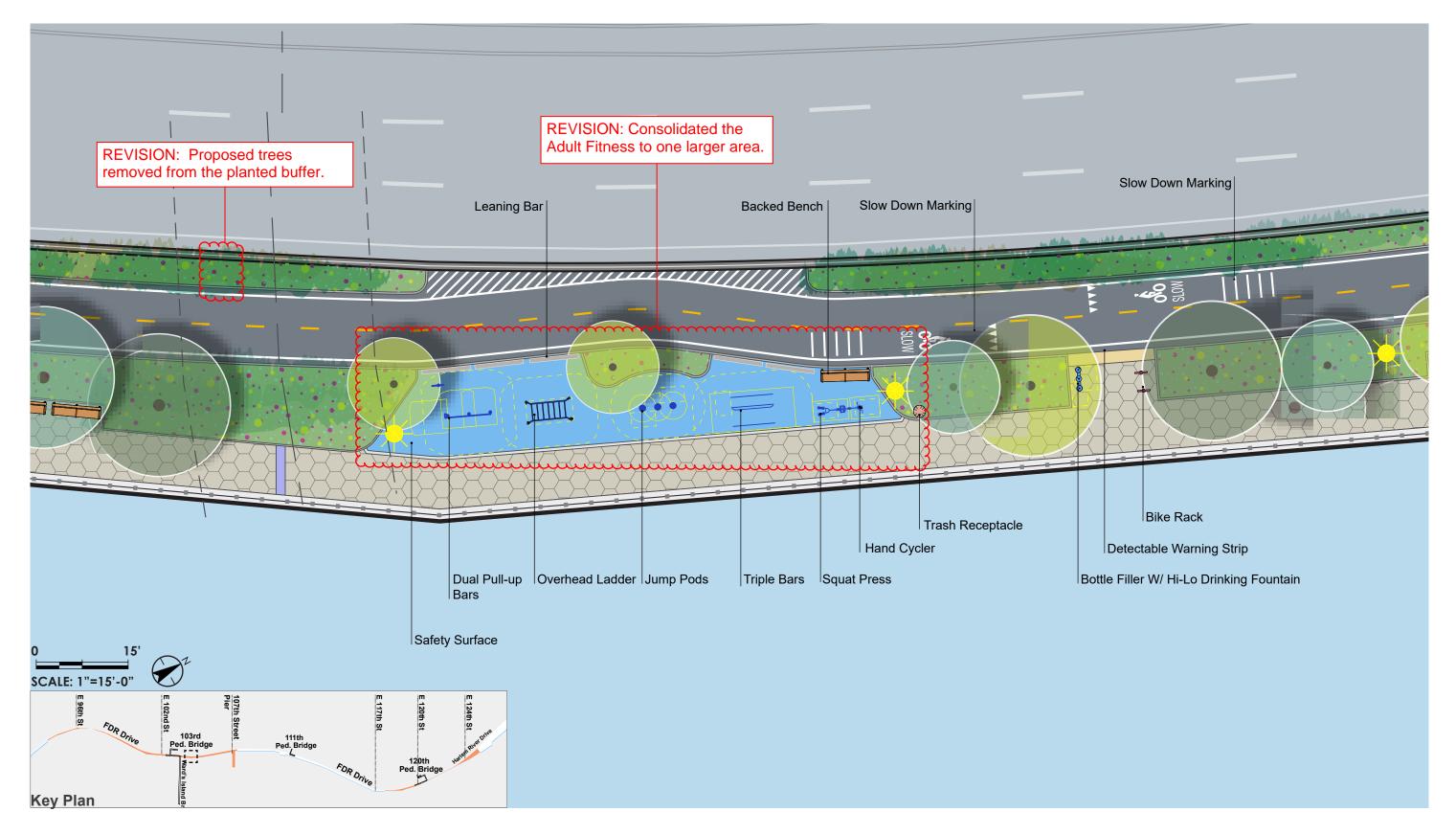


Preliminary Plan | 103rd-104th Street





Adult Fitness Area



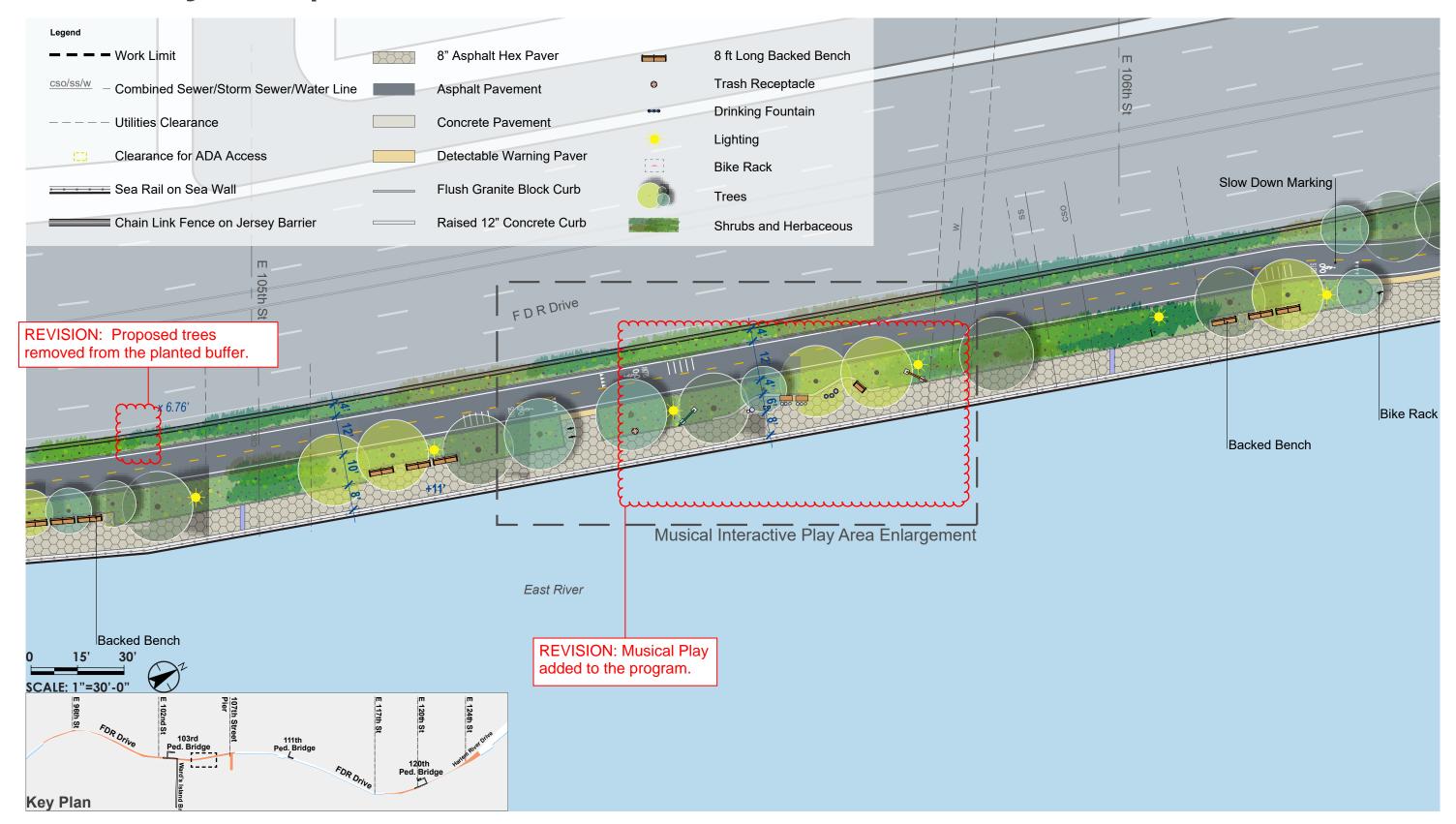


Adult Fitness Area



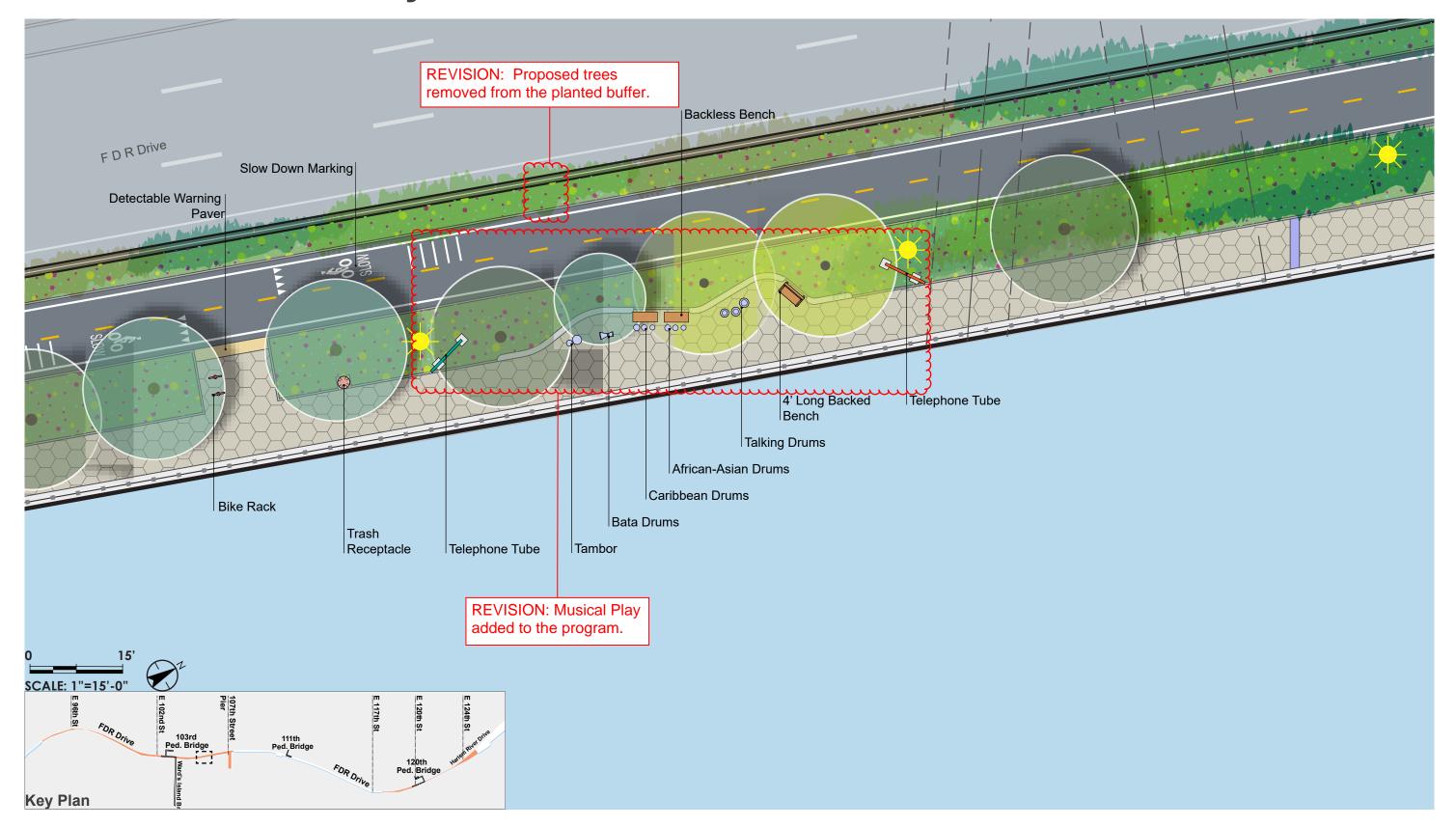


Preliminary Plan | 105th-106th Street





Musical Interactive Play Area



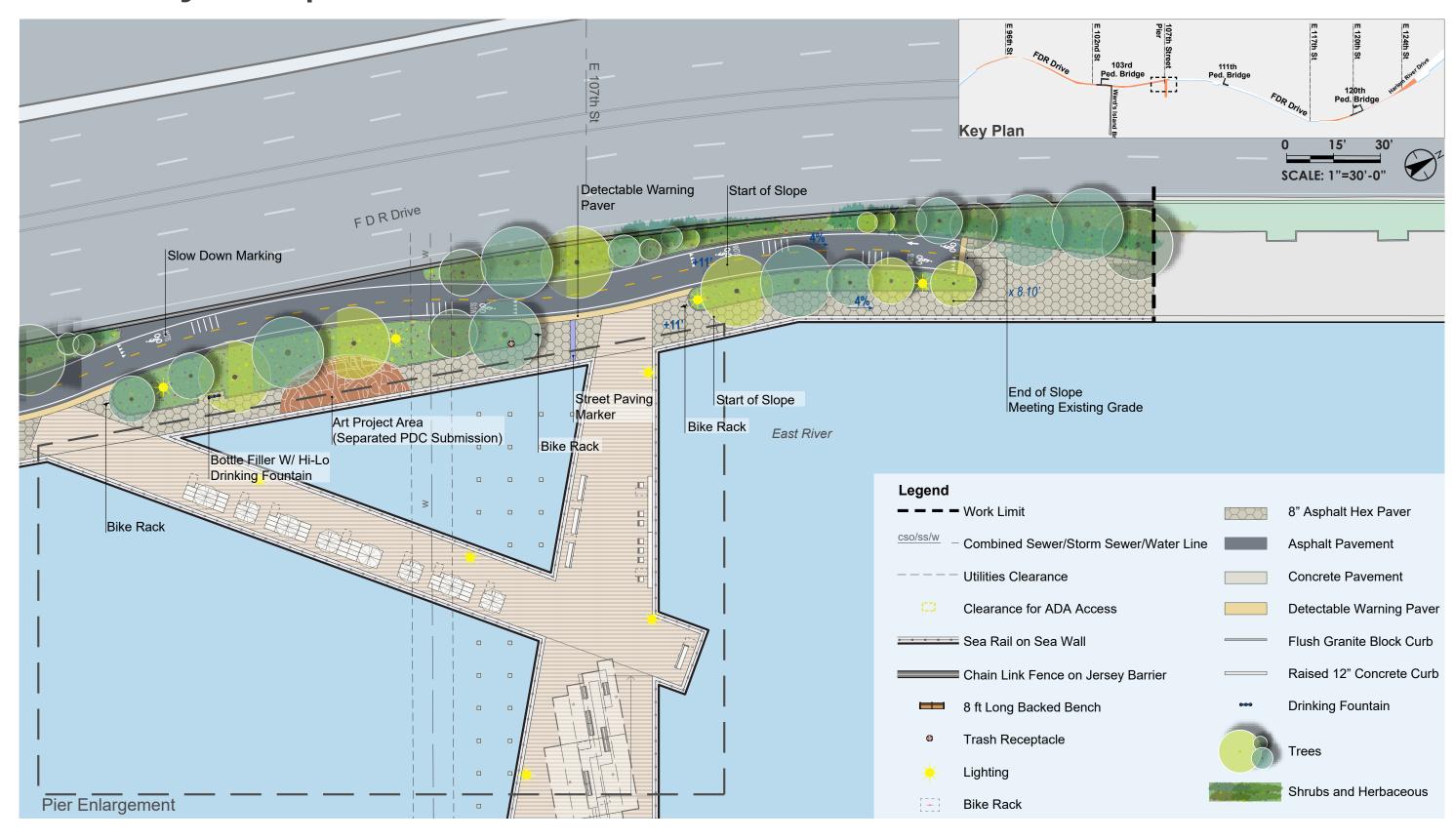


Musical Interactive Play Area





Preliminary Plan | 107th Street





Typical Separated Bike Lane and Walkway at 106th Street





Enlargement | Northern Stretch

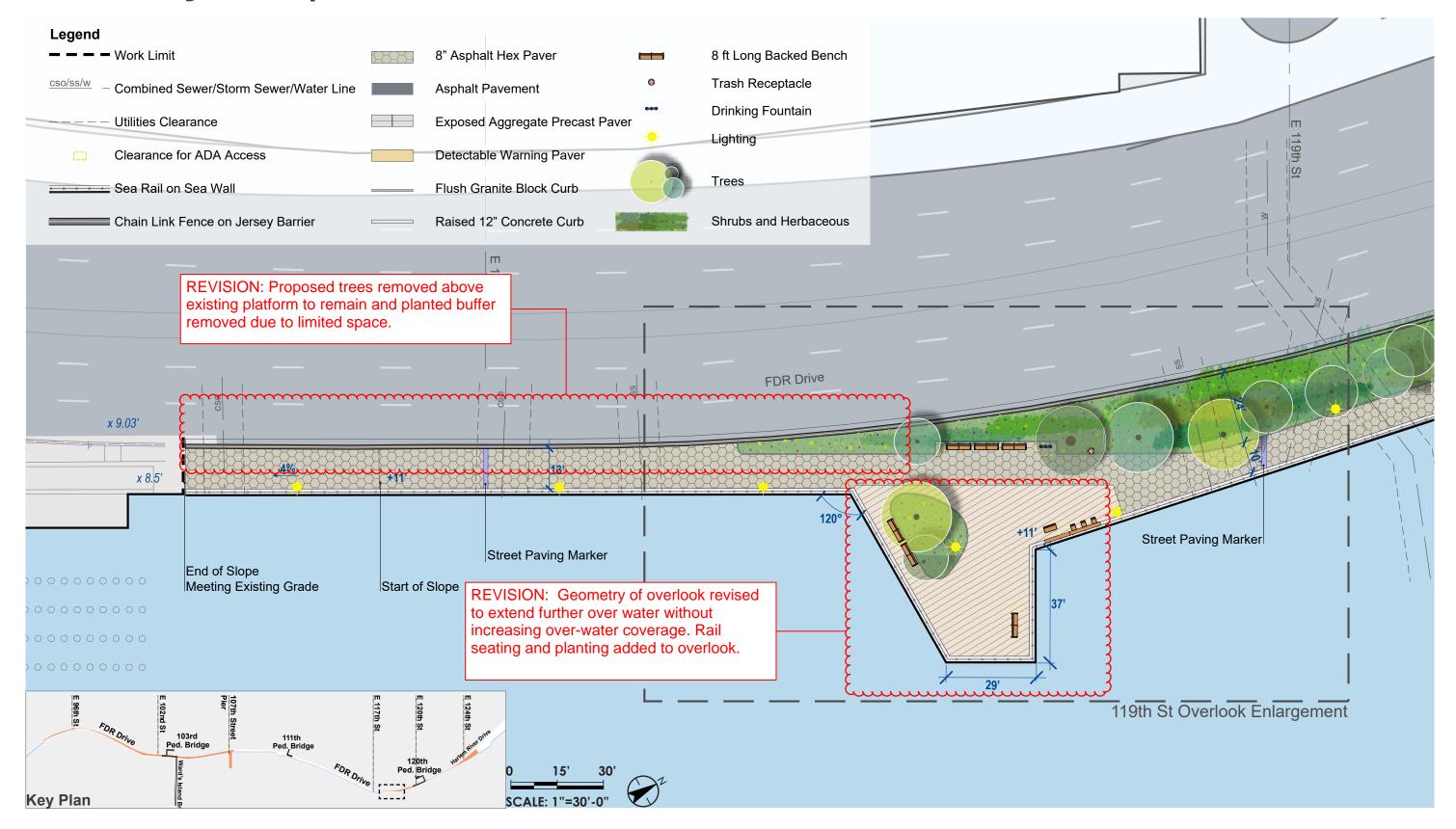
Approved at Conceptual Review





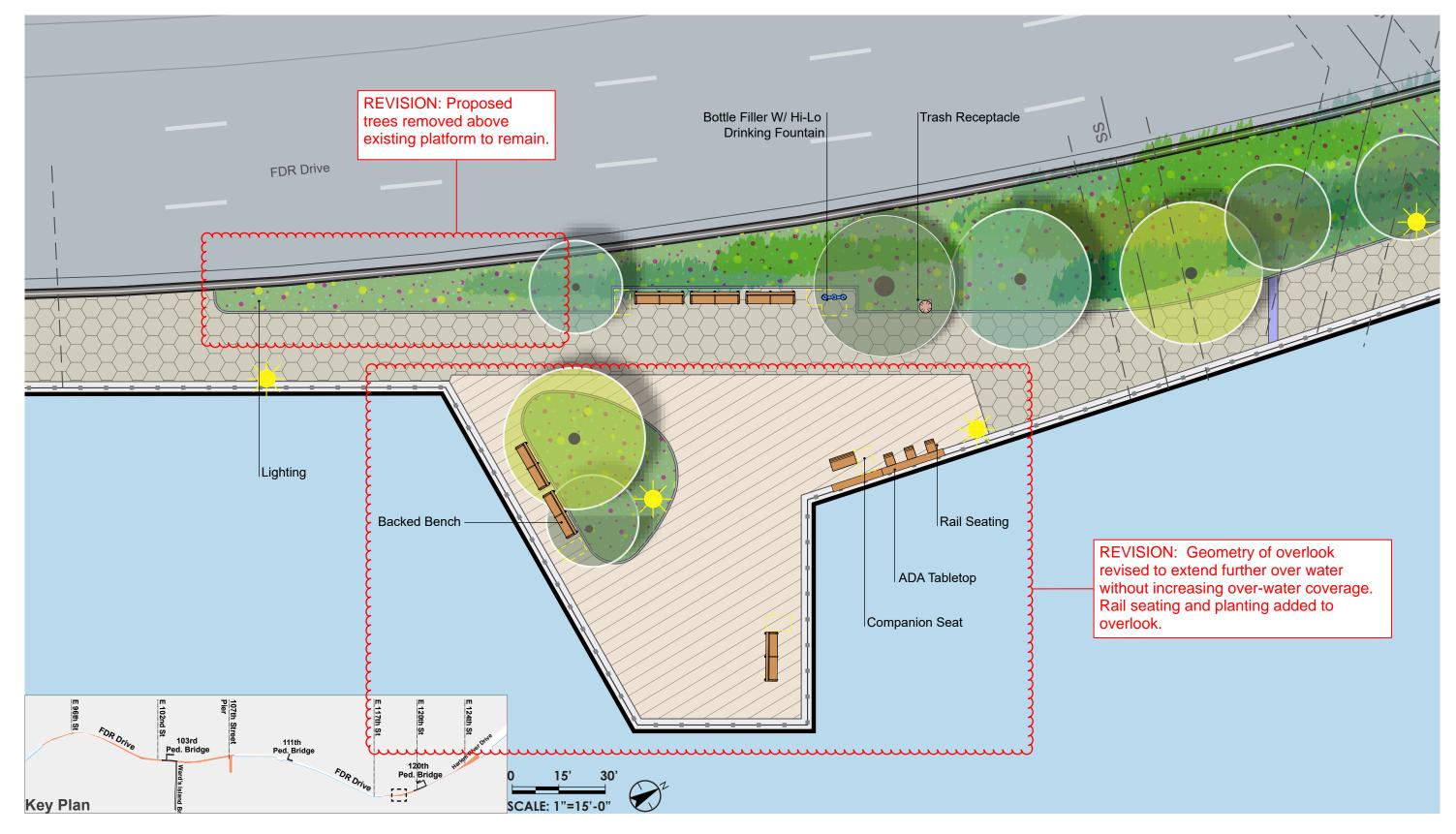


Preliminary Plan | 117th-119th Street





119th Street Overlook





119th Street Overlook



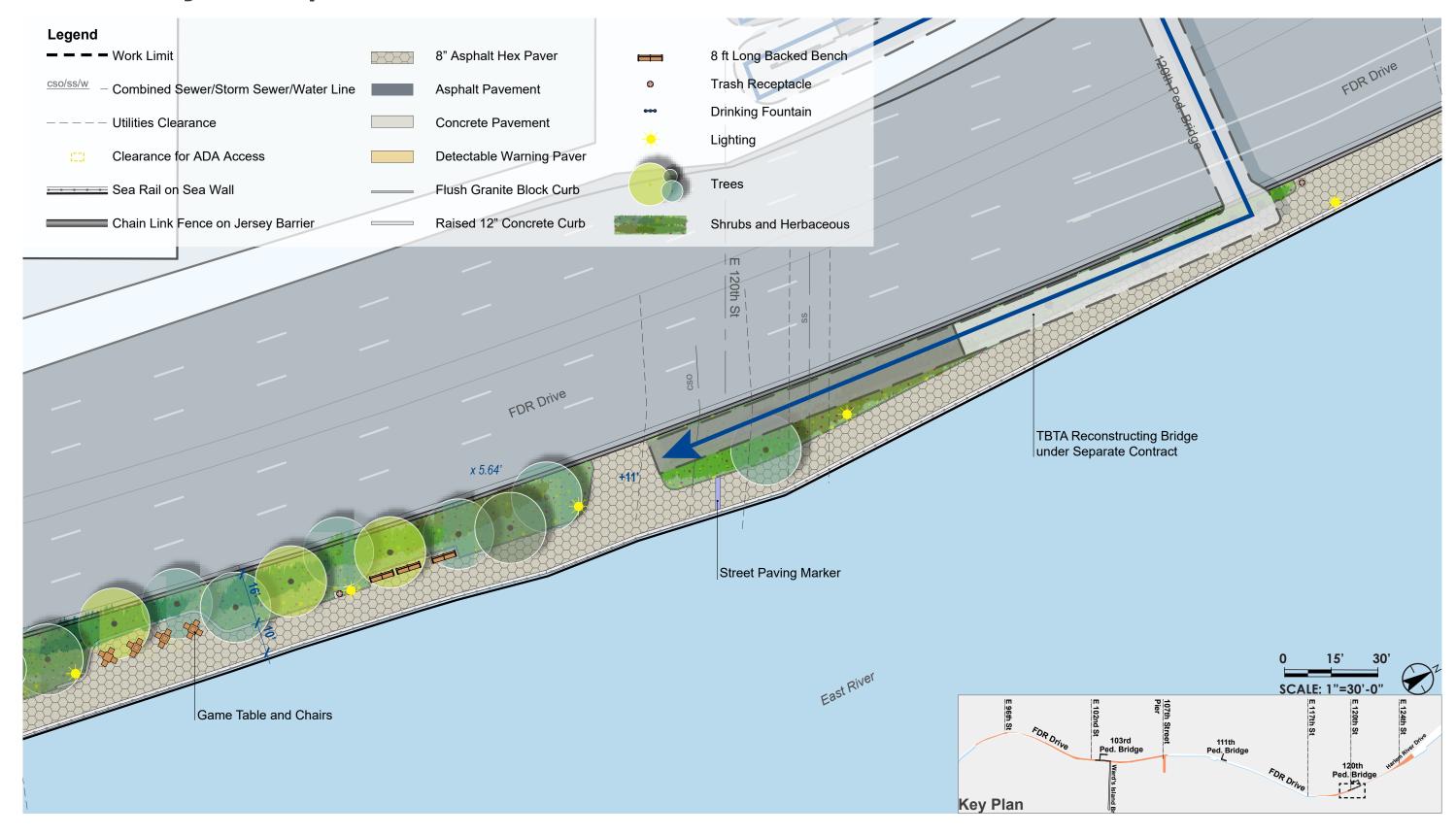


119th Street Overlook





Preliminary Plan | 120th-121st Street



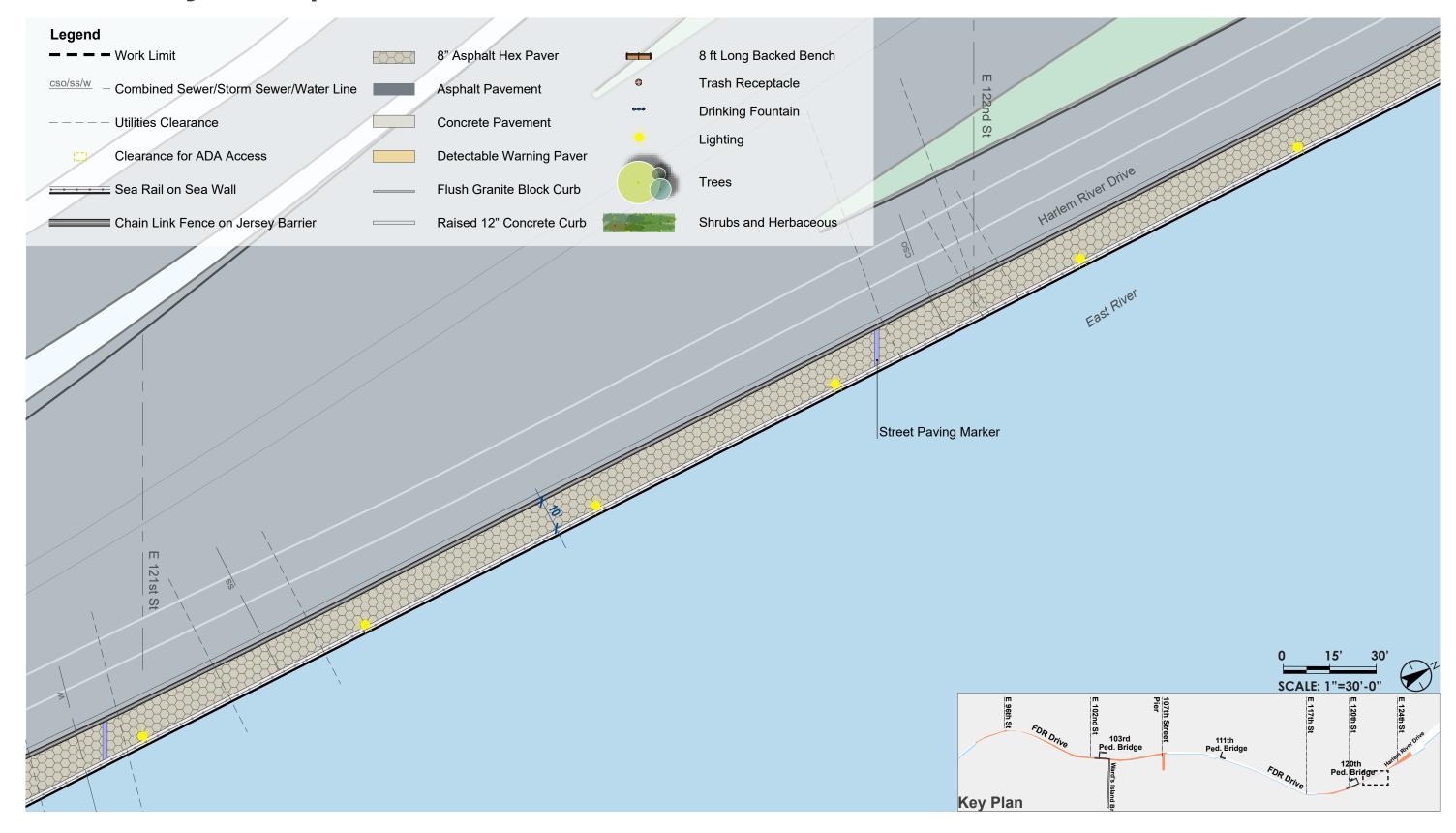


Typical Shared Use Path at 120th Street





Preliminary Plan | 121st-122nd Street







Preliminary Plan | 123rd-124th Street







Enlargement | Garden

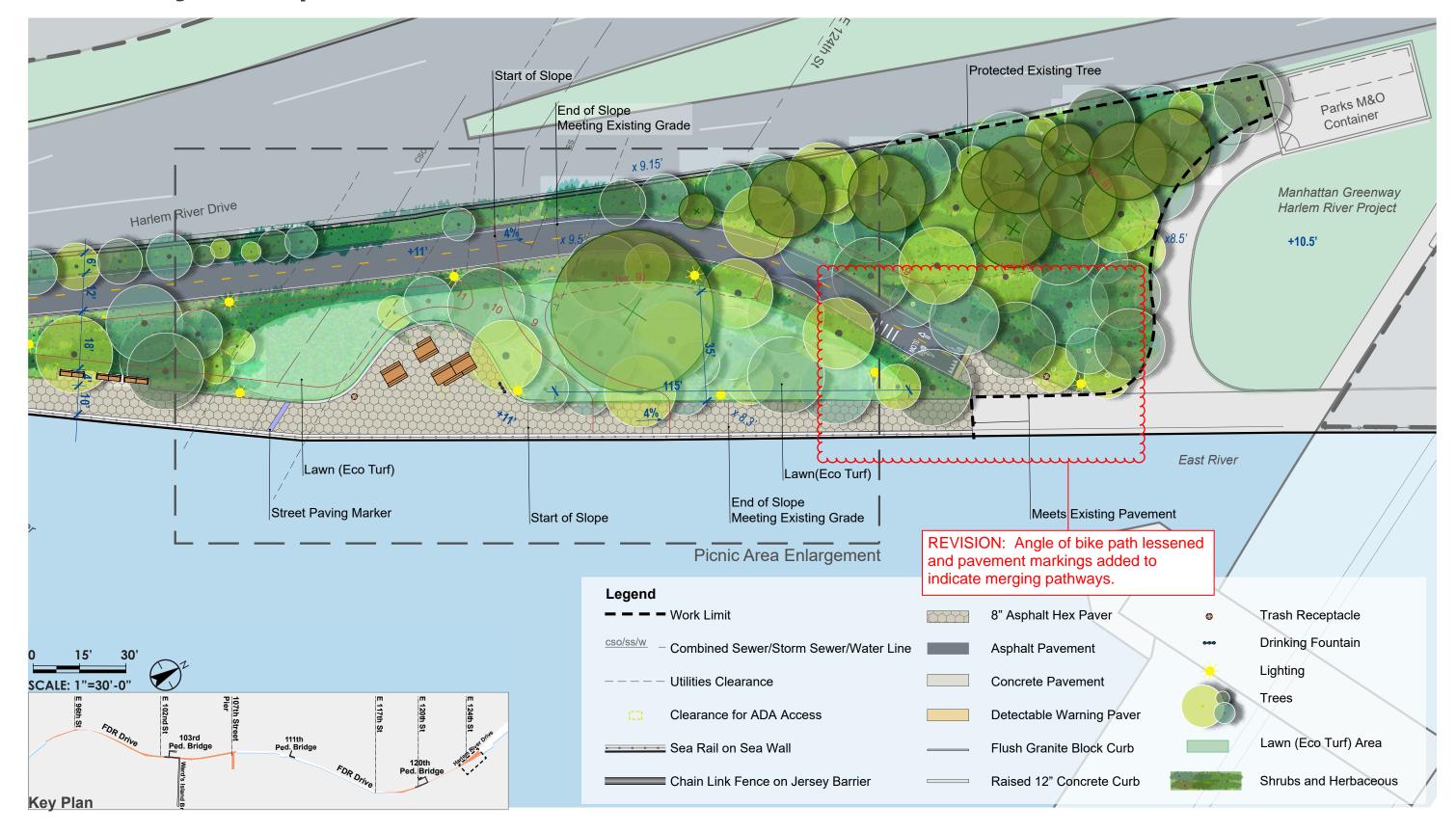
Approved at Conceptual Review





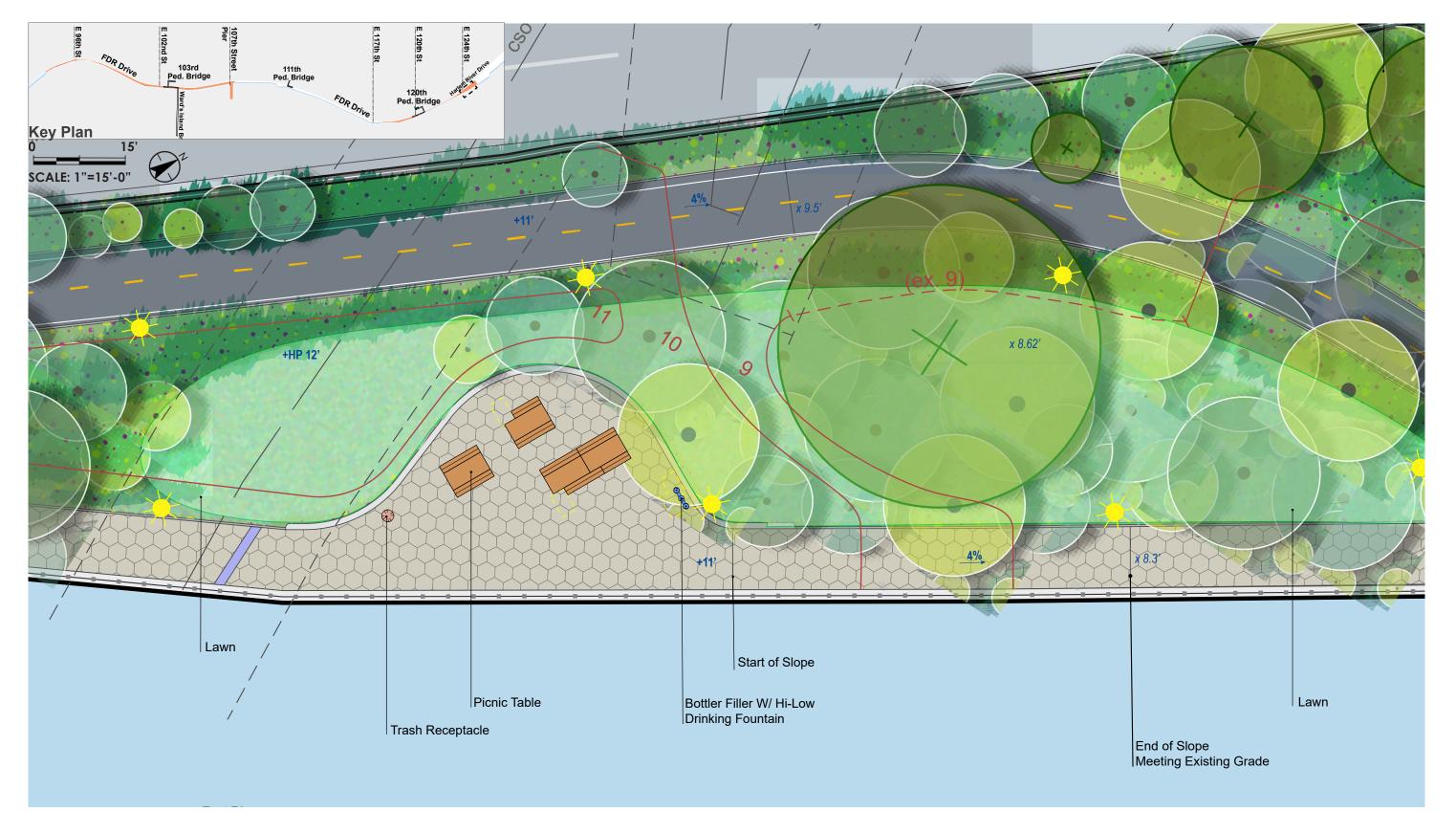


Preliminary Plan | 124th-125th Street





Lawn and Picnic Area





Lawn and Picnic Area





Pedestrian & Bicycle Circulation



94TH - 107TH ST.



