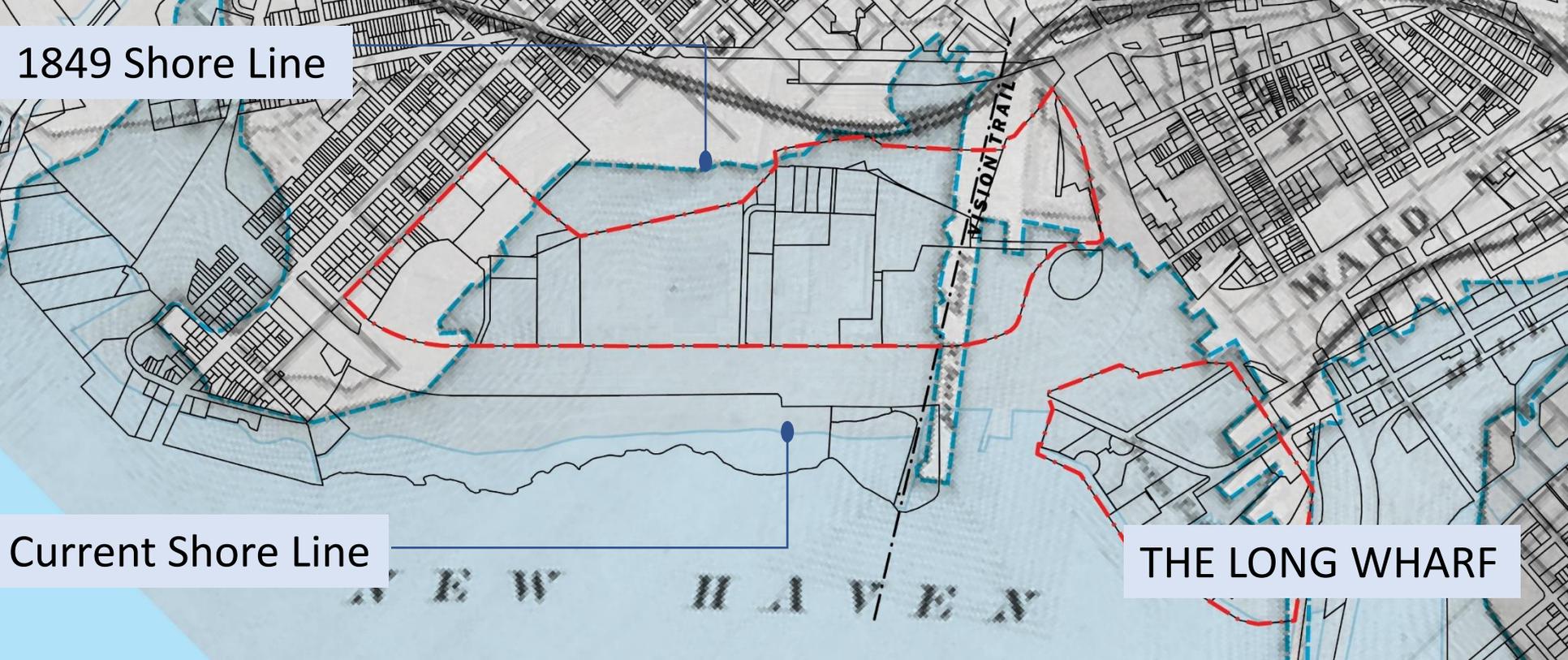


Living Long Wharf

May 22, 2019

Resilient Connecticut Workshop:
**Developing A Planning Framework for
New Haven and Fairfield Counties**
CIRCA/ UConn Stamford

Giovanni Zinn, City Engineer and Aicha Woods, Exec Dir of City Plan
Mayor Toni N. Harp
City of New Haven Board of Alders



1849 Shore Line

Current Shore Line

THE LONG WHARF



LIVING LONG WHARF:

Coastal Resiliency, Community Engagement, and Responsible Economic Planning

Over 300
Acres total

160 Acres
underutilized land

Site A Total Area: 168 acres

Site B Total Area: 68 acres

90.4 acres

77.6 acres

56.2 acres

11.6 acres

 Under utilized area

Over 5000
Jobs

Existing conditions

EXISTING CONDITIONS



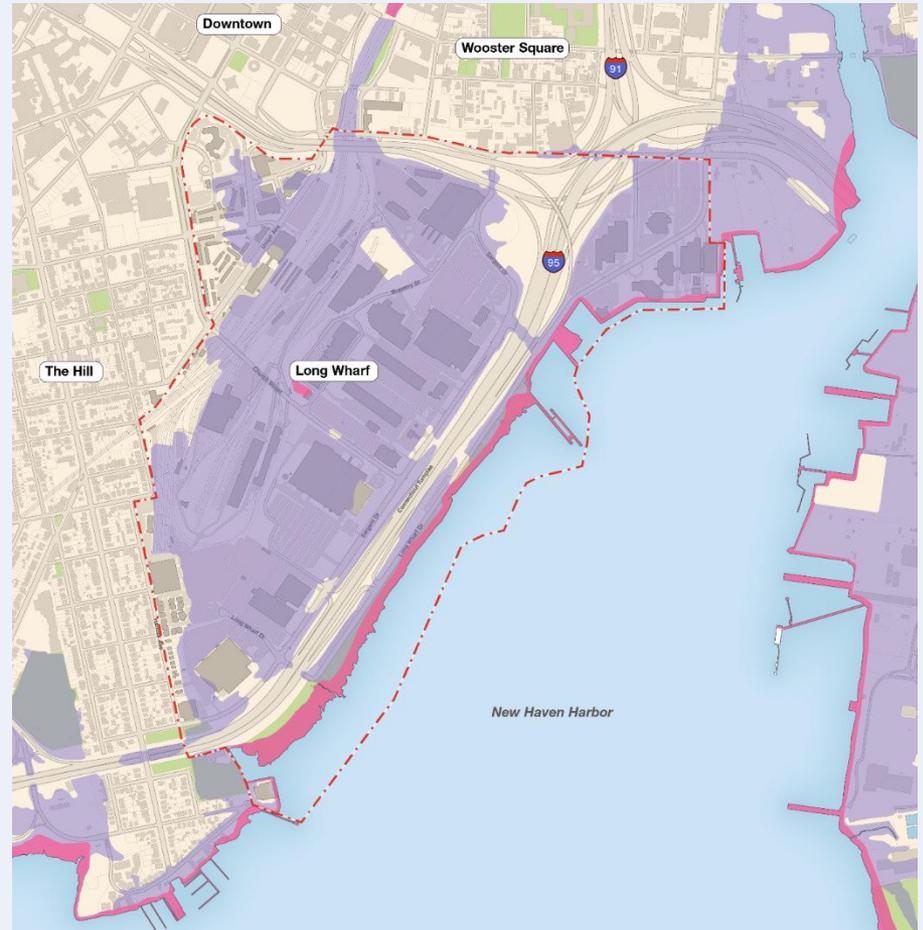
New Long Wharf Plan

A number of city departments are working collaboratively with the community to develop a plan for responsible growth in the Long Wharf District to include coastal resiliency, job growth, urban design and transportation improvements.

- Funding partners: CT OPM, City.
- Current projects:
 - Long Wharf Flood Protection and Resiliency Study
 - Long Wharf Responsible Growth Plan



