

# Restoring Boston's Bays and Streams

Julie Wood

Charles River Watershed Association



Charles River Watershed Association

# About Charles River Watershed Association

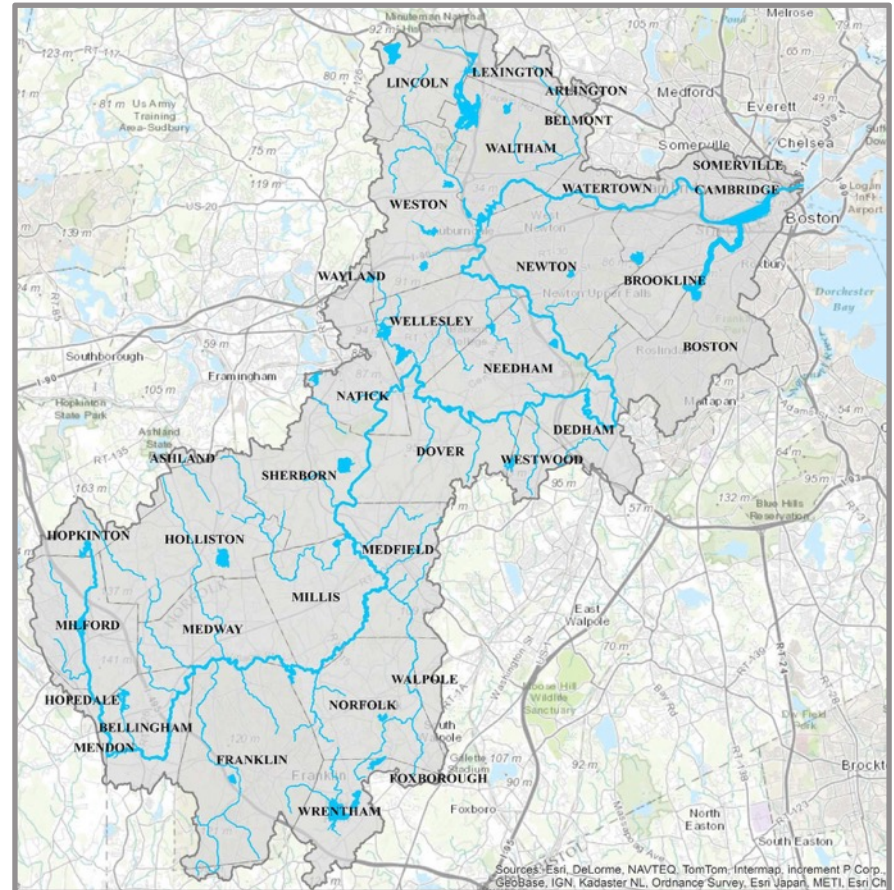


## Program Areas

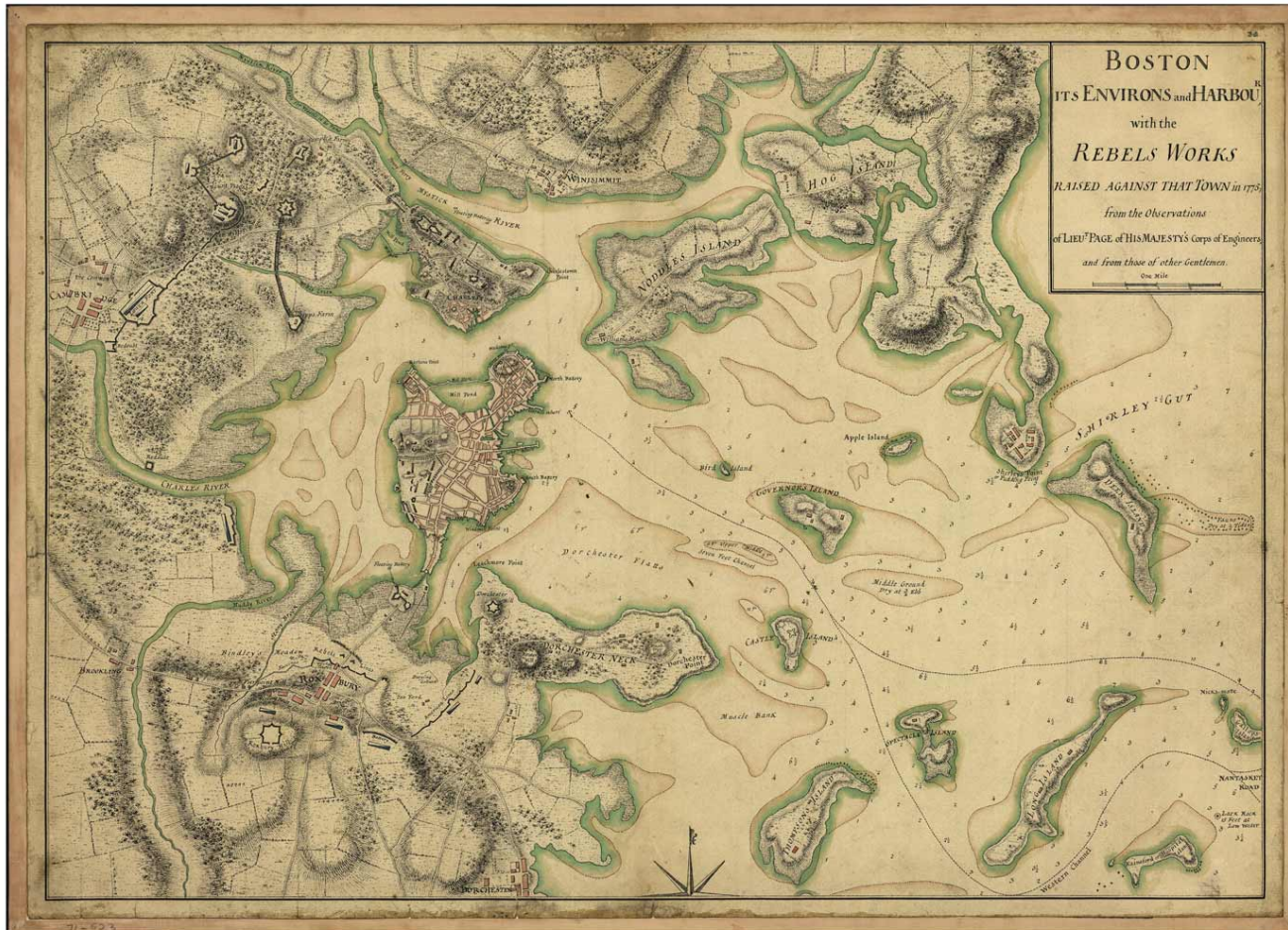
- Field Science
- Blue Cities Initiative (low impact development and green infrastructure)
- Climate Change Adaptation
- Law, Advocacy and Policy
- Education and outreach

# About the Charles River Watershed

- Stretches 80 miles from Hopkinton to Boston Harbor
- Drains approximately 308 square miles
- Home to over 1 million people
- Encompasses 35 MA cities and towns, 23 on the river
- Many species of fish, including Alewife, Blueback Herring and American Shad