LEGEND

Pedestrian Route

Bicycle Route

Bike / Pedestrian Merge Point

117TH - 125TH ST.

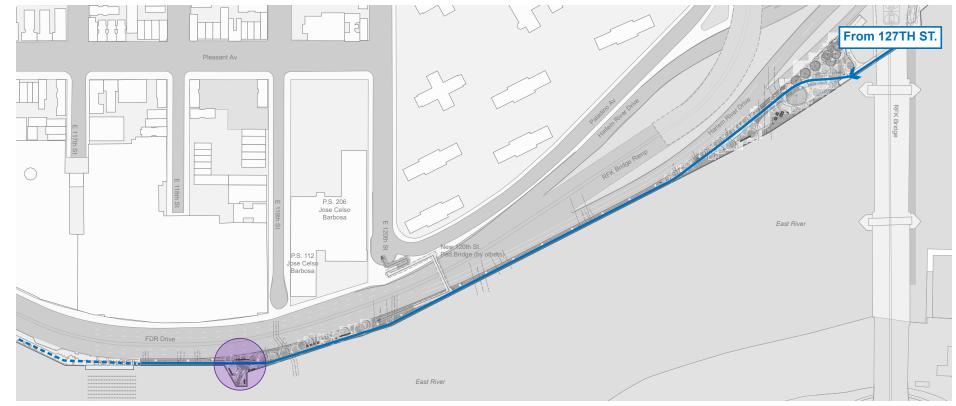




Maintenance Vehicle Circulation



94TH - 107TH ST.



DESIGN VEHICLE

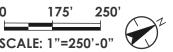
NYC DEP Maintenance Vehicle: HS20 / SU-30

NYC Parks Maintenance Vehicle: F150, Size: 19'L x 7'W

Minimum Path Clearance Required: 10 ft

LEGEND

Vehicle Route **Turnaround Point**

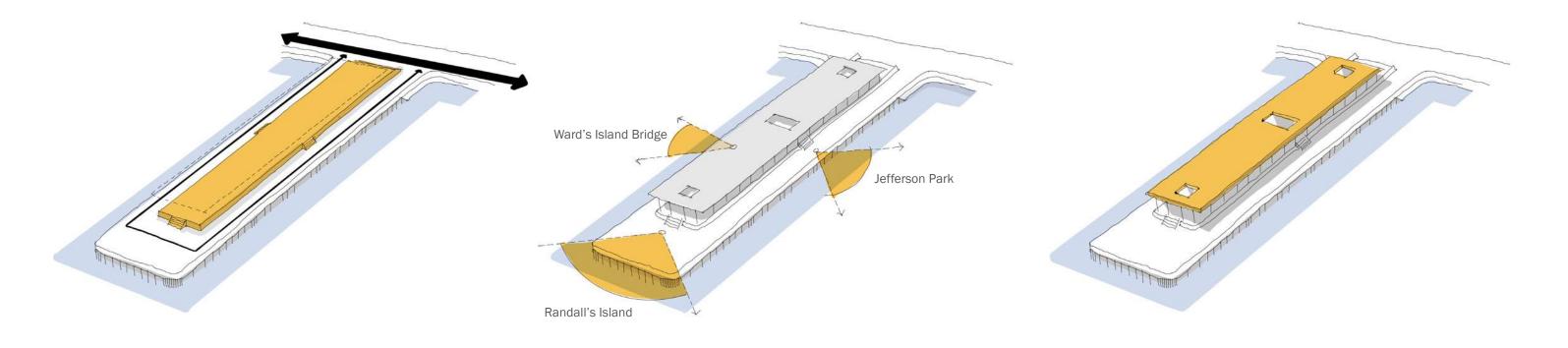


117TH - 125TH ST.





Existing 107th Street Pier | Site Observations



CIRCULATION

The existing pier is separated from the flow of circulation along the esplanade, and the raised central platform is only accessible by stairs.

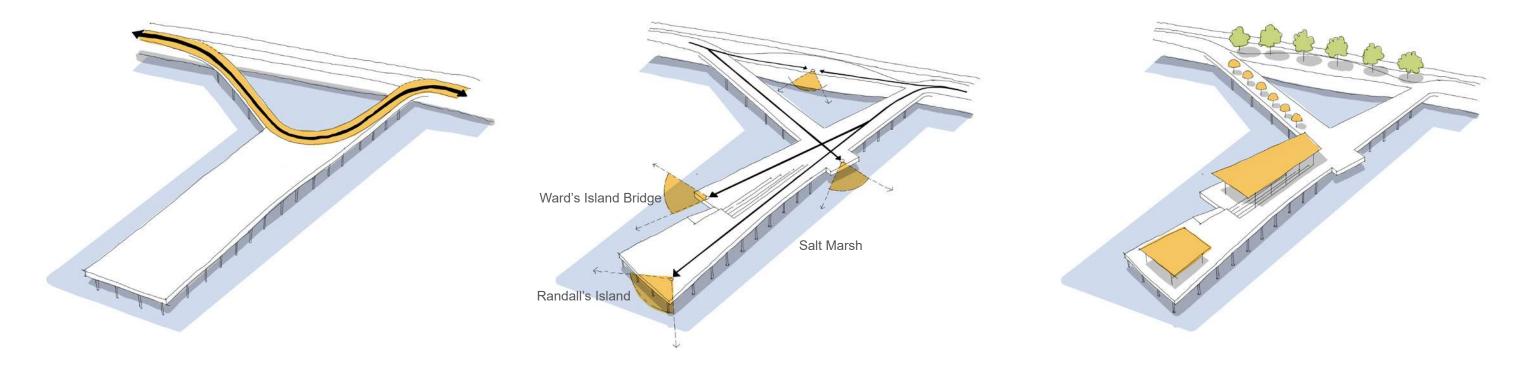
VIEWS

The end of the pier offers unobstructed views towards the river. Other elements are oriented towards views of the city.

SHADE

The low canopy creates a dark zone, with a long, narrow shape that is not inviting as a gathering area, and casts a shadow that brings an adverse impact on marine habitats in the East River.





CIRCULATION VIEWS SHADE

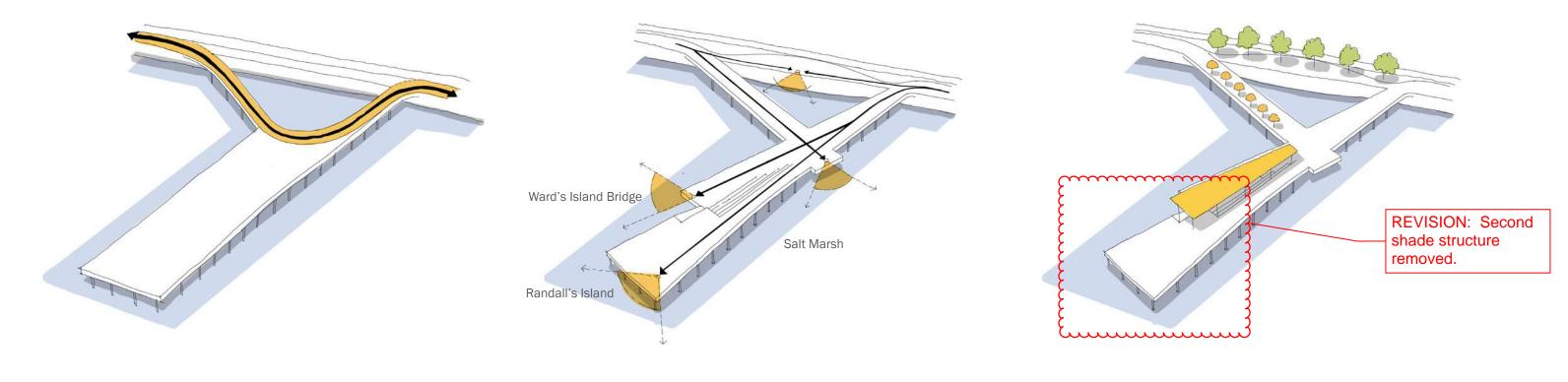
The pier is connected to the esplanade at two points, with an angled walk to draw users out over the water.

