

Acclimatizing Hudson

Tarrytown Riverfront Re-imagination

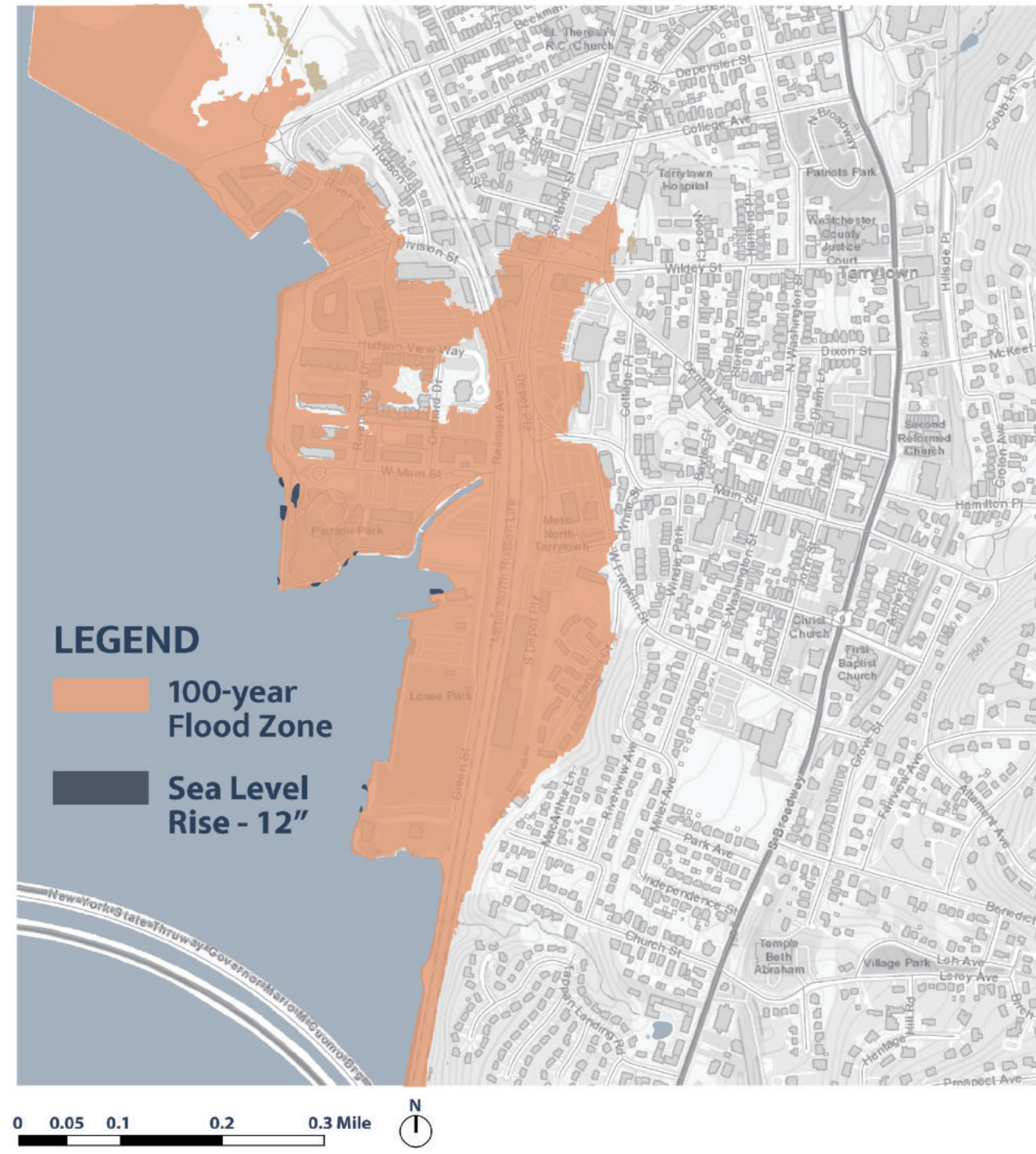
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 Ziyue (Joye) Hu
 LA 4010/7010
 Prof. Cerra

Concept

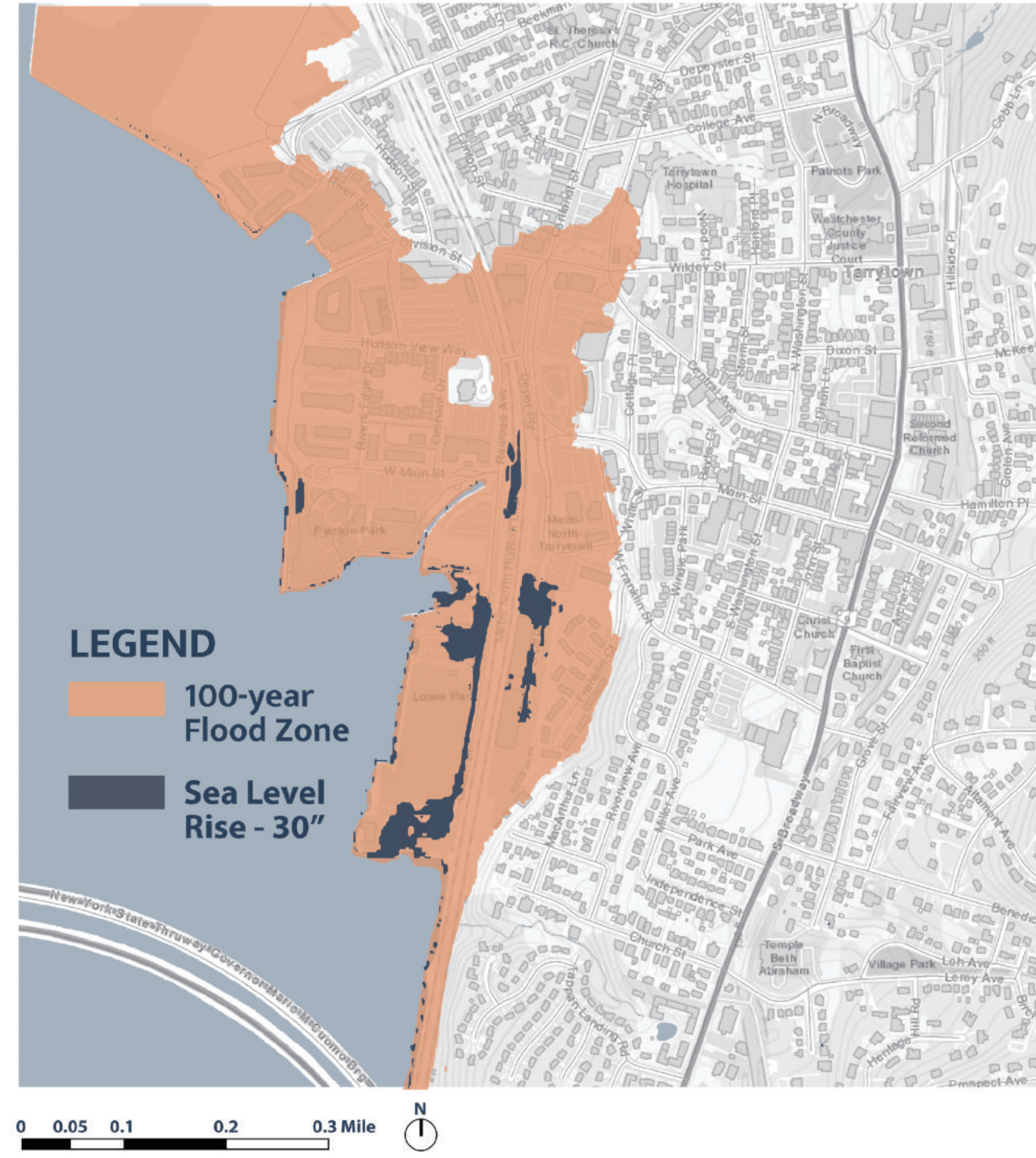
Our project is to utilize landscape and railway infrastructure in Tarrytown to protect the waterfront from inundation in the short term and to adapt and prepare for the worst scenario in the long term. Dividing into three phases of current flooding, 2050 water level, and 2080 water level, we propose three coherent plans that gradually evolve. Specifically, our long-term goal is to raise the railroad three feet high as a levee, transforming the vulnerable edge into a wetland marsh. Our design also integrates human needs, providing public space, places for water-dependent use, and community activities. Finally, the landscape infrastructure proposal increases connectivity, accessibility, and movement along the Hudson waterfront of Tarrytown.