# Boston 1775



Boston Its Environs and Harbor with the Rebel Works 1775

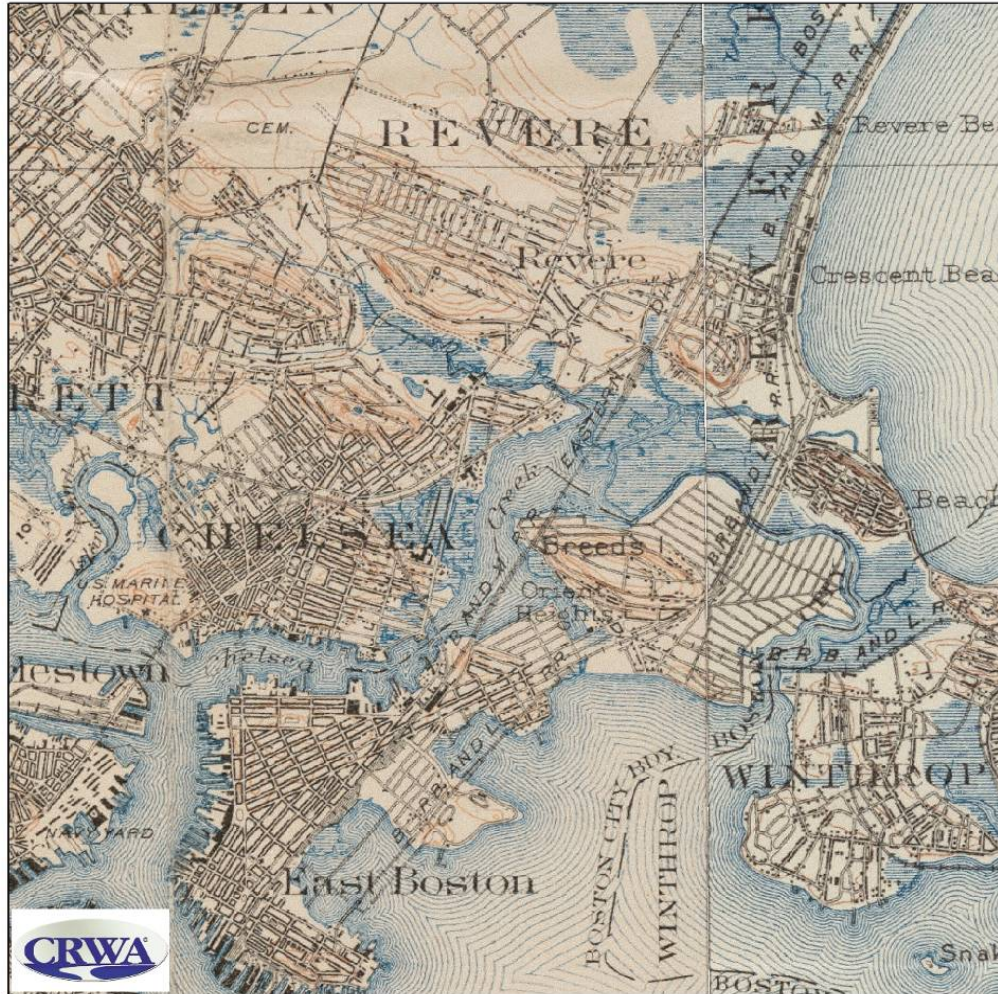
Lieut. Thomas Hyde Page

Library of Congress

Edited & reprinted: [www.old-maps.com](http://www.old-maps.com)

original size 20" x 27"

# Changing the Landscape

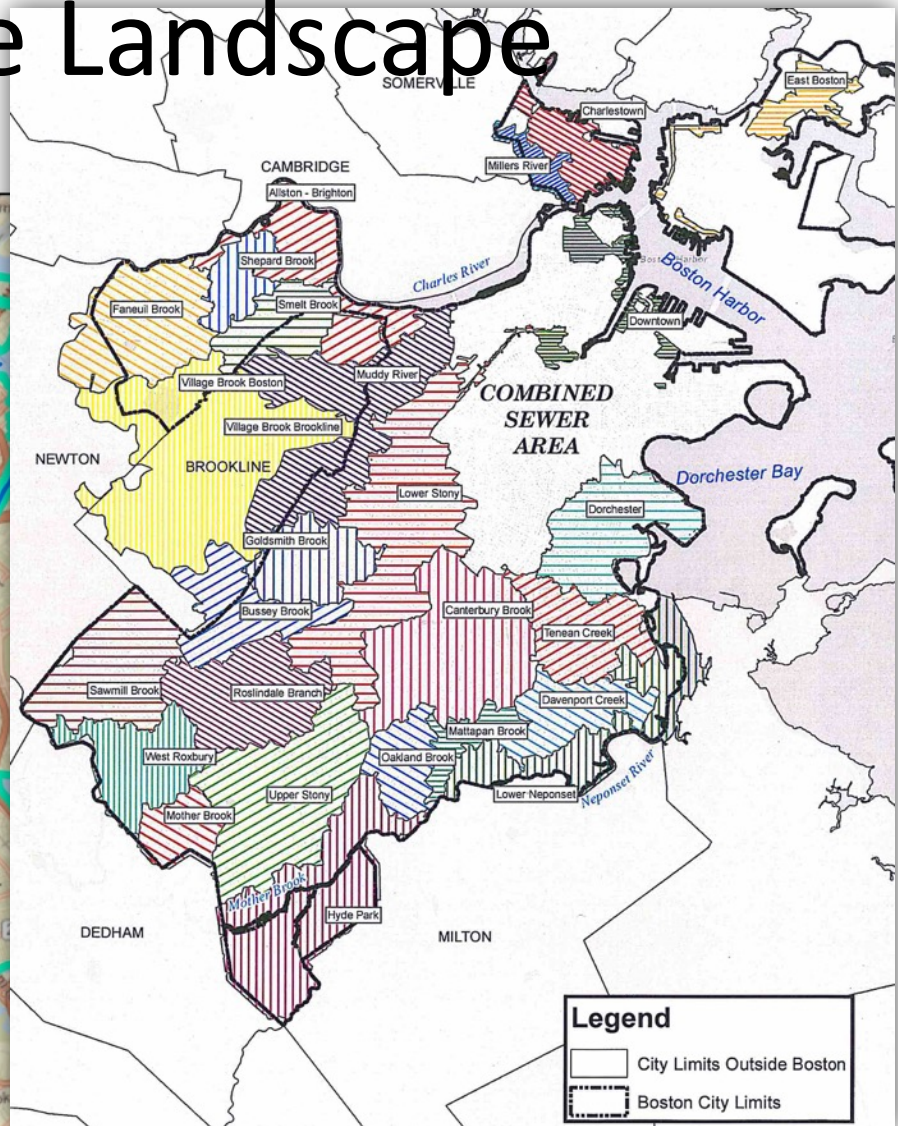
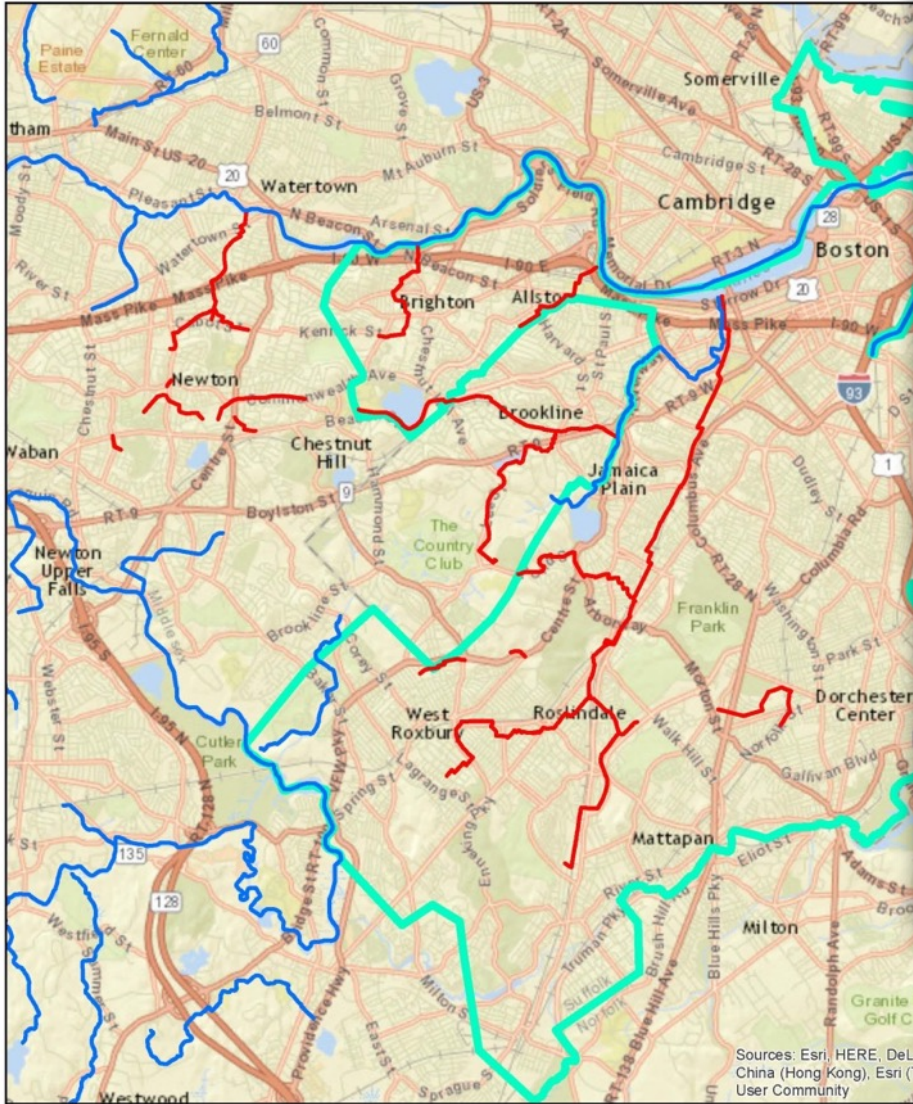


