

CLIMATE CHANGE FLOODING IMPACTS

- **Recommended approach for sea level rise estimates for projecting future coastal flooding risk in Quincy MA**

Time Period	Sea Level Rise	
	Projection ² (Feet)	Likely Range ³ (Feet)
Base (2000)	0	n/a
Near Term (2030)	0.6	0.5-0.8
Mid Term (2050)	1.1	0.8-1.4
Long Term (2070)	1.6	1.3-2.4

² 50% percentile, or median value

³ Range = 66% percent confidence limits (>17% and <83%)





VULNERABILITY ASSESSMENT

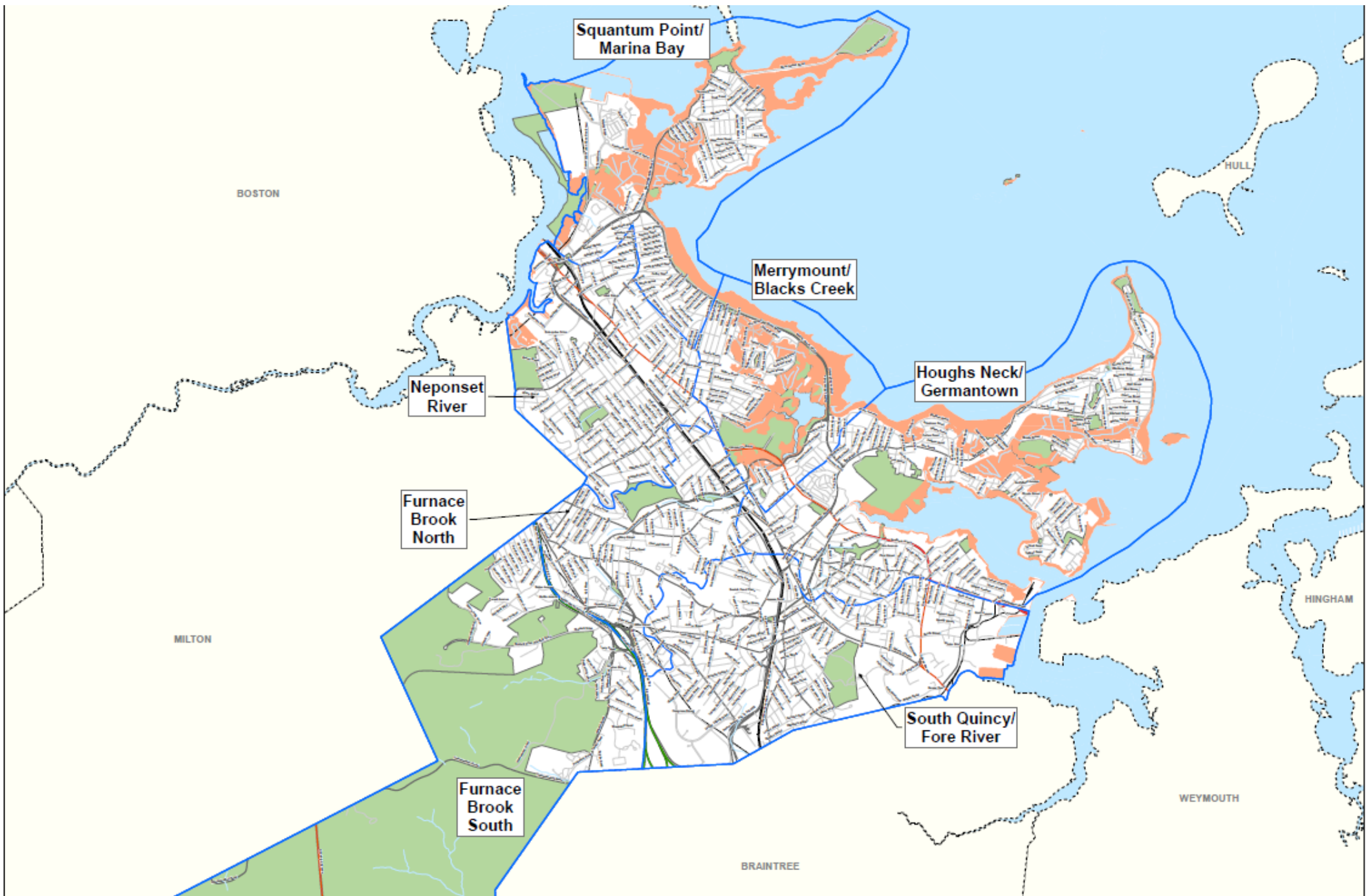


VULNERABILITY ASSESSMENT

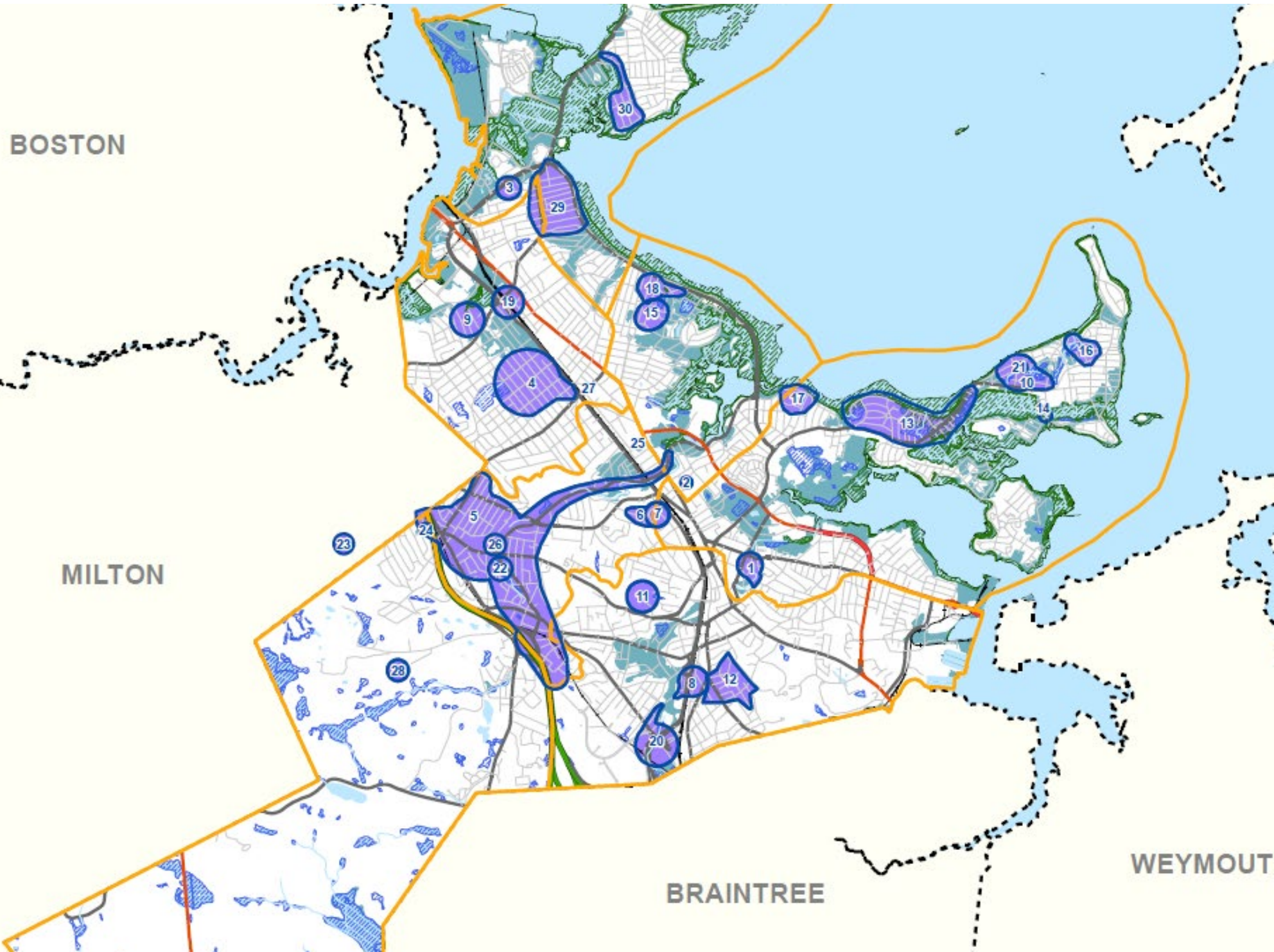
- **Flooding**
 - Exposure Assessment for Building Flood Risk
 - Vulnerability of Community Assets
 - Vulnerability of Future Development



