

# Climate Change and Resilient Connecticut

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NATIONAL COMMUNITY DEVELOPMENT ASSOCIATION

FALL CONFERENCE

OCTOBER 17, 2019

REBECCA A. FRENCH, PH.D.



Rebuild by Design  
\$10M

“pilot project must reduce risk to public housing in the City’s South End”

- Stormwater management
- Elevated Street for dry egress

National Disaster Resilience  
\$46M

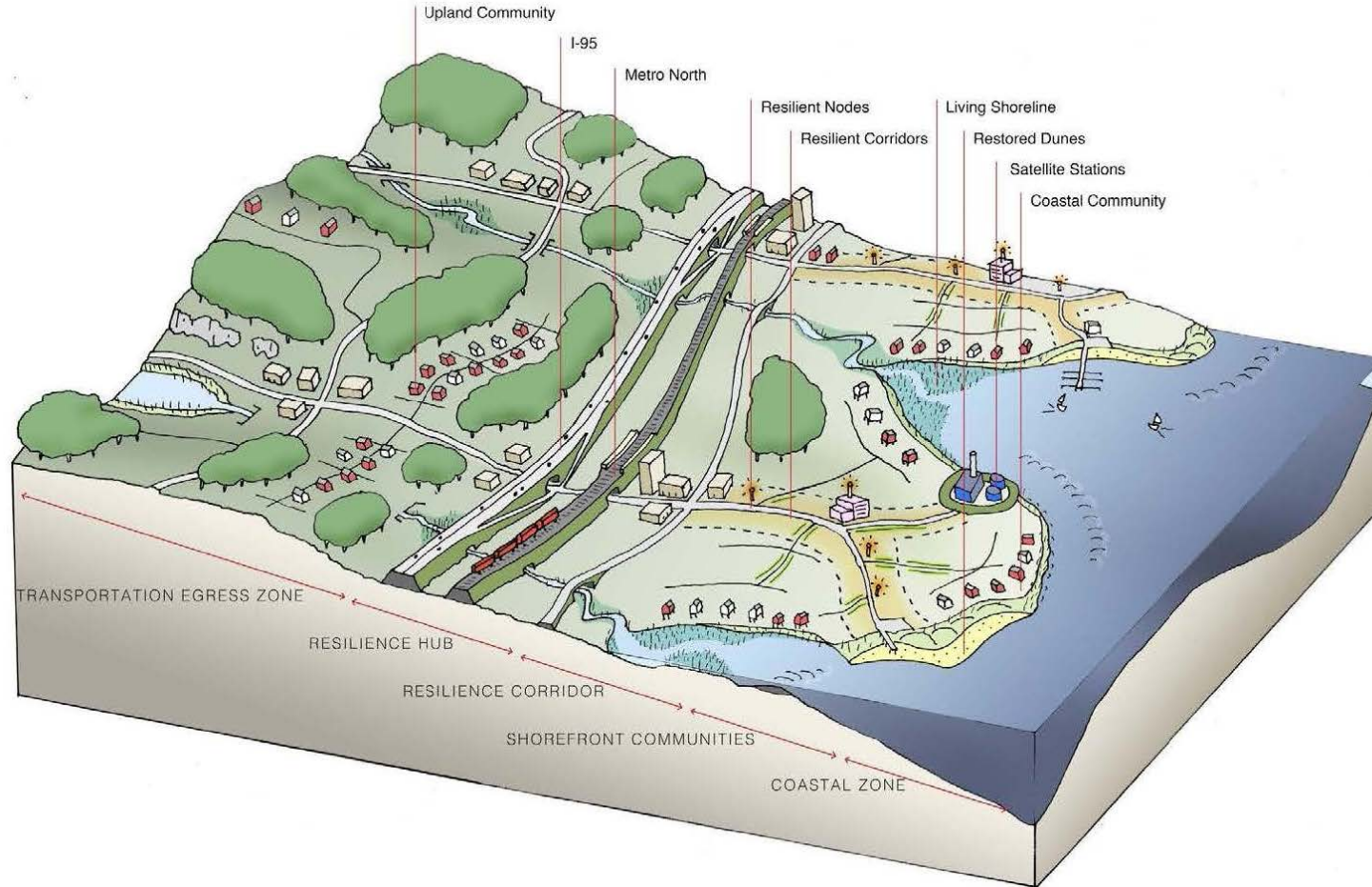
- Flood Risk Reduction Project
  - Resilience Center
  - Energy Study
- Floodplain Design Guidelines