1890s

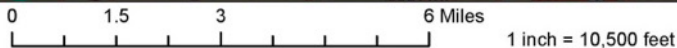
2005



# Changing the Landscape



Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., N China (Hong Kong), Esri (Thailand), TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

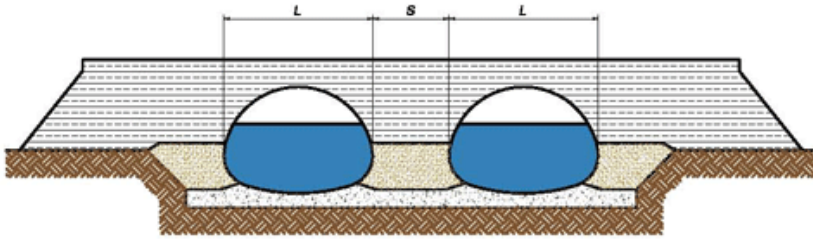




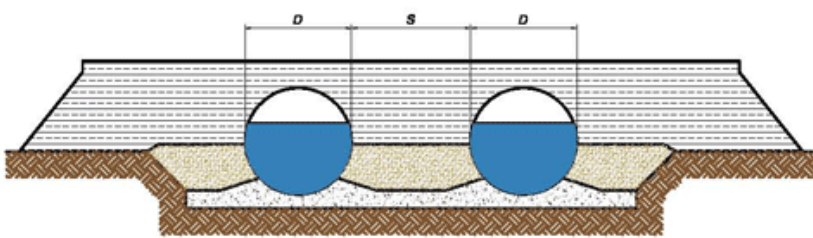


# Blue Cities: Designing with Nature

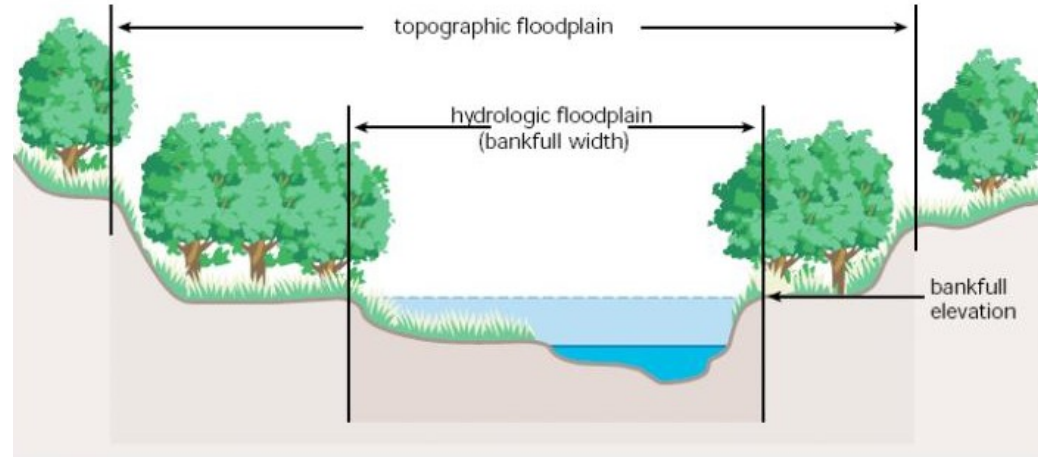
RIBASSATE IN BATTERIA



CIRCOLARI IN BATTERIA



ARCHI



# The Muddy River: Boston's First Daylight

## Muddy River Flood Damage Reduction and Environmental Restoration Project



Existing Phase 1 Conditions

MUDDY RIVER FLOOD DAMAGE  
REDUCTION AND ENVIRONMENTAL  
RESTORATION PROJECT  
EXISTING CONDITIONS  
BOSTON AND BROOKLINE, MASSACHUSETTS

**Project Features:**

- ...Flood Protection
- ...New landscaping and crosways
- ...Improved traffic patterns
- ...Daylighting of river
- ...Preservation and restoration of shoreline

**For more information go to:**

[www.nae.usace.army.mil/Missions/ProjectsTopics/MuddyRiver.aspx](http://www.nae.usace.army.mil/Missions/ProjectsTopics/MuddyRiver.aspx)