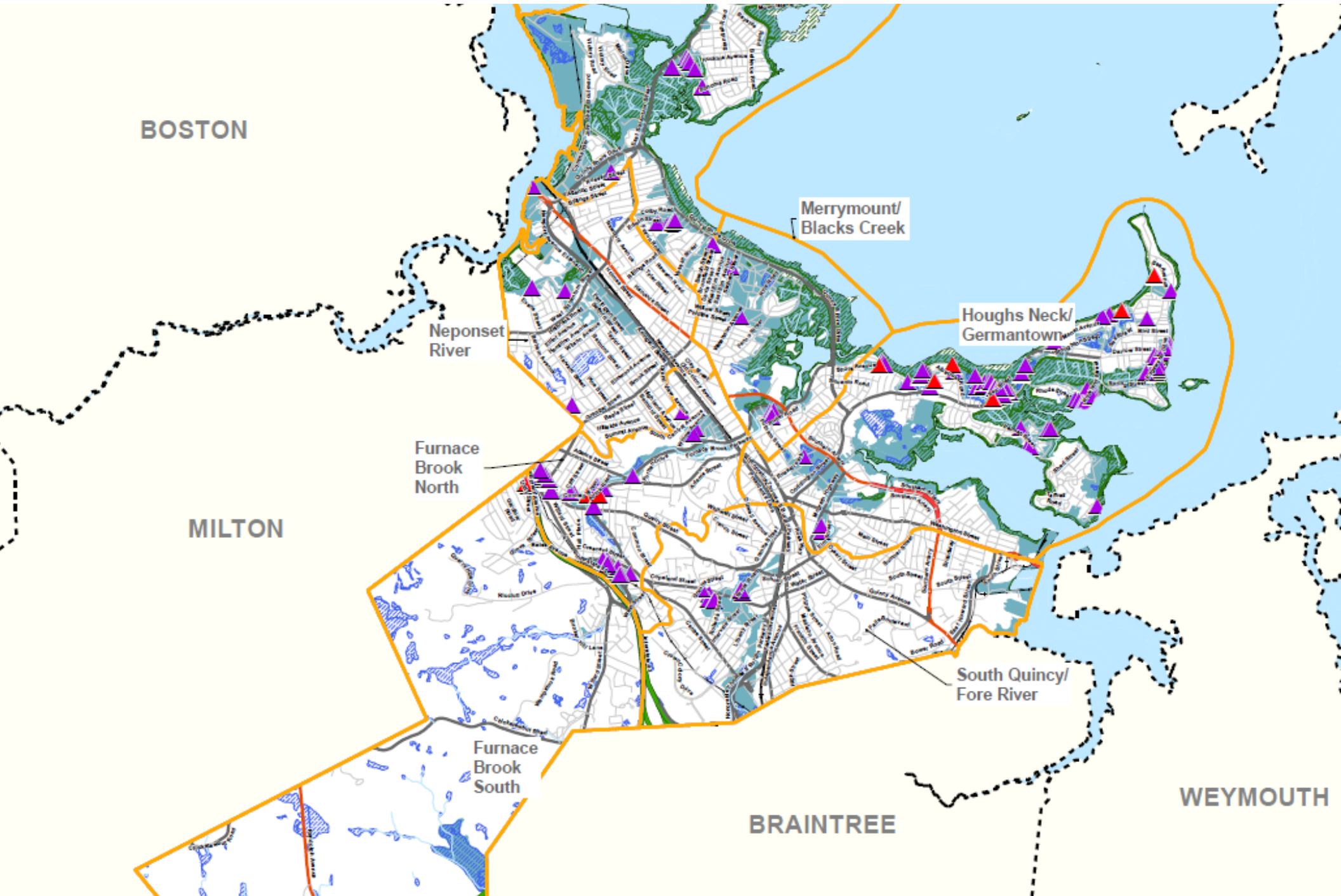
GEOGRAPHIC PLANNING AREAS



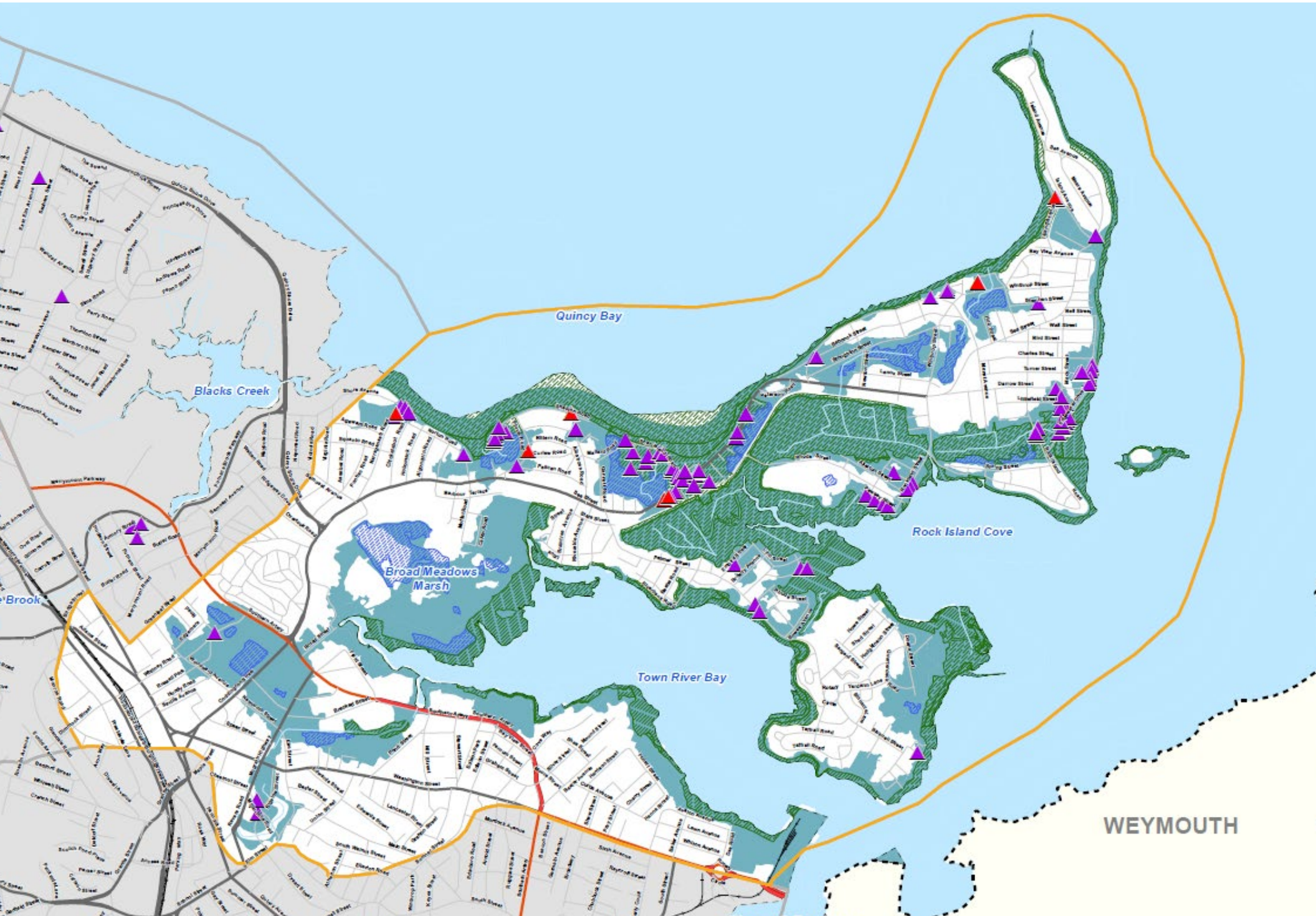
AREAS OF FLOODING CONCERNS



FEMA REPETITIVE LOSS (RL) CLAIMS

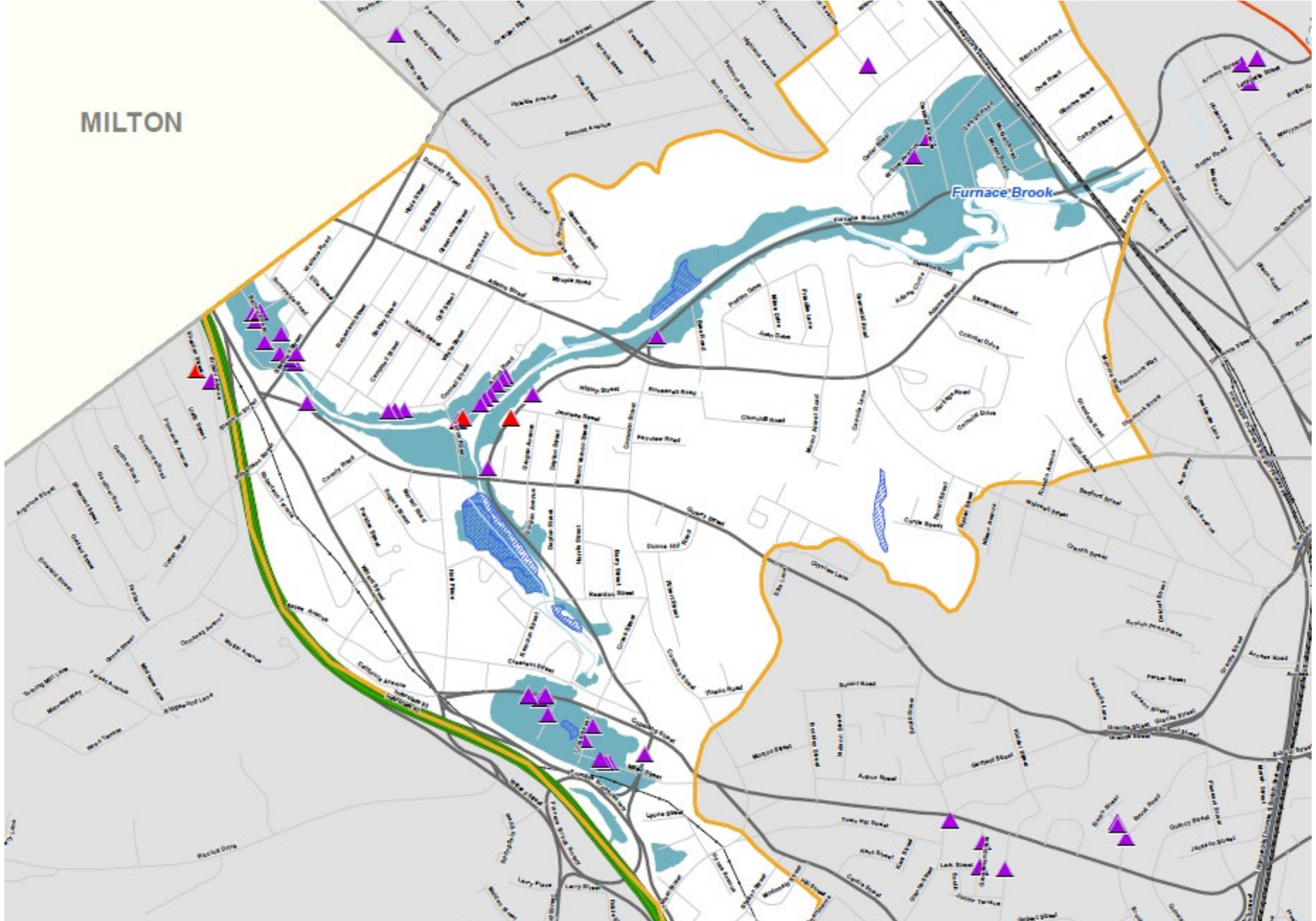


RL HOUGHS NECK GERMANTOWN