A primary gathering space is located at the center of the pier, Two shade structures will shelter the different areas of the with secondary spaces and overlooks oriented to key views pier, supporting various uses. By carefully placing them, the

Two shade structures will shelter the different areas of the pier, supporting various uses. By carefully placing them, the pier is able to mitigate the impact on the marine habitats by reducing shade casted on water.



Proposed 107th Street Pier | Form Development



CIRCULATION

The pier is connected to the esplanade at two points, with an angled walk to draw users out over the water.

VIEWS

A primary gathering space is located at the center of the pier, with secondary spaces and overlooks oriented to key views

SHADE

The shade structures will shelter the central gathering space of the pier, supporting various uses. By carefully placing it, the structure is able to provide programming opportunities underneath it and mitigate the impact on the marine habitats by reducing shade casted on water.

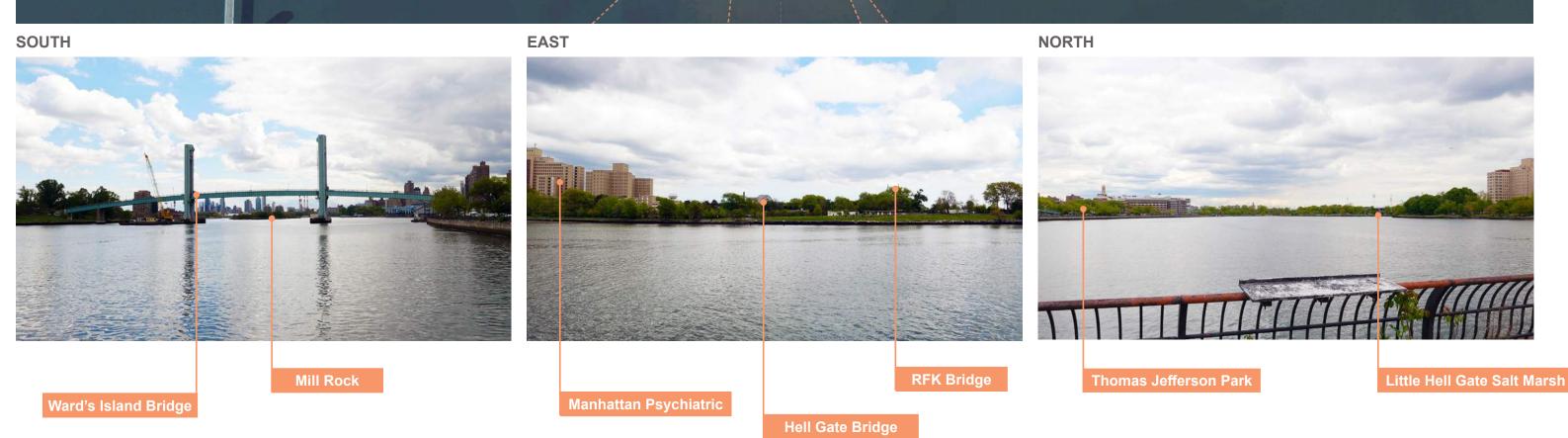






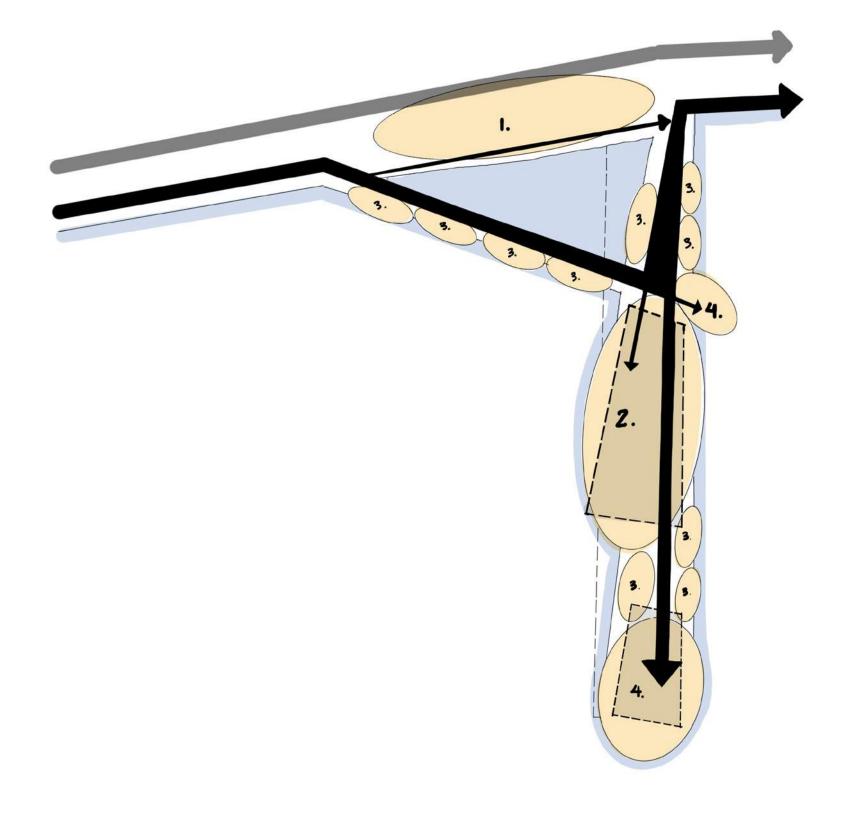
107th Street Pier | Views







107th Street Pier | Programming



Approved at Conceptual Review

Description

The design integrates the pier into the path of circulation along the esplanade.