Project Partners

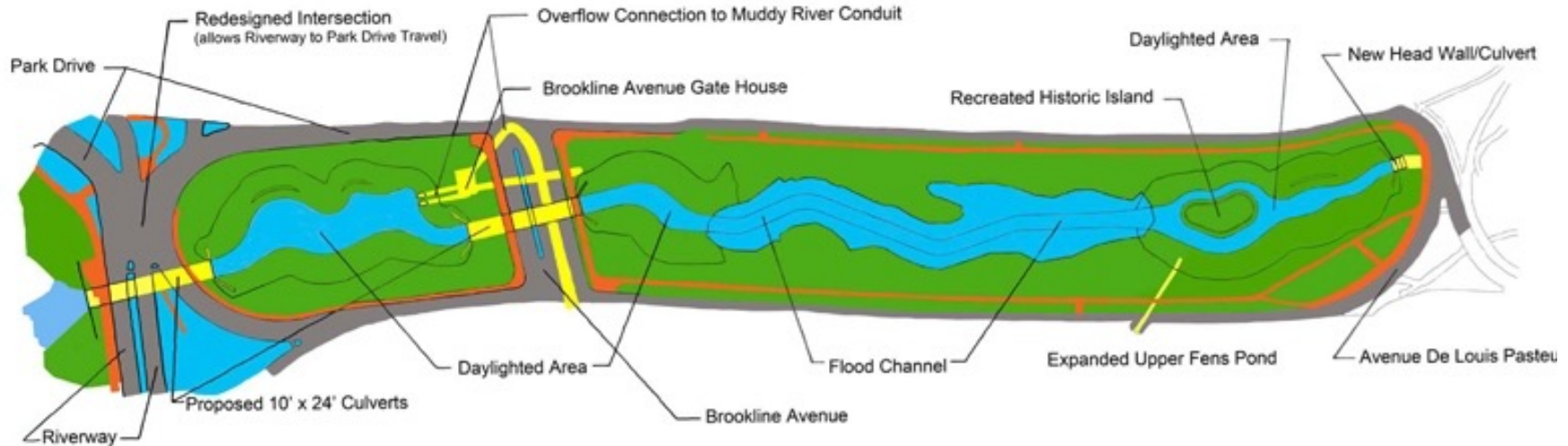


US Army Corps  
of Engineers  
New England District



# The Muddy River: Boston's First Daylight

## Muddy River Flood Damage Reduction and Environmental Restoration Project



### Proposed Phase 1 Improvements

MUDDY RIVER FLOOD DAMAGE  
REDUCTION AND ENVIRONMENTAL  
RESTORATION PROJECT  
EXISTING CONDITIONS  
BOSTON AND BROOKLINE, MASSACHUSETTS

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#### Project Partners



US Army Corps  
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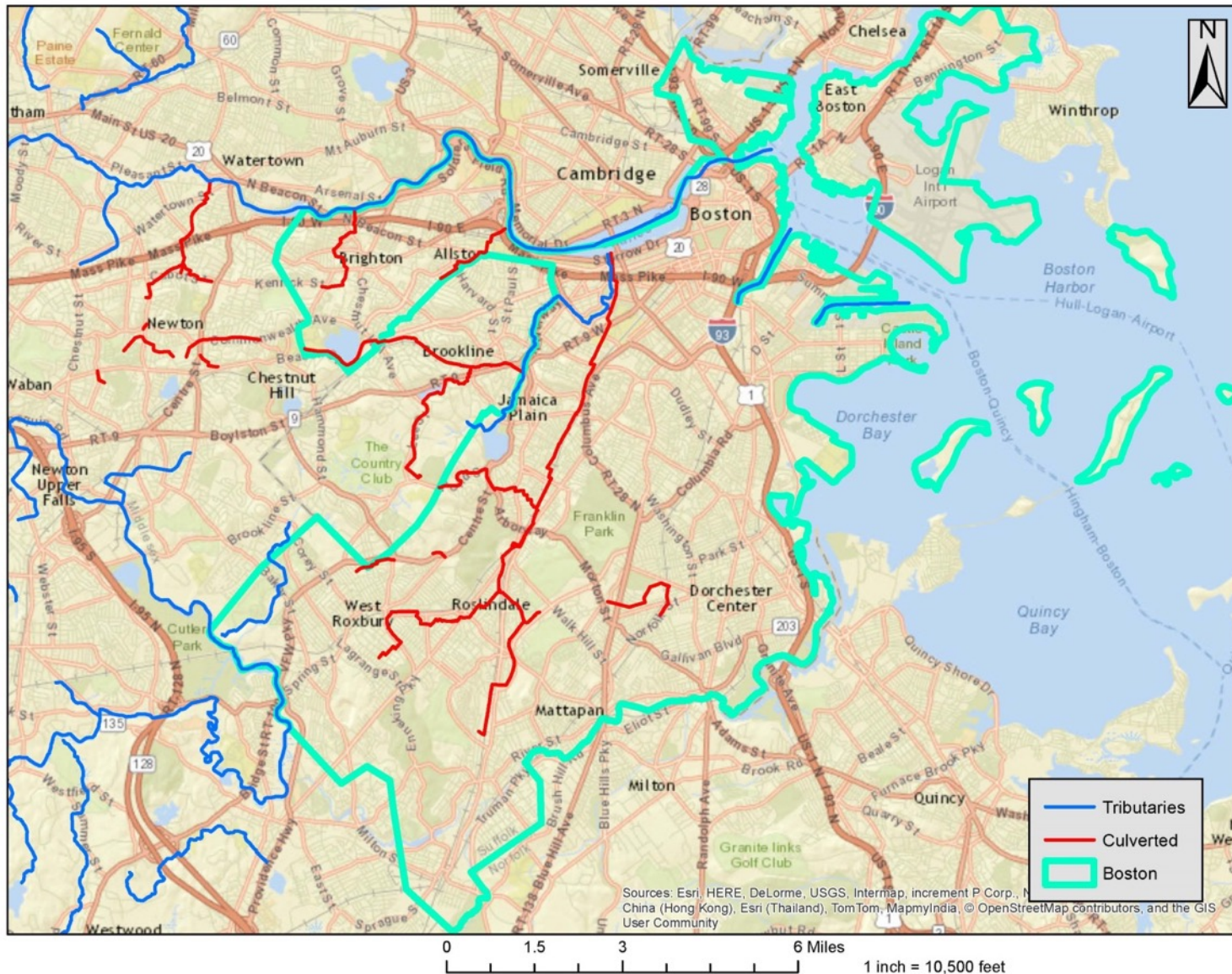
# The Muddy River: Boston's First Daylight