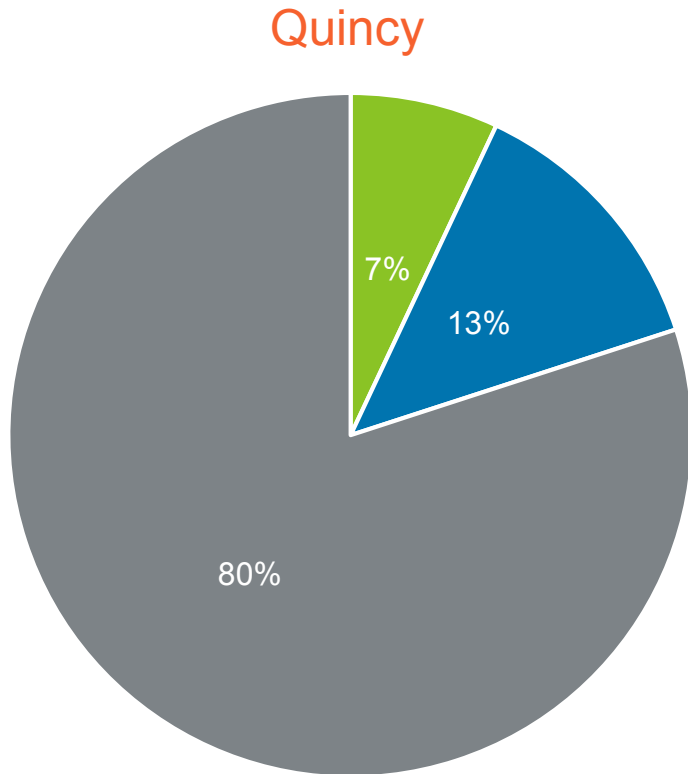


RL FURNACE BROOK

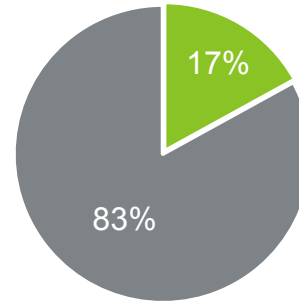
MILTON



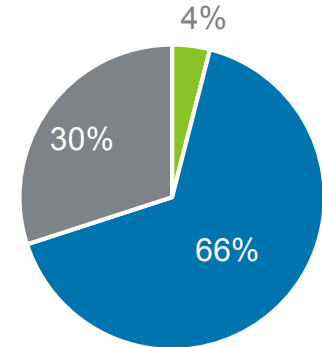
SUMMARY OF EXISTING FLOOD RISK- PROPERTIES



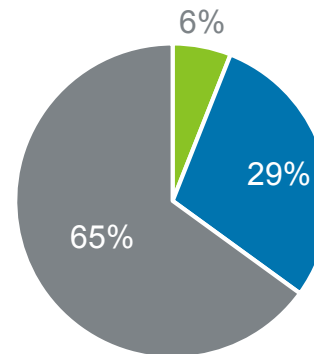
Furnace Brook North