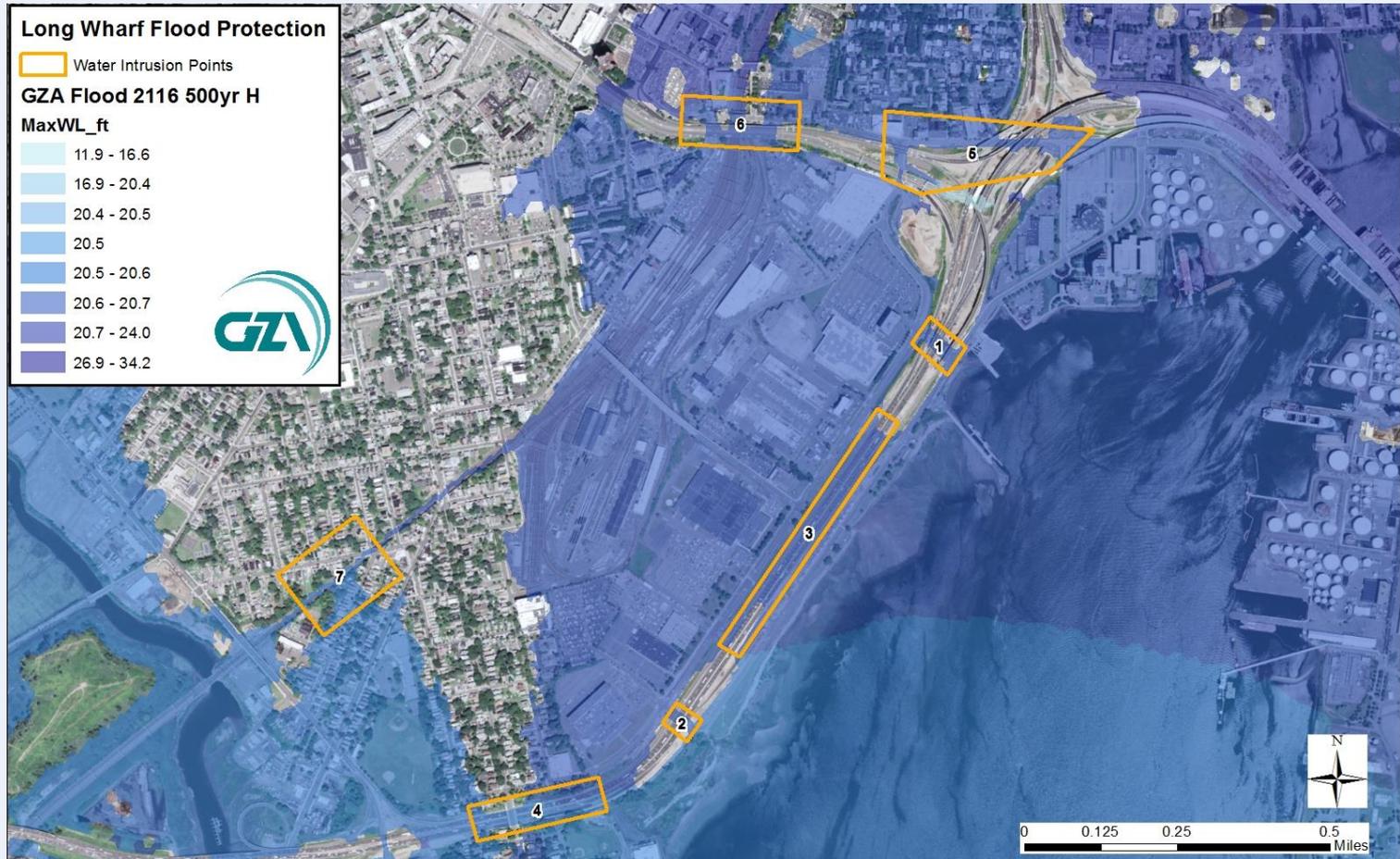
Flood Hazard Zones



Flood Hazard Zones

- AE (High risk)
- VE (High risk w/storm surge)
- X (Protected)

Flood Intrusion Points



4- Part Strategy

- Increase Capacity:

Install storage and provide more conveyance.

- Green Infrastructure:

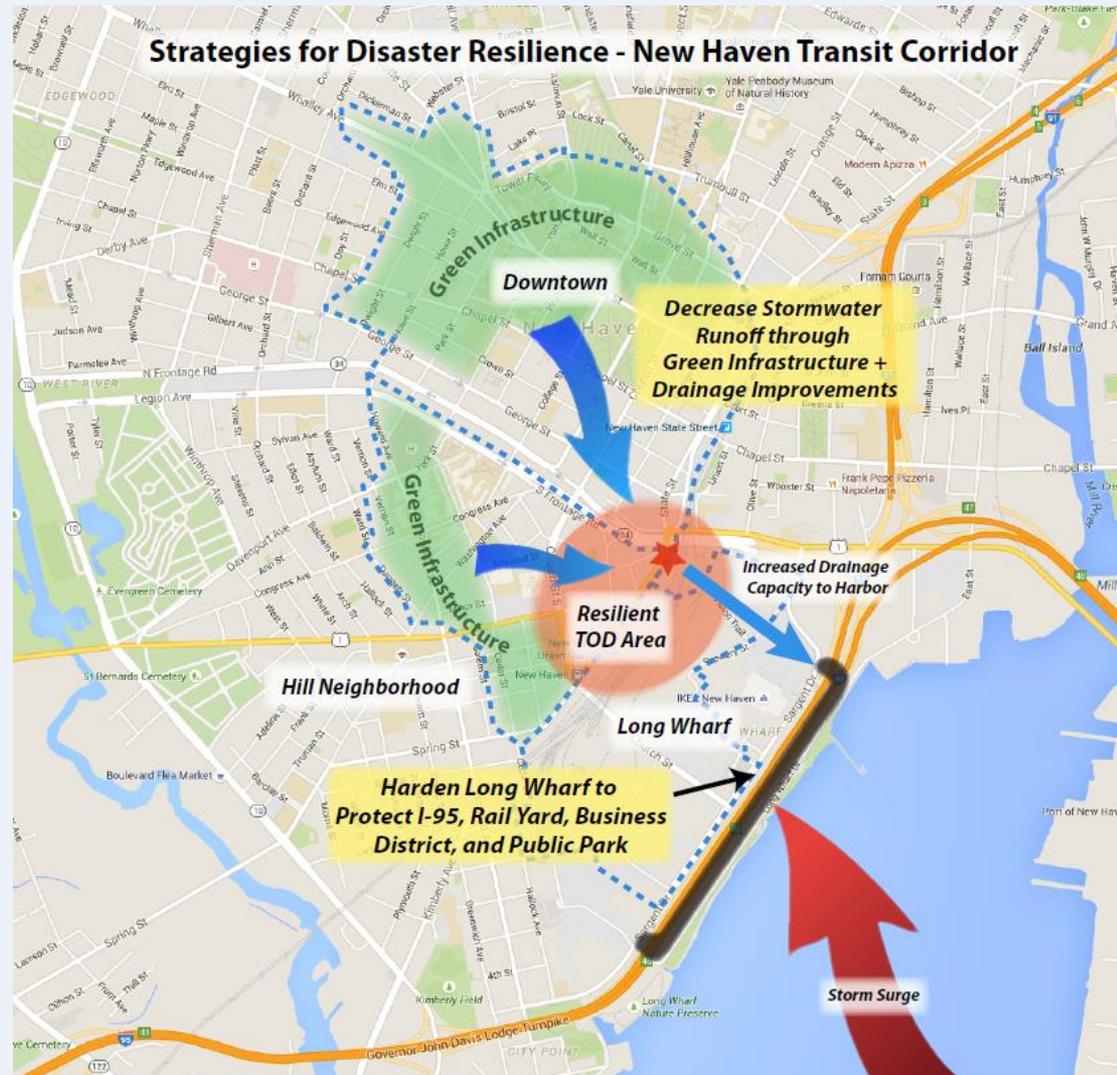
Reduce flow to problem areas by capturing and infiltrating rain where it falls.