Sea Level Rise Analysis

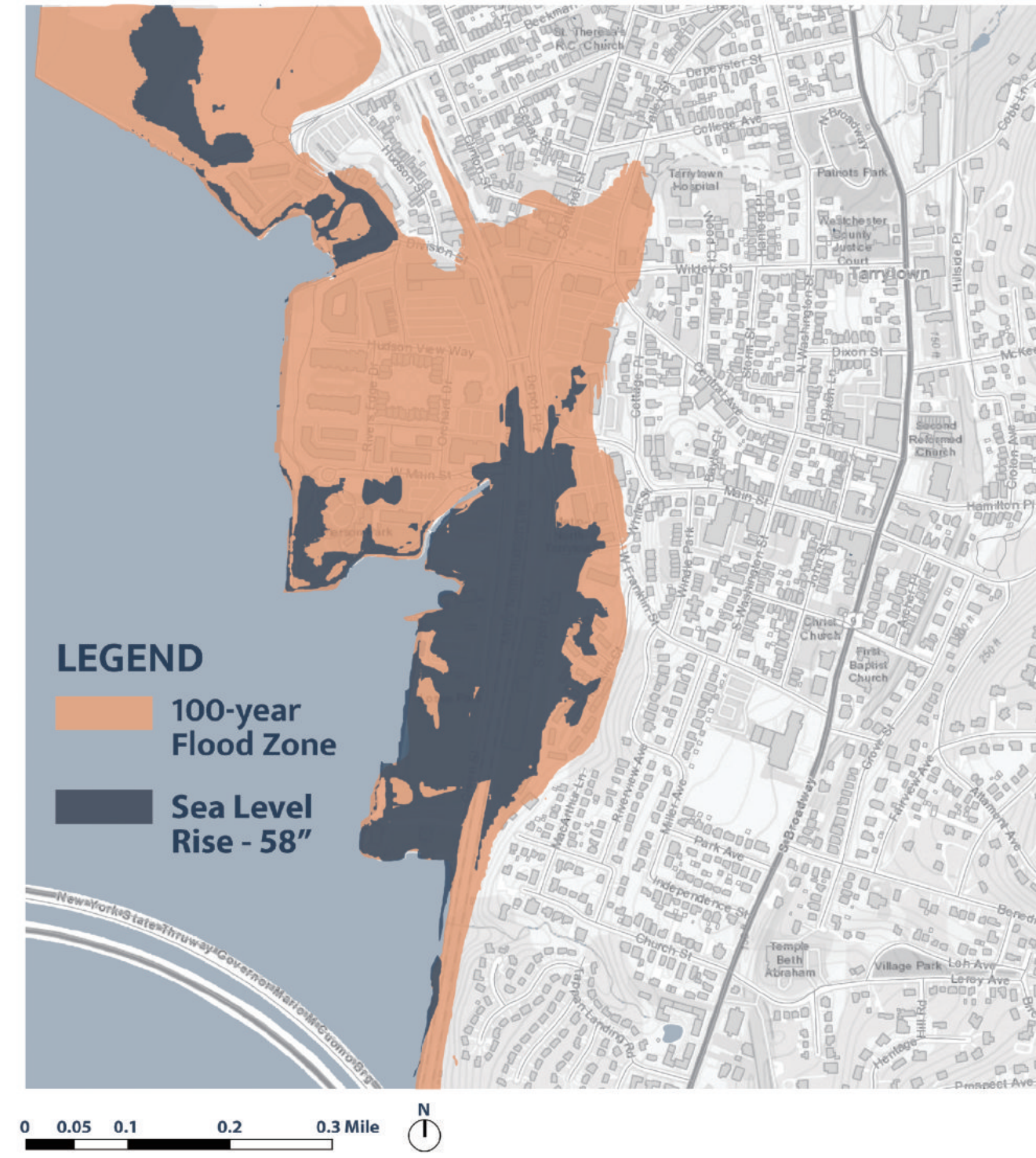
2020s



2050s

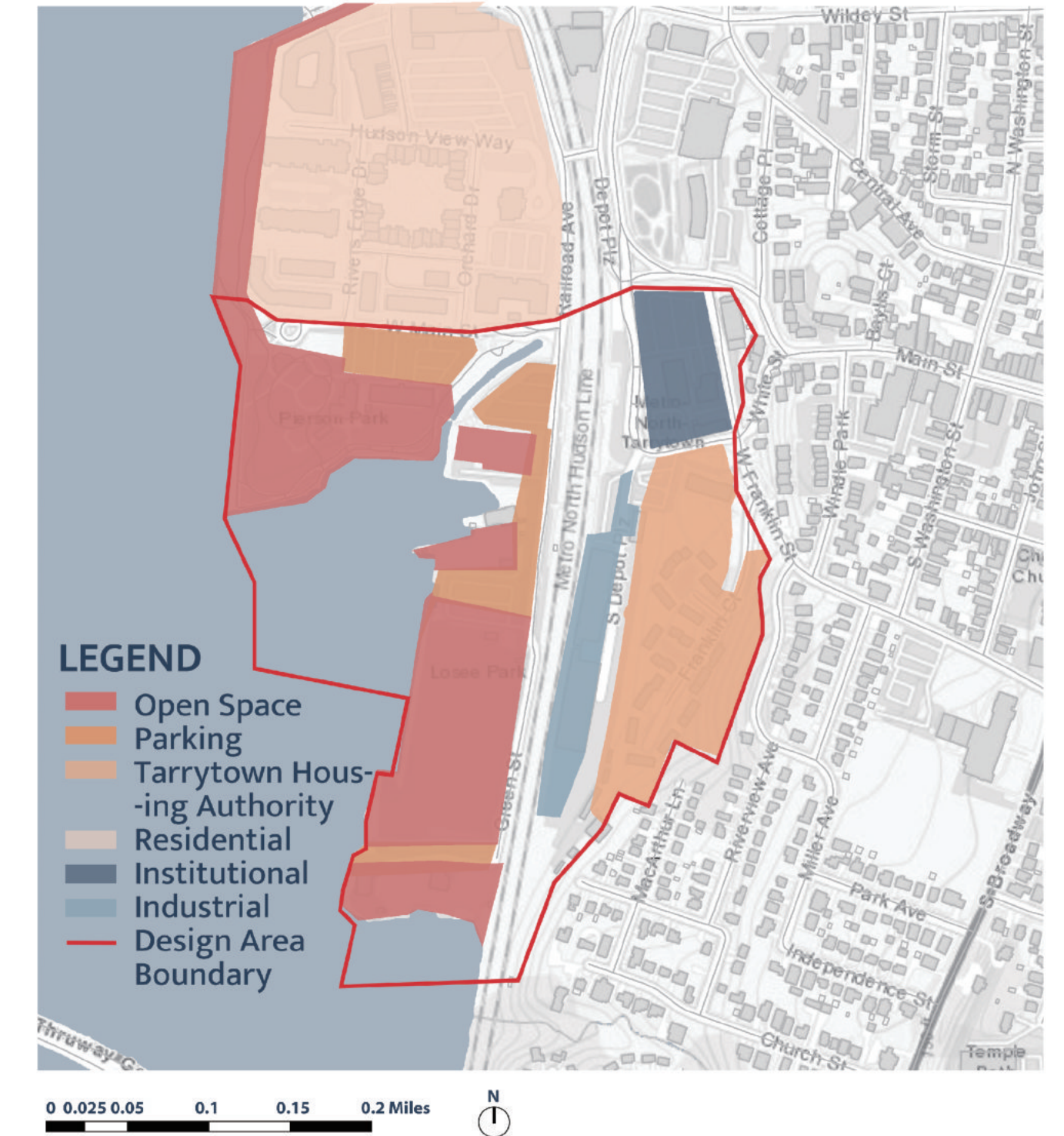


2080s



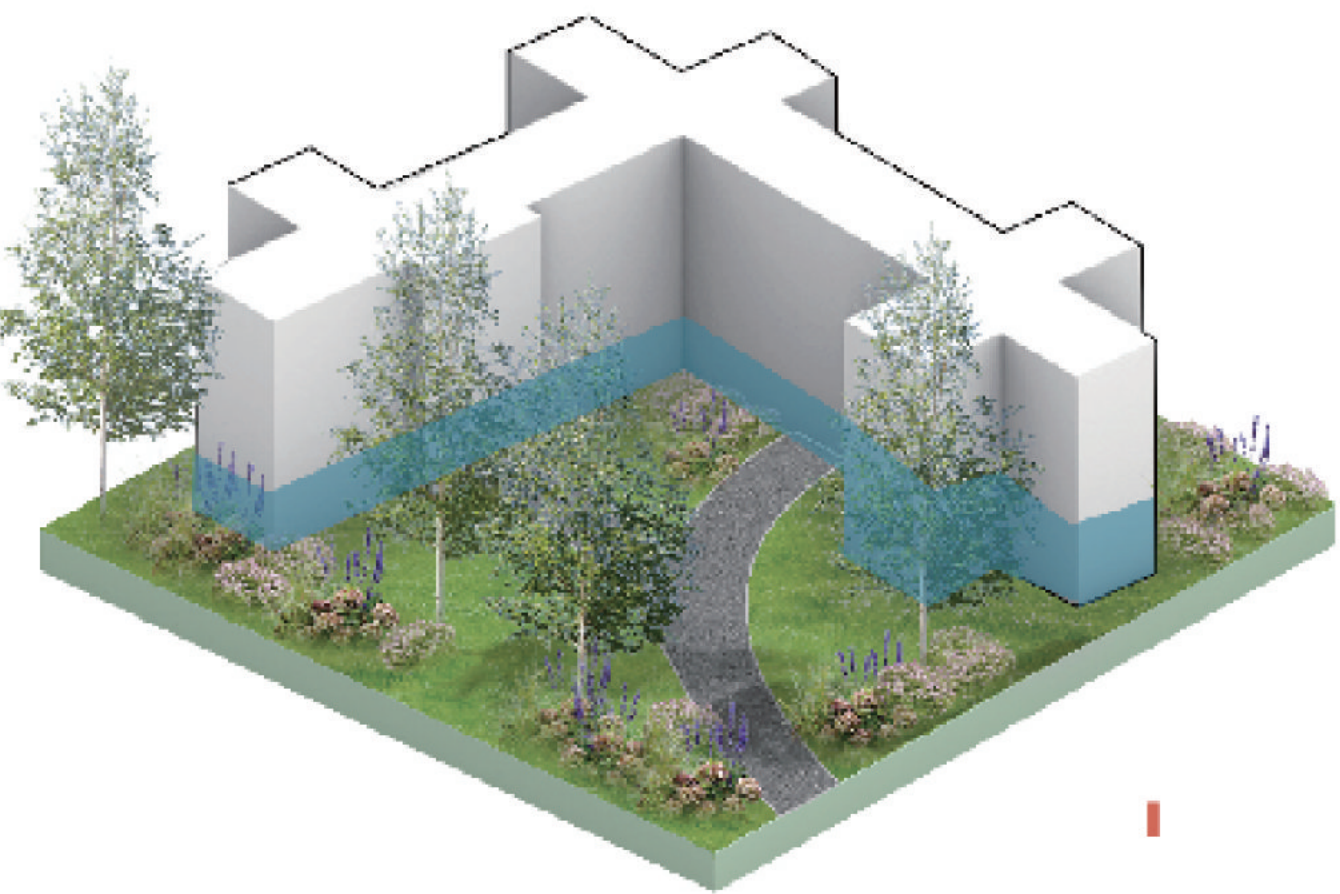
Ownership Analysis

Tarrytown Property Ownership Map



Project Timeline

Franklin District: Vacant first floor



Bioswale

