

# Somerville's BRIC Application for Union Square



January 26, 2022



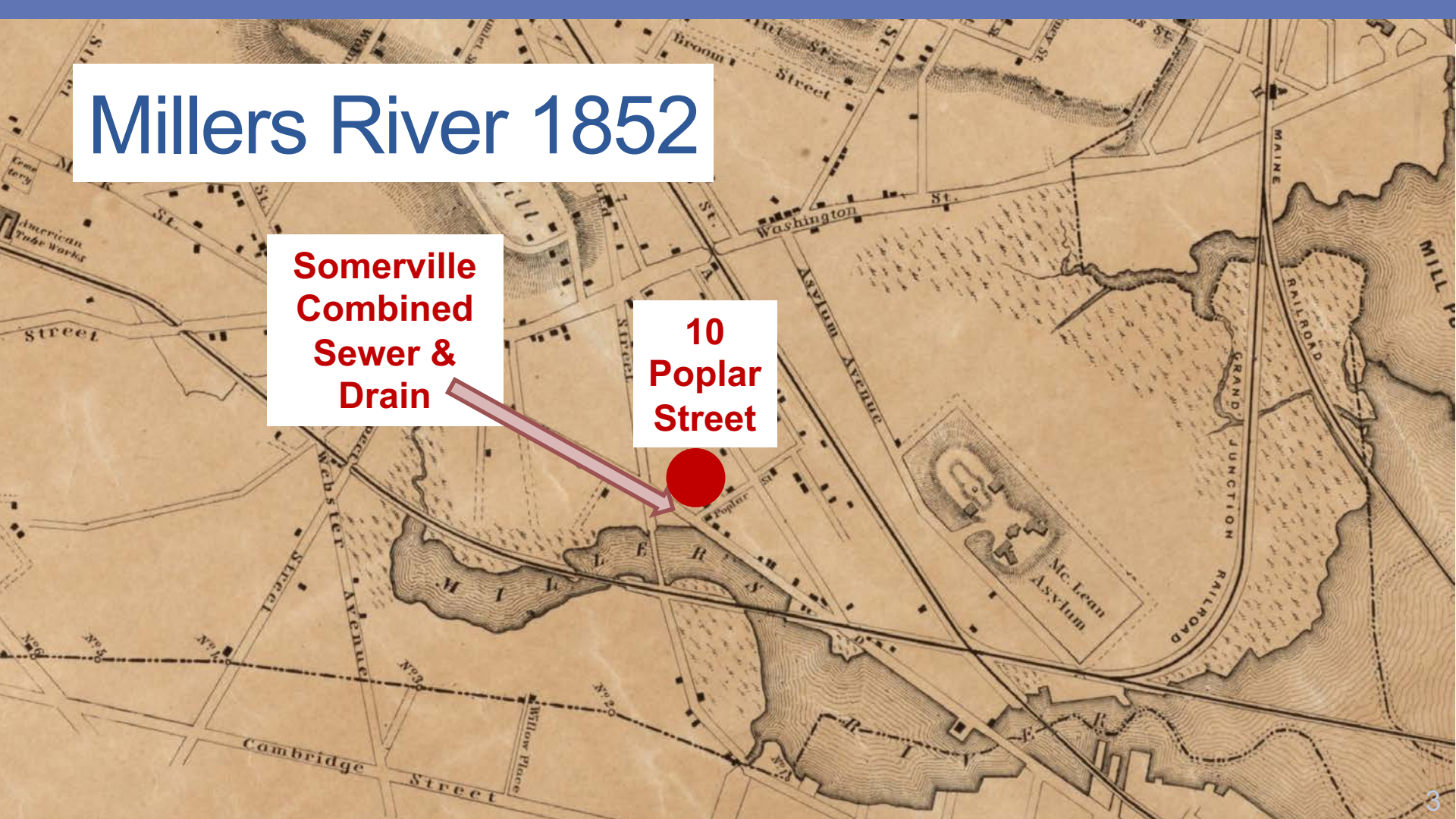
# A brief history of water

... or why Ward 2 floods and raw sewage discharges to the Charles and Mystic rivers when it rains hard