A subtle elevation change distinguishes a central gathering area with seating steps from a raised overlook point. The two are linked by a pair of shade structures.

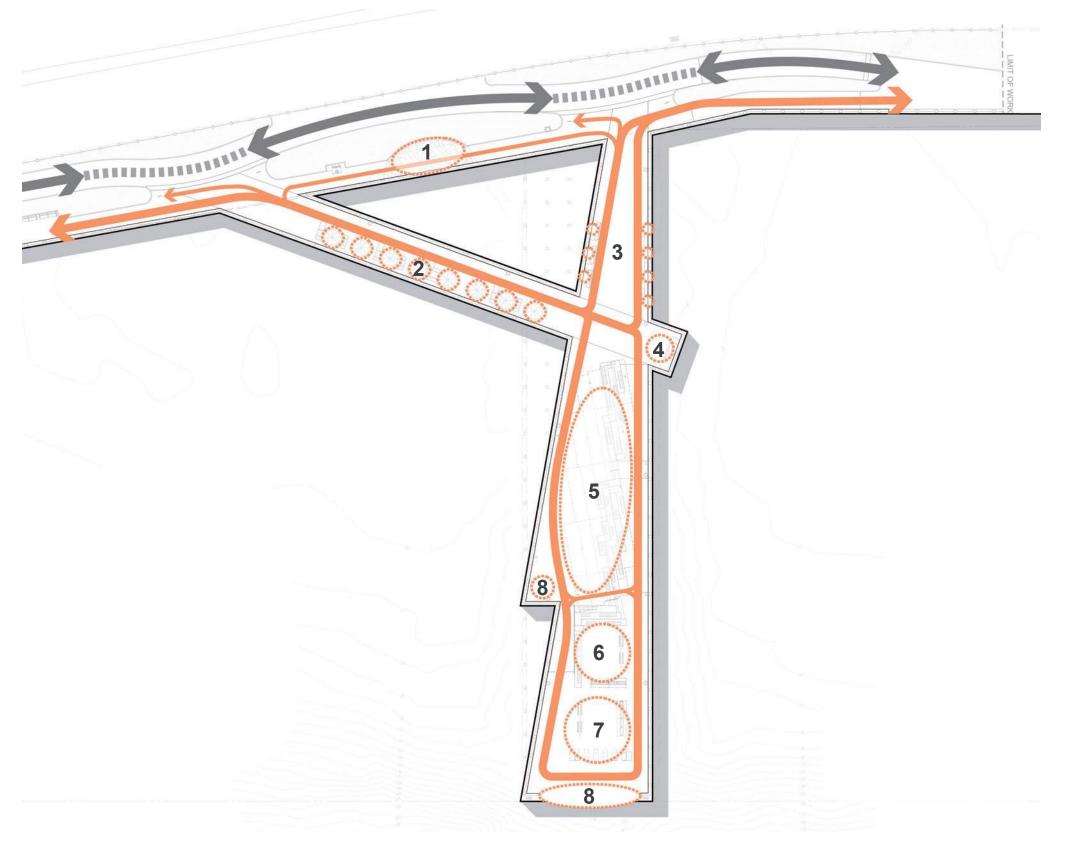
LEGEND

- Pier Plaza
- Flexible Gathering
- Public Seating & Tables
- River Overlook





107th Street Pier | Programming & Circulation



LEGEND

Pedestrian Circulation

Bike Lane

- 1. Pier Plaza / Bench Seating and Art Piece
- 2. Picnic Bridge / Picnic Tables
- **3. Pier Promenade** / Bench Seating, Rail Seating
- **4. North Balcony** / Overlook
- **5. Pier Steps** / Central Shaded Gathering Space
- **6. River Room** / Small Flexible Gathering Space
- 7. Sun Lounge / Gathering Space with Loungers & Gliders
- 8. Pier Overlook / Overlook

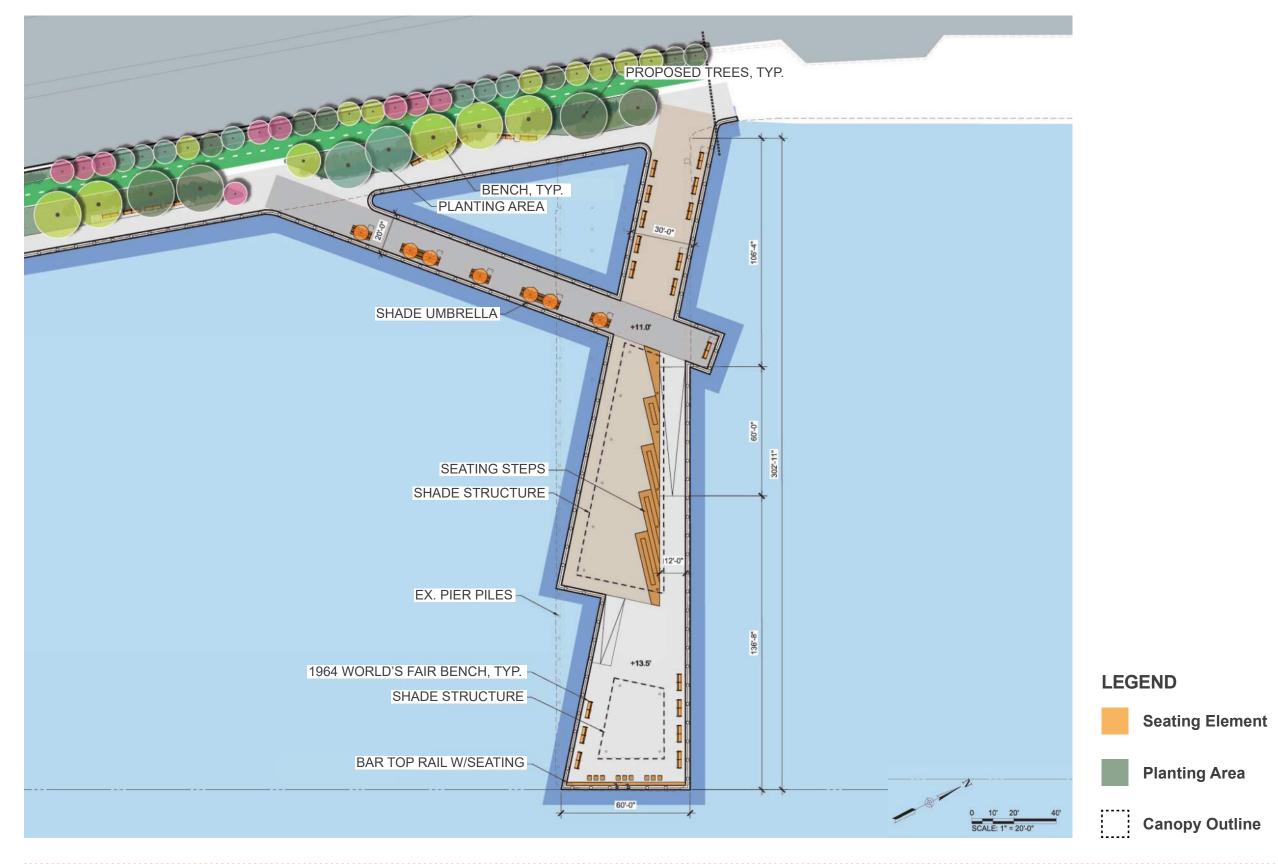
Description

The design integrates the pier into the path of circulation along the esplanade with two entry bridges into the main shaded gathering space of the pier.

Moving further out towards the water, a elevation change is incorporated into the end segment of the pier to host multiple smaller-scaled seating areas.



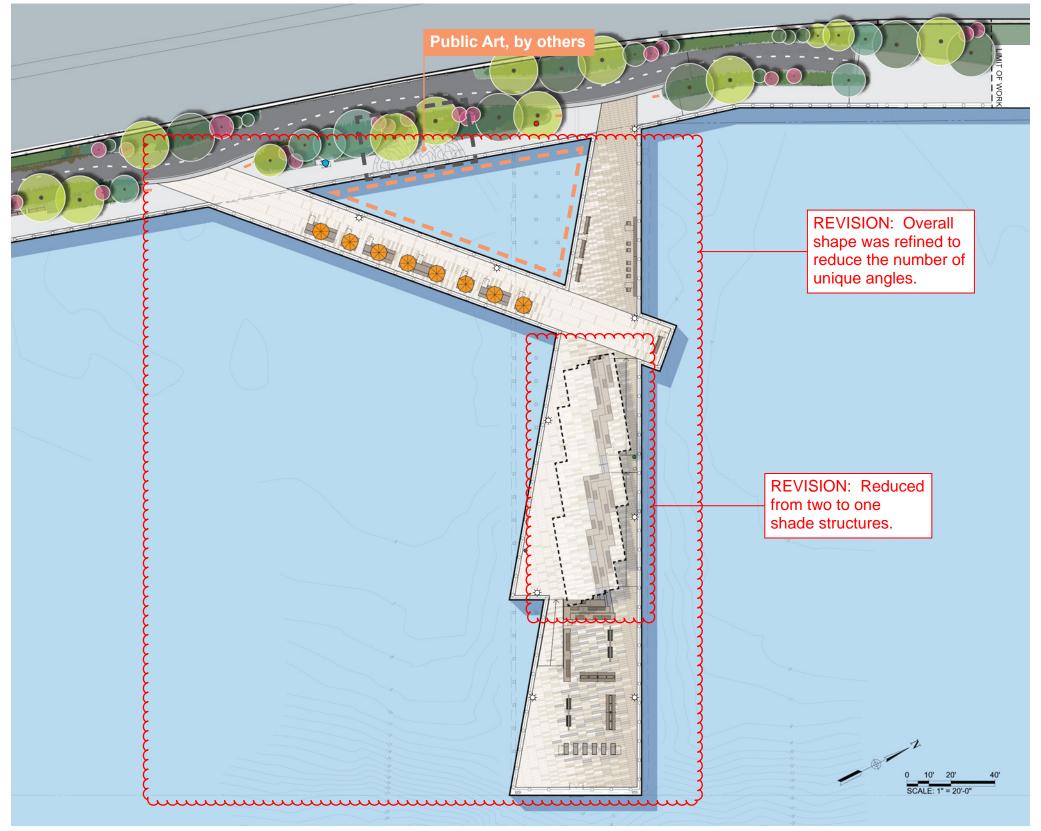








107th Street Pier | Site Plan



LEGEND



Proposed Trees and Shrubs

Canopy Outline

1964 World's Fair Bench

Rail Seating



Picnic Tables w/ Shade Umbrellas



Loungers



Seating Steps



Glider Swings

Light Pole

ш

Bike Racks

Drinking Fountain w/ Bottle Filler

Trash Bin

Bollard w/ Electrical outlets

Area for Potential Ecological Enhancements (Being Studied)







Oyster Research Station (Installed by Others)