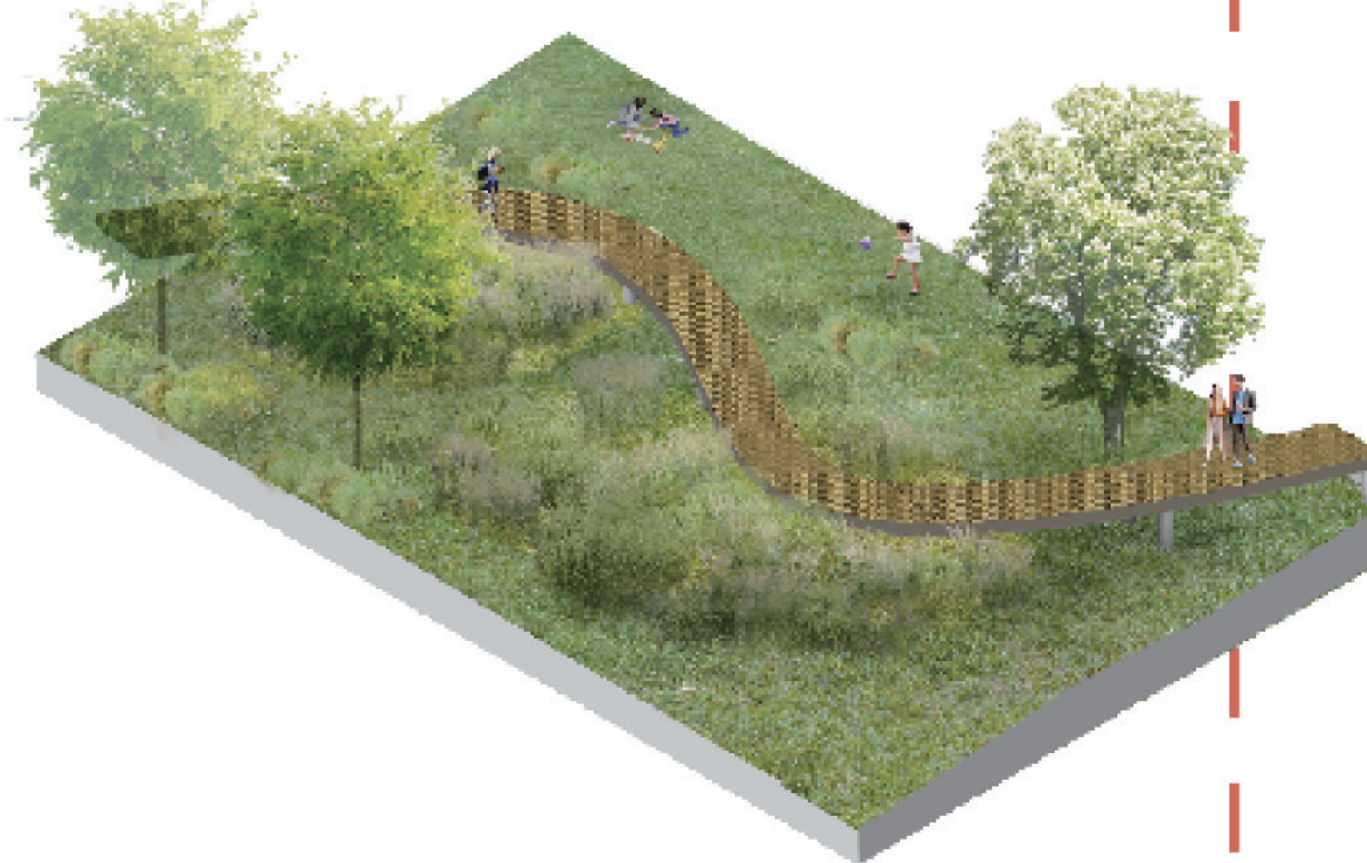


2025

Bike Line & Car lanes reroute

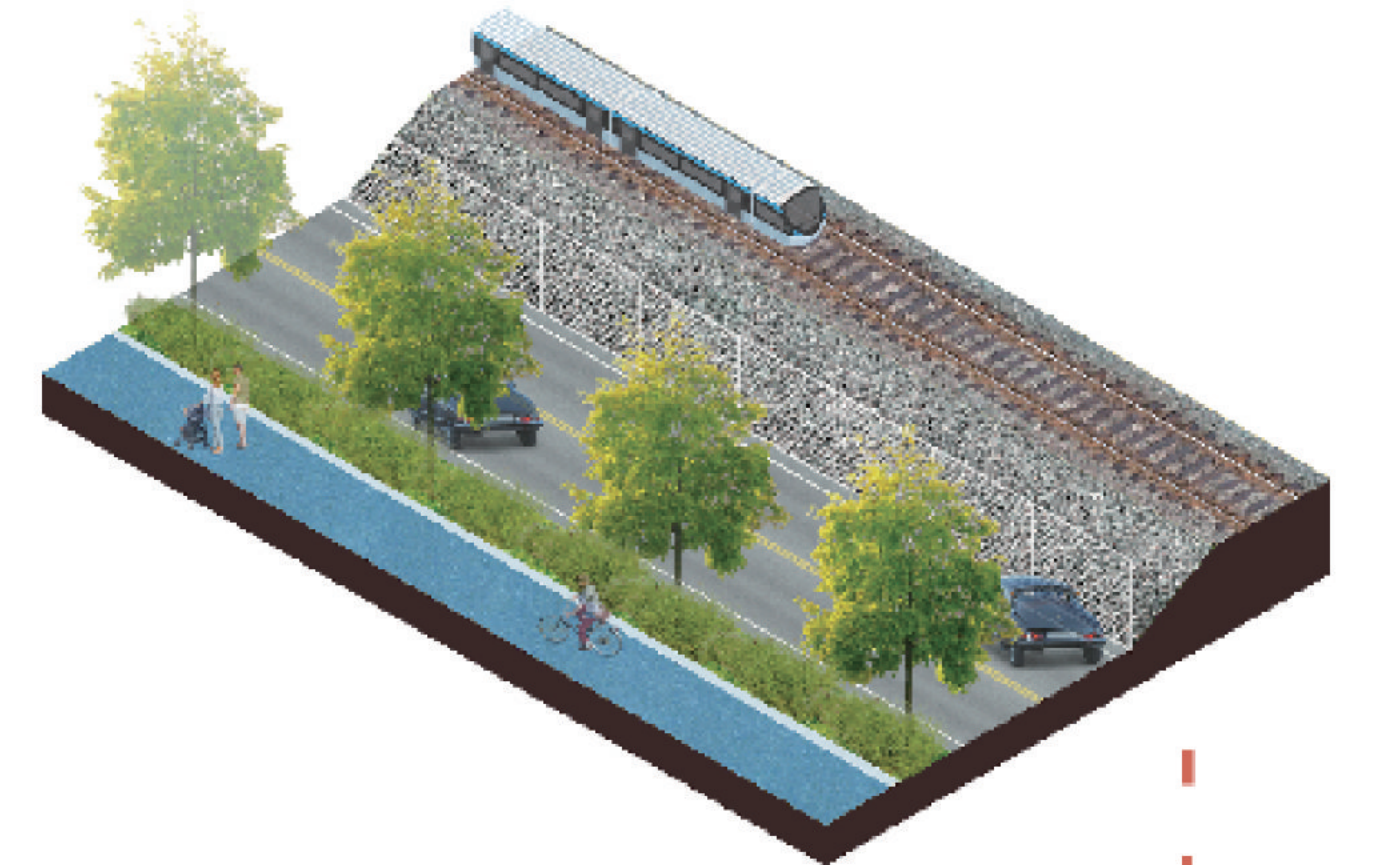


Waterfront Trail

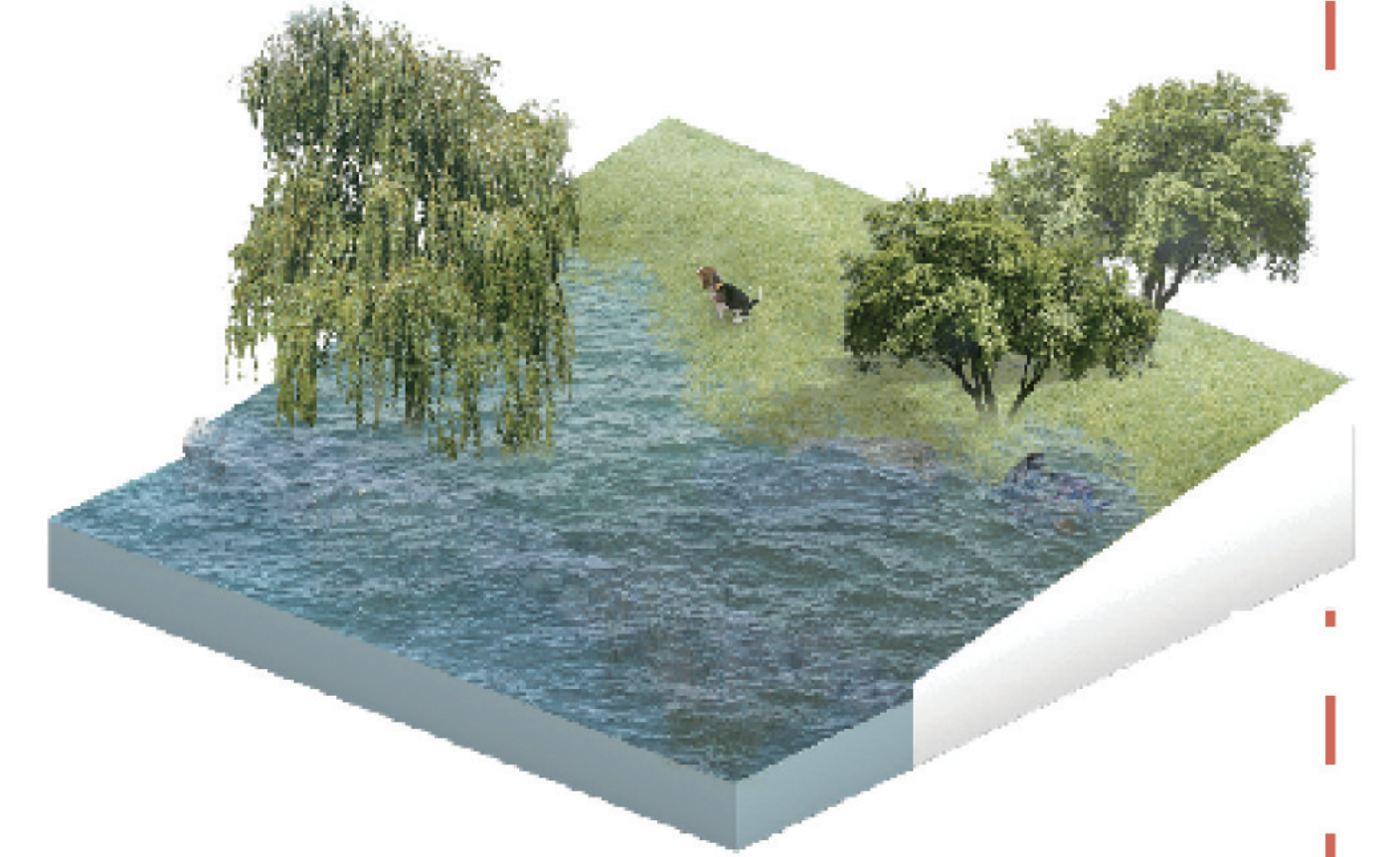


2050

Elevated Railroad

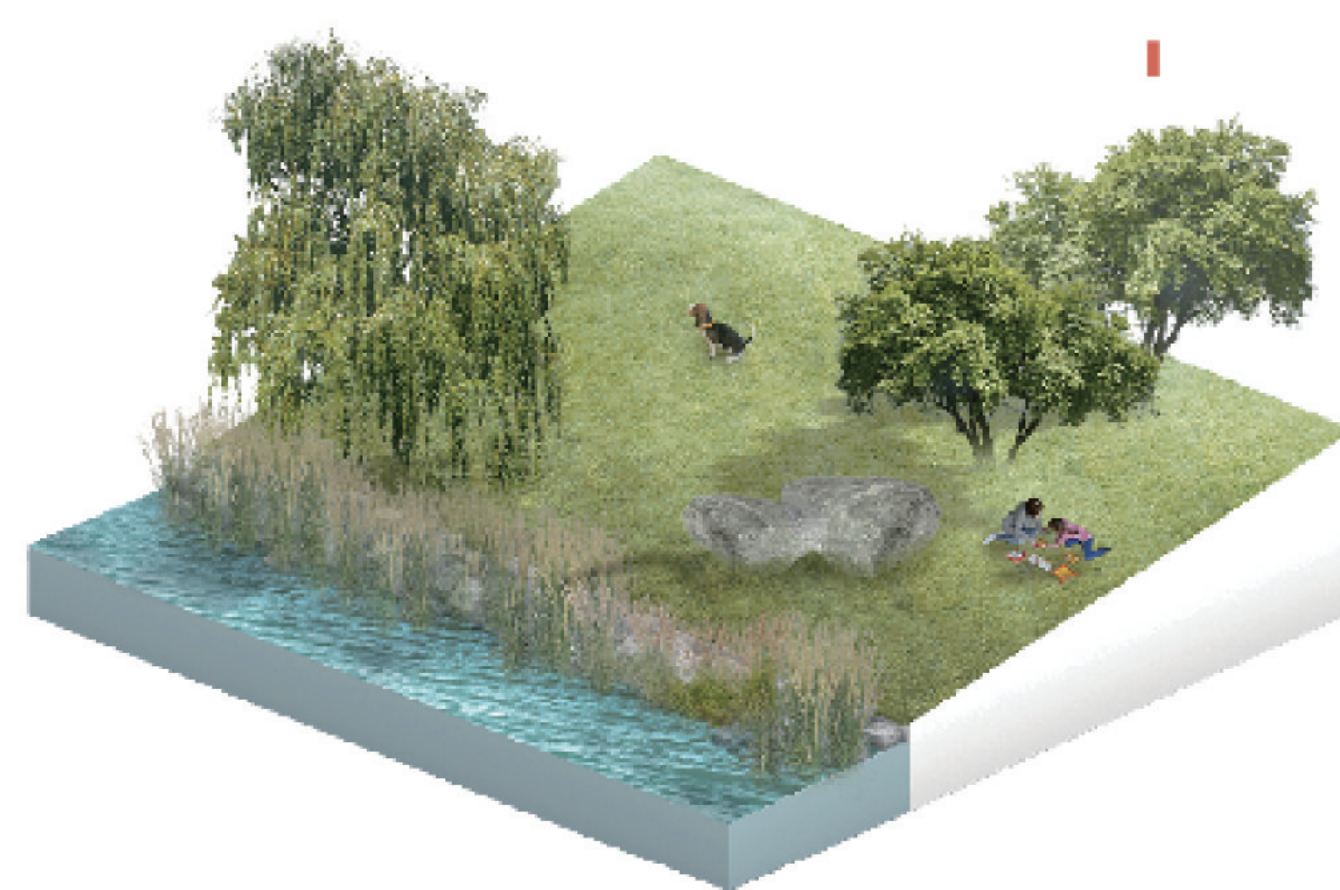


Resilient Waterfront



2080

Regrading the site