# Millers River 1852

**Somerville  
Combined  
Sewer &  
Drain**

**10  
Poplar  
Street**



# Millers River 1873 - 1879

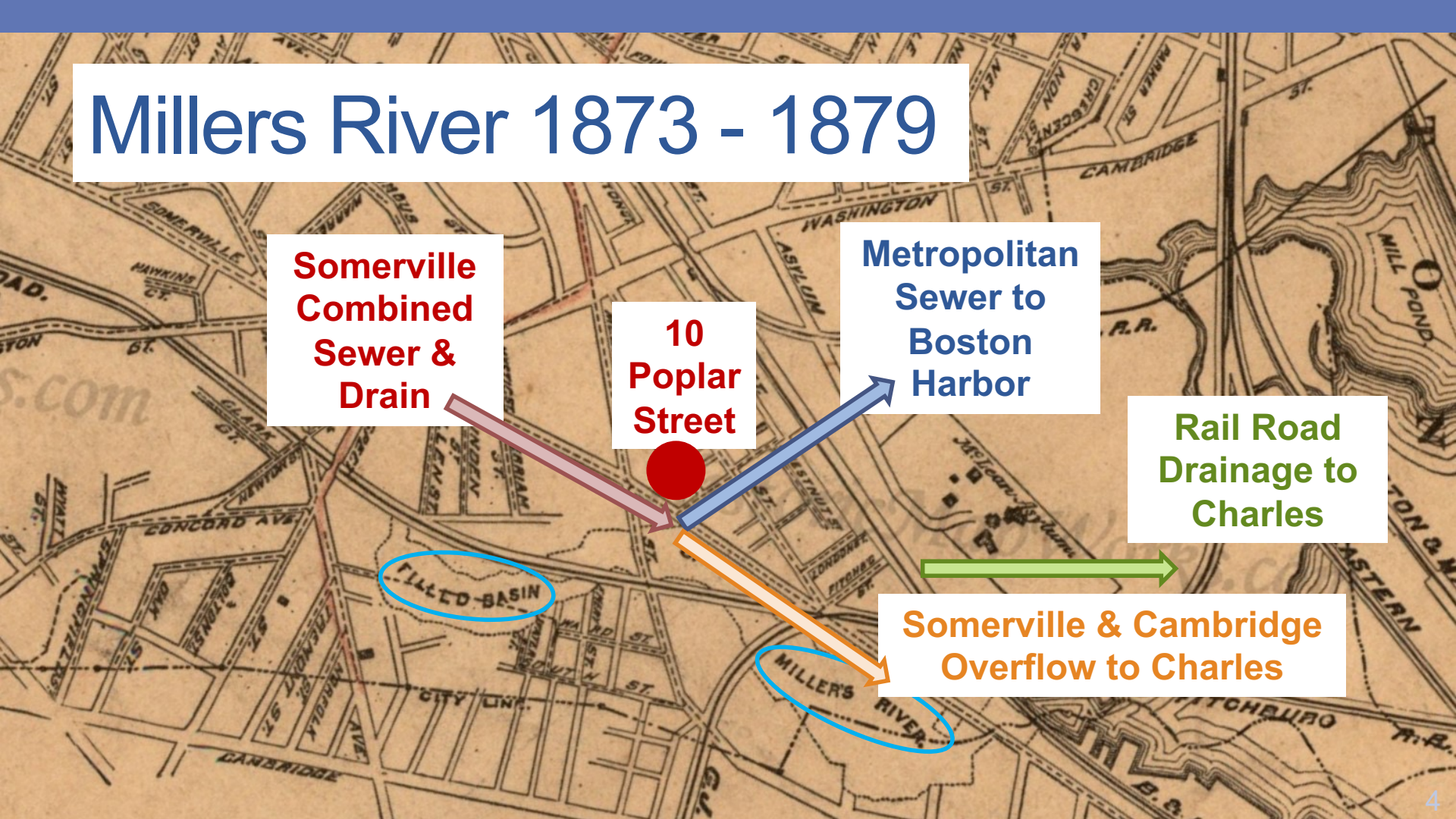
**Somerville  
Combined  
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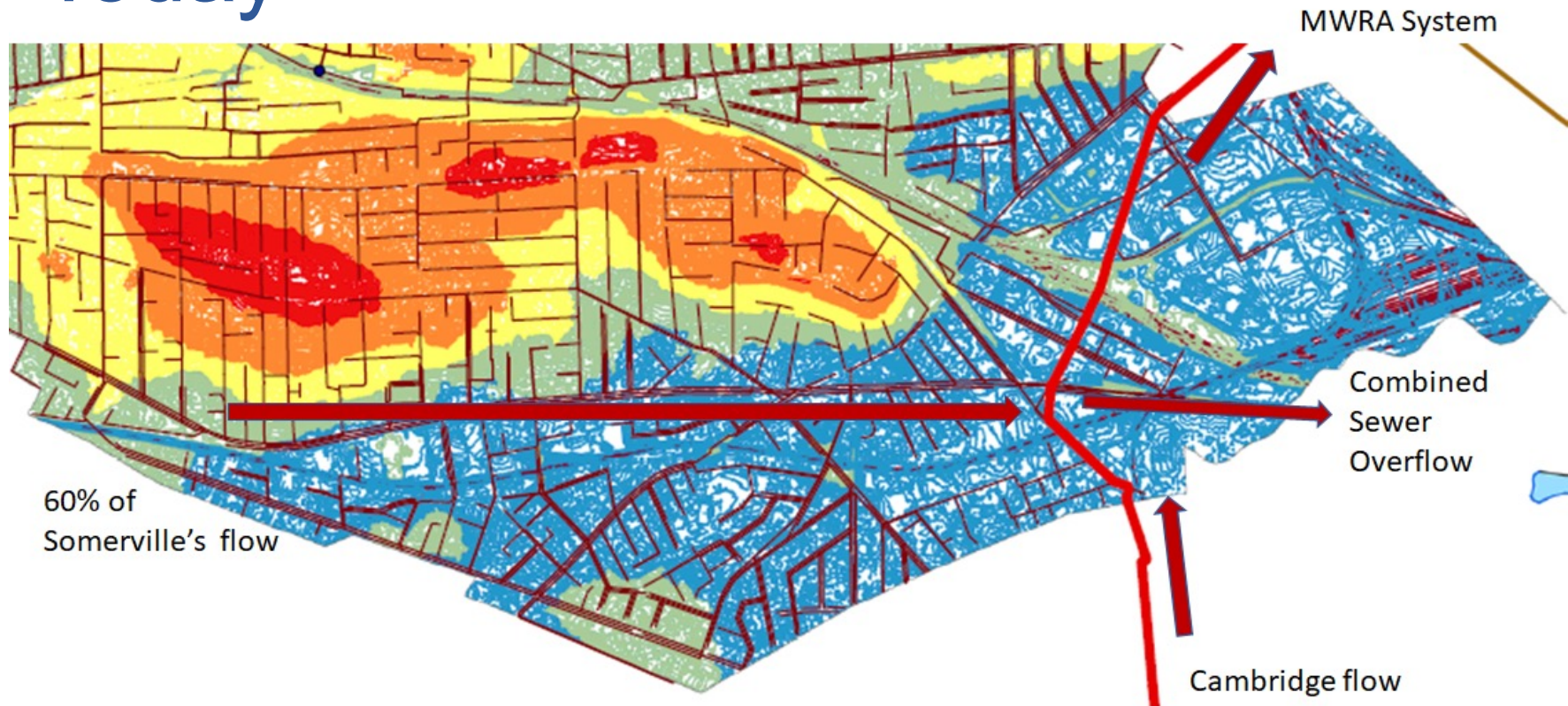
**Metropolitan  
Sewer to  
Boston  
Harbor**