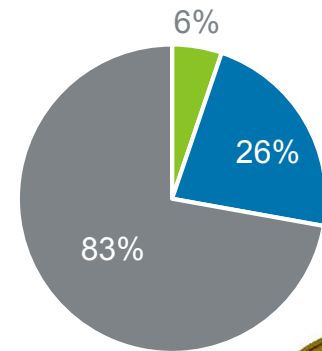
Merrymount/Blacks Creek



Houghs Neck/Germantown



Squantum Point/Marina Bay

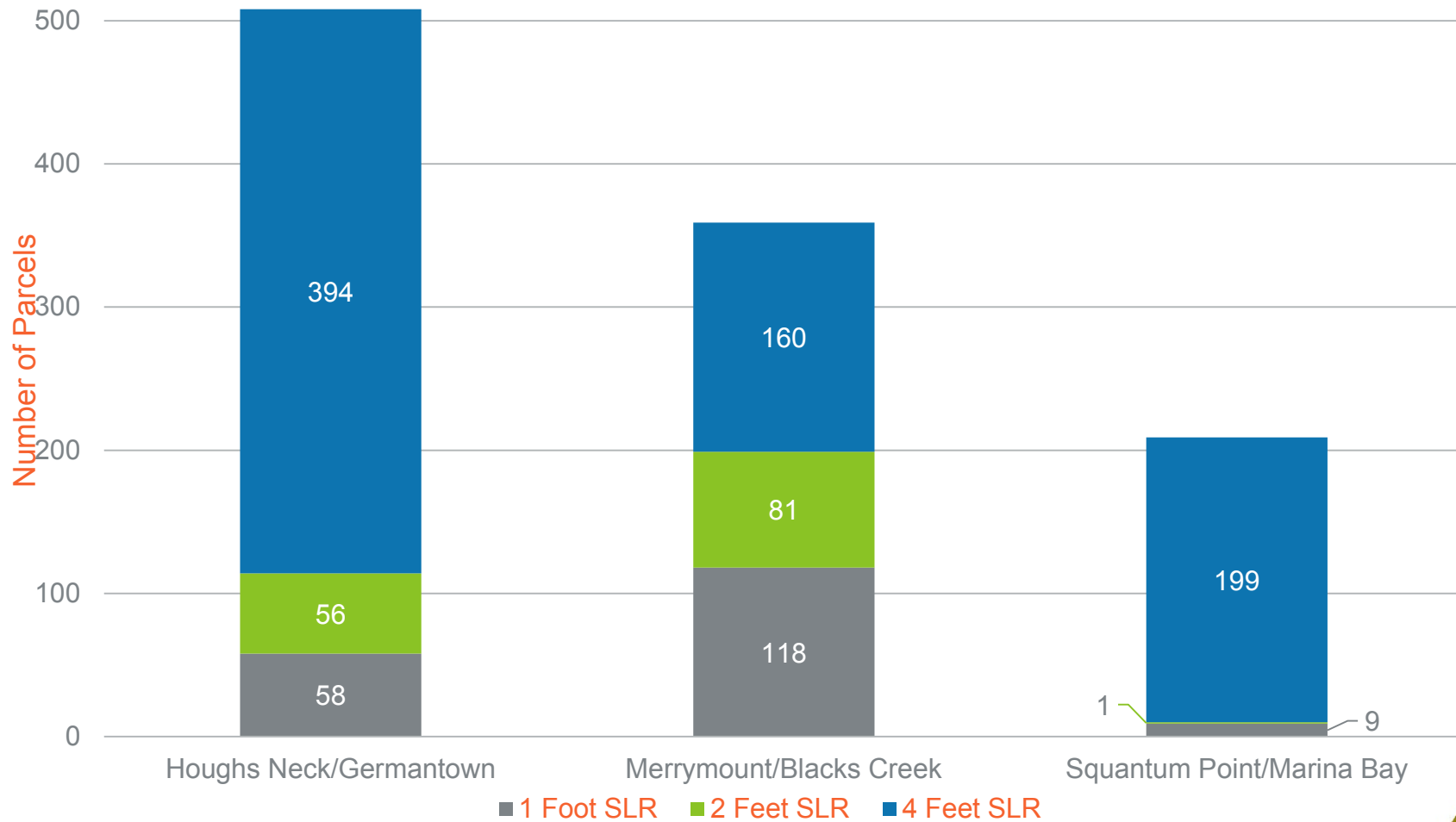


■ Inland Parcels in Flood Zone
 ■ Coastal Parcels in Flood Zone
 ■ Paracels Not in Flood Zone