- Flood Protection System:

Prevent storm surge from entering low-lying areas of concern.

- Living Shoreline:

Protect eroding shorelines while maintaining and improving natural habitat.





LONG WHARF LIVING SHORELINE PROJECT



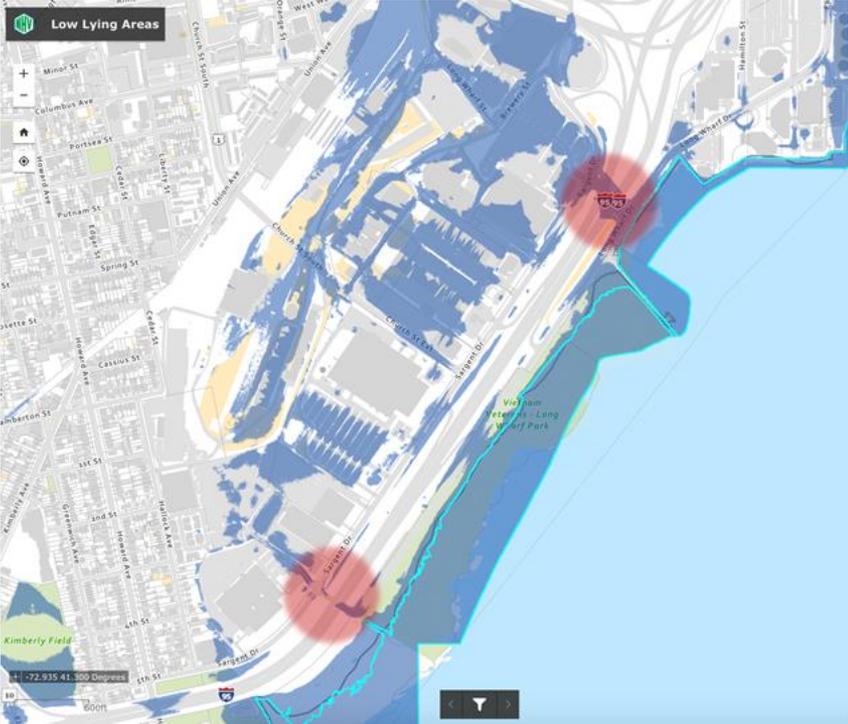
PREPARED BY GZA, INC.
FOR CITY OF NEW HAVEN
MAY 1, 2019