**Rail Road  
Drainage to  
Charles**

**Somerville & Cambridge  
Overflow to  
Charles**



# Today



- Uphill / Up-pipe areas all contribute to flooding

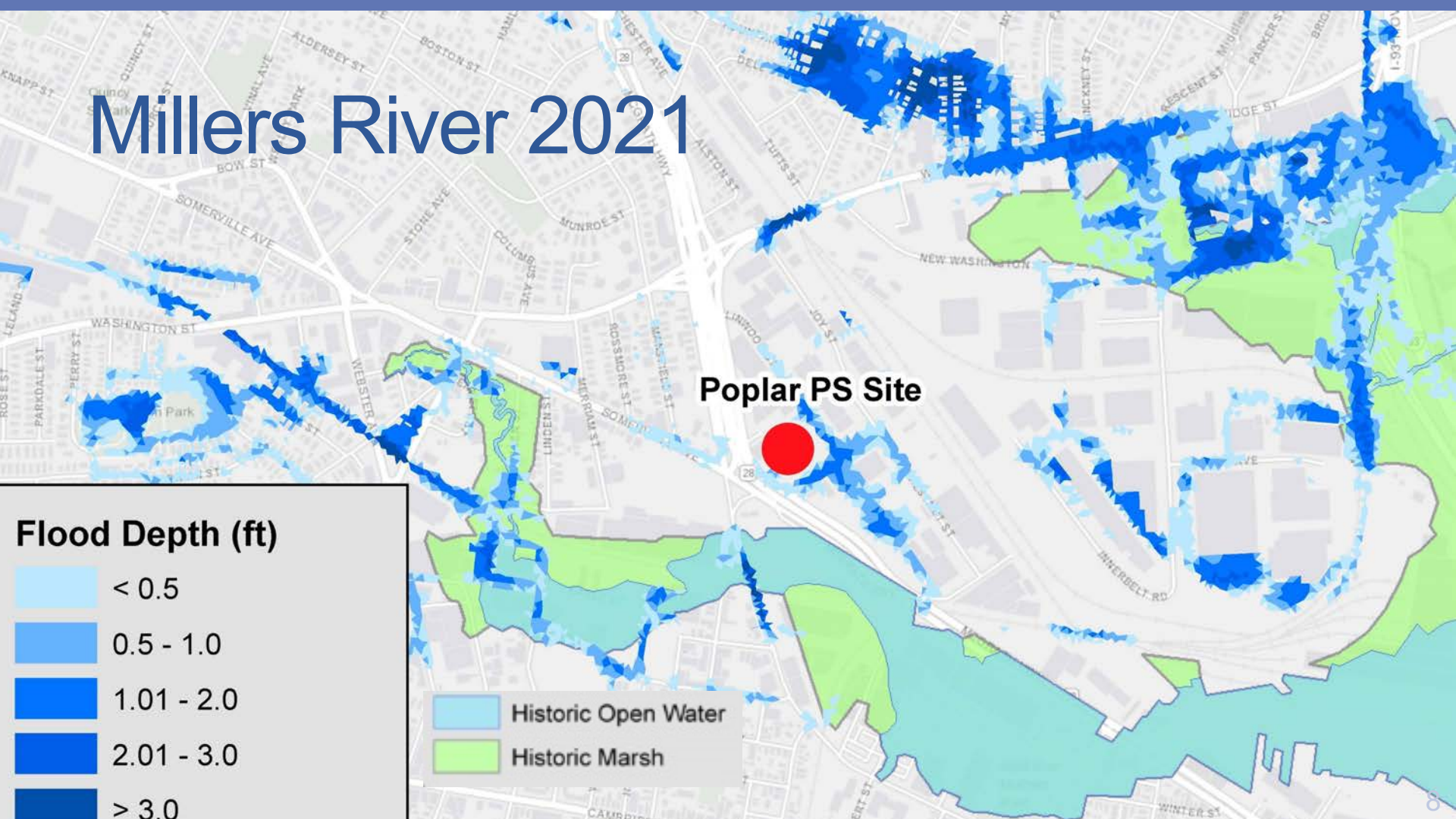
# Legacy flooding problems



# The future of water

... or what is the City doing to improve drainage and water quality?

# Millers River 2021





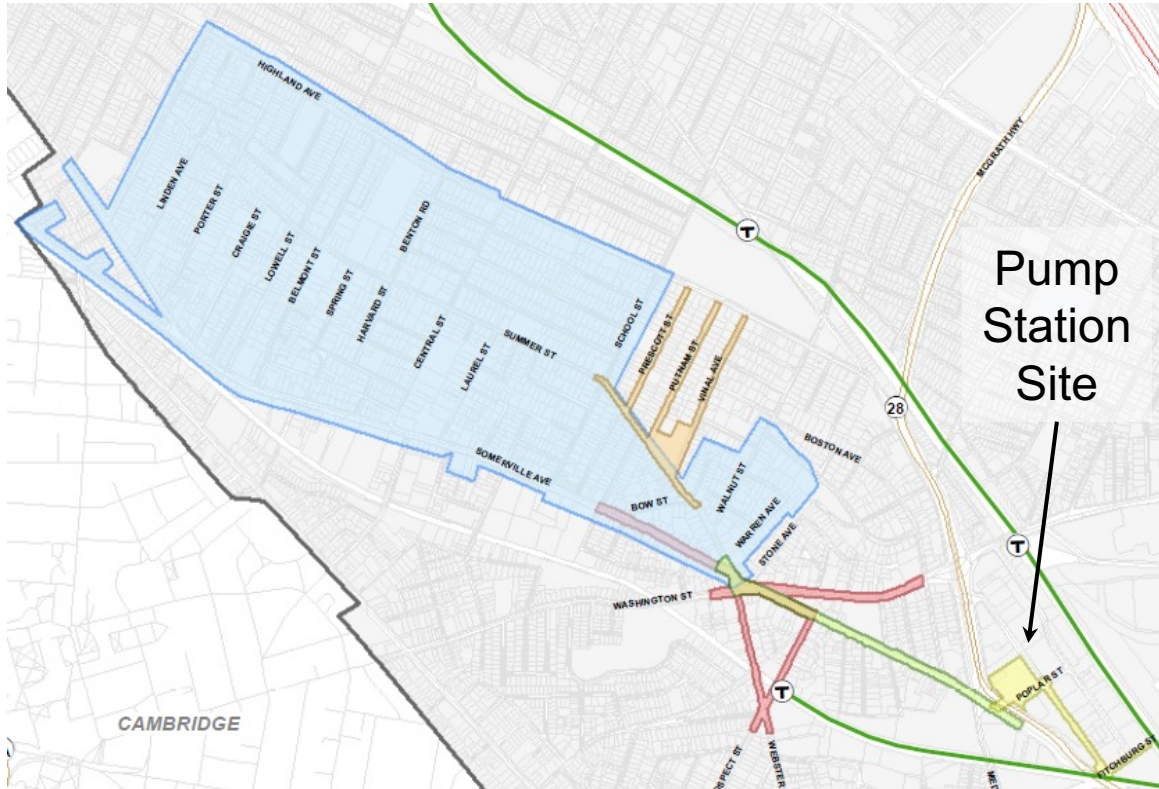
# MBTA drainage improvements





- Designed to keep high-intensity flood elevations below top of rail
- Opportunity!
  - Value in excess capacity during smaller storms