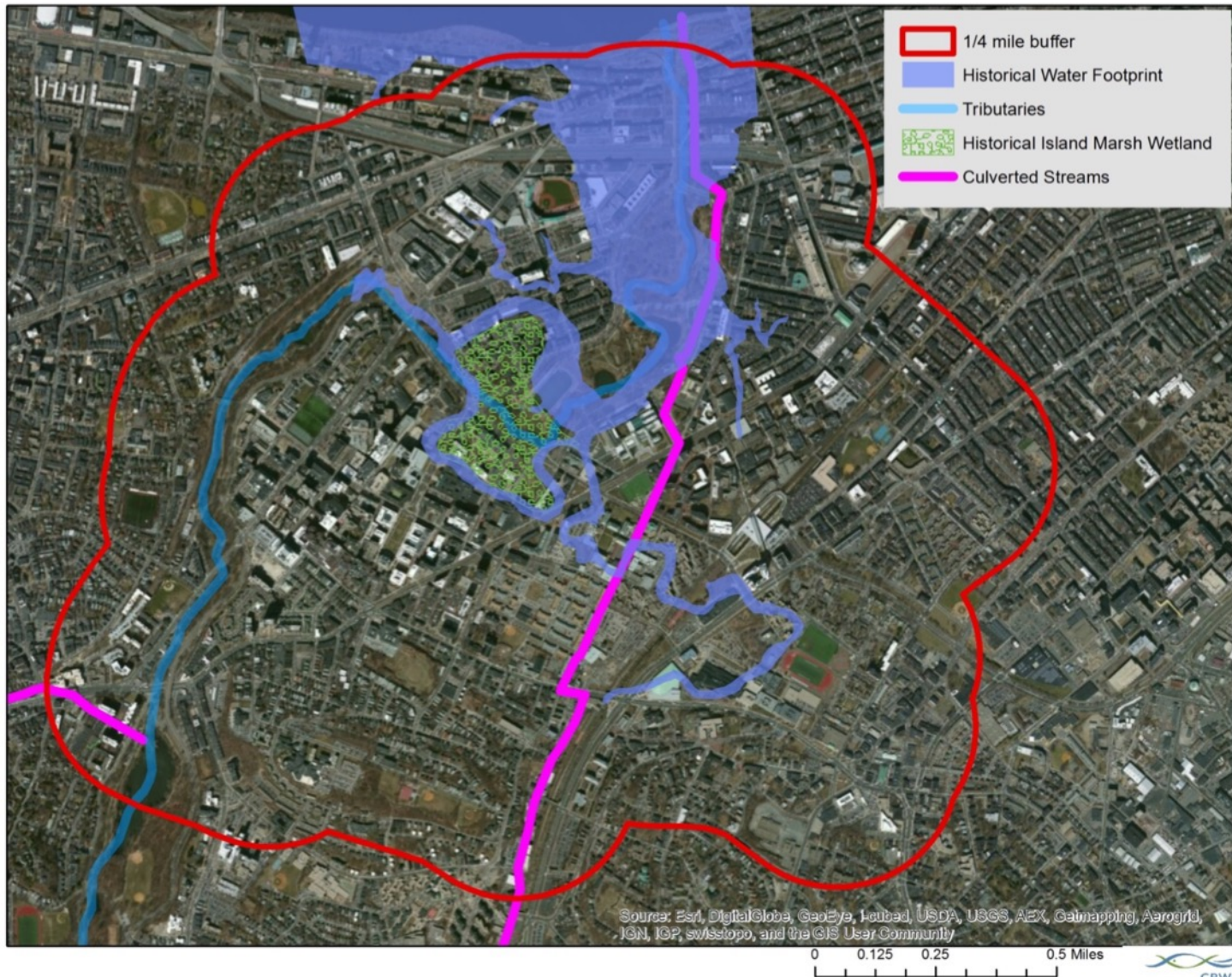
# Designing with Nature: Two Blue Cities Case Studies



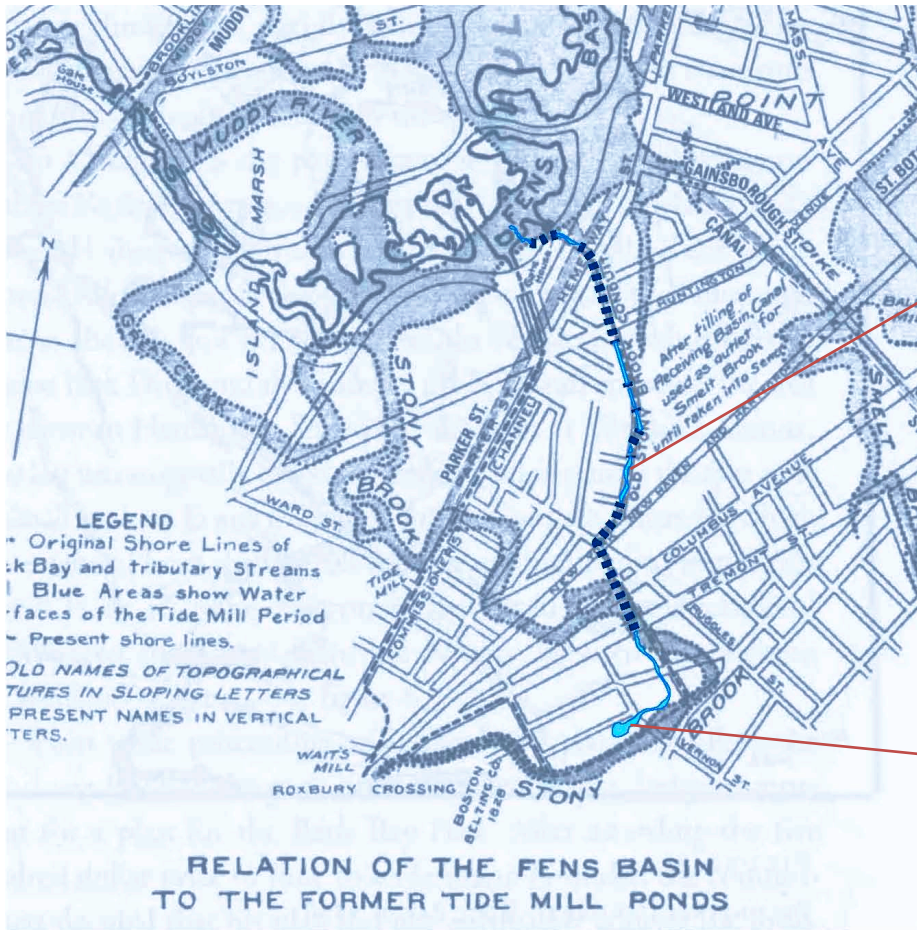
# Case Study #1: Stony Brook



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# Case Study #1: Stony Brook