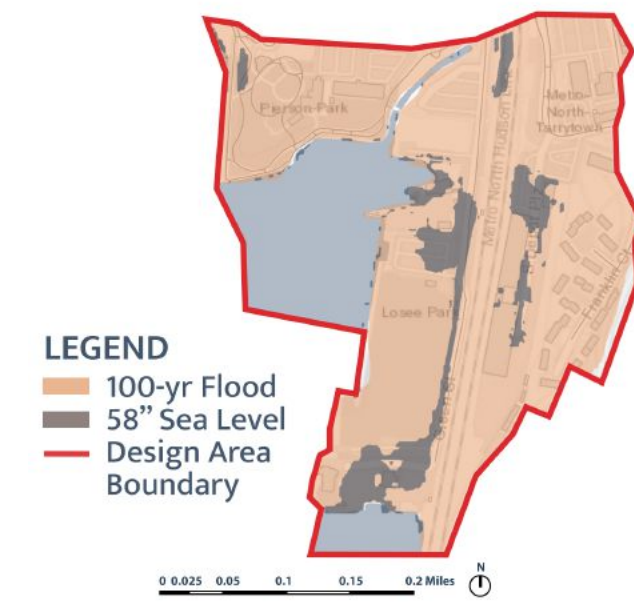
Phasing Plan 2050

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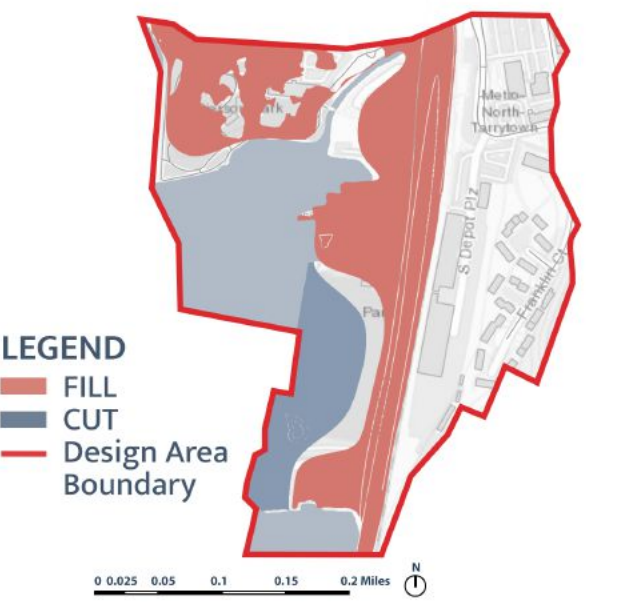
WATER ANALYSIS & DESIGN

2050 SEA LEVEL MAP



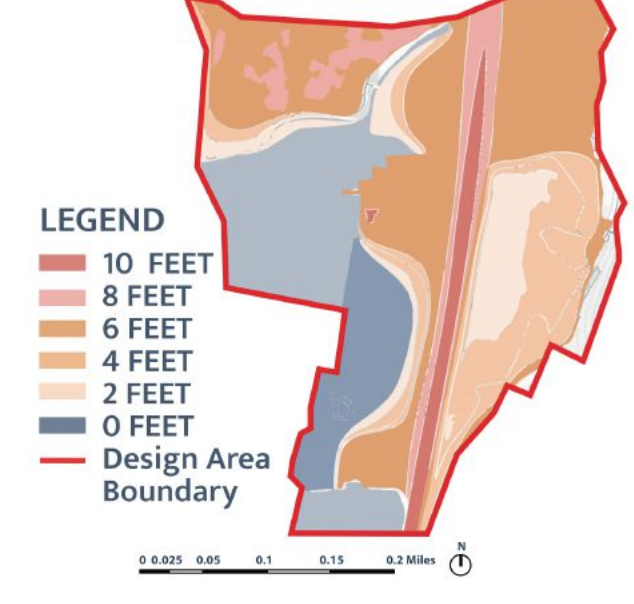
LEGEND
100-yr Flood
58' Sea Level
Design Area Boundary