# City projects in design and construction




 Somerville Ave Utility & Streetscape Improvements (SAUSI)

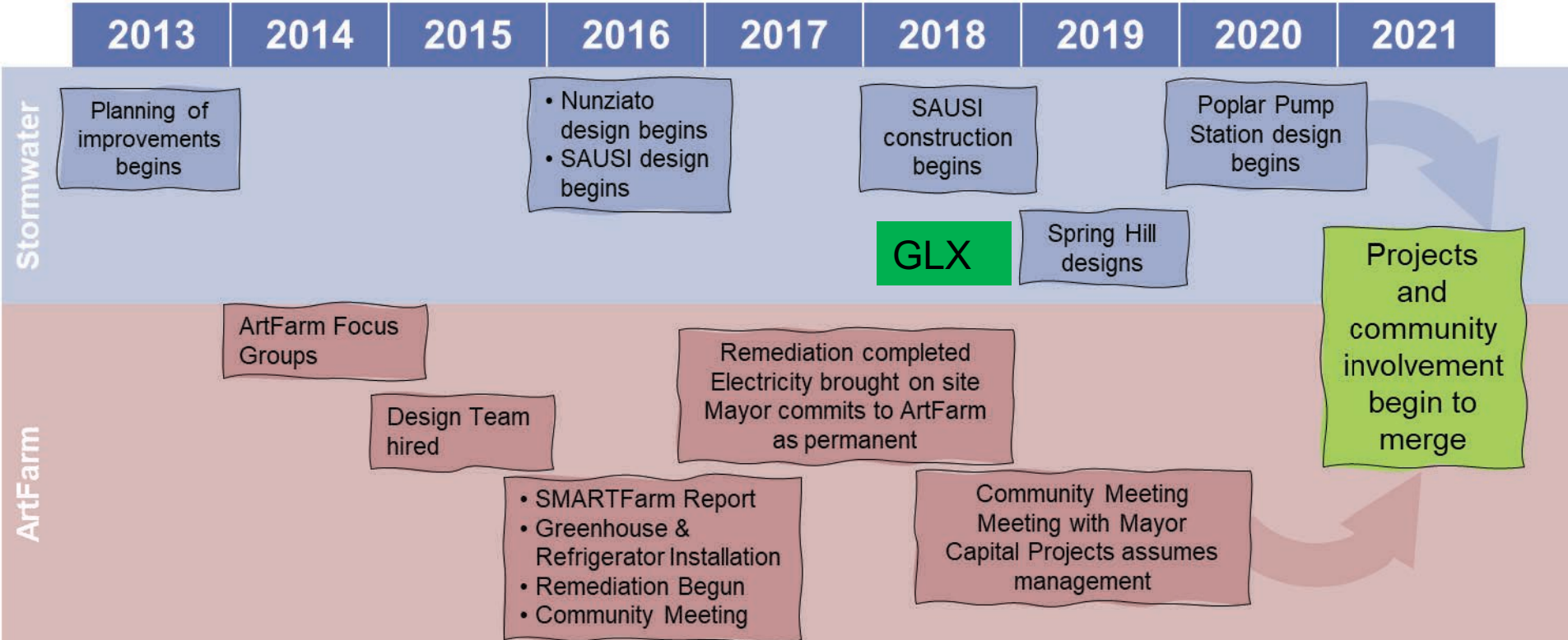
 Nunziato Stormwater Storage

 Poplar Street Pump Station (Stormwater)