SUMMARY OF FUTURE FLOOD RISK- PROPERTIES

Parcels in Coastal Flood Hazard Area Subject to SLR





Session #1

Identify Risk Areas
and Community
Strengths

6:30 PM





MITIGATION STRATEGY



TYPES OF MITIGATION ACTIONS

1. Prevention
2. Property Protection
3. Public Education and Awareness
4. Natural Resource Protection and Green Infrastructure
5. Structural Projects
6. Emergency Services Protection



HIGH PRIORITY MITIGATION ACTIONS

TYPE OF ACTION	DESCRIPTION	AREA IMPACTED
Prevention	Building Inspection Records System	City-wide
Property Protection	Seismic Impact Evaluation	City-wide
Public Education and Awareness	Hazard Mitigation Education	City-wide
Natural Resource Protection and Green Infrastructure	Salt Marsh Restoration	Merrymount/ Blacks Creek
Natural Resource Protection and Green Infrastructure	Coastal Buffer Maintenance	Houghs Neck
Structural Projects	Tide Gate Modernization	Houghs Neck/ Germantown/ Merrymount/ Blacks Creek
Structural Projects	Stormwater Control Station	Furnace Brook North
Structural Projects	Seawalls Construction	Houghs Neck/ Germantown
Structural Projects	Drainage Improvements	South Quincy/ Fore River
Structural Projects	Drainage Hydraulic Model	Squantum Point/ Marina Bay
Emergency Services Protection	Emergency Communication System	City Wide





Session #2

Identify Actions to
Address
Vulnerabilities and
Protect Strengths

7:00 PM





Session #3



Table Groups report
out to Full Group

7:30 PM



Listening Session May 23, 2019



CITY OF QUINCY

Municipal Vulnerability
and Preparedness
Grant

Listening Session

May 23, 2019



INTRODUCTION

- City awarded a planning grant through Commonwealth's Executive Office of Energy and Environment
- Grant was to complete **Municipal Vulnerability Preparedness (MVP)** Community Resilience Building (CRB) Workshop Process
- This effort built on City's recently approved Hazard Mitigation Plan 5 Year Update (April 2019)



MVP GRANT AND WORKSHOP PROCESS GOALS

Build Resilience and Preparedness:

- Understand community assets and vulnerabilities
- Plan for more frequent and intense weather events
- Improve pre-event planning, response & recovery, and identify long-term mitigation actions

A prepared and resilient Quincy will be able to maintain functions, protect its residents, and be ready for future storm events and a changing climate



TONIGHT'S AGENDA

- 1. Review MVP grant and ERB process**
- 2. Define Quincy's Top Hazards and Vulnerable Areas**
- 3. Review Concerns and Challenges due to Hazards**
- 4. Discuss resiliency actions for Quincy**
- 5. Listen to your input!**