0 1,000 2,000 Feet

Daylighted Stream  
 Culverted Stream



# Case Study #1: Stony Brook Daylight Opportunity



# Design Study: Stony Brook Stream Daylighting- Visualizations

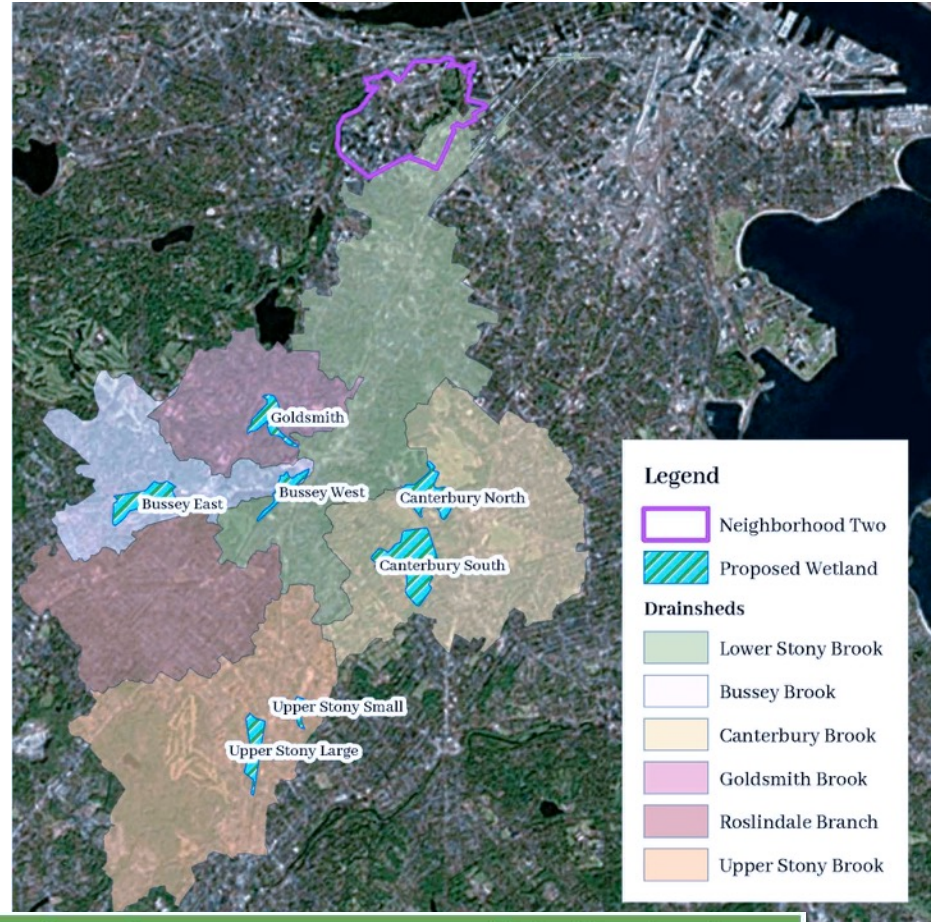


Daylighting of the Stony Brook through  
Northeastern University

As envisioned by student design team,  
Center for Urban Environmental Studies



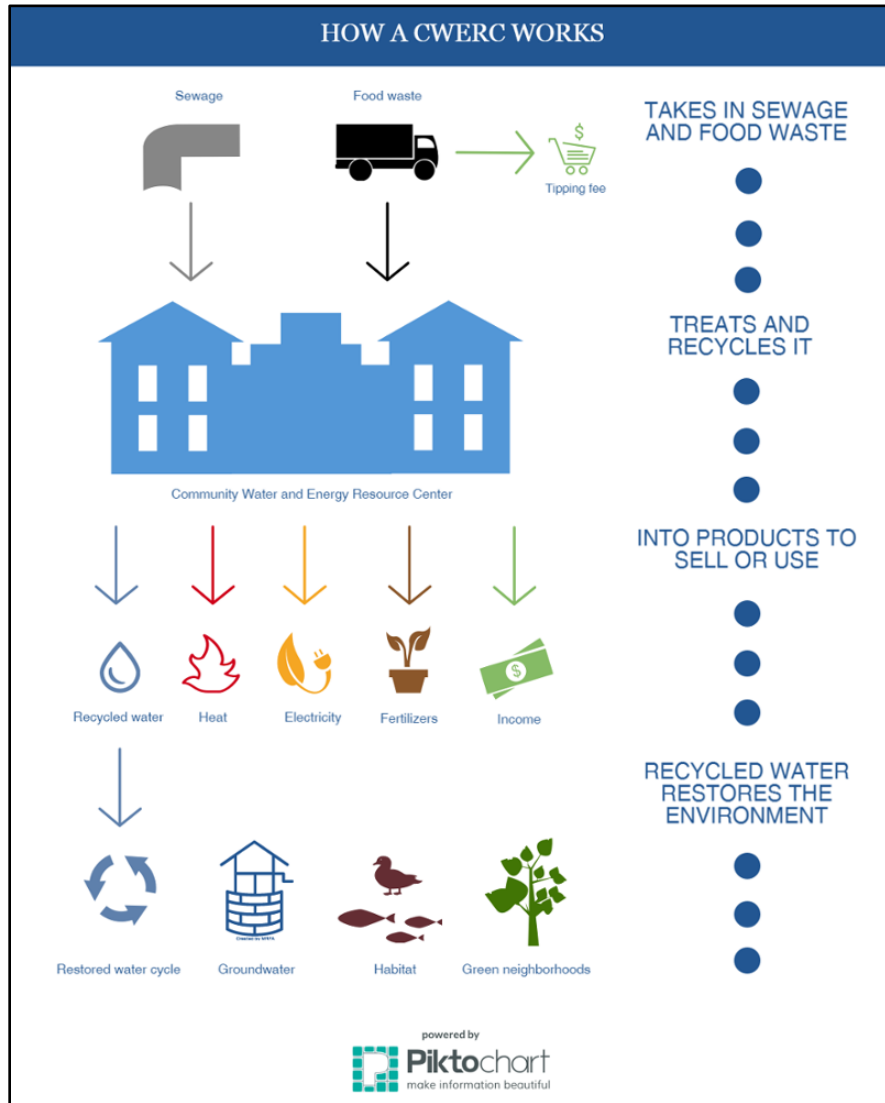
# Case Study #1: Stony Brook Flood Storage



Stormwater Wetland	Drainage Area(s) Treated	Design Storm*	Wetland Area (acres)
Goldsmith	Goldsmith Brook	10 inches (100 year +10%)	32
Bussey West	Bussey Brook	10 inches (100 year +10%)	51
Bussey East	Bussey Brook/Upper Stony	5.5 inches (10 year +10%)	22
Canterbury North	Canterbury Brook	>10 inches (100 year +10%)	49
Canterbury South	Canterbury Brook	10 inches (100 year +10%)	101
Upper Stony Large	Upper Stony	5.5 inches (10 year +10%)	34
Upper Stony Small	Upper Stony	5.5 inches (10 year +10%)	8

# Designing with Nature: CWERC

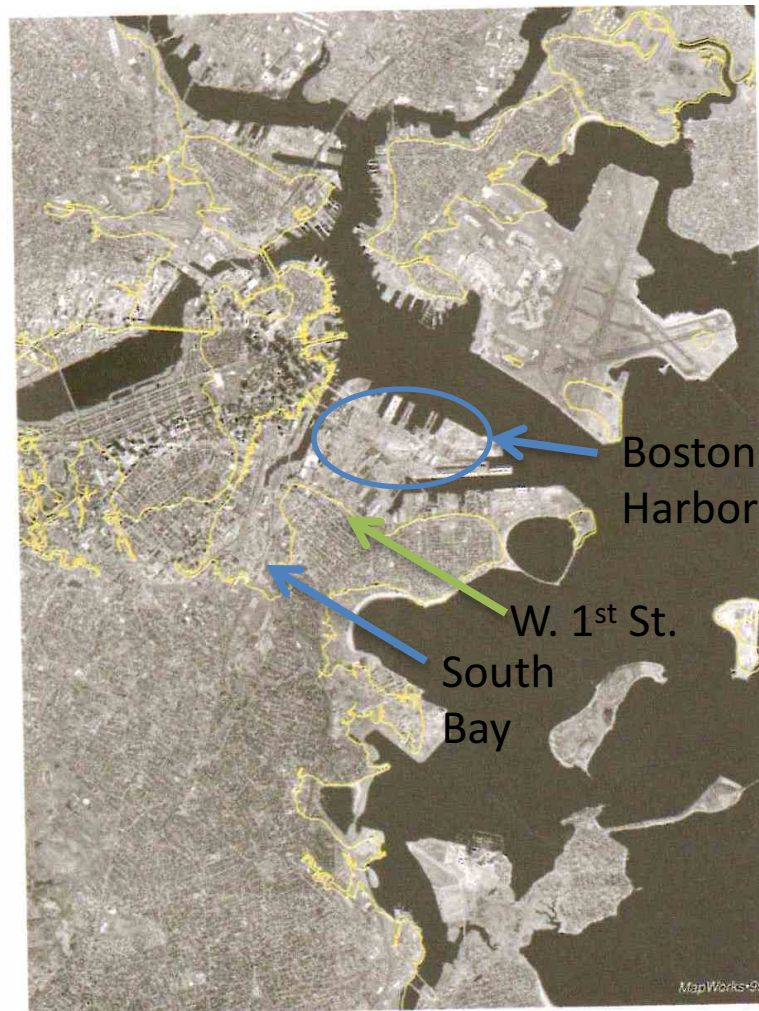
## (Community Water and Energy Resource Center)