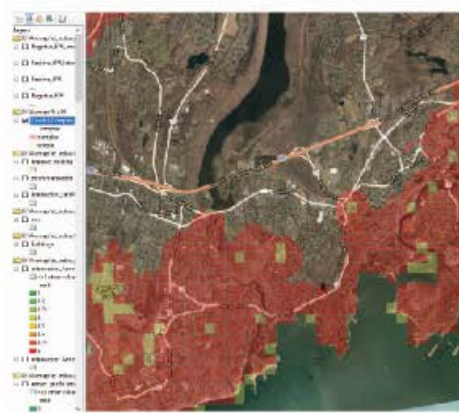
National Disaster Resilience  
\$8.3M  
Coastal Resilience Plan

Orange line shows Study Area for Environmental Impact Statement  
It is NOT a flood barrier alignment



# Resilient Connecticut





Modeling Analysis



Map Viewer

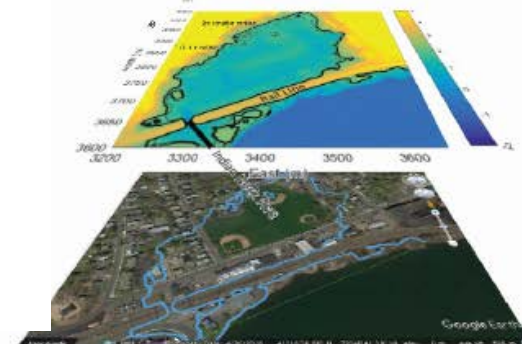


Field Research



Planning

**CIRCA ACTIVITIES**



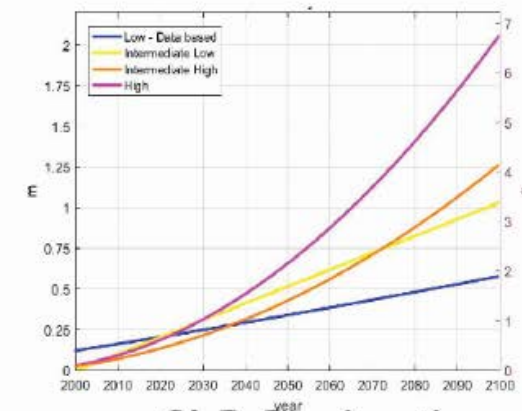
Technical to Planning



Education



Site Reconnaissance



SLR Projections



## Connecticut Physical Climate Science Assessment Report (PCSAR)

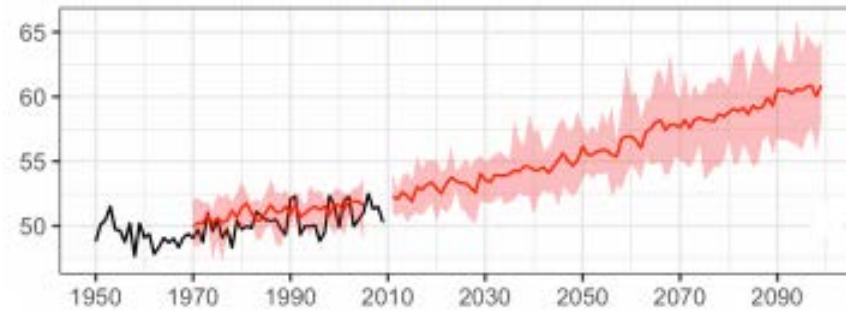
Observed trends and projections of temperature and precipitation