MVP GRANT AND CRB PROCESS

- **Core Team**



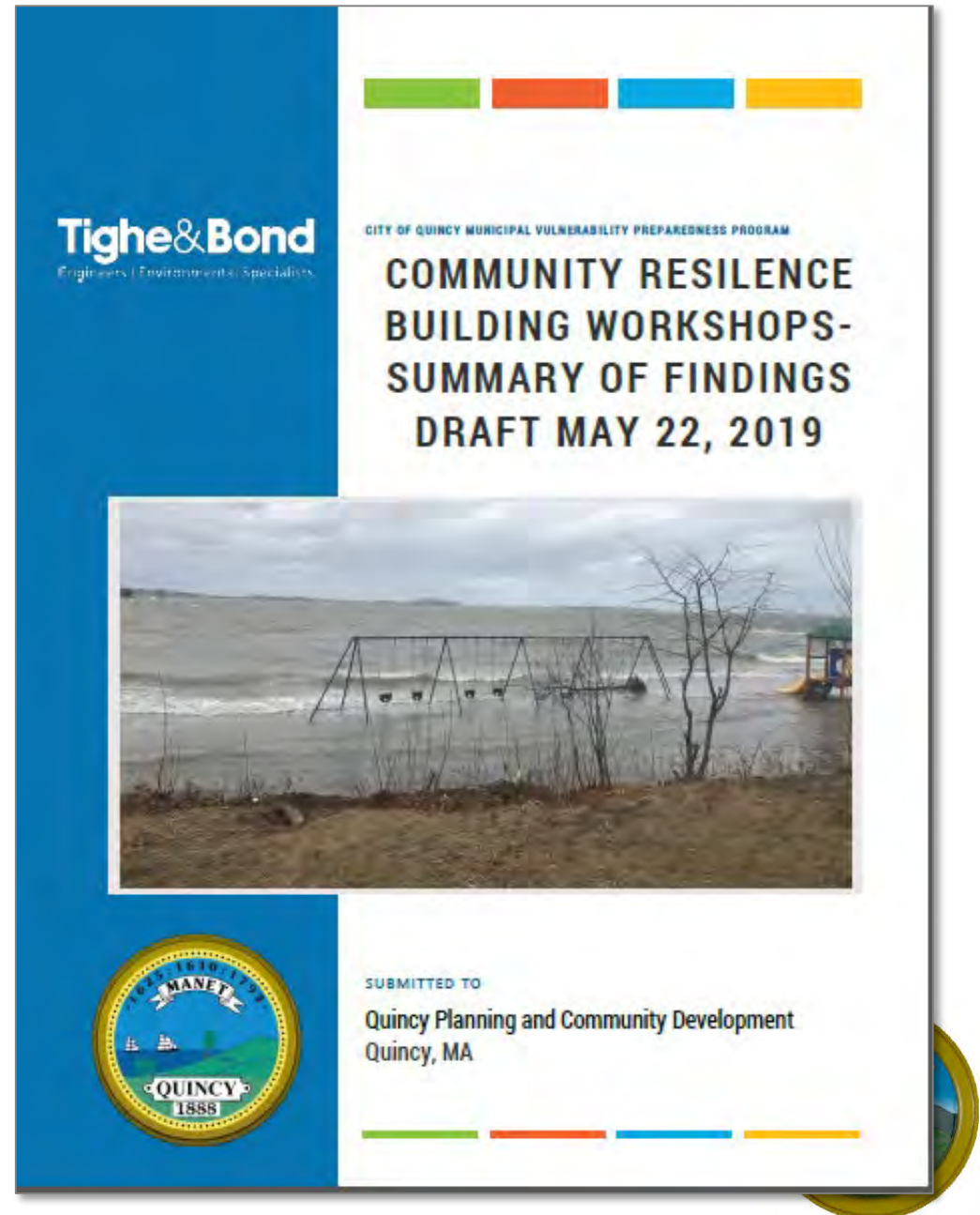
MVP GRANT AND CRB PROCESS

- **Core Team**
- **Two Workshops**
 - Workshop #1: April 23rd, 2019
 - Workshop #2: May 14th, 2019



MVP GRANT AND CRB PROCESS

- **Core Team**
- **Two Workshops**
 - Workshop #1: April 23rd, 2019
 - Workshop #2: May 14th, 2019
- **Draft Report**



MVP GRANT AND CRB PROCESS

- **Core Team**
- **Two Workshops**
 - Workshop #1: April 23rd, 2019
 - Workshop #2: May 14th, 2019
- **Draft Report**
- **Listening Session**
- **Final Report**





TOP NATURAL HAZARDS AND VULNERABLE AREAS



QUINCY'S TOP NATURAL HAZARDS

SEVERE WINTER WEATHER

COASTAL AND INLAND FLOODING

NOR' EASTER



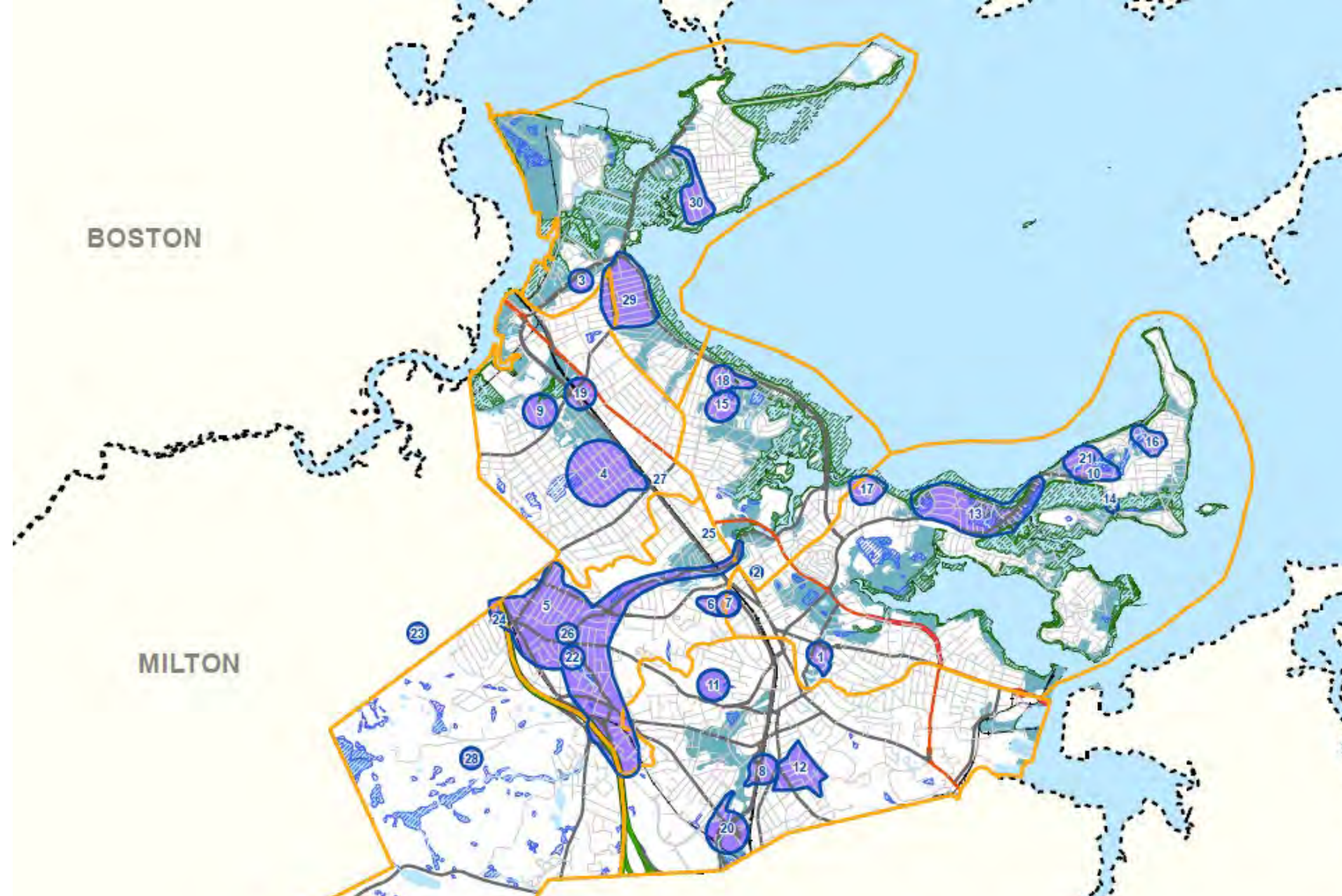
CHANGING WEATHER

- Higher Temperatures
- Shorter Winters
- More frequent and intense storms
- Sea Level Rise
- Droughts