# Case Study #2: Fort Point



1777



1795 coastline (yellow)

1995 aerial image

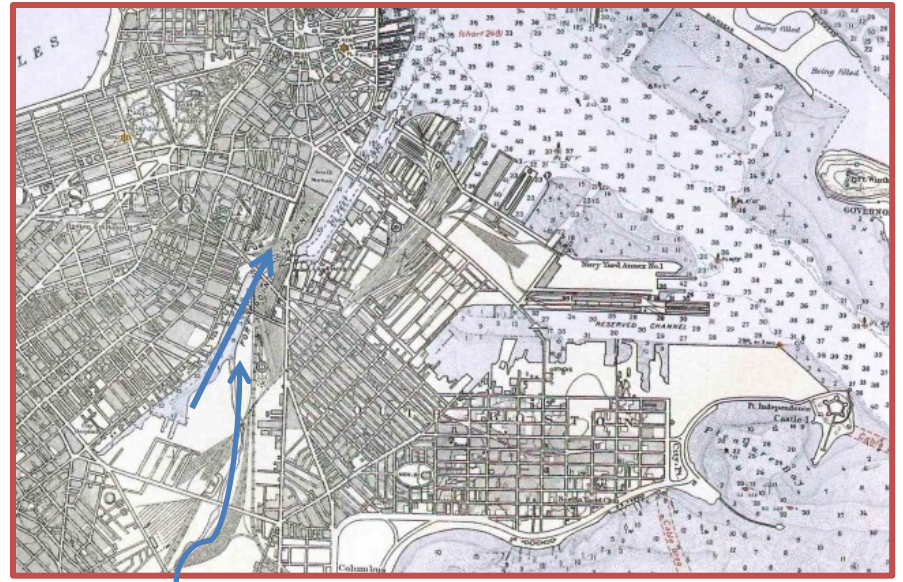


CRWA

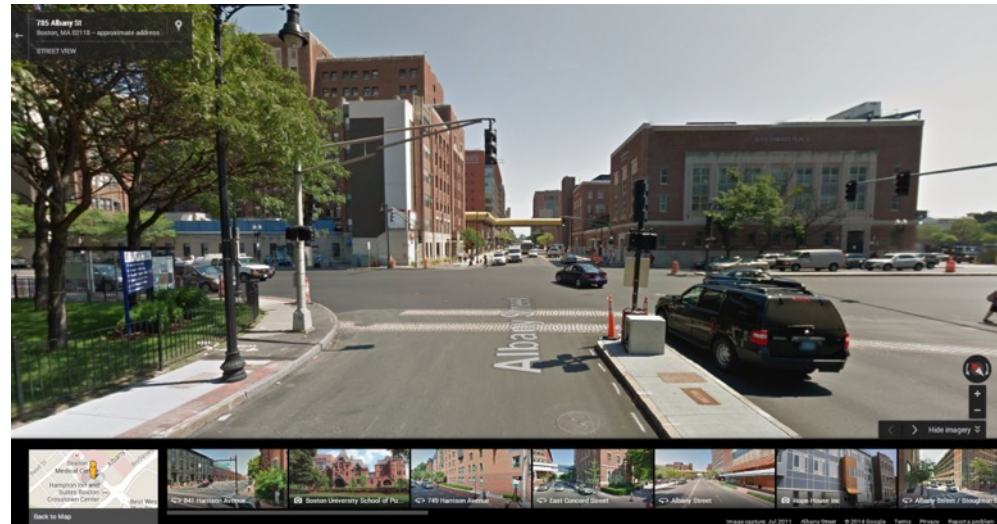
# Case Study #2: Fort Point



1934

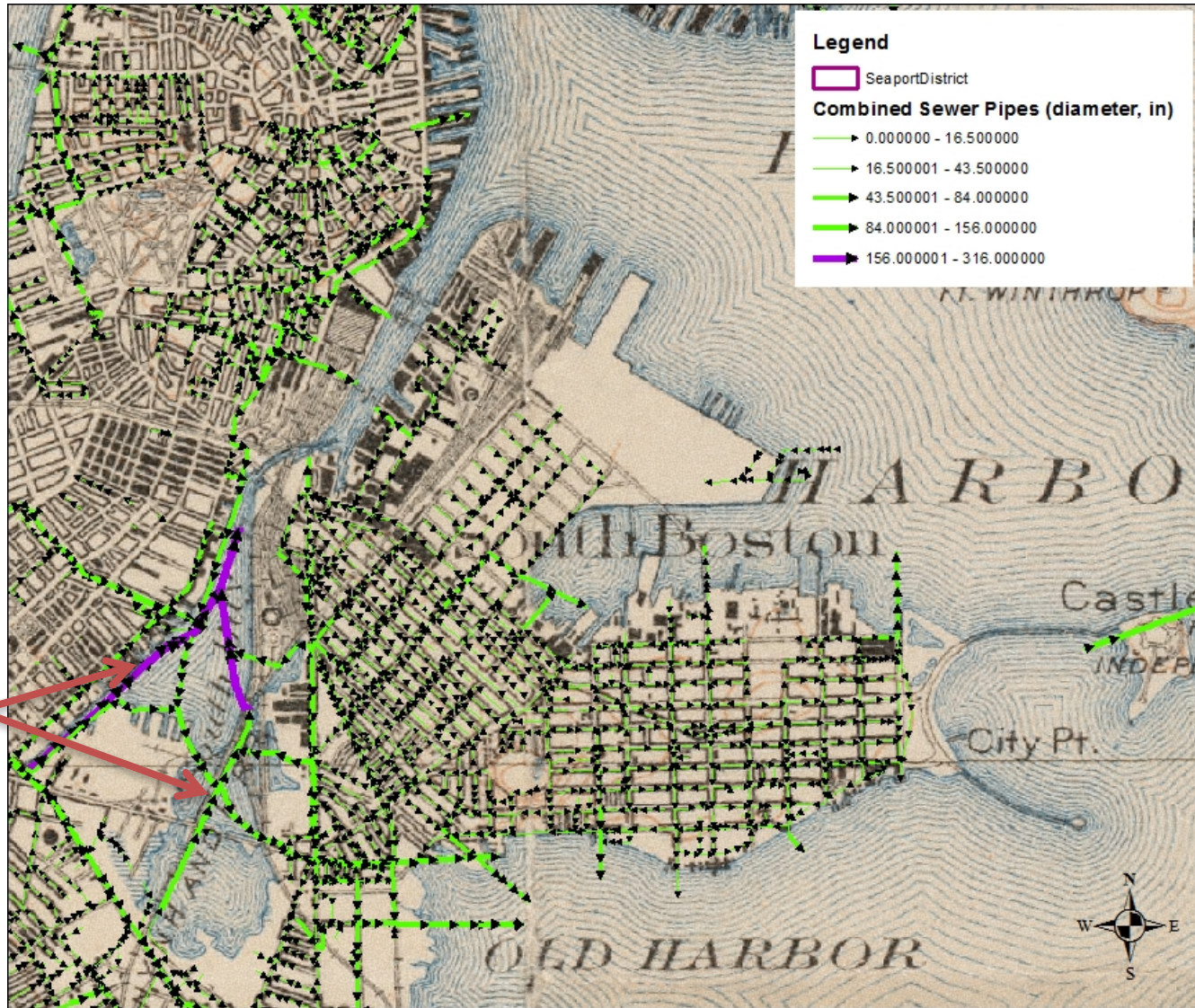


# Case Study #2: Fort Point



Google Street View July 2011