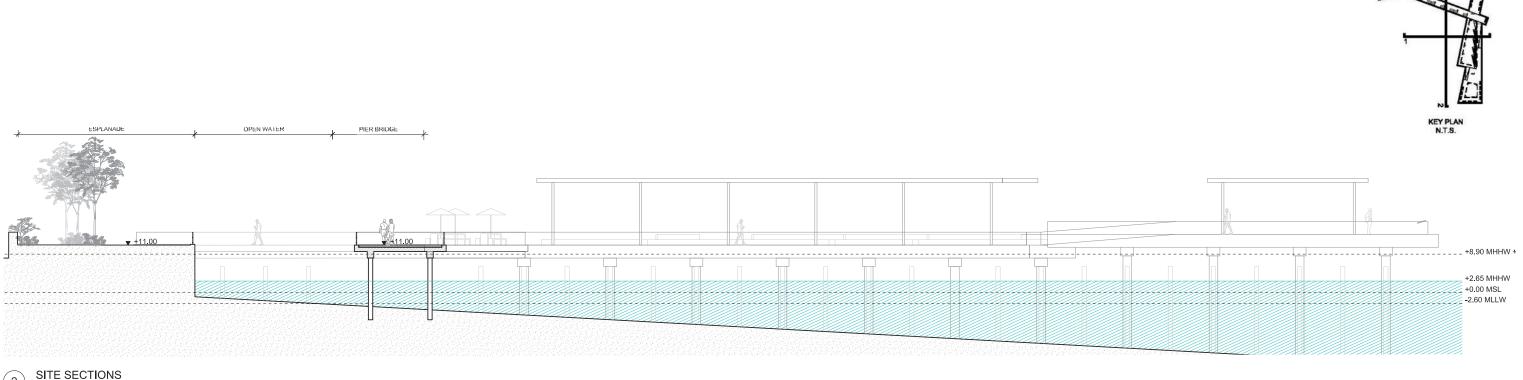


Reef Balls

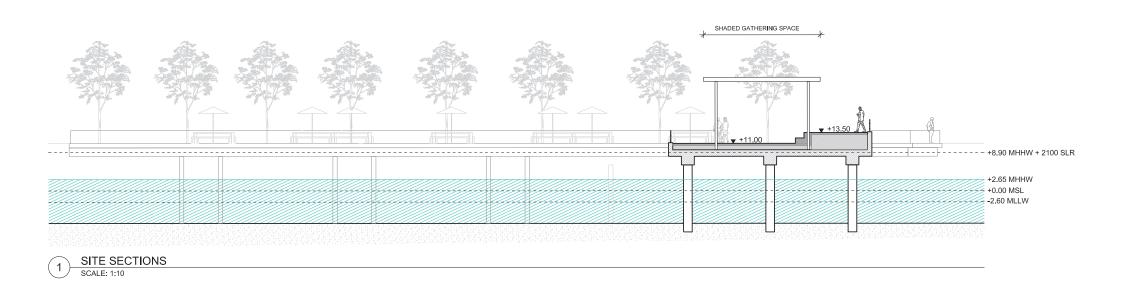


107th Street Pier | Site Sections

Approved at Conceptual Review

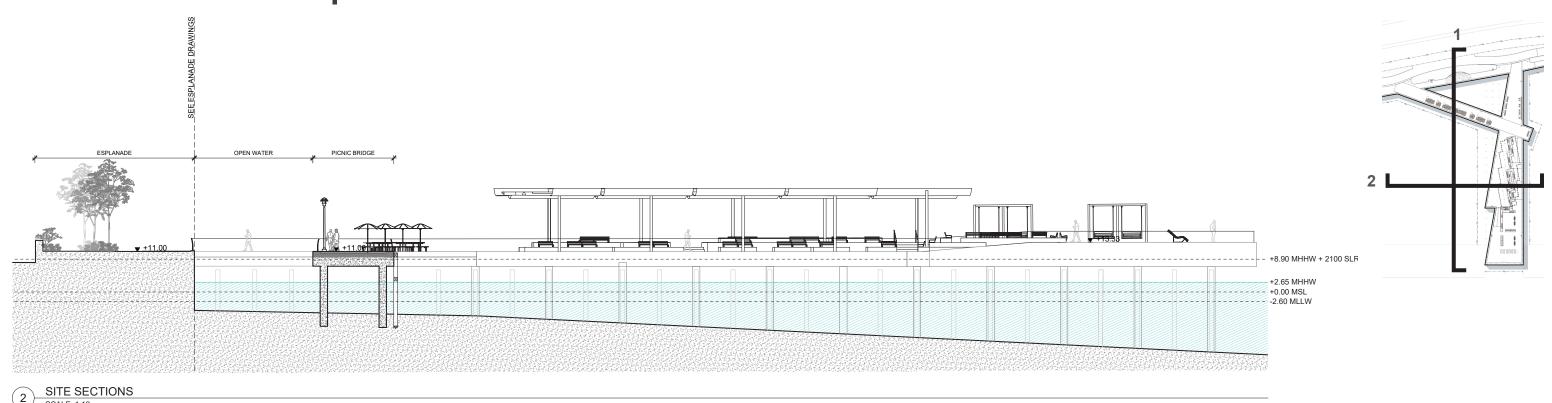


SITE SECTIONS





107th Street Pier | Site Sections



SHADED GATHERING SPACE

+8.90 MHrW +2100 SLR

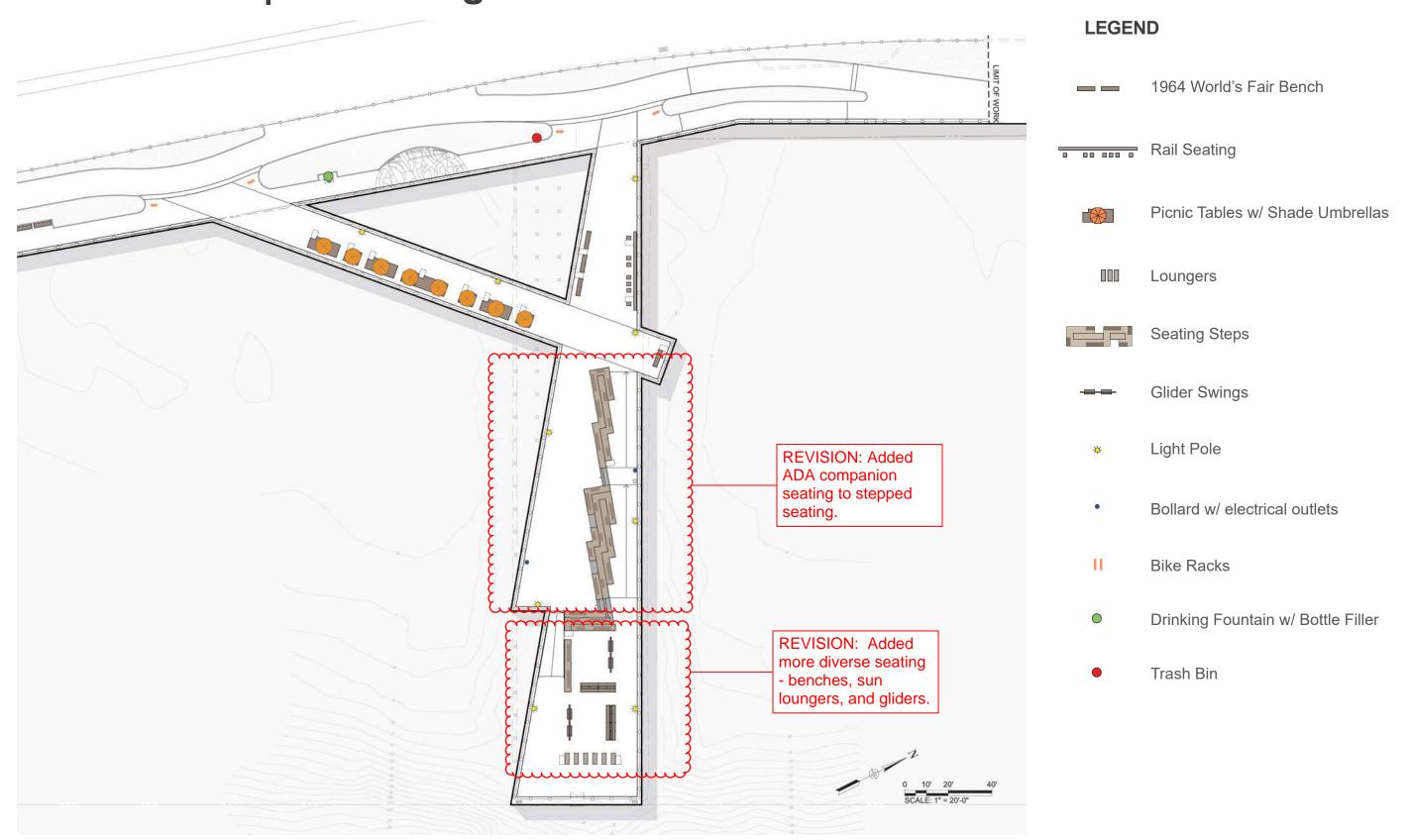
+2.65 MHrW

+0.00 MSL

-2.60 MLLW



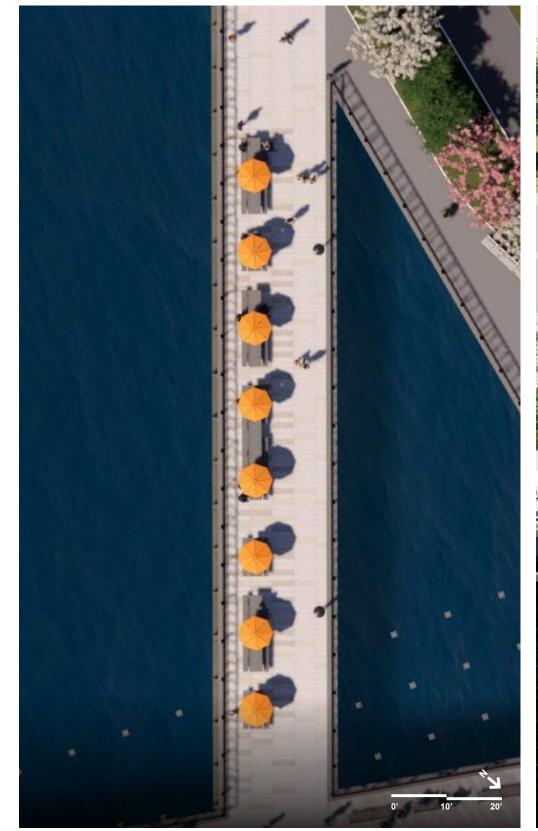
107th St Pier | Furnishing Plan



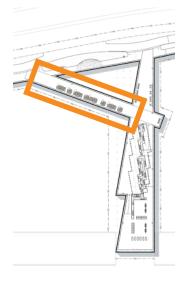




107th St Pier | Picnic Bridge

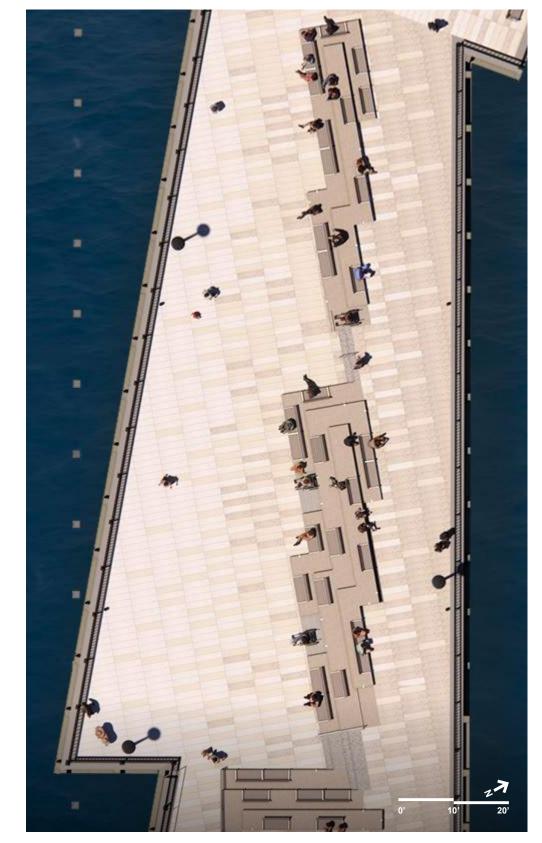


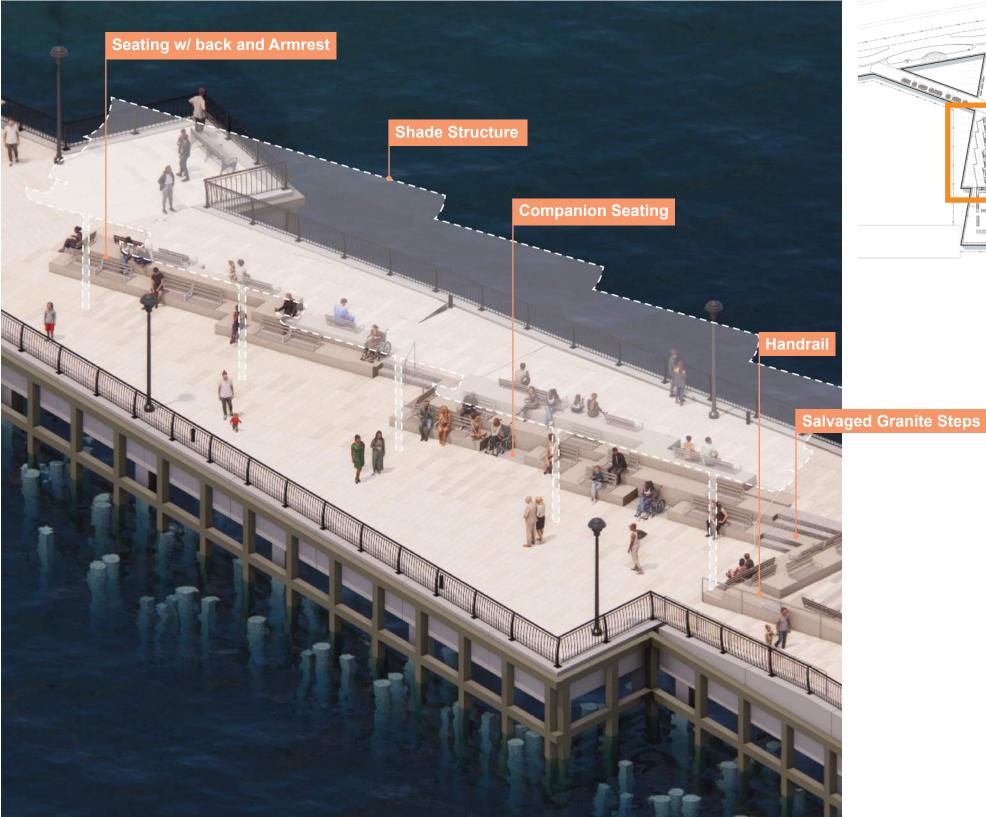






107th St Pier | Pier Steps

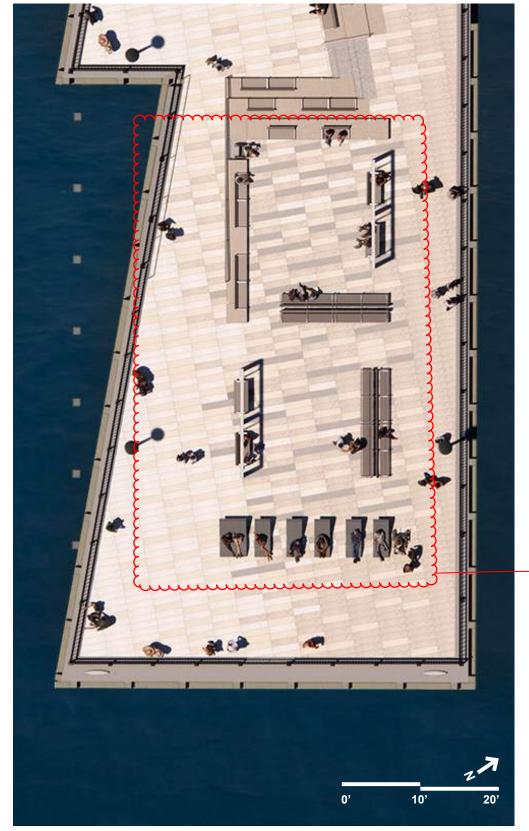


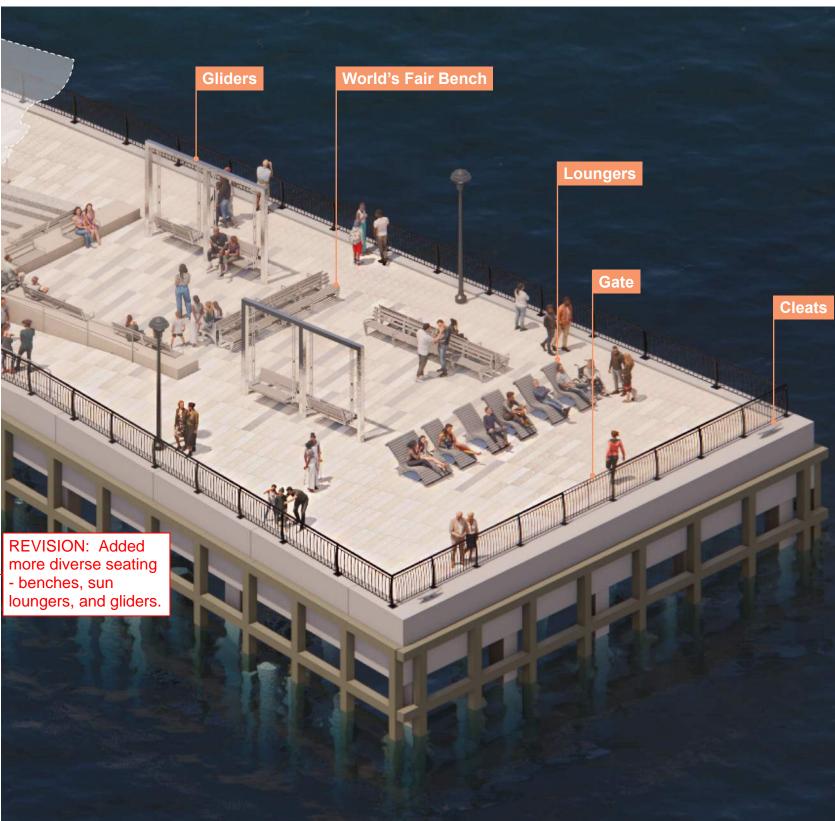


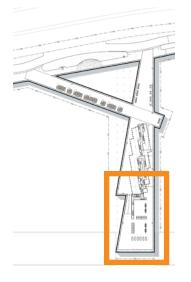




107th St Pier | Pier Overlook







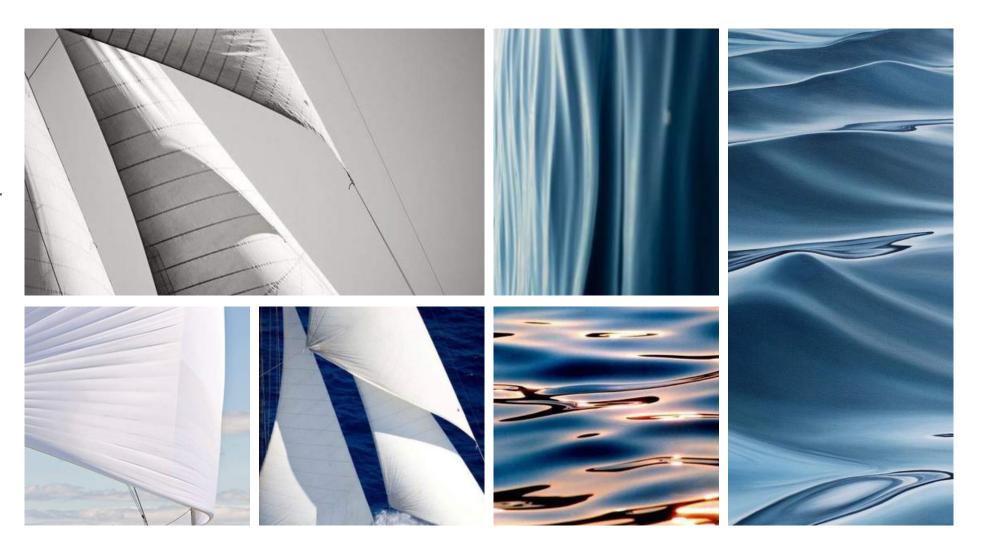






107th St Pier | Shade Structure Design Inspirations

- Inspired by natural forms of wind & water.
- Inspired by the historic shade pavilion of the Pier.
- Drawing on the forms of the current Pier.
- Provide sufficient shade.
- In the process of coordination w/ Structural Engineer.