CONCEPT PLAN WITH AMENITIES

LONG WHARF PARK, NEW HAVEN, CONNECTICUT

Temporary Flood Barriers



Sunbury, PA

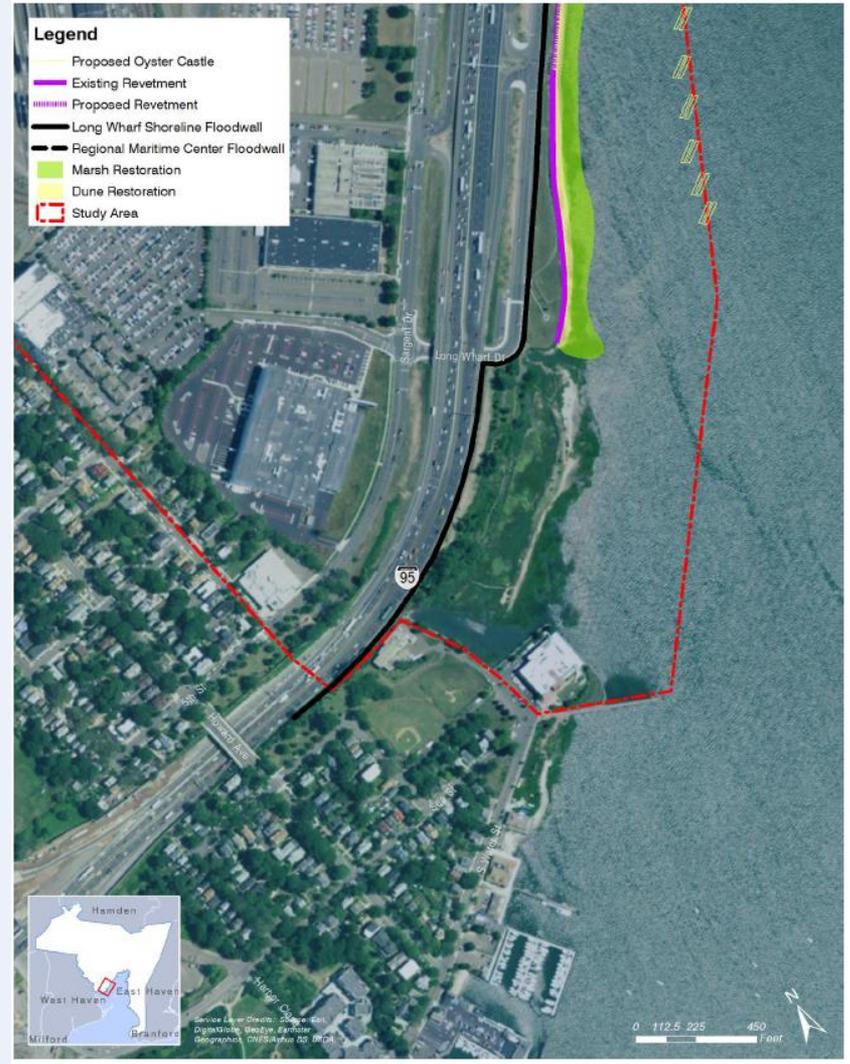
New Orleans, LA



USACE Flood Wall

- Alternative 3 – Municipal-Scale Permanent, Deployable Flood Protection
- Approach: This alternative is similar to Alternative 2 but utilizes permanent deployable flood protection measures at the highway underpasses.
- Alternative 3 relies upon the use of I-95 and I-91 as a flood protection levee and utilizes temporary deployable measures to prevent flooding through the highway underpasses.
- This alternative also requires construction of permanent earthen berms or flood walls along low-lying areas of I-95.
- This alternative also includes installation (where not already present) of backflow preventers for stormwater outfalls located along New Haven Harbor, to prevent flood infiltration via the stormwater infrastructure.
- This alternative requires the designation of responsibility (e.g., the City of New Haven) for purchasing, maintaining and implementing the temporary flood protection measures.





Green Stormwater Infrastructure



Sunbury, PA

New Orleans, LA



The New Long Wharf

Our Waterfront Transformed



LIVING LONG WHARF

Process and Funding

- **CT OPM Responsible Growth Grant**
 - Construction (Aesthetic and Mobility Improvements) = \$500,000
 - Planning & Design = \$435,000
- **Planning and Design Efforts**
 - Economic Development Strategy
 - Park Design
 - Streetscape & Gateways
 - Transportation
- **Community Engagement**
 - Hill Community Management Teams
 - Hill South Stakeholder Group
 - Long Wharf Business Community
 - Community Meetings
 - Board of Alders

Current

- FEMA Grant
 - \$400,000 (Long Wharf Park Restoration)
- State Bond
- \$8 M for Living Shorelines (split with East Shore Park)
- USACE Flood Protection Feasibility Study

LIVING LONG WHARF

The Team

AGENCY/COMPANY	ROLE
City of New Haven: City Plan, Economic Development	Outreach, Project Management
City of New Haven Parks, Engineering, TTP	Technical Support, Project Management
Perkins Eastman (Long Wharf Plan)	Plan/Design/Strategic Implementation
Langan (Long Wharf Plan)	Transportation/Storm water
RES/Appleseed (Long Wharf Plan)	Strategic Economic Plan and Analysis
GZA	Long Wharf Flood Protection Study
FEMA	Long Wharf Park Restoration
Army Corps of Engineers	New Haven Harbor Navigation Improvement Study Long Wharf Flood Wall FS