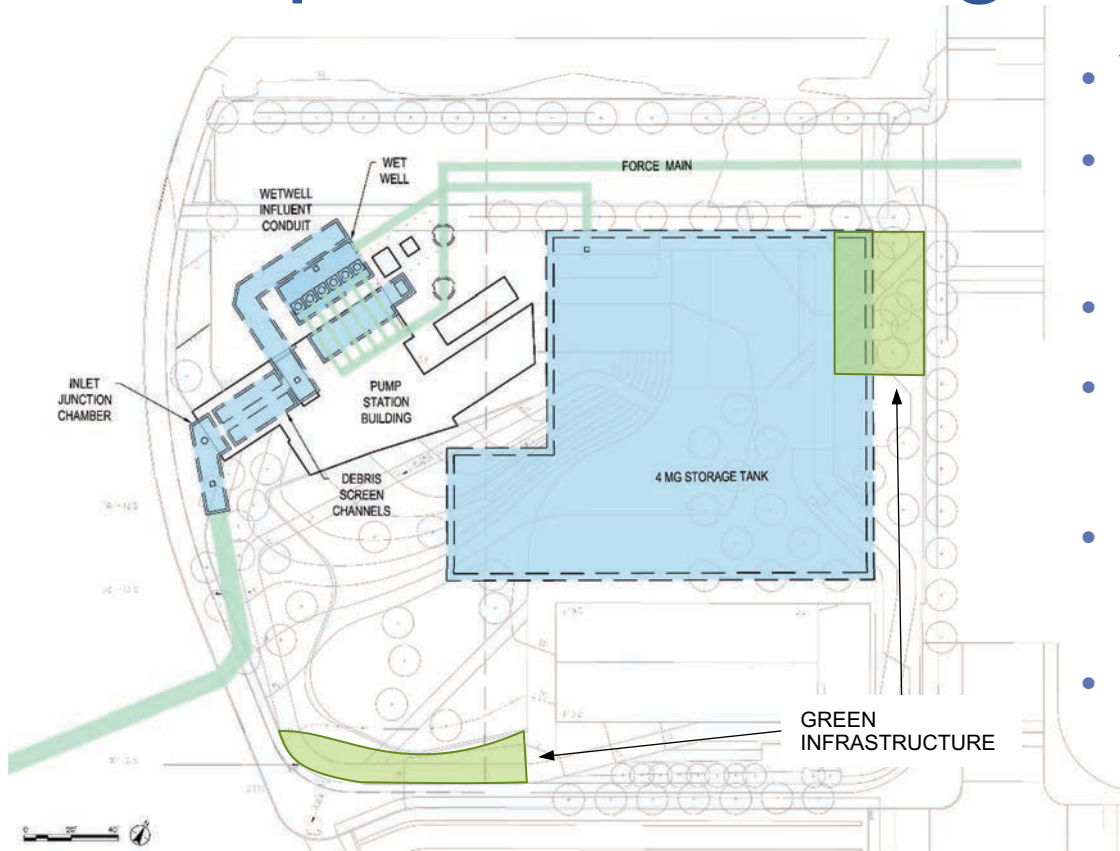
 Spring Hill Sewer Separation Union

 Square Streetscape & Plaza

# Two projects on parallel tracks

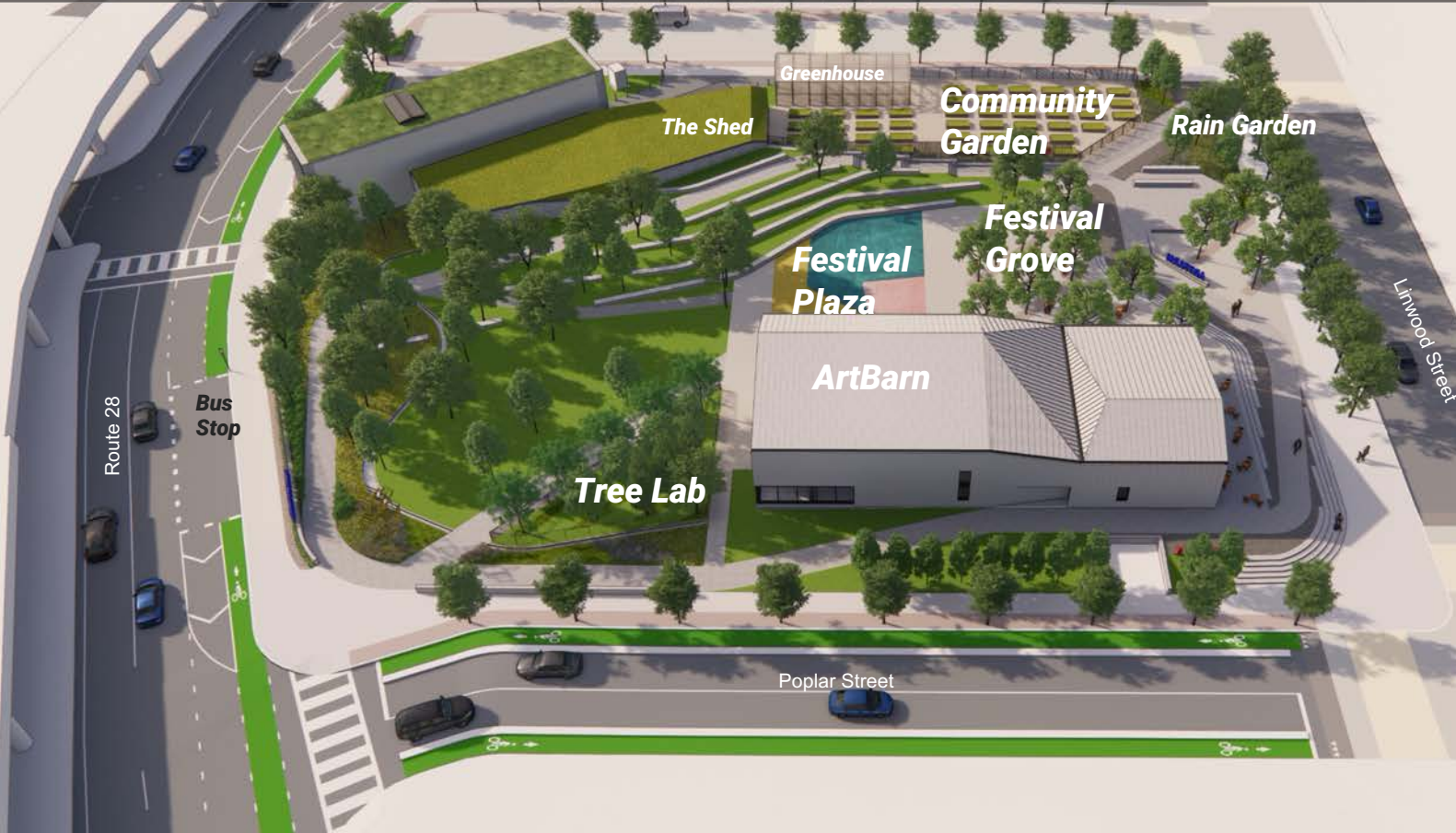


# Pump station underground concept



- Wet well
- Submersible pumps (50 million gallons per day)
- Screening channels
- Pipelines, vaults & chambers
- Storage tank (4 million gallons)
- Green infrastructure





# Additional Site Elements & Program

Draft



***Pedestrian Friendly Intersection***

***Pedestrian Friendly Intersection***

***Improved Streetscapes***

***Pedestrian Friendly Intersection***



# What is BRIC?

BRIC: Building Resilient Infrastructure and Communities

Annual grant competition

Funds projects **before a disaster** to increase resilience

2020:

**\$500**  
**million**  
in funding

2021:

**\$1**  
**billion**  
in funding





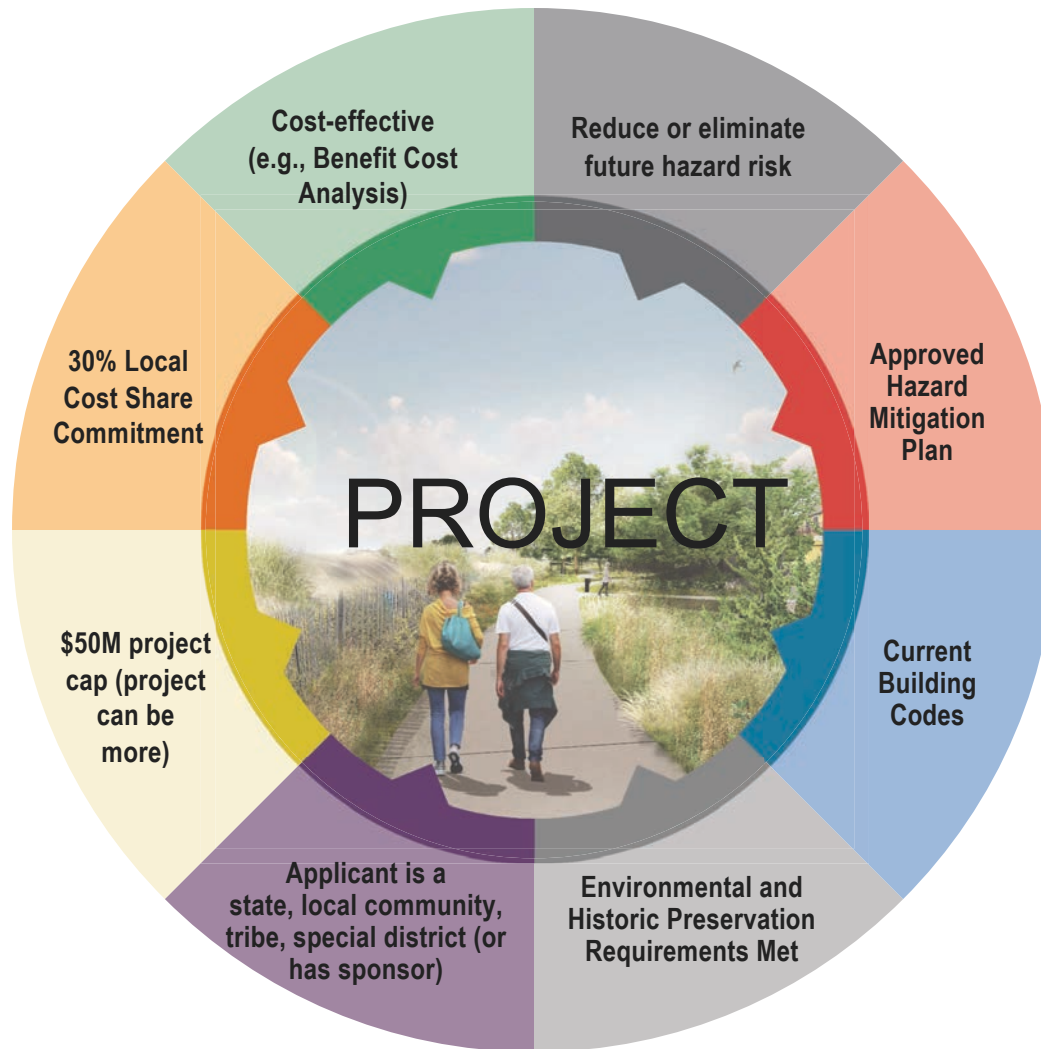
## Project Eligibility

**\$50M**

federal share  
cap on projects

**30%**

Local Cost Share  
Commitment



# Capacity and Capability Building

## – Recommended Early BRIC Application Focuses

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Develop multi-hazard mitigation plan (\$500,000 cap)



“Roadmap” to resilience including project identification



FEMA-approved, adopted for competition eligibility

# Capacity and Capability Building

## – Recommended Early BRIC Application Focuses

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“Seed funding” to identify and develop project scopes



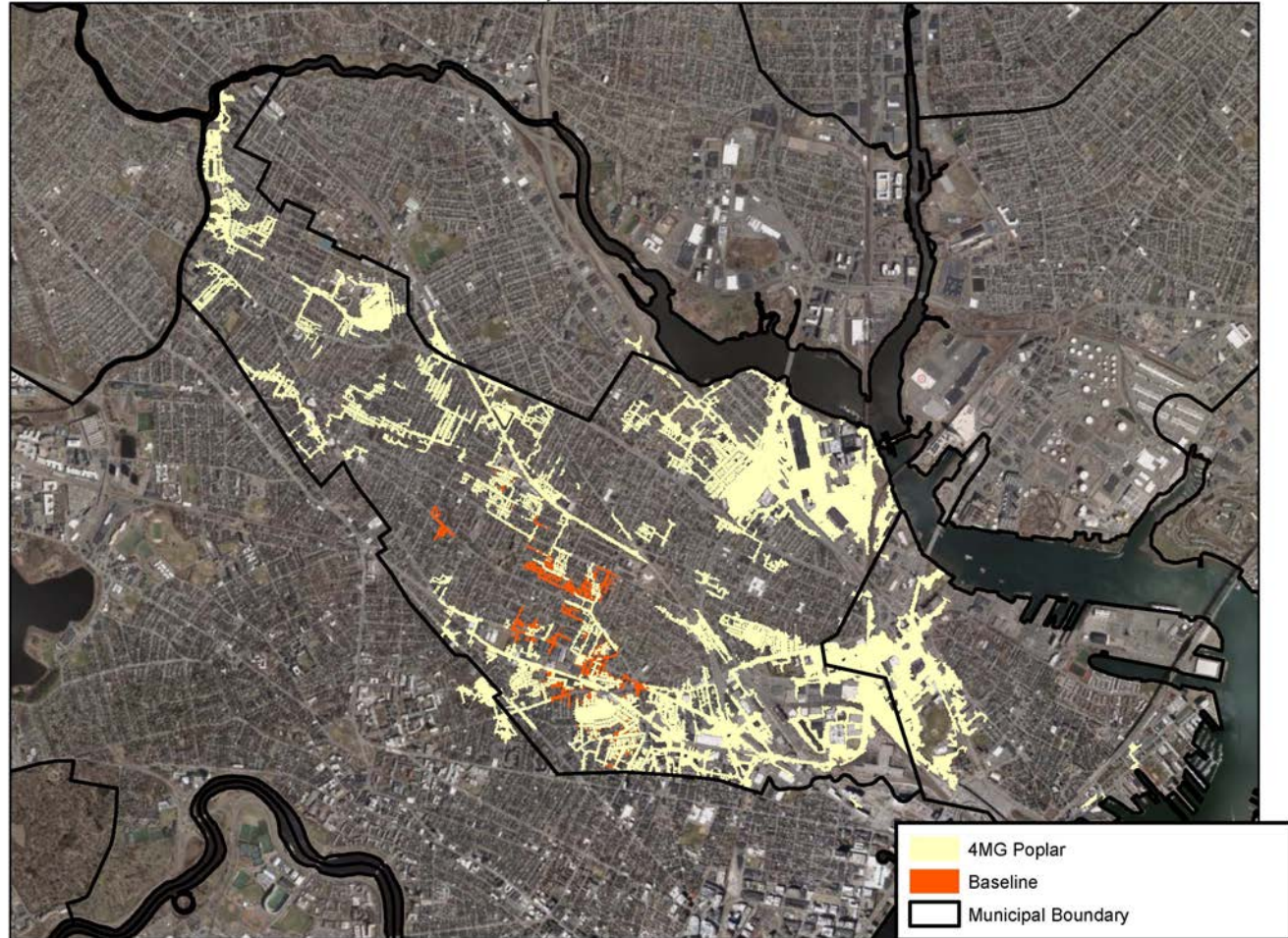
Benefit Cost Analysis (BCA)