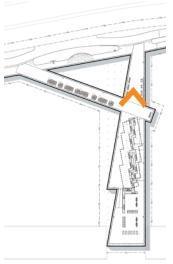






107th St Pier | Shade Structure | View from North Entry Bridge

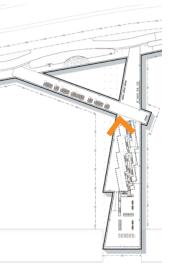






107th St Pier | Shade Structure | View from Pier Steps

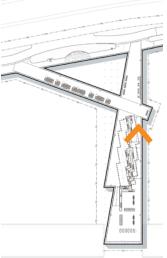






107th St Pier | Shade Structure | View from North Walkway

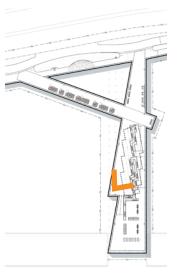




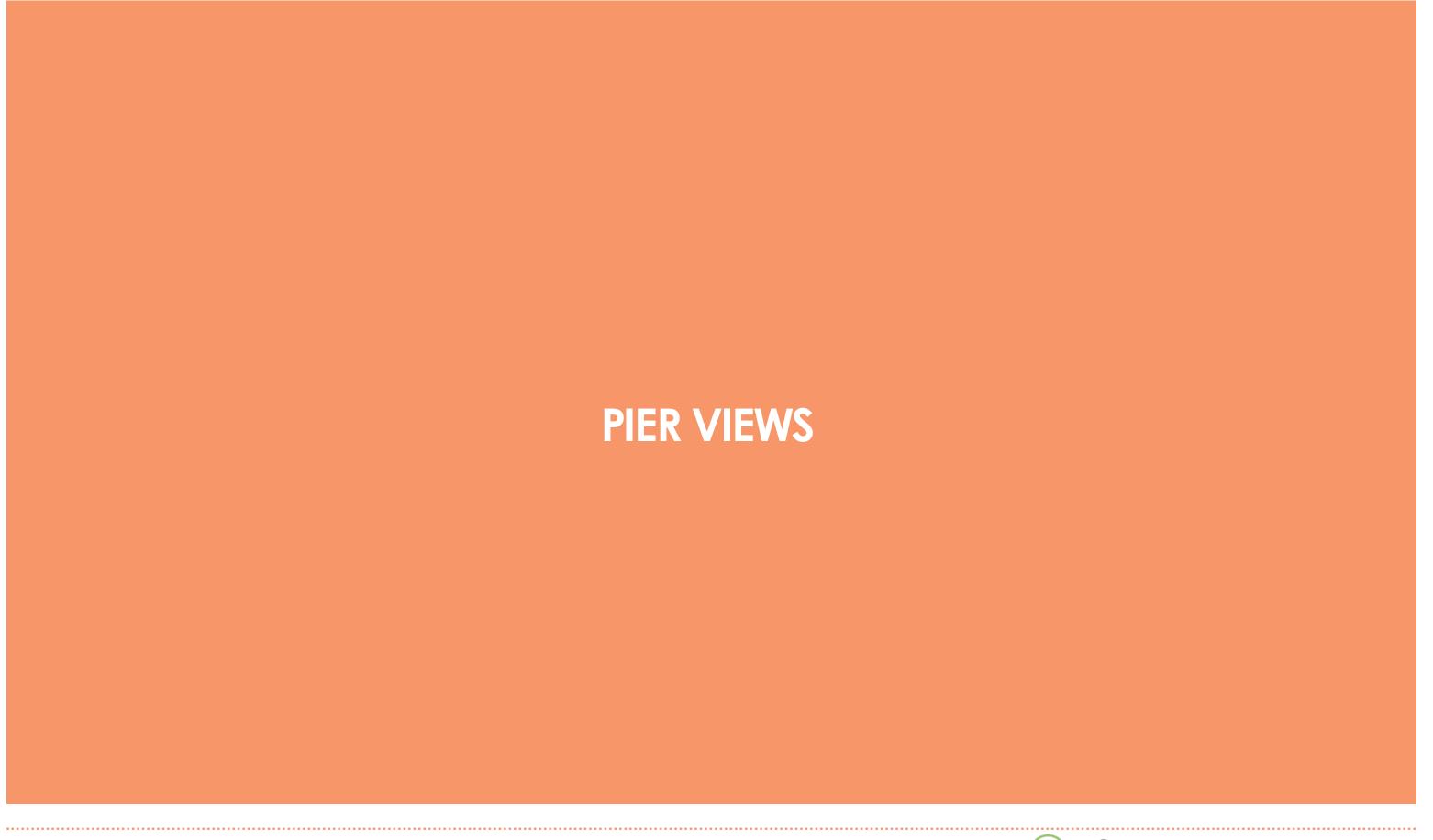


107th St Pier | Shade Structure | View from South Gathering space









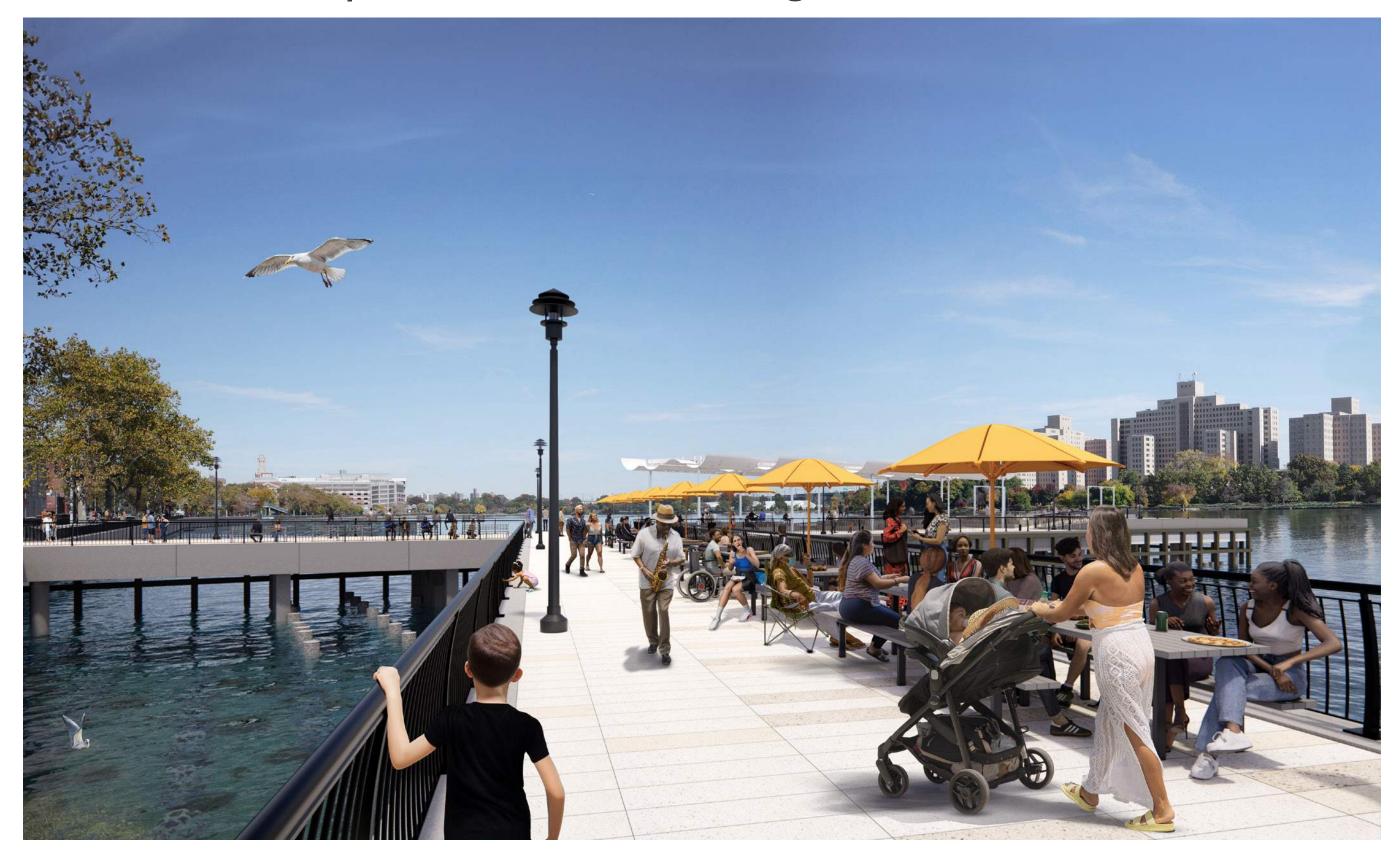
107th Street Pier | View From Esplanade

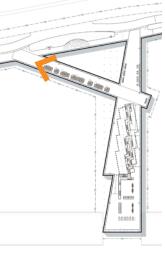






107th Street Pier | View From Picnic Bridge

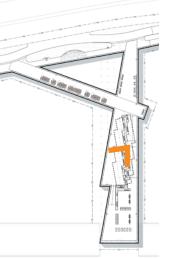






107th Street Pier | View at Pier Steps

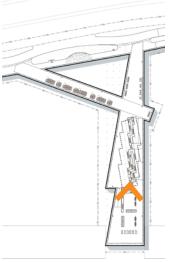






107th St Pier | Pier Overlook | River Room

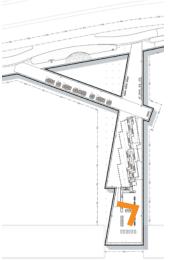




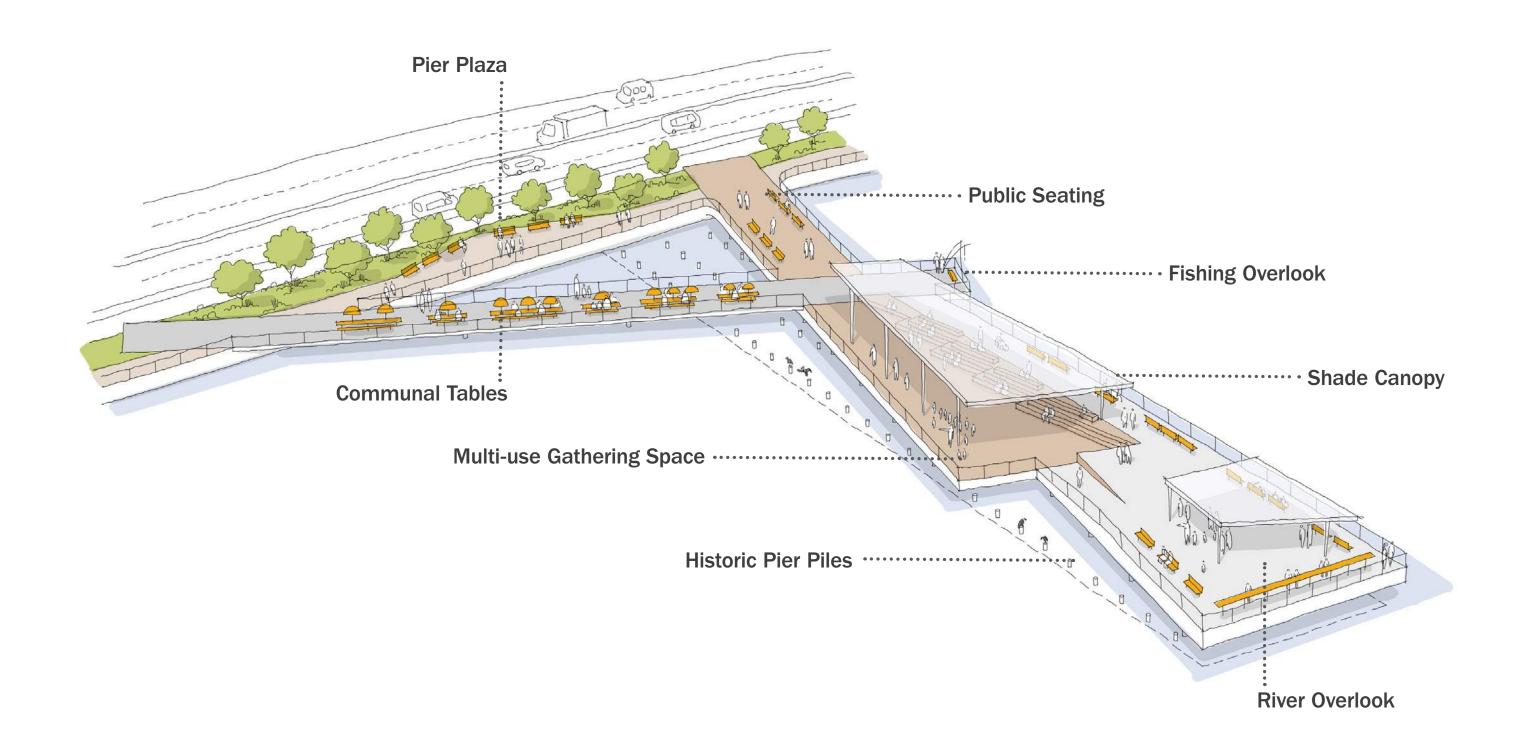


107th Street Pier | View at Pier Overlook











107th Street Pier | Aerial



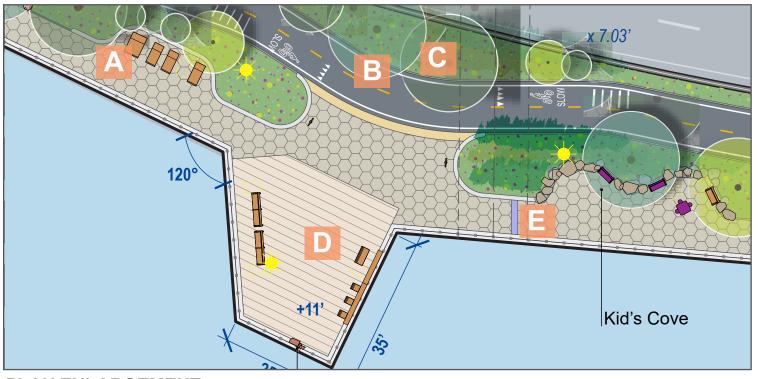


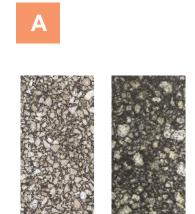






Esplanade Pavement





A80020

PLAN ENLARGEMENT





59 STREE

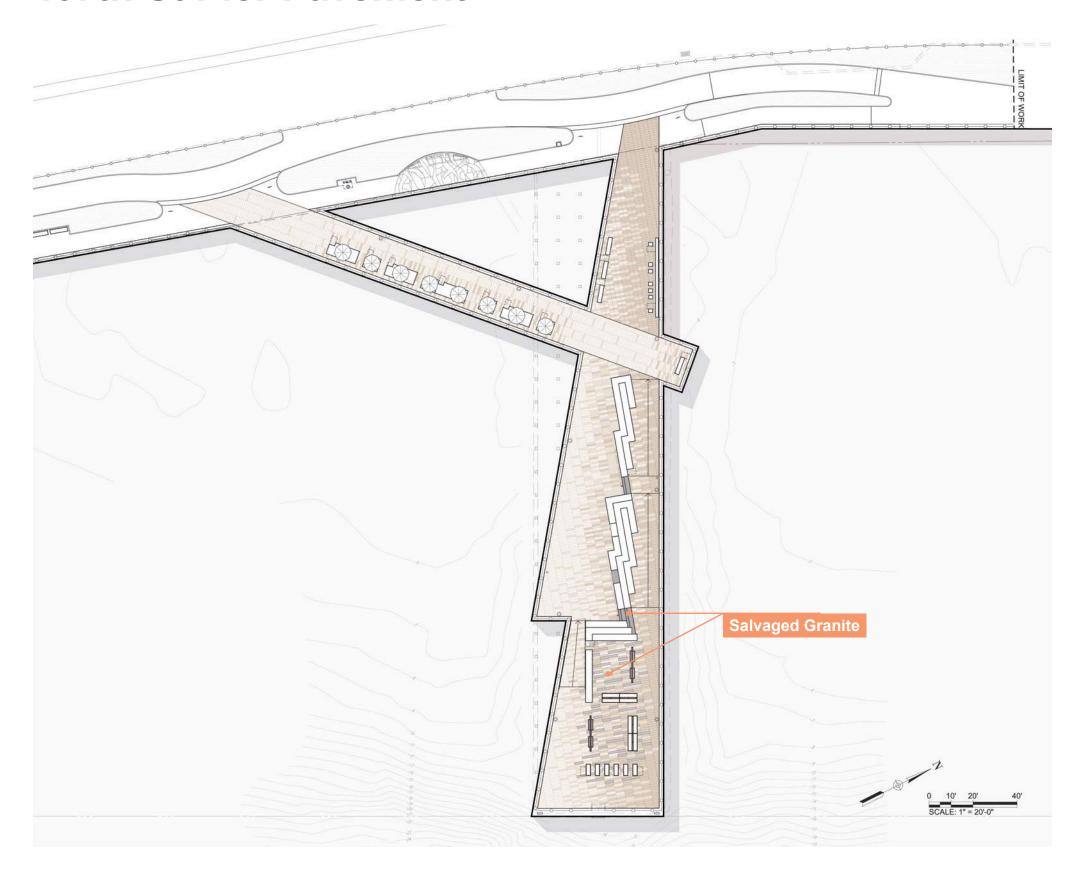
DETECTABLE WARNING PAVER ASPHALT PAVEMENT