August 2019



## CT Temperature & Precipitation Projections

T (°F) Annual Mean



**September 27 Webinar (12-1pm): register at**  
<https://resilientconnecticut.uconn.edu/blog/>

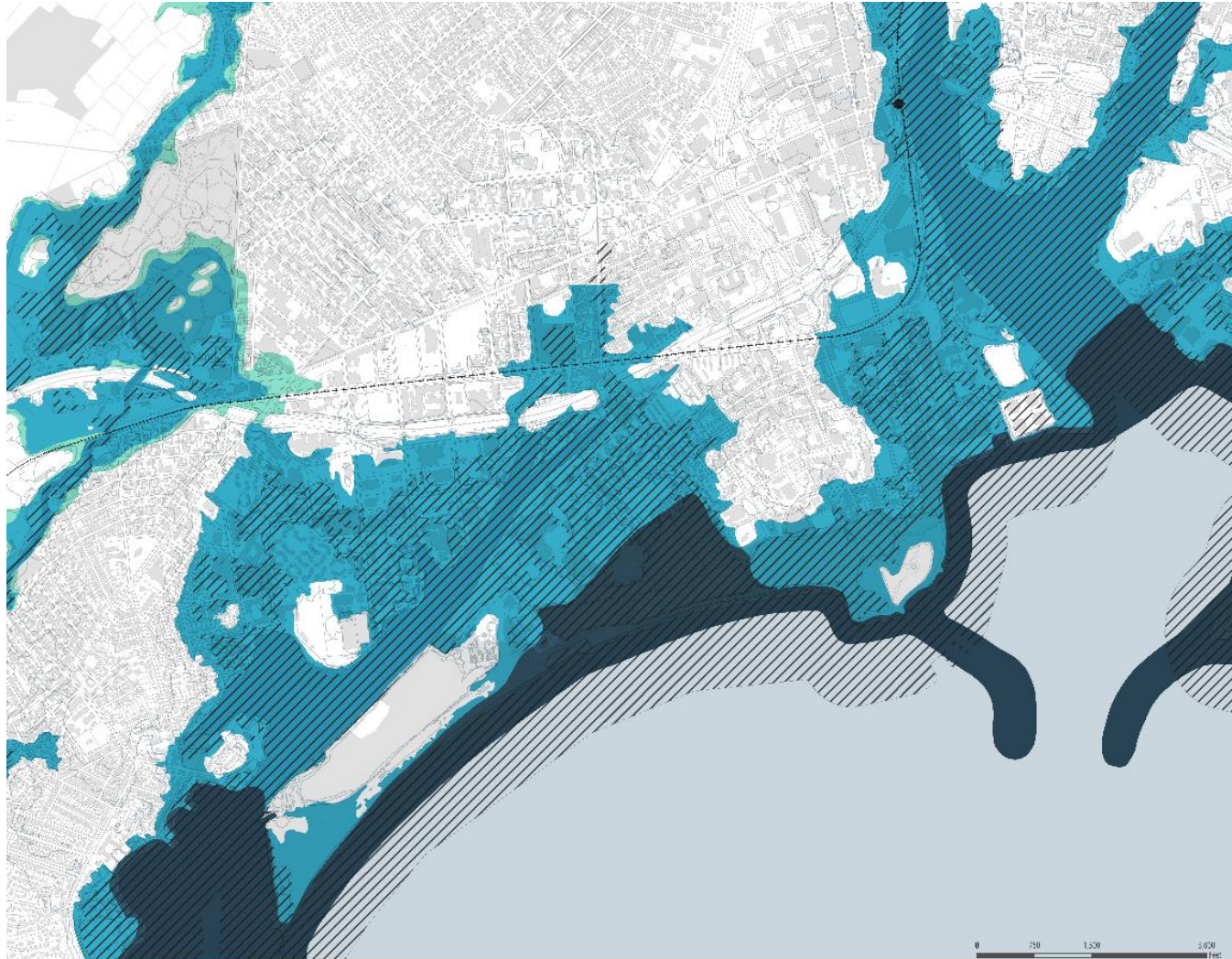


Sponsored by a grant from the Connecticut Institute for Resilience and Climate Adaptation (CIRCA).  
CIRCA is a partnership between the University of Connecticut and the State of Connecticut Department of Energy and Environmental Protection. More information can be found at: [www.circa.uconn.edu](http://www.circa.uconn.edu)








The South End has low-lying areas close to sea level and is mostly in the floodplain