CUT & FILL MAP



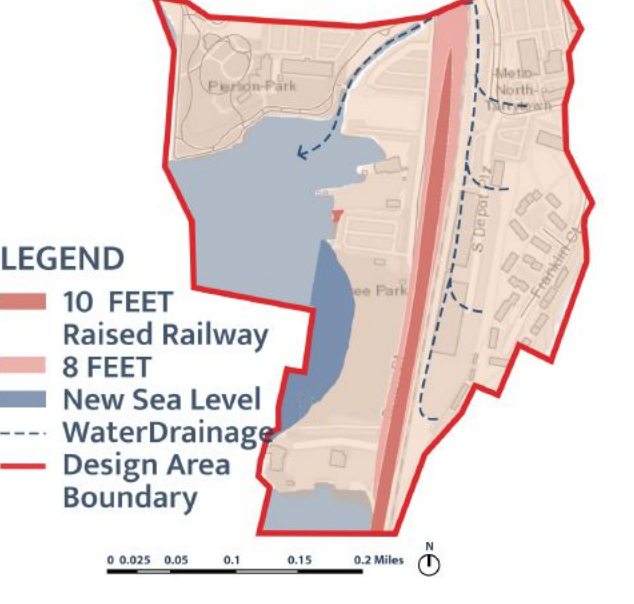
LEGEND
FILL
CUT
Design Area Boundary

NEW TOPOGRAPHY MAP



LEGEND
10 FEET
8 FEET
6 FEET
4 FEET
2 FEET
0 FEET
Design Area Boundary

2050 NEW MAP



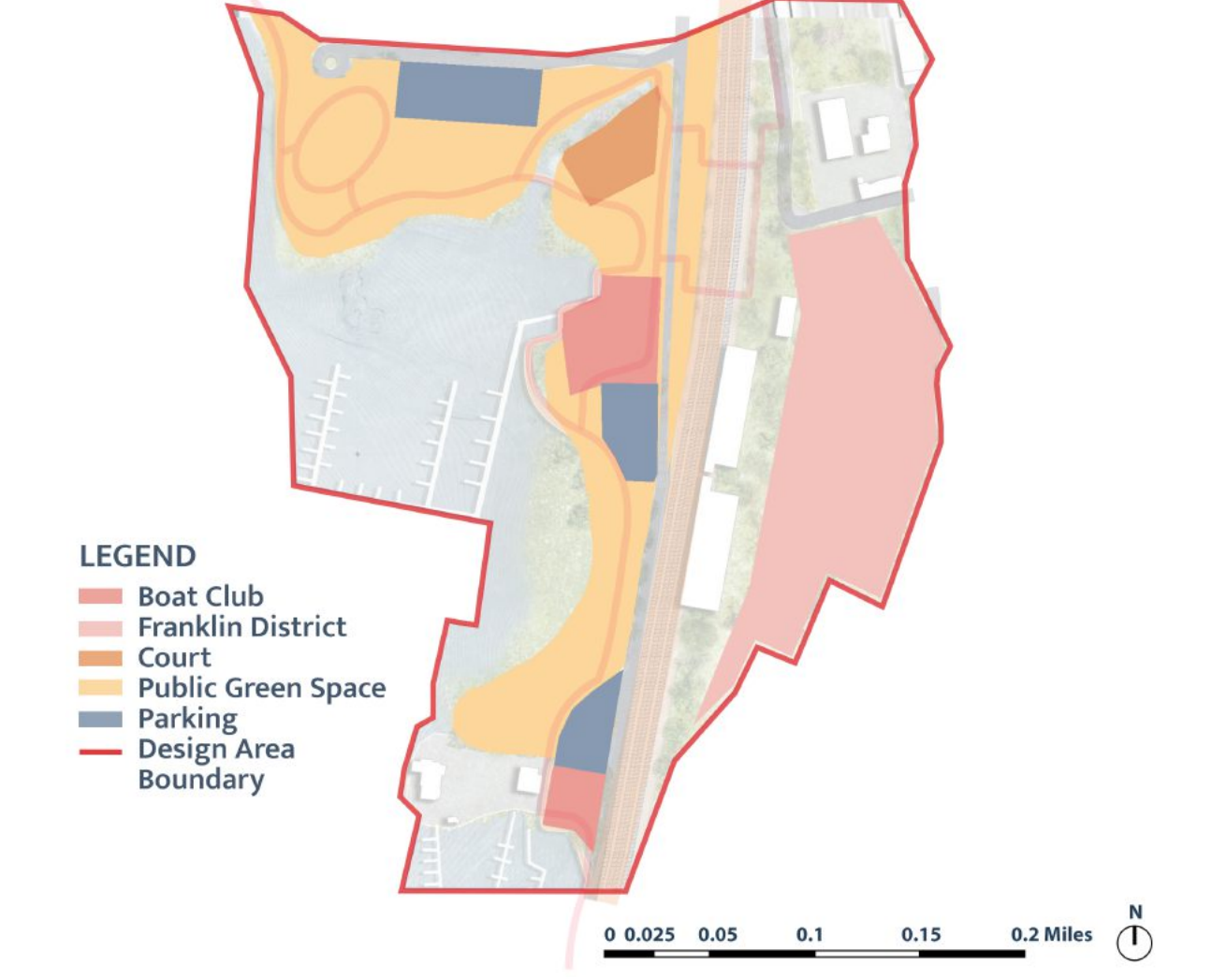
LEGEND
10 FEET
Raised Railway
New Sea Level
Water Drainage
Design Area Boundary

TRAFFIC & ACCESSIBILITY MAP



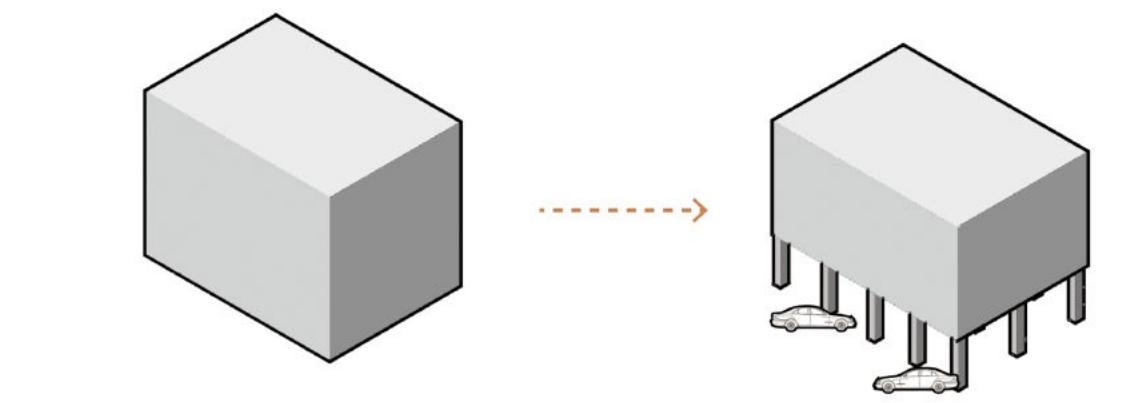
LEGEND
Pedestrian Path
Railway
Car Lane
Design Area Boundary

LAND USE MAP



LEGEND
Boat Club
Franklin District
Public Green Space
Parking
Design Area Boundary

FRANKLIN DISTRICT FLOOD RESISTANCE DESIGN



The primary intervention in the 2050 design is cutting parts of Losee Park and filling them into hard pavings and ripraps to preserve the Tarrytown Marina and Washington Irving Boatclub. The second major move is to connect certain facilities with our sunset trail. In this stage, we propose to transform the first floors of Franklin Park into parking to confront occasional severe flooding.

Perspective: Railroad & Sunset Trail



Birdview: 2050



Phasing Plan 2080

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Around the 2080s, the middle part of Losee Park would be partially inundated because of regrading. Between 2050 and 2080, the design proposed an additional layer of the sunset trail, providing people with opportunities to walk on the submerged land and immerse themselves in the wetland. Because of the potentiality of water going over the berm, we intend to relocate the factories. The original channel will become a water balancing corridor if a storm surge runs over the berm.