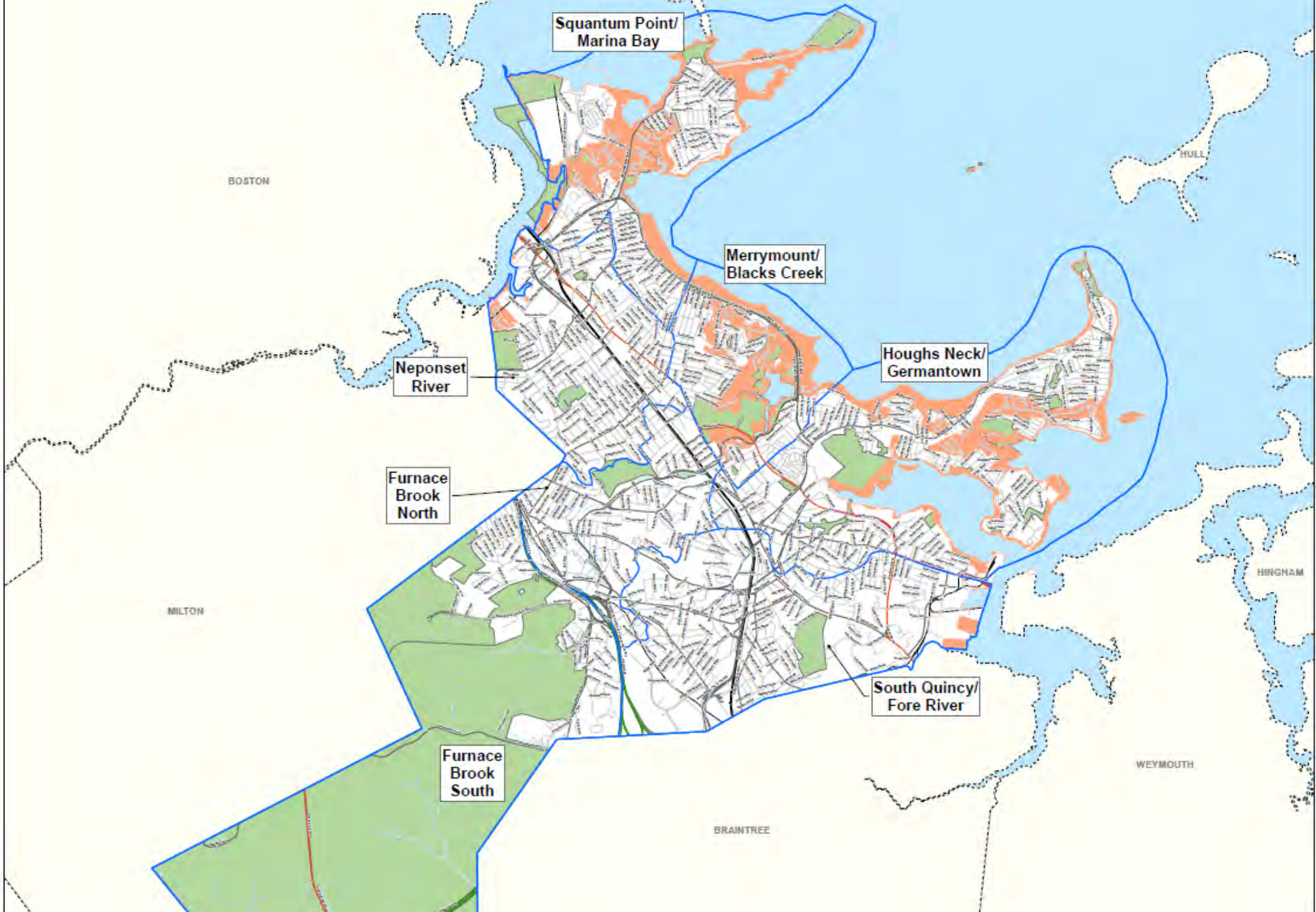


AMPLIFIED EXISTING RISKS

- Community and regional infrastructure
- Local and regional economies
- Public Health
- Natural resources and our environment

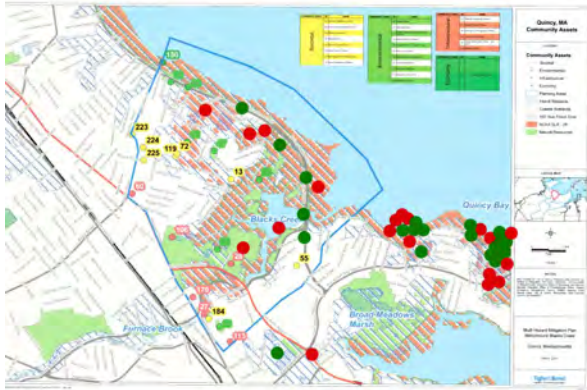


VULNERABLE AREAS... NOW

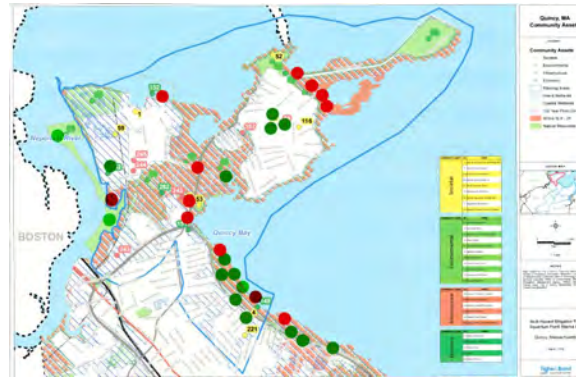


VULNERABLE AREAS... IN THE FUTURE

Quincy MA Community Assets Strengths and Vulnerabilities Identified at MVP Workshops



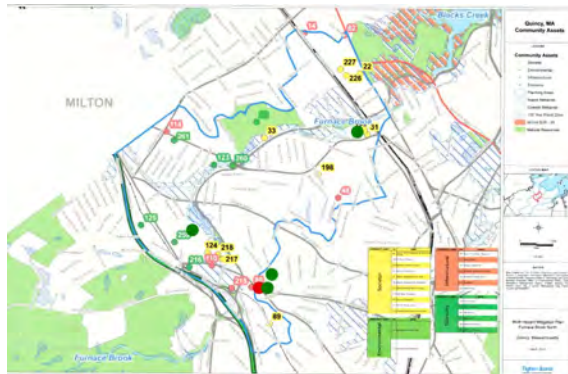
Merrymount/ Blacks Creek



Squantum Point/ Marina Bay



Houghs Neck/ Germantown



Furnace Brook North



Neponset River



South Quincy/ Fore River



Community Asset Strength



Community Asset Vulnerability



RESILIENCY ACTIONS



TYPES OF RESILIENCY ACTIONS

1. Prevention
2. Property Protection
3. Public Education and Awareness
4. Natural Resource Protection and Green Infrastructure
5. Structural Projects
6. Emergency Services Protection



RESULTS FROM MVP WORKSHOPS

Community Resilience

H-M-L priority for action over the Short or Long term (and Ongoing)
 Y = Vulnerability S = Strength

Example:

Infrastructure
MBTA
Upper Brookline
Post Island
Greenburg
Division
Societal
Transportation
Fire Services
Low income
Libraries
Environmental
Princess
Squam
Wollaston
Post Island
Economy
State
The State
Personal
Food and

Community Resilience

H-M-L priority for action over the Short or Long term (and Ongoing)
 Y = Vulnerability S = Strength

Asset:

Example:

Infrastructure
Emergency Management
Transportation
Societal
Schools
Vulnerable Populations
Neighborhoods
Community
Environmental
Public Works
Economy

grouping of homes to elaborate get funding for elevation, support/public education system to support

for majorly...
 (X)

unlock the...
 (H)