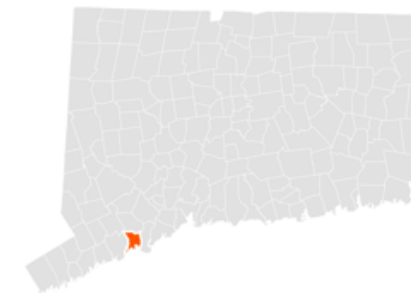
**RESILIENT BRIDGEPORT**

**FEMA FIRM FLOOD ZONE**

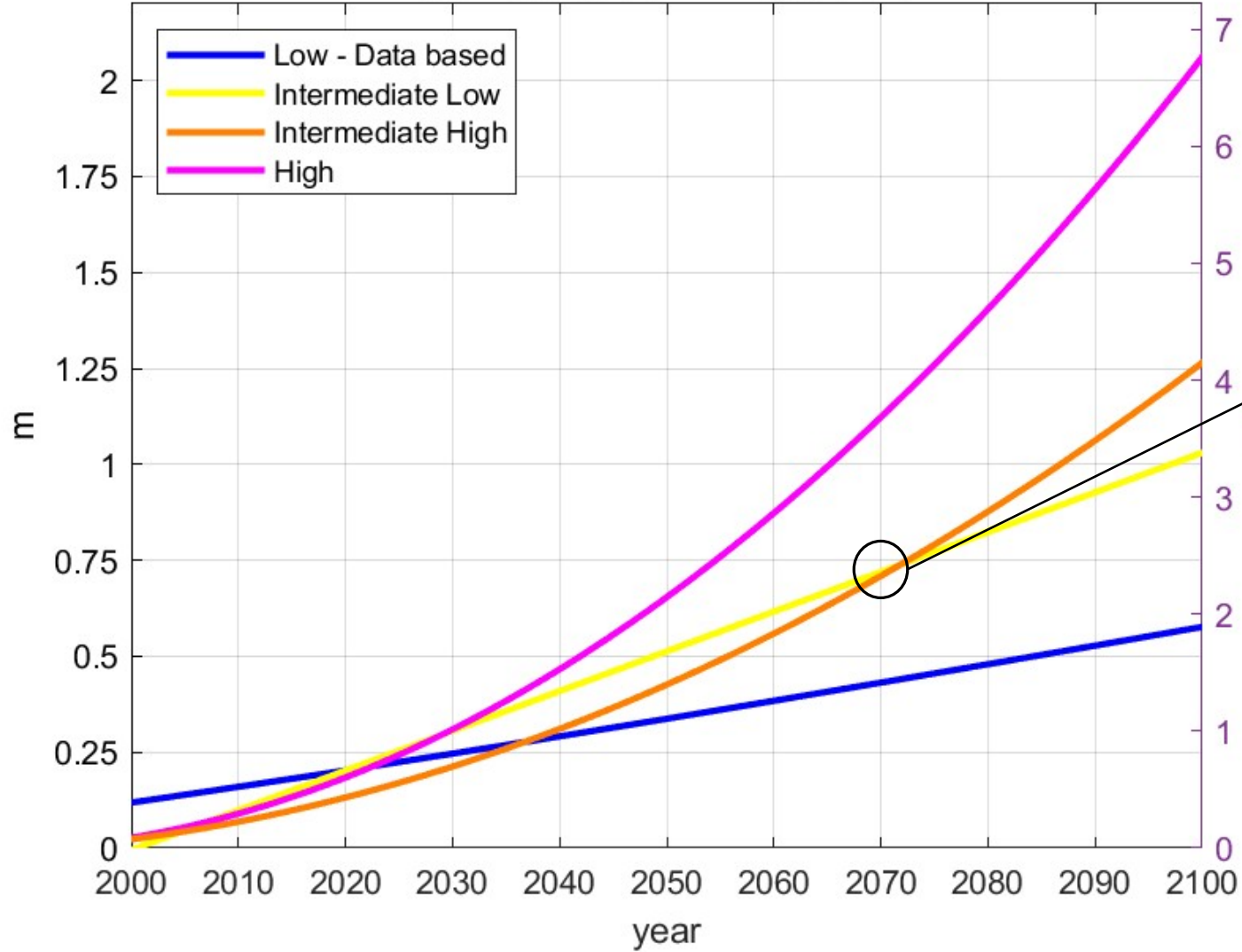
-  VE Zone (waves above 3')
-  100 Year Floodplain (1% annual chance)
-  500 Year Floodplain (.2% annual chance)