12" X 24"X 4" EXPOSED AGGREGATE CONCRETE PAVER

STREET IDENTIFICATION PAVER



107th St Pier Pavement











TAN PAVER MIX w/ AGGREGATE



SALVAGED GRANITE



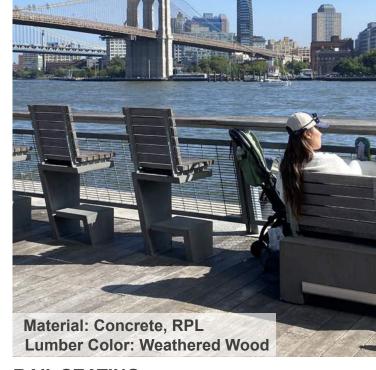
Esplanade & Pier Furnishings



1964 WORLD'S FAIR BENCH 8FT & 4FT LONG



PICNIC TABLE AND BENCHES



RAIL SEATING (BMCR)



Mfr.: Streetlife Material: Steel, RPL **Lumber Color: Cloudy Grey**

LOUNGE CHAIR



Mfr.: Most Dependable Fountains

Color: Chrome

BOTTLE FILLER W/ HI-LO DRINKING FOUNTAIN BASINS



BICYCLE RACK - "HOOP"



TRASH RECEPTACLE **NYC PARKS STANDARD**



EMG SEA RAIL (EAST MIDTOWN GREENWAY)





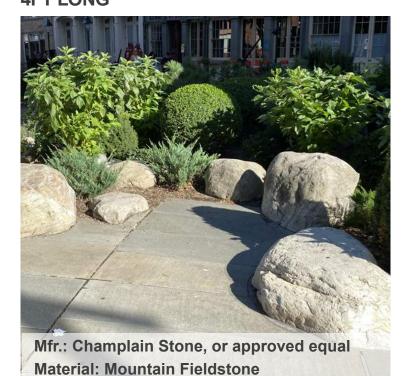
Esplanade Furnishings



Mfr.: Kenneth Lynch & Sons Material: Steel, RPL

Lumber Color: Weathered Wood

1964 WORLD'S FAIR BACKLESS BENCH **4FT LONG**



LANDSCAPE BOULDER



GAME TABLE AND CHAIRS



LEANING BAR



CHILD 1964 WORLD'S FAIR BENCH **4FT LONG**



HANDRAIL



NYC DOT STANDARD LIGHT POLE **TYPE B PEDESTRIAN POLE**



CHILD GAME TABLE AND STOOLS

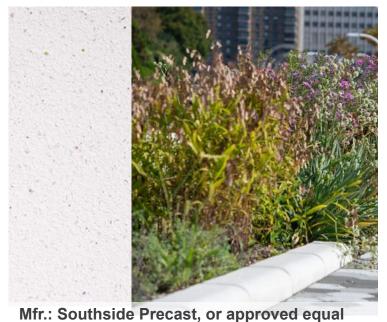




Esplanade Furnishings



CRASH RATED GATE AND BOLLARD



Material: Precasat Concrete Color: White, Light Etched **Precast Concrete Curb**



3'-6" HT Steel Fence

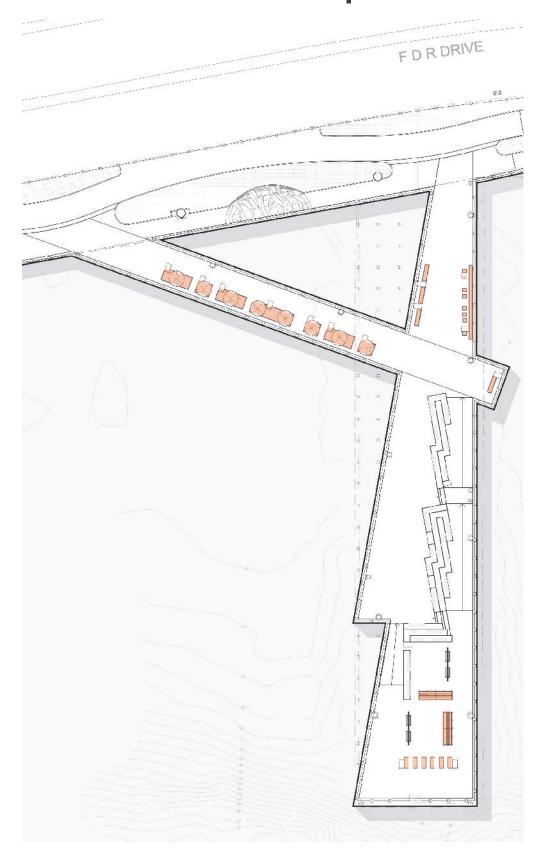
Pier Furnishings



BOLLARD W/ ELECTRICAL OUTLETS



107th Street Pier | Furniture Elements





PICNIC TABLE AND BENCHES

Mfr.: All City Play Equipment Lumber Color: Dark Gray Metal: Gloss Black, RAL 8022

SOLSTICE UMBRELLA

Mfr.: Landscapeforms Material: Powdercoated Metal



SOLID SERIF CHAISE LOUNGE

Mfr.: Streetlife Material: Metal and RPL Wood



1964 WORLD'S FAIR BENCH 8'

Mfr.: Kenneth Lynch & Sons Lumber Color: Weathered Wood Metal: Galvanized Steel



RAIL SEATING

Mfr.: FineConcrete Material: Concrete and RPL



Mango Landscapeforms

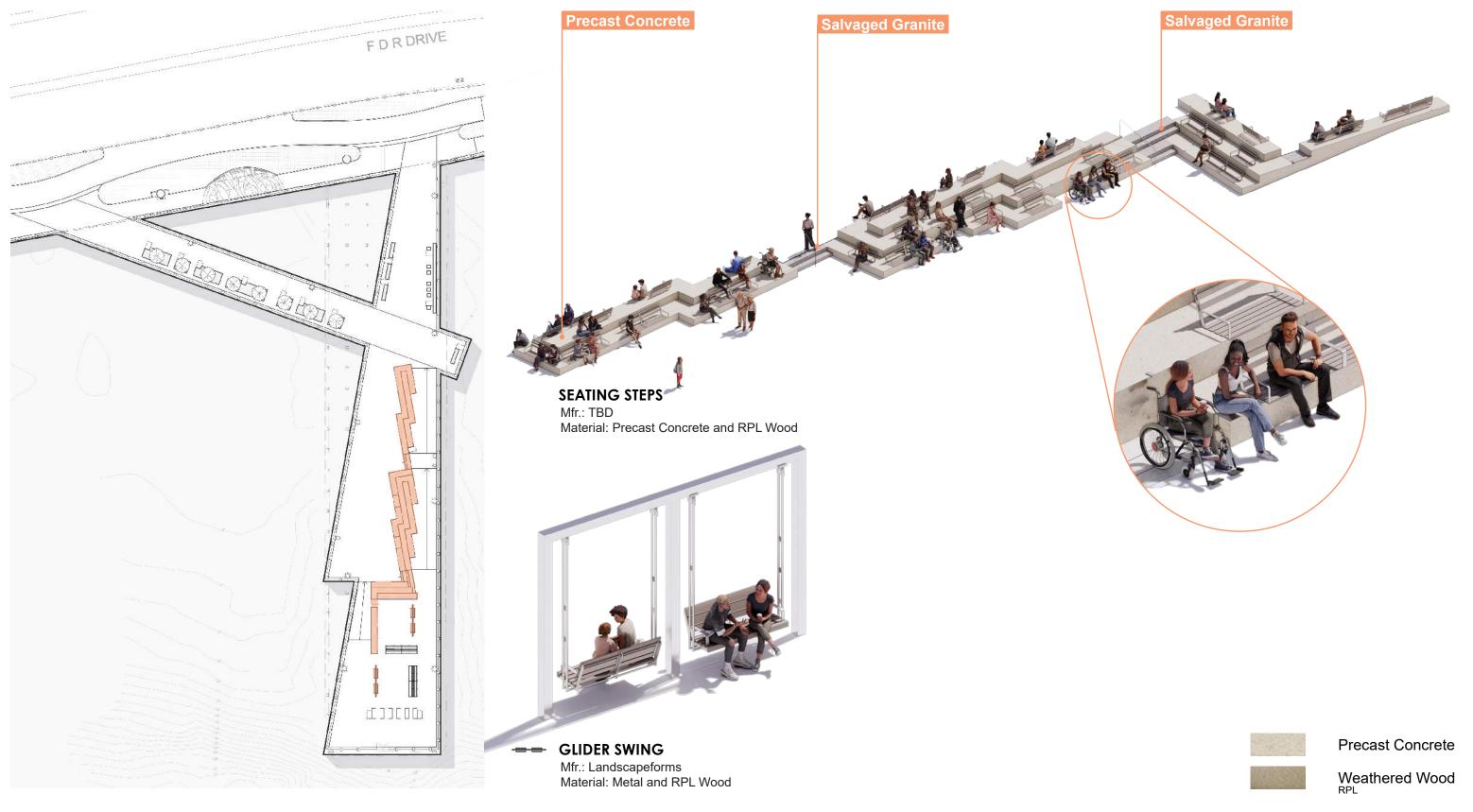
Weathered Wood

Black Tnemec





107th St Pier | Seating Steps & Glider Swings







Musical Interactive Play



TELEPHONE TUBE





TAMBOR DRUM



BATA DRUM



AFRICAN-ASIAN DRUM & CARIBBEAN DRUM



TALKING DRUM



Adult Fitness Equipment & Safety Surface







SAFETY SURFACE





Denim **Post** Orange **Other Components Mfr.: Landscape Structure Lumber Color: Denim & Orange EQUIPMENT COLOR**





Planting Palette - Canopy Trees

SUPER CANOPY TREES



Swamp white oak



Quercus ellipsoidalis Northern pin oak



Quercus macrocarpa Shingle oak



Quercus phellos Willow oak



Quercus rubra Northern red oak



Ulmus x 'Morton' ACCOLADE American elm

CANOPY TREES

SPECIES

FALL COLOR



Acer rubrum (cultivars) Red maple



SPECIES

Nyssa sylvatica

Blackgum

FALL COLOR



Carya cordiformis Bitternut hickory



Celtis occidentalis Common hackberry



Gleditsia triacanthos (cultivars) Honey locust













FALL COLOR

Planting Palette - Understory Trees

UNDERSTORY TREES

SPECIES

Serviceberry - Fall color



Spring bloom

FEATURE



Staghorn sumac

SPECIES



Fall color

FEATURE



Sassafras albidum Sassafras



Fall color

EVERGREENS

SPECIES



FEATURE

Juniperus virginiana (cultivars) Fruit



Juniperus chinensis 'Fairview' Fruit Fairview juniper





Ilex opaca American holly



Fruit



Crataegus ssp. Hawthorn

Cercis canadensis

Eastern redbud



Magnolia virginiana Sweetbay magnolia



Fruit - winter presence

Spring bloom

Planting Palette - Shrubs

Rhus copallinum

Winged sumac

Fall color

SHRUB MASSING LOW SHRUB MASSING SPECIES **FEATURE** SPECIES **FEATURE** Baccharis halimifolia In flower Comptonia peregrina Fall color Sweetfern Groundsel bush Morella pensylvanica Diervilla Ionicera Fall color Fruit Northern bayberry Northern bush honeysuckle Rhus glabra Prunus maritima Fall color Fruit Smooth sumac Beach plum



FEATURE

SPECIES

Virginia rose





Rhus aromatica 'Gro-Low'

Fragrant sumac

Fall color

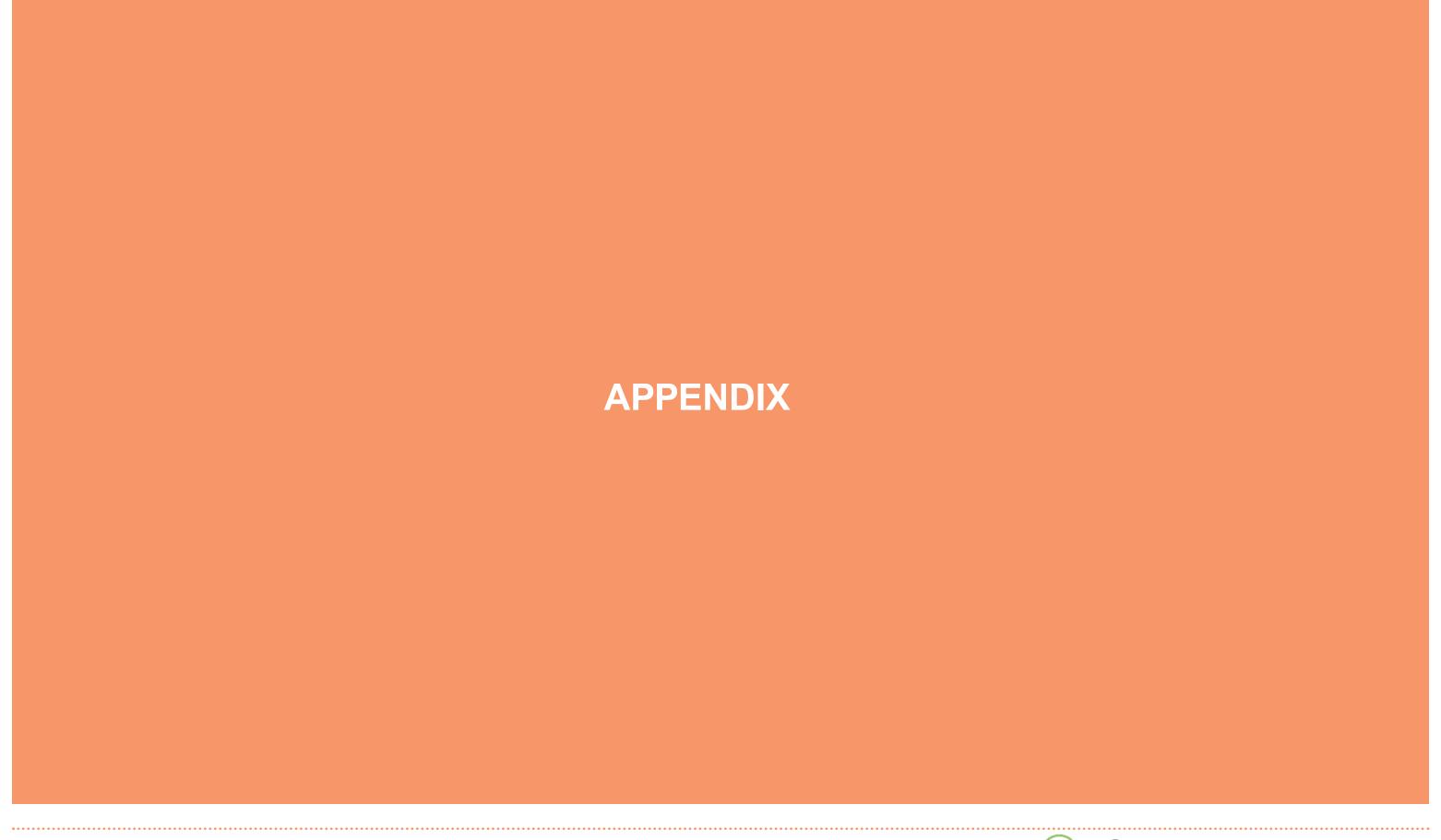
Planting Palette - Herbaceous Seasonal Theme Plants

SEASONAL THEME PLANTS







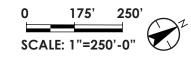




Existing Platform/Seawall Structural Type Plan







LEGEND

__- APE

Low-level platform / Type IV

1876 type gravity wall/plaftform supported on piles / Type IIIB

High-level platform

Timber Crib

Gravity seawall supported on bedrock

1876 type gravity wall supported on piles / Type IIA - no platform

Granite block

9 in Granite slab

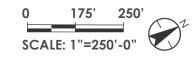
9 in Granite fascia panel



Proposed Platform/Seawall Structure Type Layout







LEGEND

----- Work limit

New FDR jersey barrier

New seawall

ERE on new platform (allow additional load from new elements)

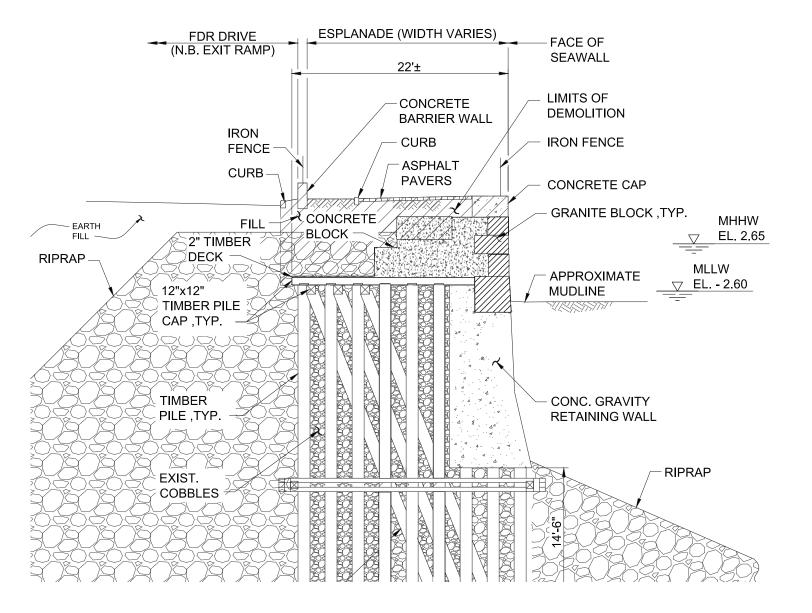
ERE on fill (allow additional load from new elements)

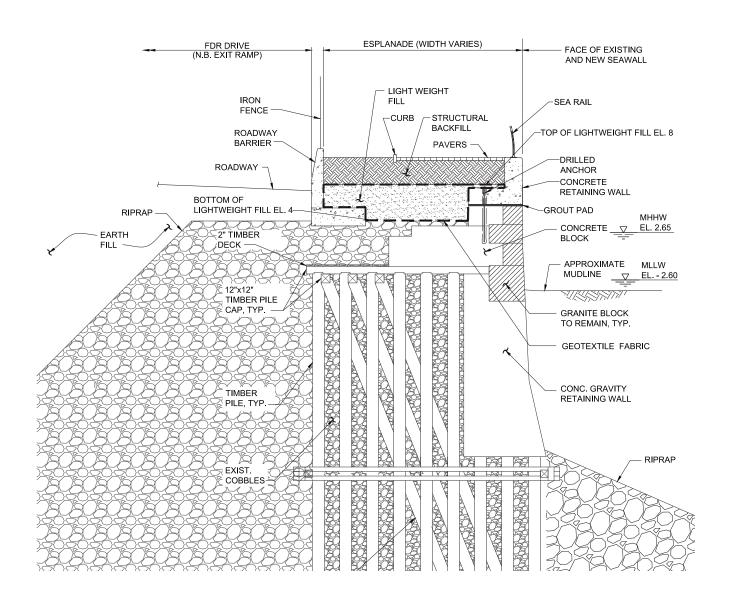
ERE on rehabilitated platform (using lightweight fill to balance out load from new elements)



SECTION A - 1876 TYPE GRAVITY WALL/ PLATFORM SUPPORTED ON PILES

Proposed esplanade will be ~ 2' to 3' higher than existing grade to account for future sea level rise.