Competition-ready project application

100-Year, 24-Hour Storm Event

# Flood Benefits



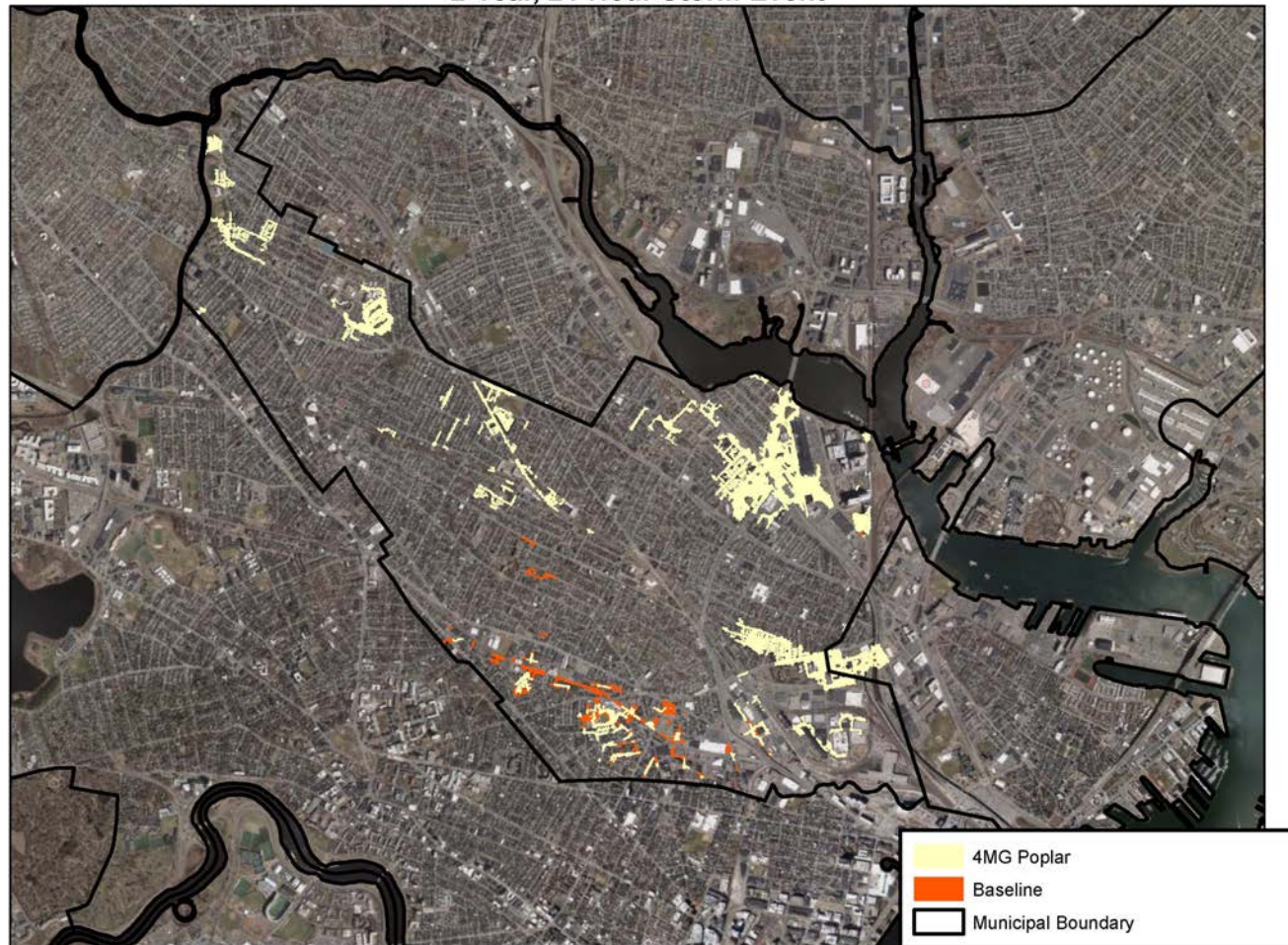
Flood  
Benefits  
– where  
urban  
flooding  
should  
stand out