**HURRICANE SANDY INUNDATION**

-  Hurricane Sandy Inundation



### Connecticut SLR Projections



Coastal Flood  
Defense System  
incorporates  
2.5 feet





Storm Surge  
Bridgeport South End  
Irene 2011



Photo: UI, CT Siting Council, 2018



# Chronic Stormwater Flooding in the South End



Corner of Atlantic & Lafayette  
April 16, 2018  
2.19in rainfall in 14 hrs



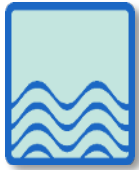


100-yr (1% annual chance; 26% chance 30 years) Flood Event – Simulated Sandy Flooding



# Resilient Bridgeport Project Goals

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Minimizes Risks Associated with Acute and Chronic Flooding



Integrates with plans and projects of key local stakeholders

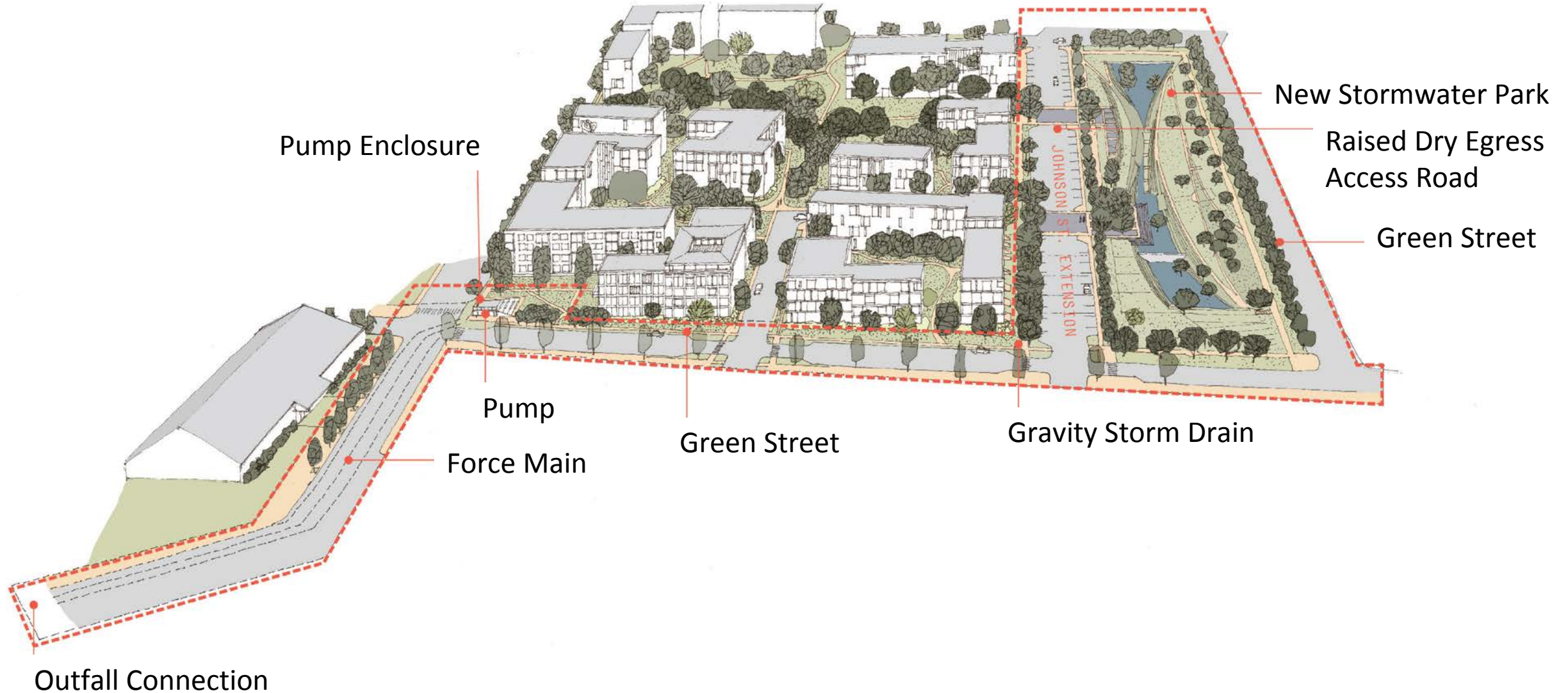


Delivers co-benefits to enhance community resilience



Project Needs to be Implementable

# Rebuild By Design Stormwater Park





# Preferred Alternative – Coastal Flood Defense System



Source: WSP, 2019