Rendering: Sunset Trail & Wetland

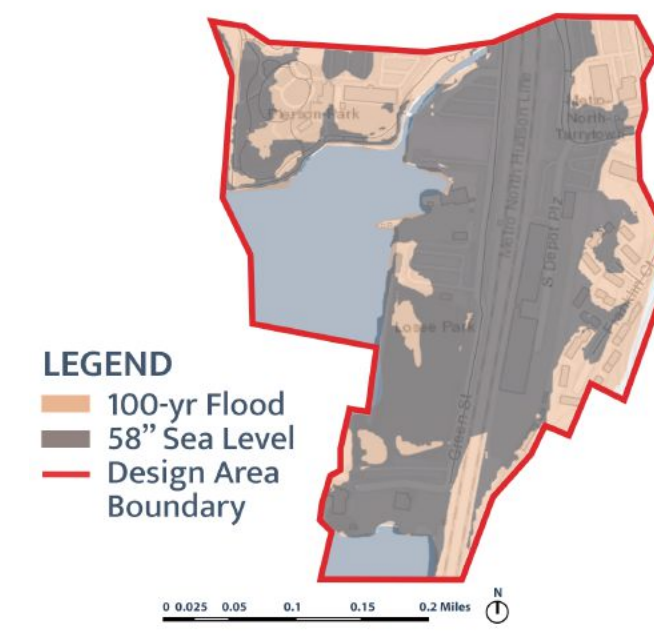


Birdview 2080

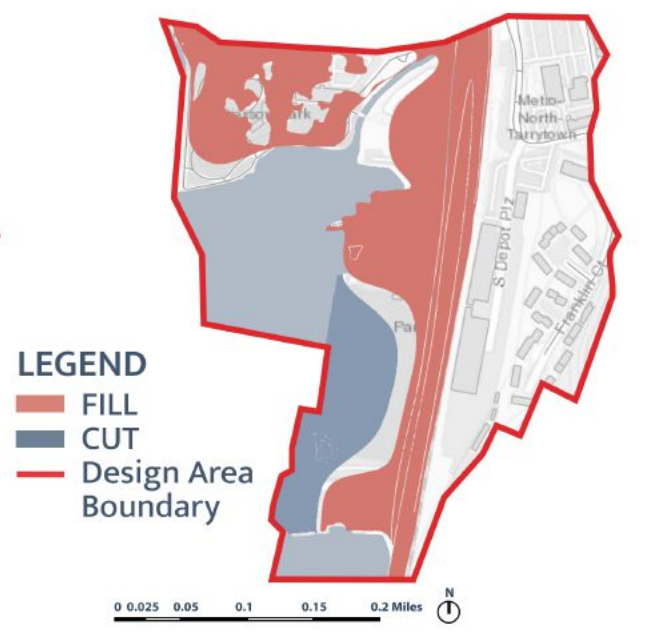


WATER ANALYSIS & DESIGN

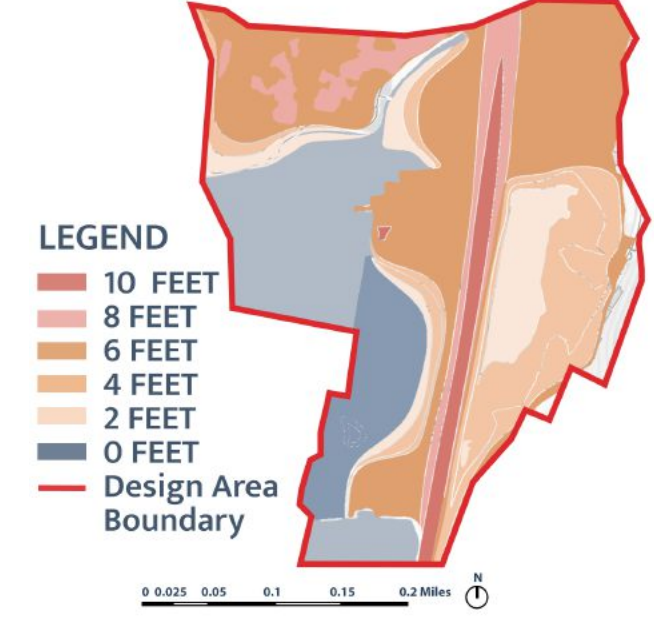
2080 SEA LEVEL MAP



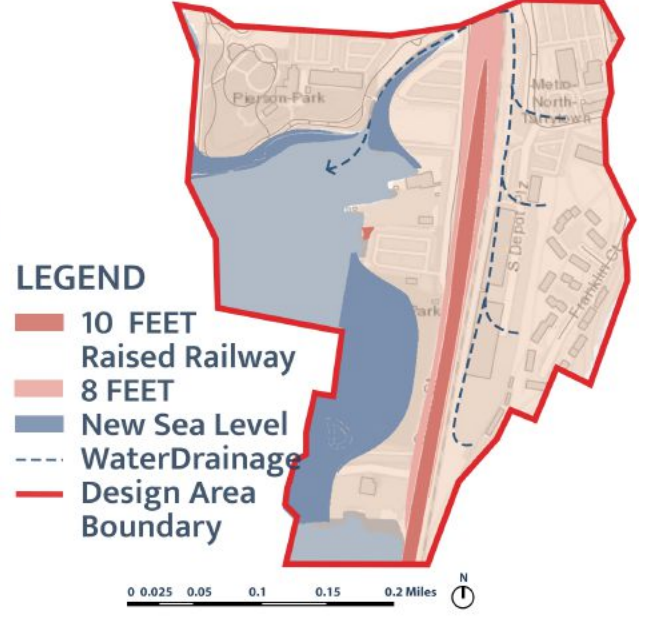
CUT & FILL MAP



NEW TOPOGRAPHY MAP