1-Year, 24-Hour Storm Event



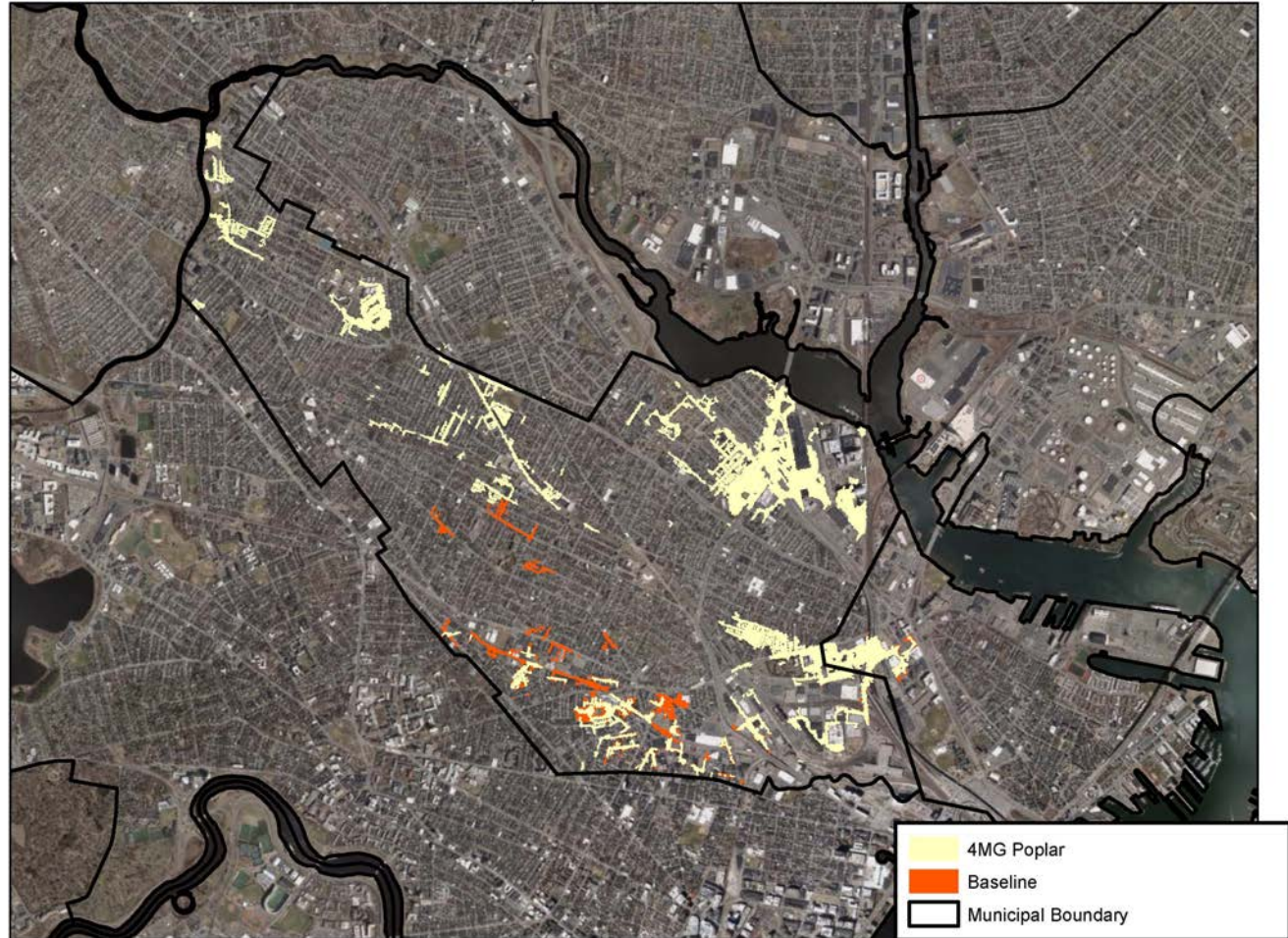
Flood  
Benefits  
– where  
urban  
flooding  
should  
stand out

2-Year, 24-Hour Storm Event



Flood  
Benefits  
– where  
urban  
flooding  
should  
stand out

5-Year, 24-Hour Storm Event



Flood  
Benefits  
– where  
urban  
flooding  
should  
stand out

10-Year, 24-Hour Storm Event





Flood  
Benefits  
– where  
urban  
flooding  
should  
stand out

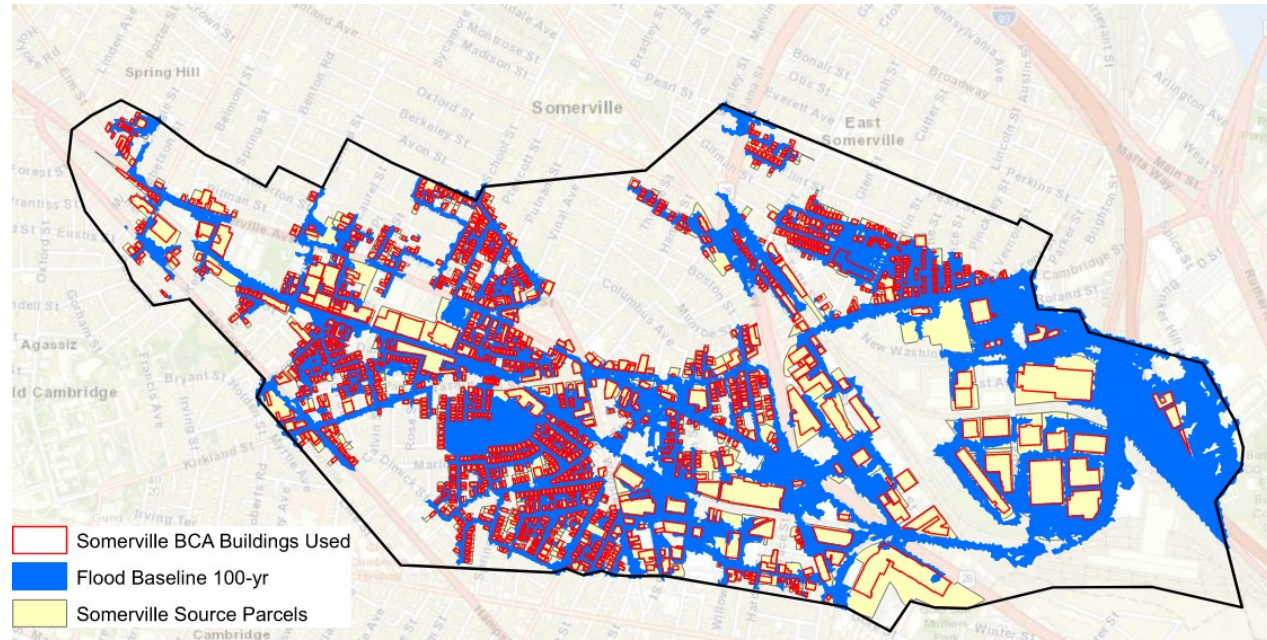
25-Year, 24-Hour Storm Event



# Building Damage Assessment

- Building specific damage assessment on 1,637 buildings
- Selected by intersecting building footprints with the 100-yr baseline flood extents

- Entered in the FEMA BCA Toolkit's Professional Expected Damages Module (previously DFA module)



# BRIC Updated

- Six qualitative evaluation criteria
- Support for holistic project evaluation beyond economic metrics alone as well as for incentivizing partnerships and high-quality community engagement.



**BRIC National Competition Qualitative Criteria and Point Values**

# BRIC Updated

- Eight technical evaluation criteria
- Projects either receive the specified points allotted or zero points for each criterion.

## BRIC Technical Criteria



Infrastructure project



Mitigates risk to one or more lifelines



Incorporates nature-based solutions



Applicant has mandatory tribal-, territory-, or state-wide building code adoption requirement  
(recent versions of International Building Code and International Residential Code)



Subapplicant has Building Code Effectiveness Grading Schedule Rating of 1 to 5



Application generated from a previous qualifying award or the subapplicant is a past recipient of BRIC non-financial Direct Technical Assistance



A non-federal cost share of at least 30%  
(or, for Economically Disadvantaged Rural Communities, a non-federal cost share of at least 12%)



Designation as an Economically Disadvantaged Rural Community



# Question & answer session

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