# Coastal Flood Defense System and Seaside Park: Elevated University Avenue



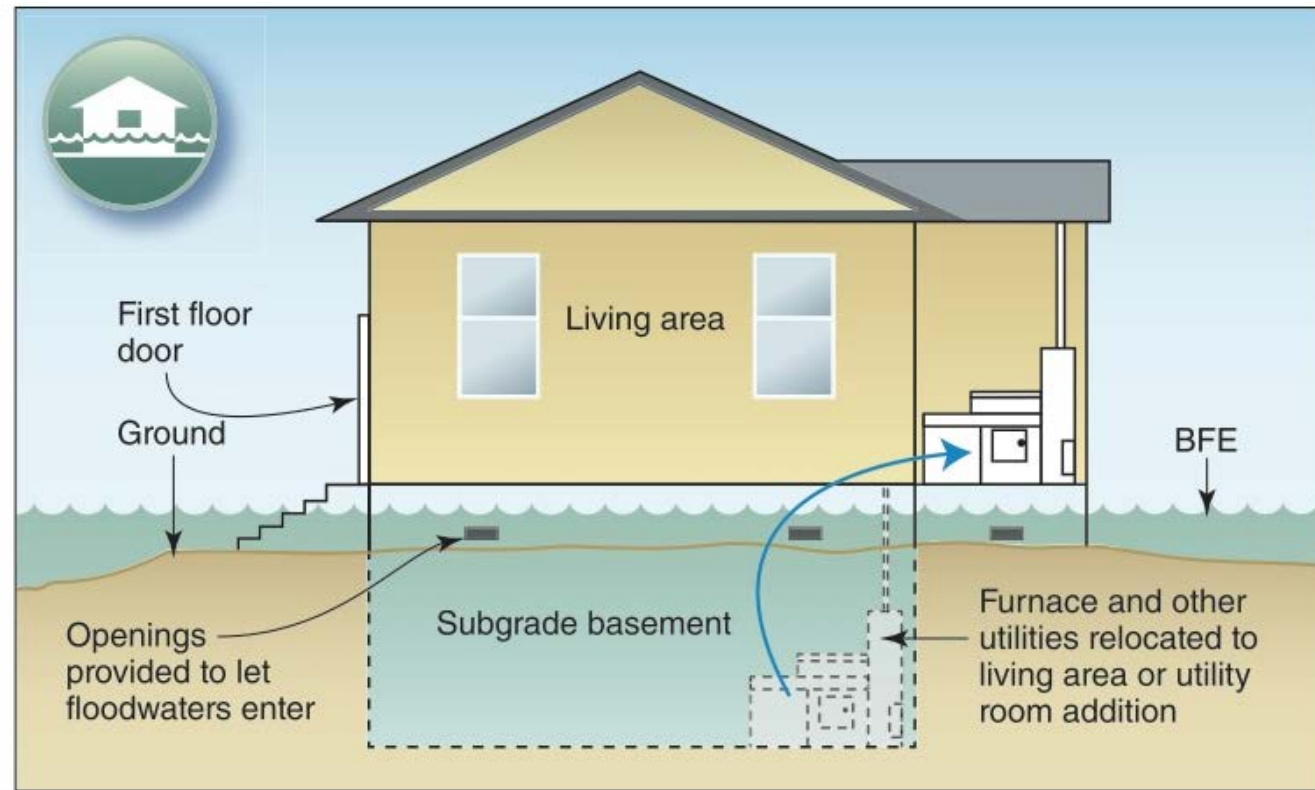
Buried floodwall





# CT Sandy Recovery Program for Owner-Occupied Homes

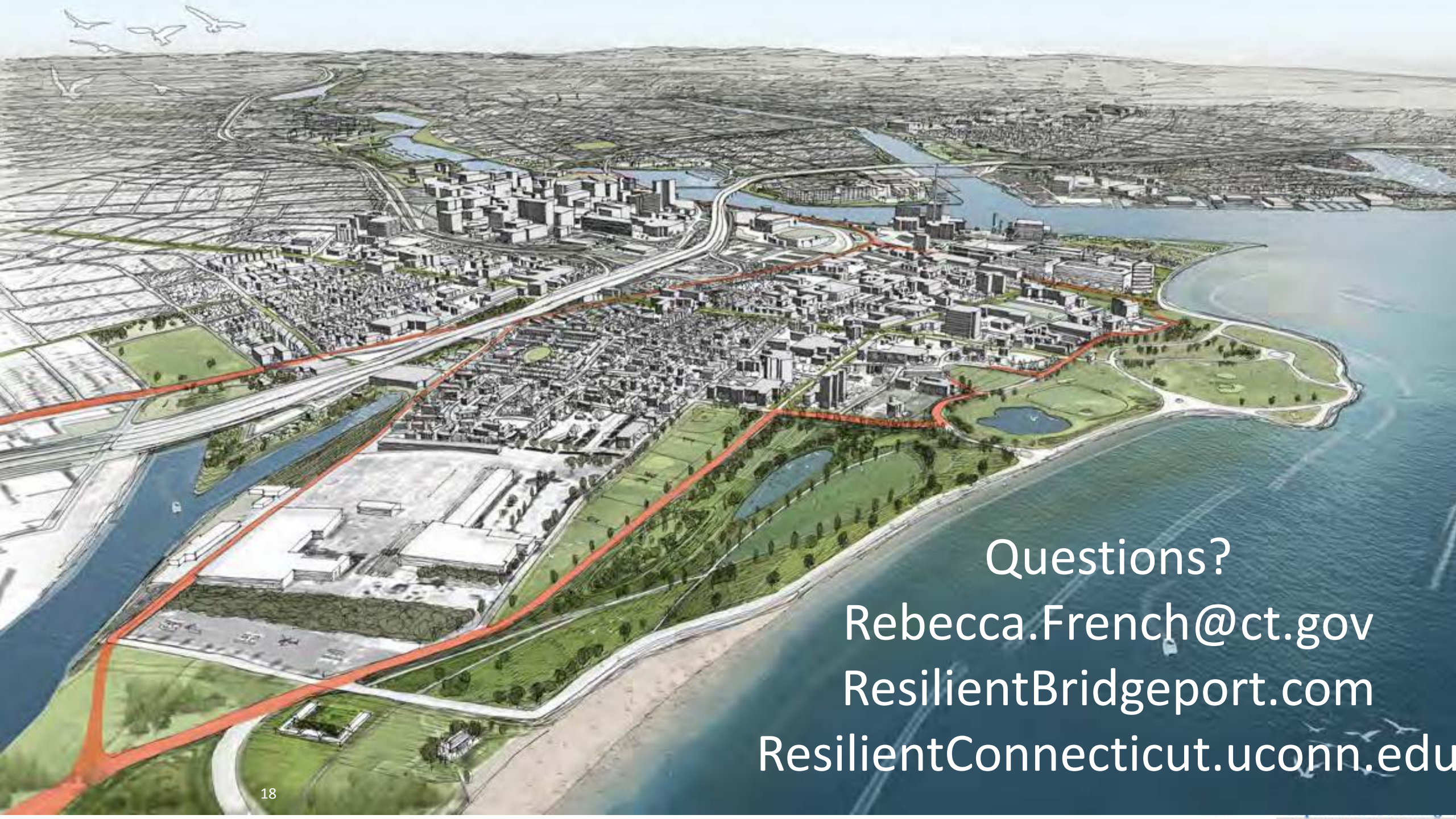
In CT: BFE is 500-yr  
&  $\pm 2$  feet of freeboard



SOURCE: FEMA *Homeowner's Guide to Retrofitting*, June 2014

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Questions?  
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