NEW HAVEN HARBOR

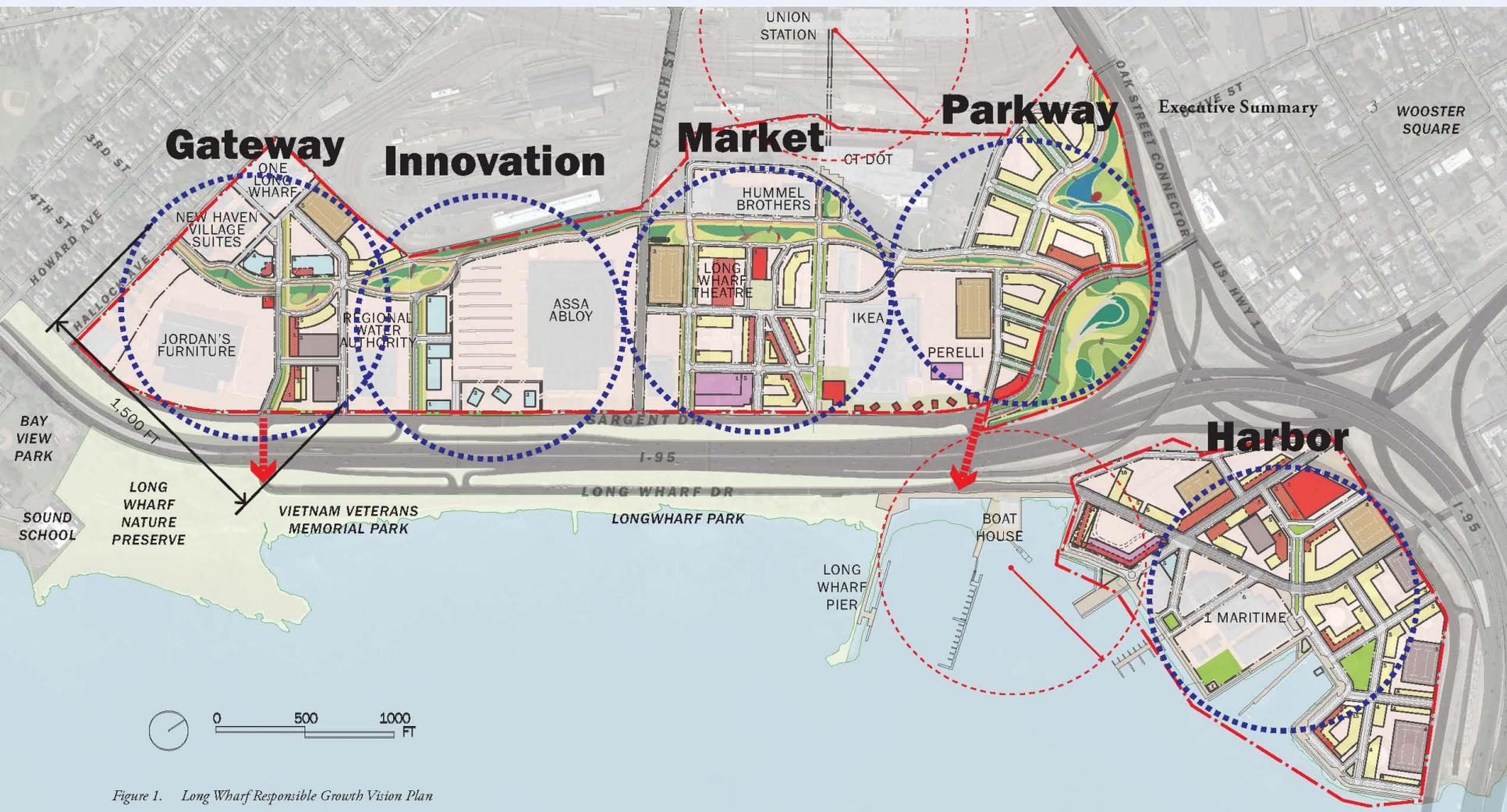


Figure 1. Long Wharf Responsible Growth Vision Plan

Key recommendations:

- Retain and improve existing assets
- Infill development

5 WALKABLE NEIGHBORHOODS

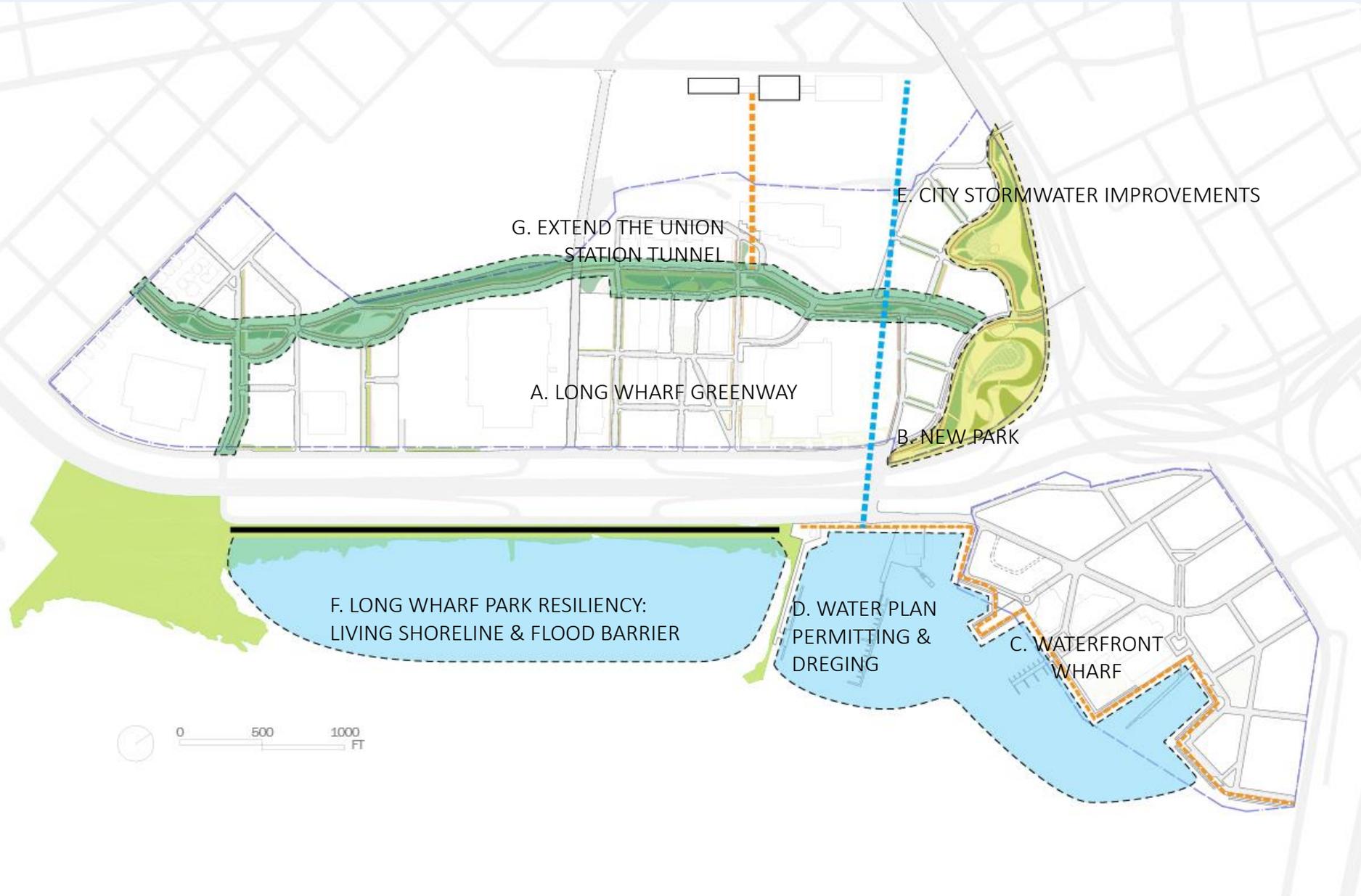


Key recommendations:

- Make distinctive public spaces for each neighborhood
- Link together with multimodal loop