Community Resilience

H-M-L priority for action over the Short or Long term (and Ongoing)
 Y = Vulnerability S = Strength

Example:

Infrastructure
German
Emergen
Road
Squand
Post Is
Societal
Nut
Storm
Soci
Broad
Environmen
Quincy
Economy
Quincy
HHS

Furnace Brook

Community Resilience Building Risk Matrix

H-M-L priority for action over the Short or Long term (and Ongoing)
 Y = Vulnerability S = Strength

Quincy's Top Priority Hazards

Assets	Location	Ownership (City, State, Federal, Private)	V or S	Coastal Flooding & Erosion	Nor'easter	Inland Flooding
				Complete for New Assets Only		
Example:						
Infrastructure						
Fire Dept			S	maintenance of equipment / adequate personnel / on		
Compass Vigent Care			S	pump station stormwater flood control /		
Sub station			V	pump station stormwater flood control / back up g		
Pump station						
Societal						
Bernazzini elementary			V/S	shelter / pump maintenance of stream bed / remaining de		
Intr faith Social Service			S	fundraisers / food pantries to maintain ability to use c		
Jack n Jill			V	pre-closure during emergency		
Central Middle School			S	shelter / supplies + preparation / personnel - not too suscep		
Environmental						
Furnace Brook Pkwy			V	maintenance of stream bed / alternative routes		
Furnace Brook Golf Course			S	shelter / supplies + personnel / back up generator		
Economy						

COMPILED INTO MASTER MATRIX

Community Resilience Building Risk Matrix				www.CommunityResilienceBuilding.org							
H-M-L priority for action over the Short or Long term (and Ongoing) V = Vulnerability S = Strength				Quincy's Top Priority Hazards							
Assets	Location	Ownership (City, State, Federal, Private)	V or S	Inland Flooding	Coastal Flooding & Erosion	Nor'easter	Severe Winter Weather	Priority		Time	
								H	M	L	Short
Complete for New Assets Only											
Infrastructural											
Road Access/Transportation Corridors	Citywide	City/State	V	Improve access during emergencies and severe weather events; Establish alternative routes and emergency alternative means of transportation; Increase culvert size at main corridors throughout City				H	O/S		
				Improve Stormwater Management	Install Pump Stations						
East Squantum Street	East Squantum Street	City	V	Ongoing maintenance and repairs to seawall; Ongoing clearing of debris from road				M	L		
Sea Street Access	Sea Street	City	V	Backup Generator; MWRA Sewer Easement Access, develop hydraulic model, Sea Street Seawall Rehab and Enhancement for greater protection				H	S		
Terne Road Access	Terne Road	City	V	Analysis for Construction of Pump Station; Assessment of Tide gates				H	S		
Quincy Shore Drive	Quincy Shore Drive	DCR	V/S	Storm Drain Maintenance	Salt Marsh restoration; Ongoing tide gate repair and maintenance; ongoing seawall repair and maintenance; Increase seawall height; Blacks Creek Tide Gate project; Sand Removal			H	O		
				Alternative Route Planning; Ongoing maintenance and clearing of debris along road; Allocate funding to maintenance and improvements of Quincy Shore Drive; Conduct Analysis of Local Code and Feasibility study for elevating residential homes on Quincy Shore Drive; Mosquito spraying; control of invasive species; Sand Removal;							
Post Island Road Neighborhood	Post Island Road	City/Private	V/S	Emergency Backup Generators; Georges Island Seawall Analysis; Pump Station Analysis; Construct new seawall; Evaluate living shoreline; Increase capacity of culverts on Sea Street; Perform dike assessment				H/M	O/S		
Neponset Bridge	Neponset Ave	City	V	Salt Marsh Restoration; Sagamore Creek Tide Gate; Division Street Pump Station Repairs				H	L		
Squantum Point Ferry Pier	552 Victory Road	City	V/S	Breakwater				L	O		
Squantum Isolation	Squantum Neighborhood	City/Private	V	Increase culvert size				H	O		
MBTA Stations & Access	Citywide	State	S	Improve Stormwater management and Construction of Stormwater Pumping Stations				H	L		
MBTA Bus Barn	Hancock Street	State	V/S	Maintain up to date SPCC Plan; Maintain fleet for use in case of emergencies				M	O		
				Retrofit Bus Barn for flooding and elevate roads		Retrofit site to sustain severe winter weather					
Light & Power for Evacuation Routes	Citywide	N/A	V	Provide emergency power to light evacuation routes				H	S		
Access to Emergency Services	Citywide	N/A	V	Maintain Comprehensive Emergency Management Plan; Provide additional Public Education; Establish an Emergency Notification and Warning System to Resident's Cell Phones; Improve Stormwater Management				H	O		
Emergency Management Office	1 Merrymount Pkwy	City	S	Maintain Equipment in case of emergency; Generator upgrades; Maintenance of Vehicles/Fleet; Site Floodproofing				H	O/S		
Quincy Fire Dept - Engine 5	182 Copeland Street	City	S	Maintenance of Equipment; Adequate Staffing; Ongoing Public Education and Emergency Alert System				H	O		

EXAMPLE PRIORITY MITIGATION ACTIONS FROM HMP

TYPE OF ACTION	DESCRIPTION	AREA IMPACTED
Prevention	Building Inspection Records System	City-wide
Property Protection	Seismic Impact Evaluation	City-wide
Public Education and Awareness	Hazard Mitigation Education	City-wide
Natural Resource Protection and Green Infrastructure	Salt Marsh Restoration	Merrymount/ Blacks Creek
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Emergency Services Protection	Emergency Communication System	City Wide



PRIORITY ACTIONS IDENTIFIED IN MVP WORKSHOPS

High Priority	Moderate Priority	Lower Priority
<ul style="list-style-type: none">- Emergency Communications System- Emergency Power Generators- Stormwater Pumping Stations- Seawall Construction- Building Inspection Records System- Tide Gate Construction and Management Plan- Public Education and Post Disaster Support	<ul style="list-style-type: none">- Drainage Improvements- Tree Removal Equipment- Slope Protection and Infrastructure Hardening- Sewer System Modernizations- Sewer System Interceptor Relief- Hurricane Barrier Evaluation	<ul style="list-style-type: none">- Coastal Buffer Maintenance- Salt Marsh Restoration- Seismic Impact Evaluation and Gas Utility Study- O'Rourke Field Conversion

NEXT STEPS

- Finalize Summary Report based on this Listening Session
- Become a certified Municipal Vulnerability Preparedness Community
- Maintain MVP status with annual progress updates to State (combined with Hazard Mitigation Planning update)
- Eligible for MVP action grant funding



AND NOW WE LISTEN