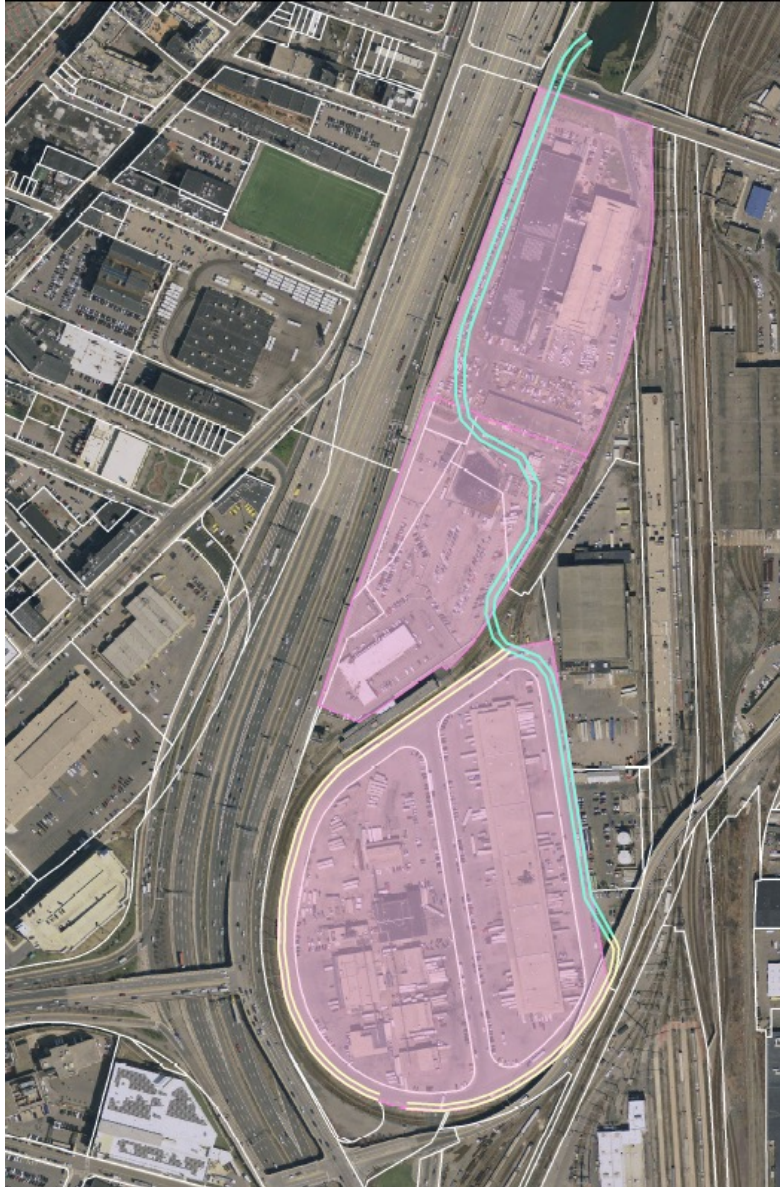
# Case Study #2: Fort Point



Remnants  
of canal/  
stream?



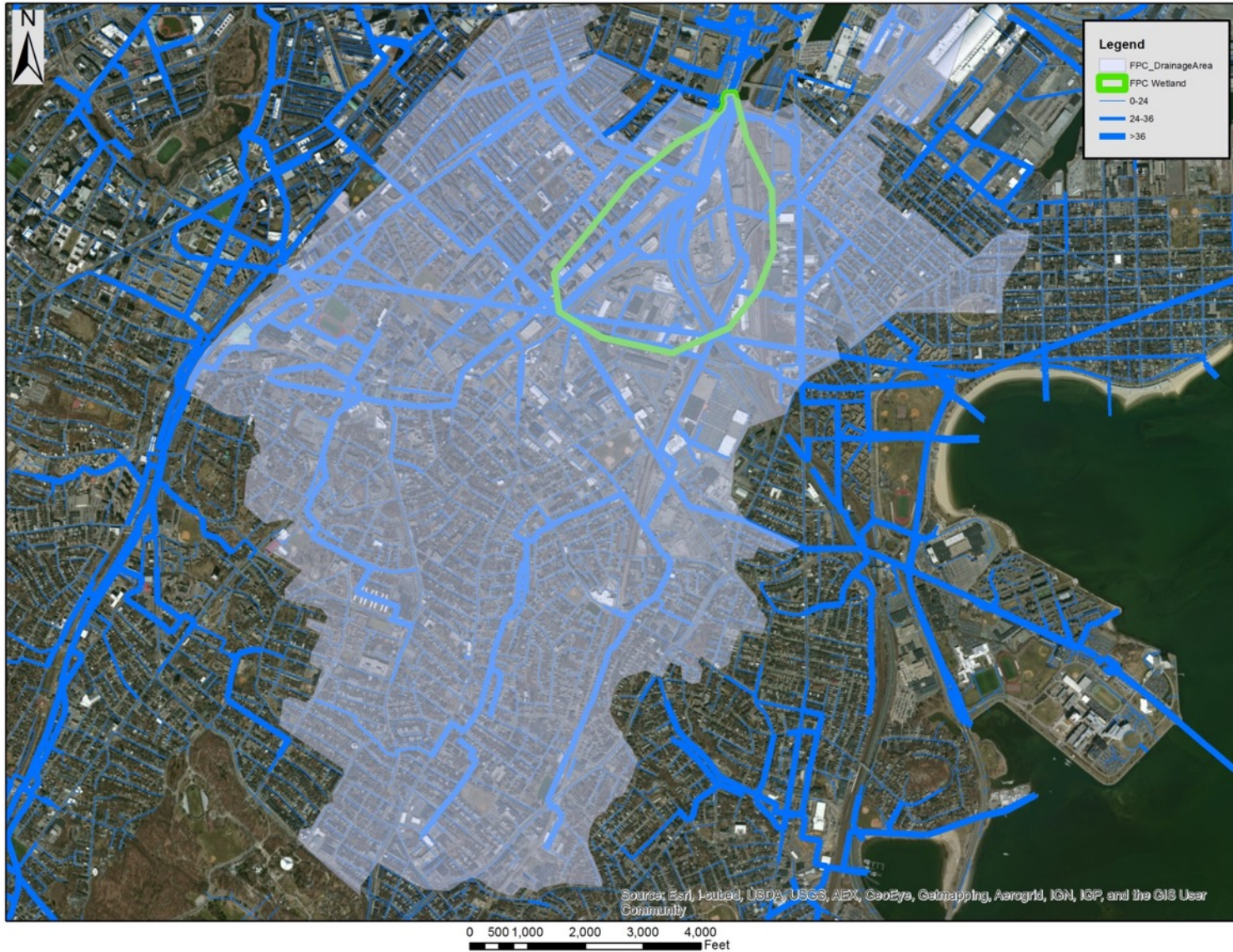
# Case Study #2: Fort Point



# Case Study #2: Fort Point



# Case Study #2: Fort Point





**Questions or Comments?**

Thank you for your time.