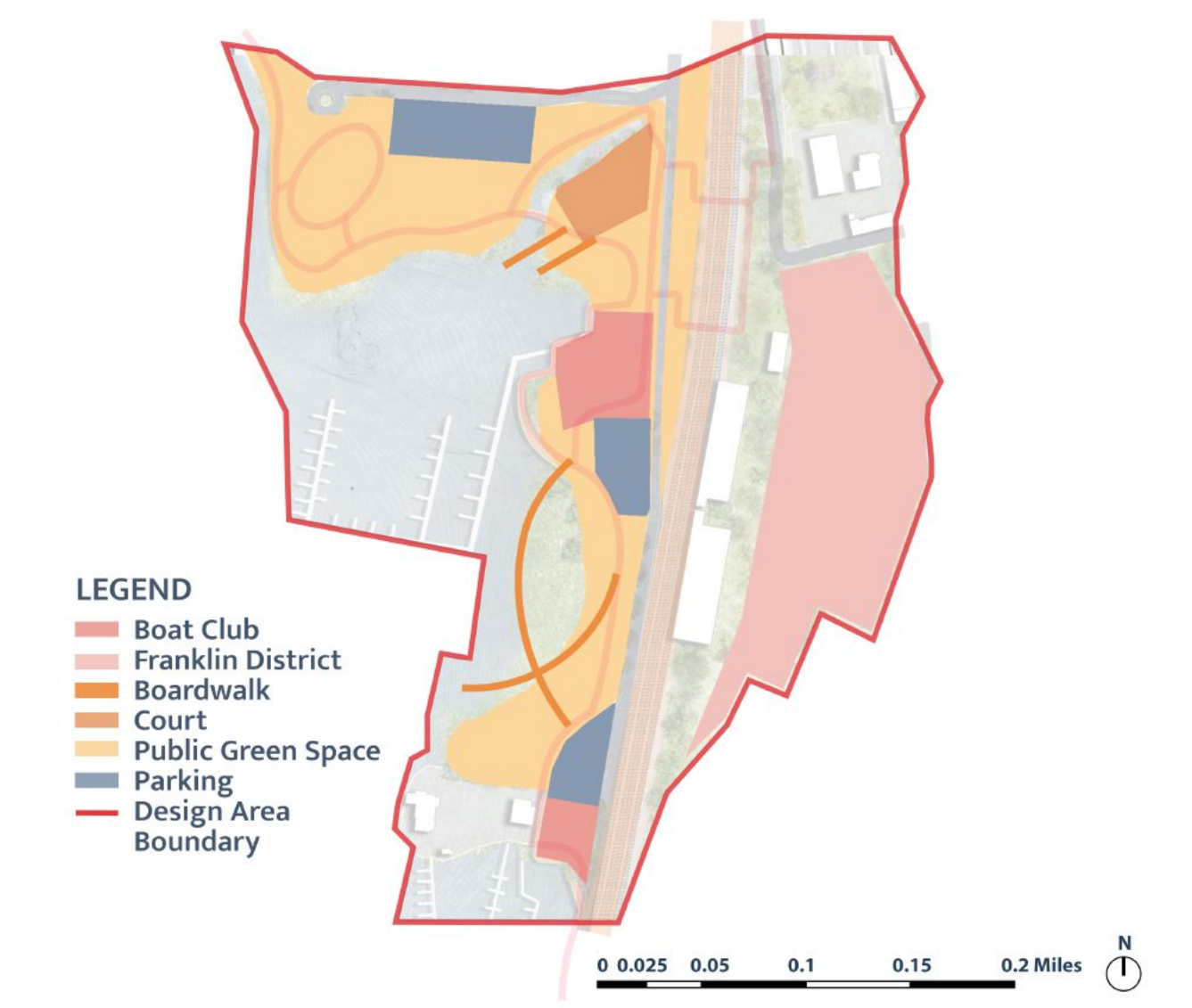
2080 NEW MAP



TRAFFIC & ACCESSIBILITY MAP

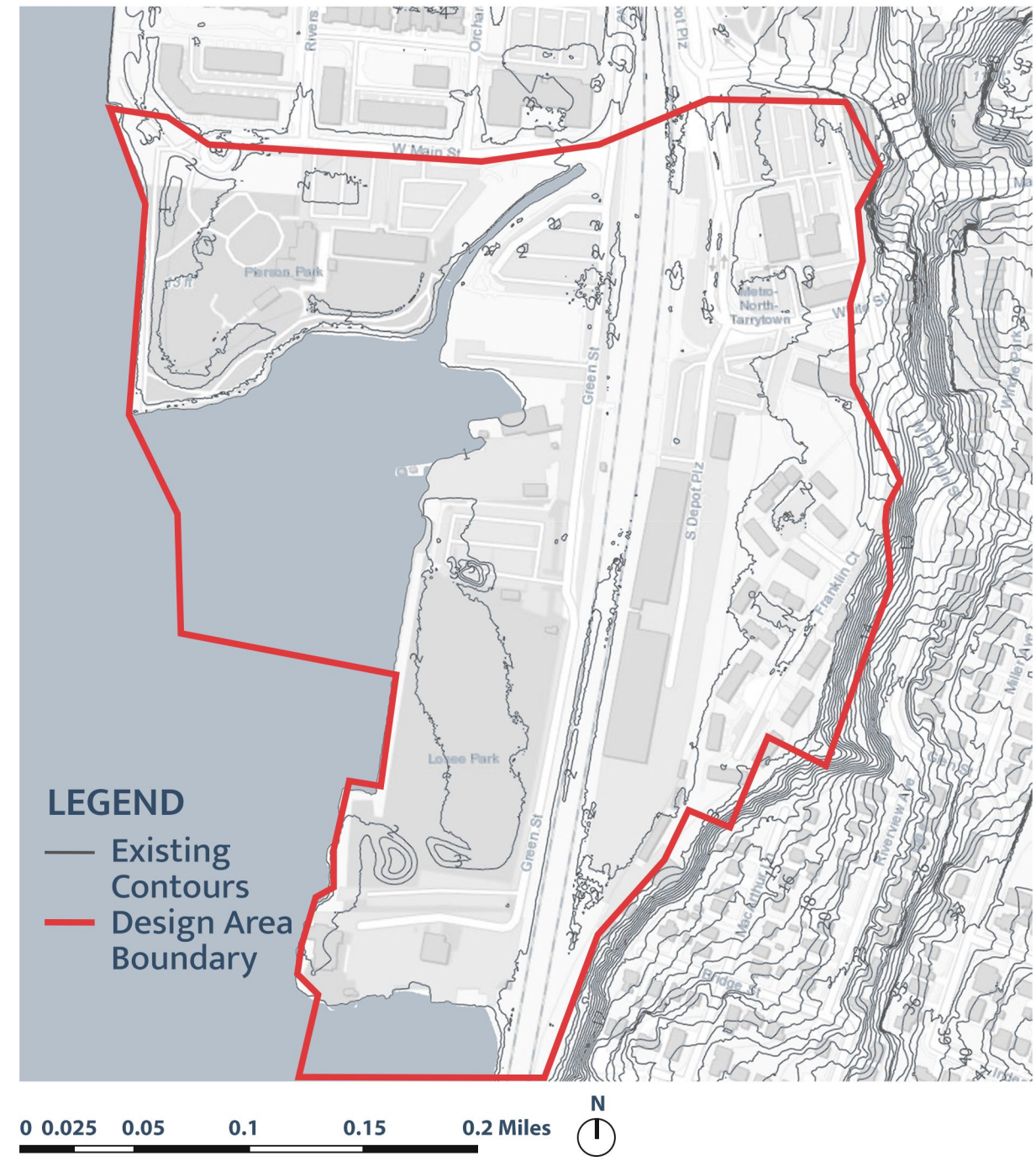


LAND USE MAP

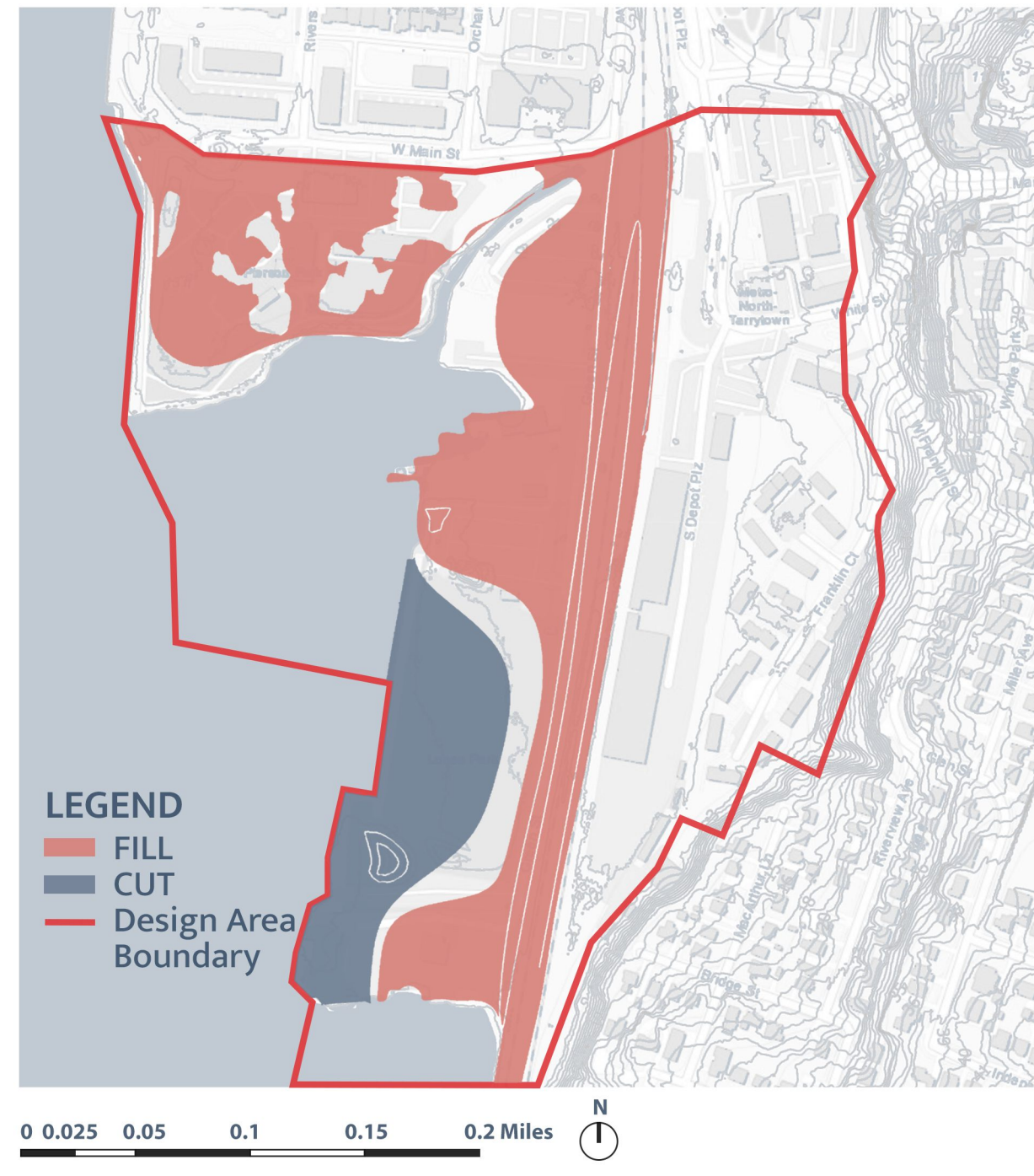


CUT & FILL

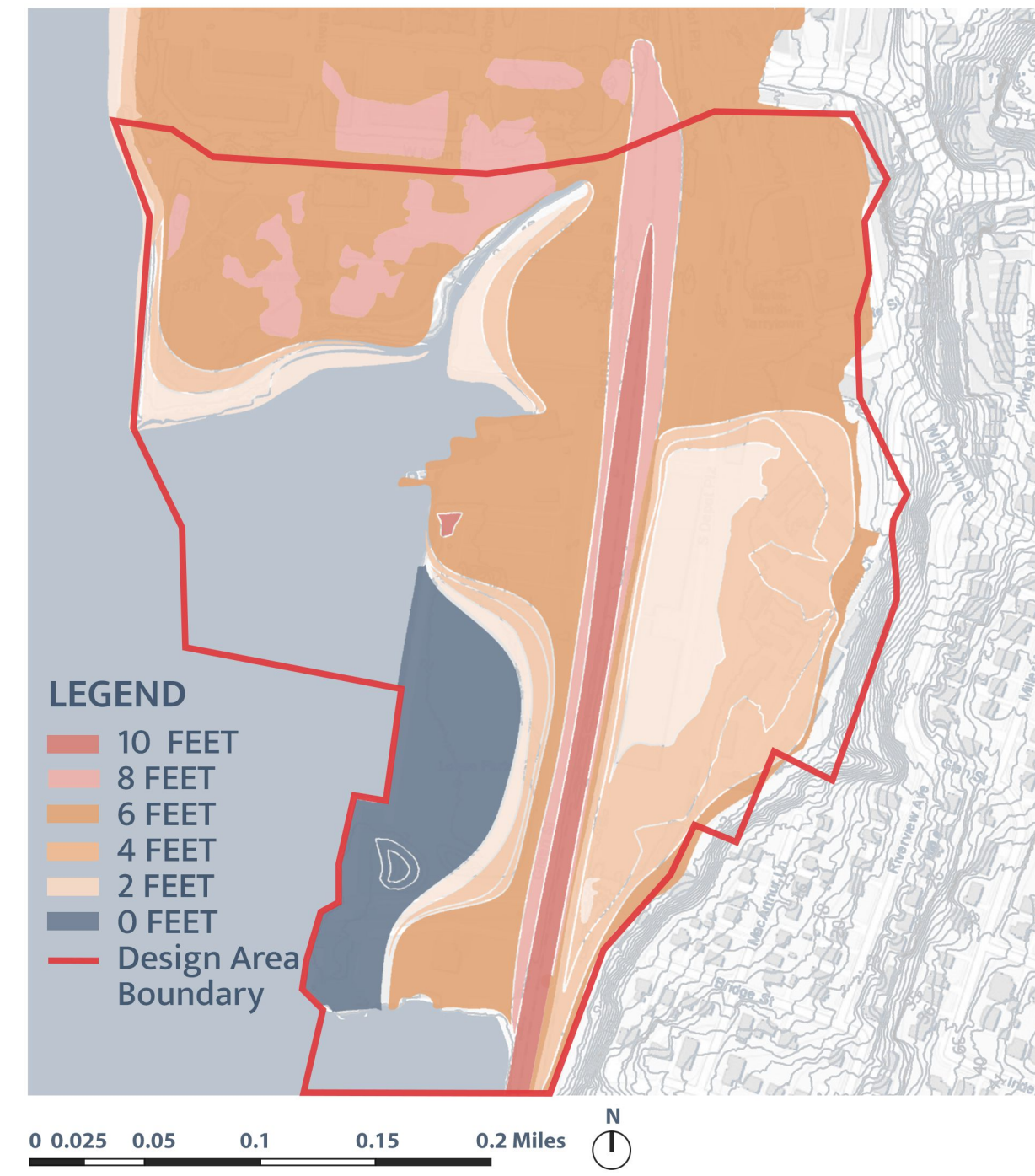
EXISTING TOPOGRAPHIC MAP



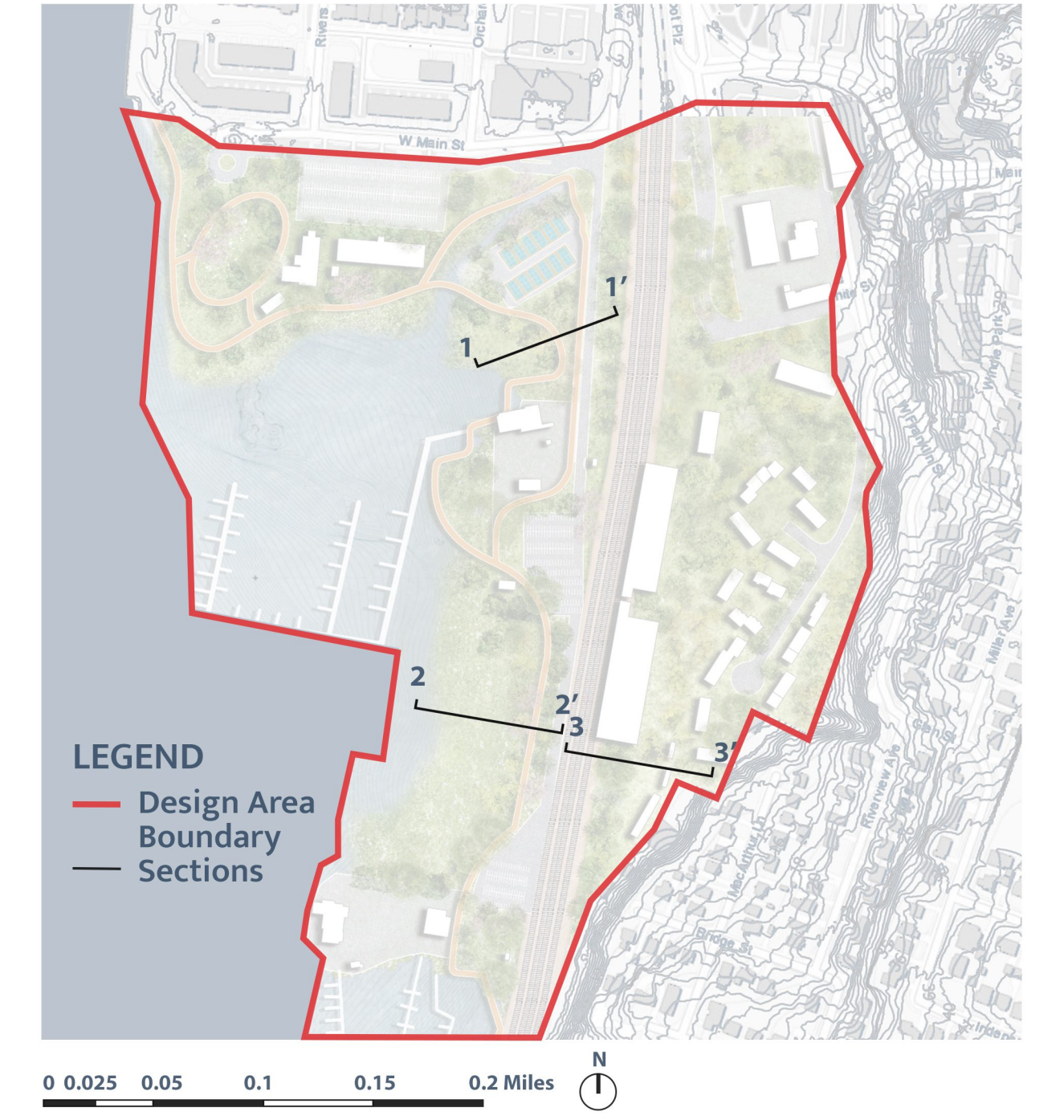