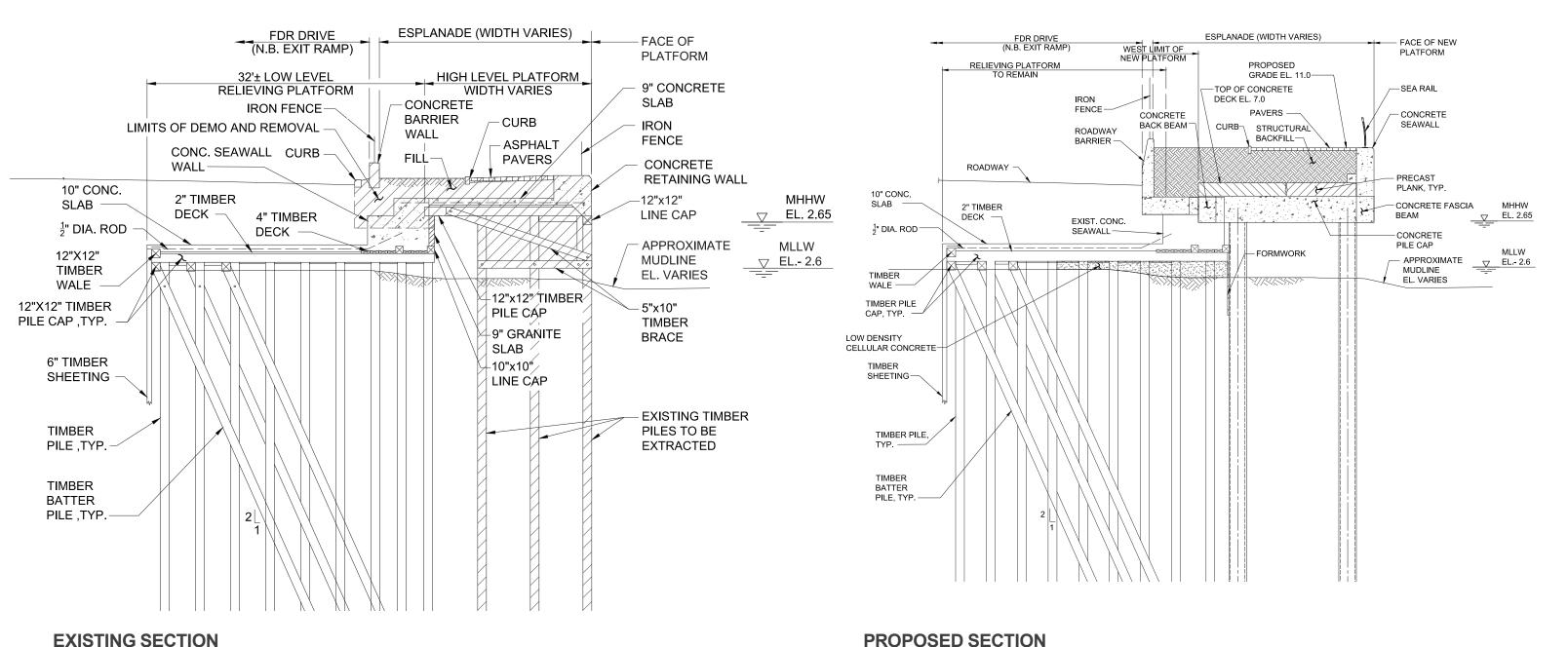


EXISTING SECTION PROPOSED SECTION



SECTION B - LOW-LEVEL PLATFORM + HIGH-LEVEL PLATFORM

Proposed esplanade will be ~ 2' to 3' higher than existing grade to account for future sea level rise.

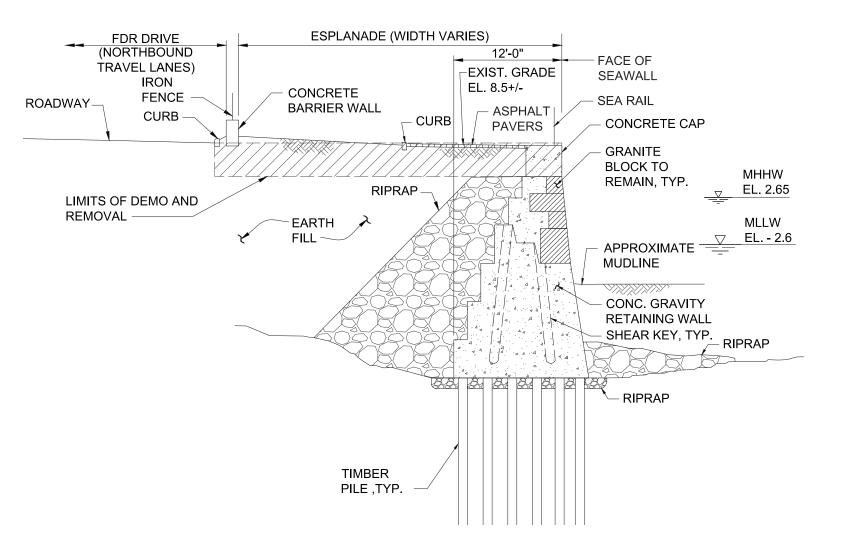


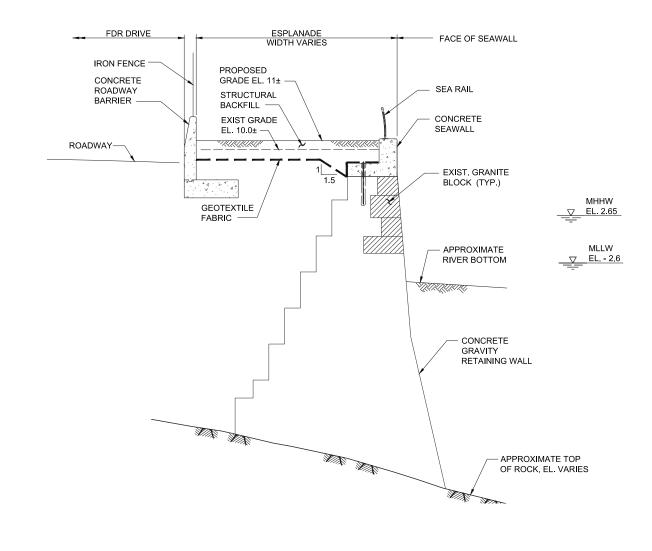
PROPOSED SECTION



SECTION C - 1876 TYPE GRAVITY WALL SUPPORTED ON PILES - NO PLATFORM

Proposed esplanade will be ~ 2' to 3' higher than existing grade to account for future sea level rise.





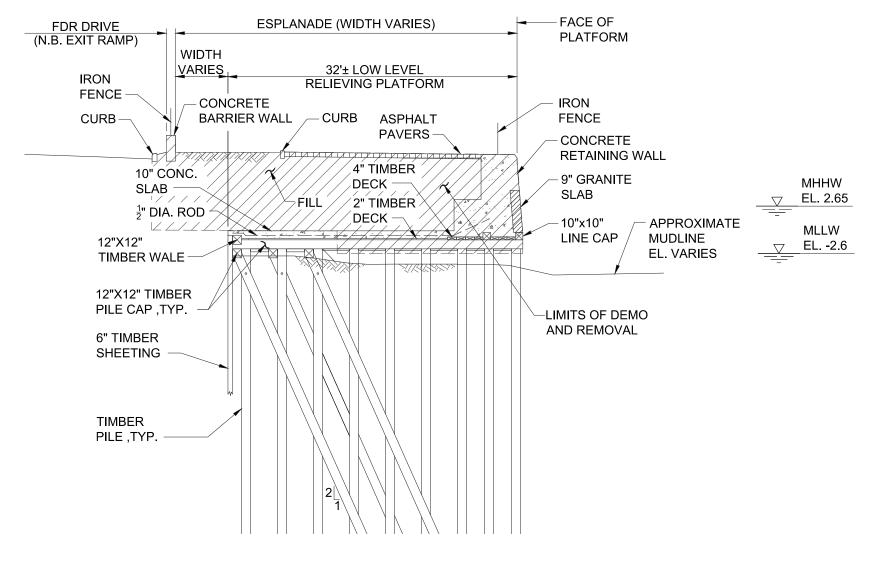
EXISTING SECTION PROPOSED SECTION

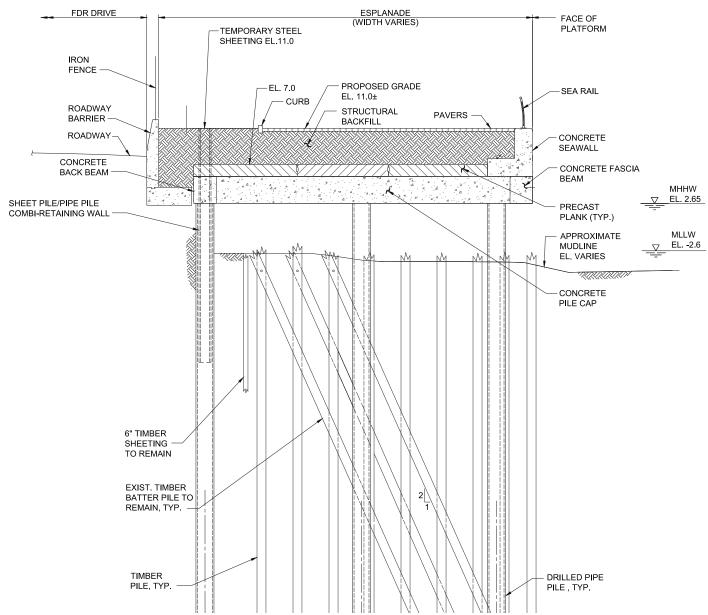




SECTION D - LOW-LEVEL PLATFORM

Proposed esplanade will be ~ 2' to 3' higher than existing grade to account for future sea level rise.





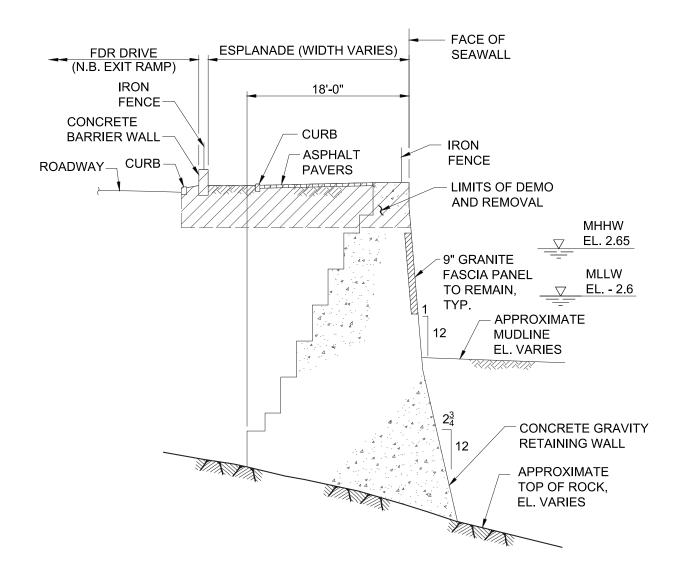
EXISTING SECTION

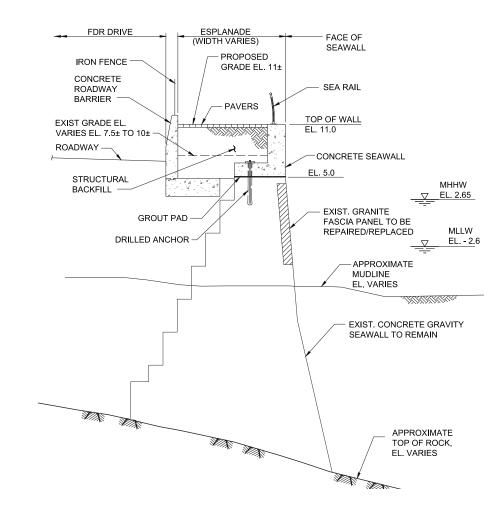
PROPOSED SECTION



SECTION E1 - GRAVITY SEAWALL SUPPORTED ON BEDROCK

Proposed esplanade will be ~ 2' to 3' higher than existing grade to account for future sea level rise.



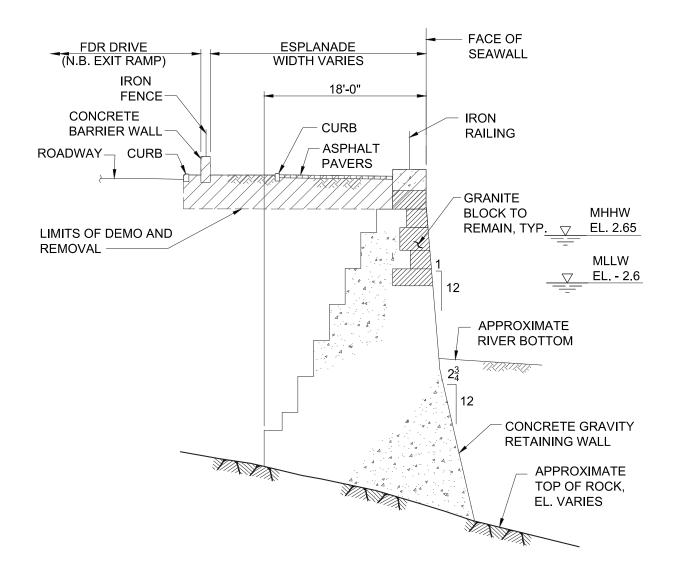


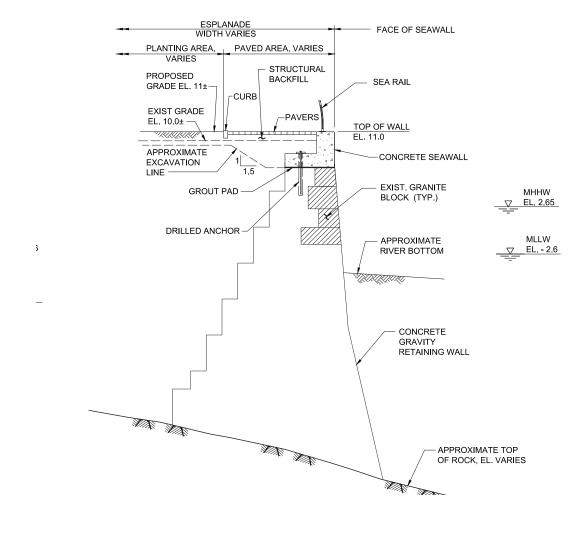
EXISTING SECTION PROPOSED SECTION



SECTION E2 - GRAVITY SEAWALL SUPPORTED ON BEDROCK

Proposed esplanade will be ~ 2' to 3' higher than existing grade to account for future sea level rise.





EXISTING SECTION PROPOSED SECTION