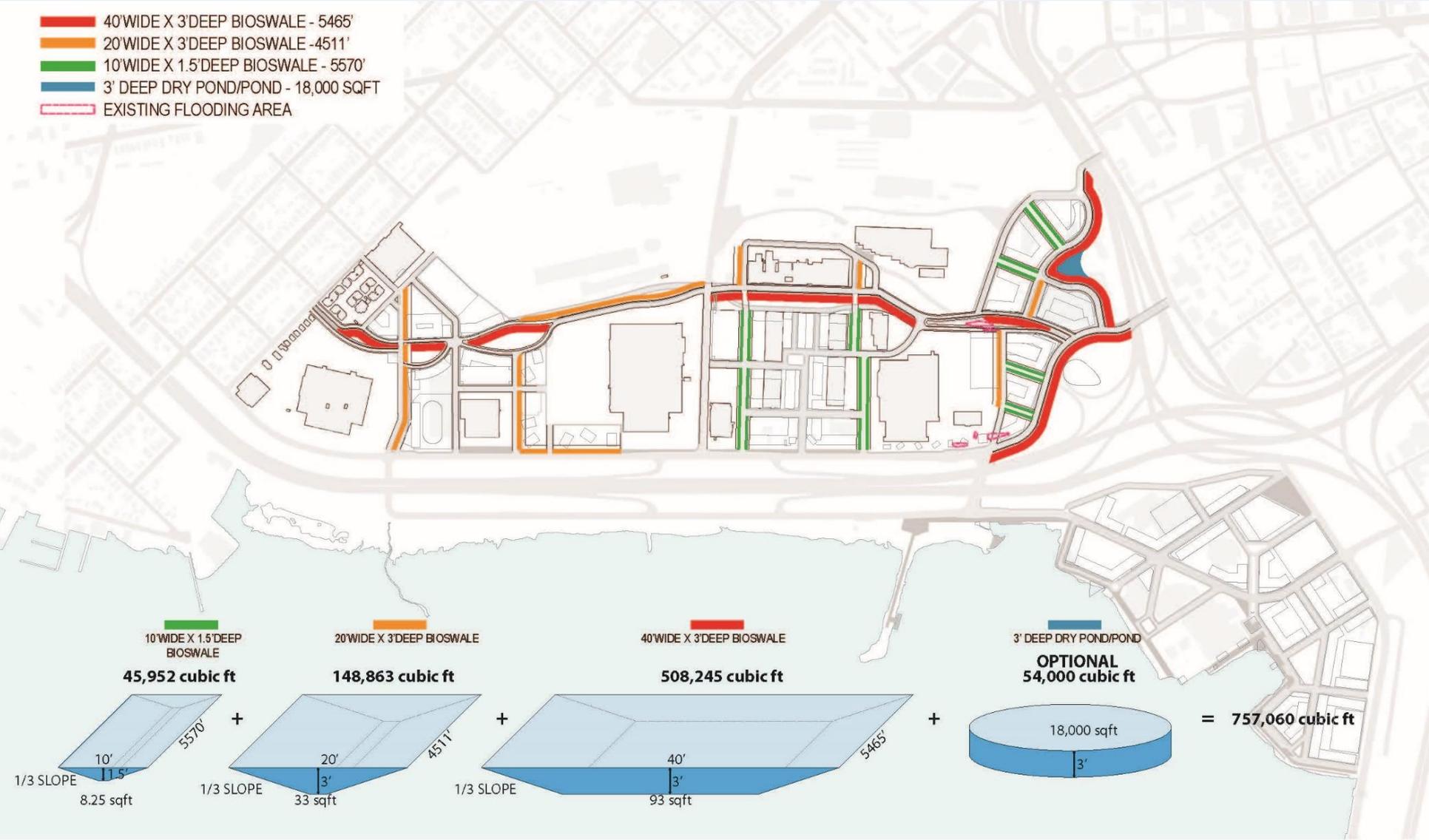
PUBLIC SPACE

LONG WHARF



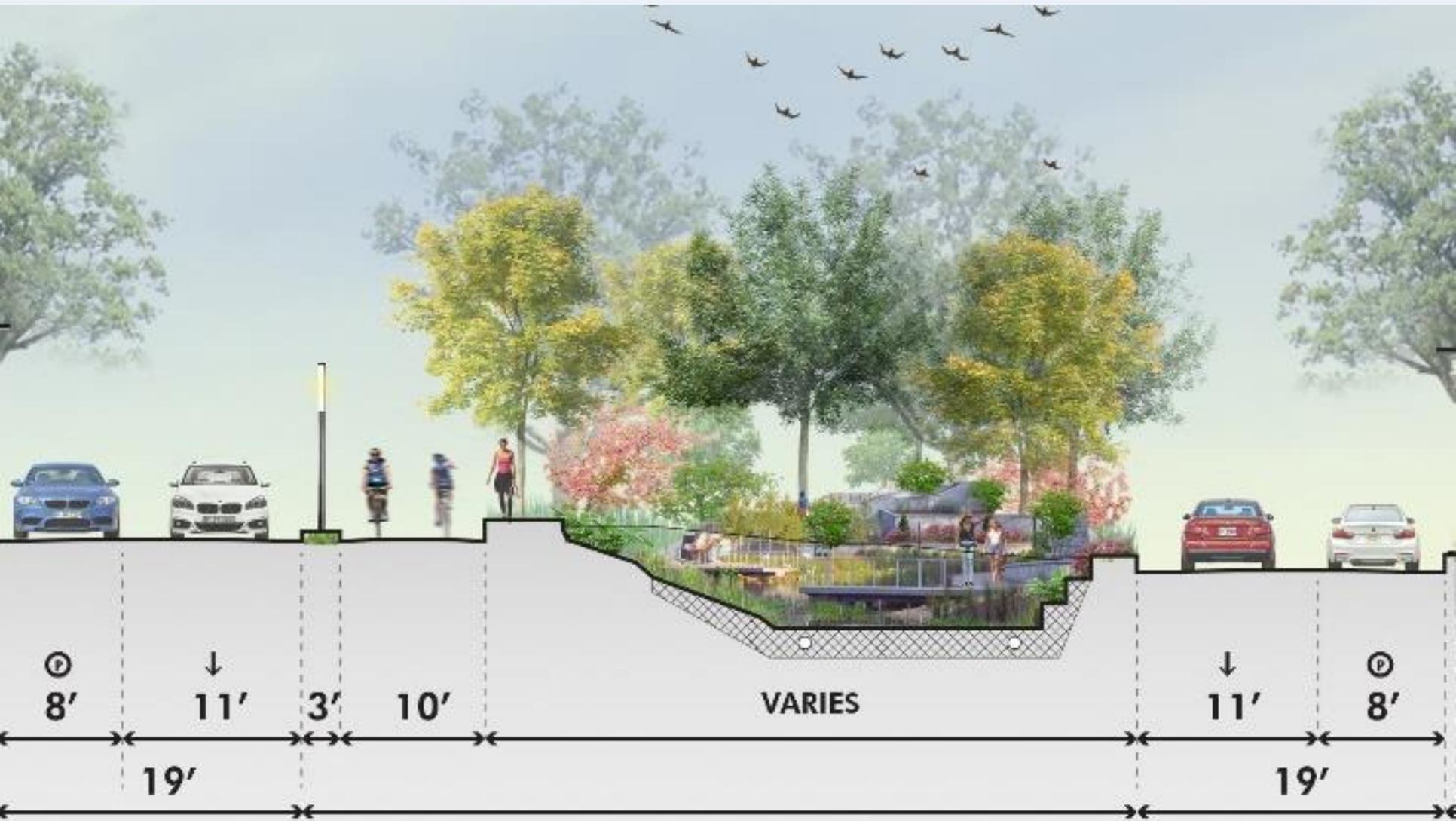
INFRASTRUCTURE INVESTMENTS

- █ 40' WIDE X 3' DEEP BIOSWALE - 5465'
- █ 20' WIDE X 3' DEEP BIOSWALE - 4511'
- █ 10' WIDE X 1.5' DEEP BIOSWALE - 5570'
- █ 3' DEEP DRY POND/POND - 18,000 SQFT
- █ EXISTING FLOODING AREA



GREEN INFRASTRUCTURE

LONG WHARF



GREEN INFRASTRUCTURE AND PUBLIC SPACE



HARBOR DISTRICT

LONG WHARF

April 2019



LONG WHARF GREENWAY AT MARKET DISTRICT

May 2019

LONG WHARF



MARKET SQUARE

LONG WHARF

May 2019



GATEWAY DISTRICT

May 2019

LONG WHARF

LONG WHARF FUTURE



Thank You

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awoods@newhavenct.gov

Giovanni Zinn
City Engineer
gzinn@newhavenct.gov
@NewHavenEng