CUT & FILL MAP



NEW TOPOGRAPHIC MAP

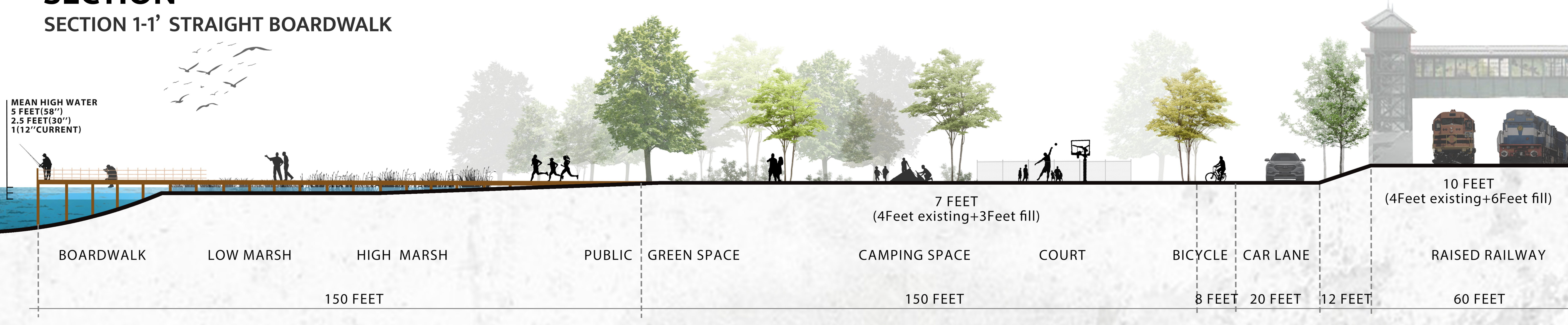


SECTIONS MAP

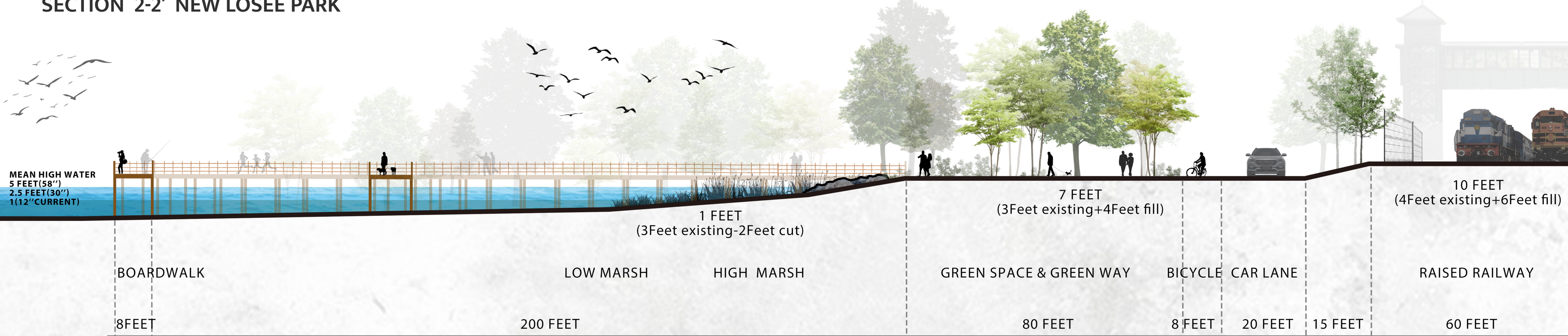


SECTION

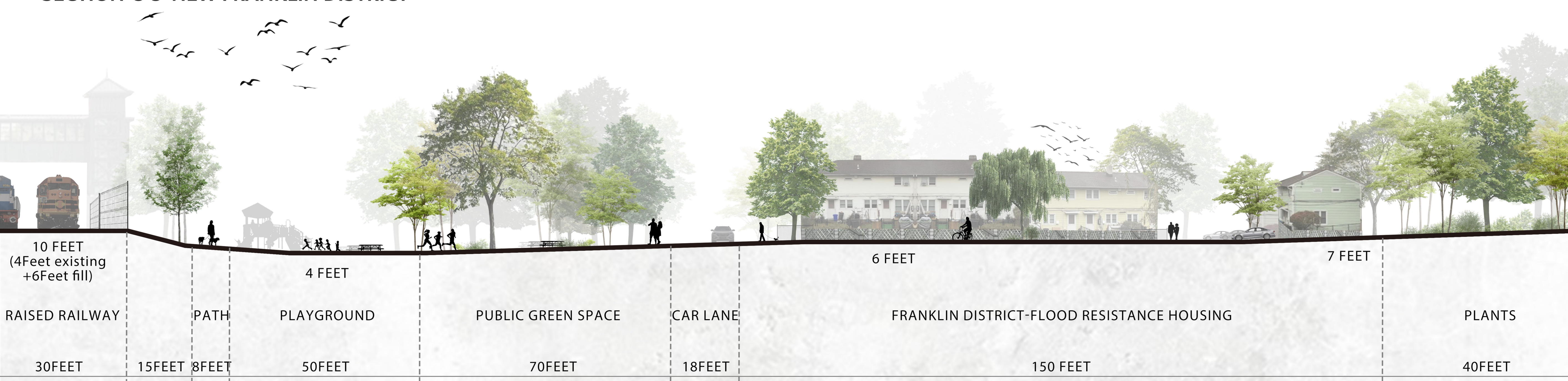
SECTION 1-1' STRAIGHT BOARDWALK



SECTION 2-2' NEW LOSEE PARK



SECTION 3-3' NEW FRANKLIN DISTRICT



ECOLOGY - MARSH HABITAT

