Quincy, MA
Community Assets

LEGEND

Community Assets

- Societal
- Environmental
- Infrastructural
- Economy
- Planning Areas
- Inland Wetlands
- Coastal Wetlands
- 100 Year Flood Zone
- NOAA SLR - 2ft
- Natural Resources

LOCUS MAP

N W E S

0 1,000
Feet

1:6,000

NOTES

Map Created for City of Quincy. Resource data provided by: Bureau of Geographic Information (MassGIS), Commonwealth of Massachusetts, Executive Office of Technology and Security Services Executive Office of Environmental Affairs, Federal Emergency Management Agency (FEMA) National Flood Hazard Layer, City of Quincy, Metropolitan Area Planning Council, and MassDOT

Multi Hazard Mitigation Plan
Furnace Brook North

Quincy, Massachusetts

March 2019

Tighe&Bond
Engineers | Environmental Specialists

COMMUNITY ASSET	ID	NAME
Societal	89	Jack N Jill Kindergarten & Child Care Ctr Inc
	124	St Mary's Church
	226	Restore Christian Church
	227	Campus Kinderhaus
	31	Adams National Historic Site
	196	Adams National Park Peacefield
	217	John Witnthrop Blast Furnace
	218	Hall Place Cemetery
	198	Adams Montessori
	22	Central Middle School
	33	Charles A Bernazzani Elementary

COMMUNITY ASSET	ID	NAME
Environmental	20	Furnace Brook Golf Club
	21	Furnace Brook Parkway

COMMUNITY ASSET	ID	NAME
Infrastructural	86	Quincy Fire Dept - Engine 5
	14	Gavin House
	48	Steward Health ER
	215	Compass Urgent Care Center
	62	Keohane Funeral Home
	110	Substation
	114	Water Feed

COMMUNITY ASSET	ID	NAME
Economy	125	Home Depot
	216	Curry Hardware
	261	AAA Quincy
	123	Wallgreens
	259	Blue Hills Towing
	260	American Towing

COMMUNITY ASSET	ID	NAME
Societal	102	Riverbay Club
	160	Mount Wolleston Cemetery
	42	Ymca South Shore Child Care Program
	49	Salvation Army Sunshine Pre-school
	41	United First Parish Church
	175	Houghs Neck Congregational
	176	Most Blessed Sacrament
	177	Seventh Day Adventist
	180	Our Lady Of Good Counsel
	185	The River Church
	187	Bethany Congregational
	189	First Congregational Society
	190	Central Baptist Church
	201	Quincy Point Congregational Church
	203	Life Community Church
	204	Massachusetts Budhi Siksa
	182	Germantown Neighborhood Center
	200	Fore River Clubhouse
	199	Child'S View Daycare
	195	Interfaith Social
	194	Quincy Historic Society
	179	Adams Shore Library
	188	Thomas Crane Public Library Main Branch
	18	Atherton Hough Elementary
	19	Merrymount Elementary
	24	Broad Meadows Middle
	25	New Concept Christian Day School
	30	Woodward School For Girls
	34	Snug Harbor Elementary School
	40	Quincy High School
	44	QPS Admin & Quincy Planning and Info Tech
	75	Point Webster Middle
	76	Quincy Community Action Program Head Start
	101	Quincy College
	181	Father Bills Place Homeless Shelter
	38	Snug Harbor Court
	43	O'Brien Towers
	45	Town Brook House
	73	Pagnano Towers

COMMUNITY ASSET	ID	NAME
Environmental	1	Allerton Playground
	2	Arthur Boyson Park
	3	Avalon Beach
	4	Back Beach
	5	Baker Beach Playground and Salt Marsh
	6	Bayswater Boatyard
	8	Boston Harbor Islands State Park
	9	Broad Meadows/Broadmeadows School
	16	Edgewater Drive Beach
	17	Faxon Field/Faxon Park
	18	Fire Station Beach
	22	General Palmer Park
	26	Joseph Street Salt Marsh
	27	LaBrecque Field
	28	Manet Lake
	31	Monroe Playground
	33	Mound Street Beach
	36	Norton Road Beach
	37	Nut Island
	39	Perry Beach
	40	Post Island Beach
	44	Quincy Shores Reservation
	45	Rhoda Beach
	46	Rock Island Cove Marsh
	53	Spring Street Salt Marsh
	57	Taffrail Road Playground
	59	Town Brook Flood Control

COMMUNITY ASSET	ID	NAME
Infrastructural	21	Quincy Youth Arena
	26	Naval Reserve Center
	193	Congressman Lynch Quincy Office
	16	Quincy Fire Dept - Engine 6
	39	Quincy Fire Dept - Engine 8
	32	Friends of the Unborn
	47	Quincy Rehab & Nursing Center
	174	Manet Community Health Center -Houghs Neck
	183	Manet Community Health Center - Snug Harbor
	186	Harvard Vanguard Medical Associates
	202	South Cove Manor Nursing
	37	Wickens & Troupe
	79	Sweeney Funeral Home
	29	Department of Public Works
	99	Quincy City Hall
	100	Quincy City Hall Annex
	103	Nut Island Transfer Station
	104	Sewer Pump Station
	105	Sewer Pump Station
	108	Substation
	109	Substation
	35	Quincy Police Dept.
	54	Navy Security/police
	46	United States Post Office
	140	Sprague Energy
	144	Quincy Oil / Sprague Energy
	164	Algonquin Gas Pipeline

Quincy, MA Community Assets

LEGEND

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- Natural Resources

LOCUS MAP

0 1,400
Feet

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NOTES

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Multi Hazard Mitigation Plan
Houghs Neck/ Germantown

Quincy, Massachusetts

March 2019

Tighe&Bond
Engineers | Environmental Specialists

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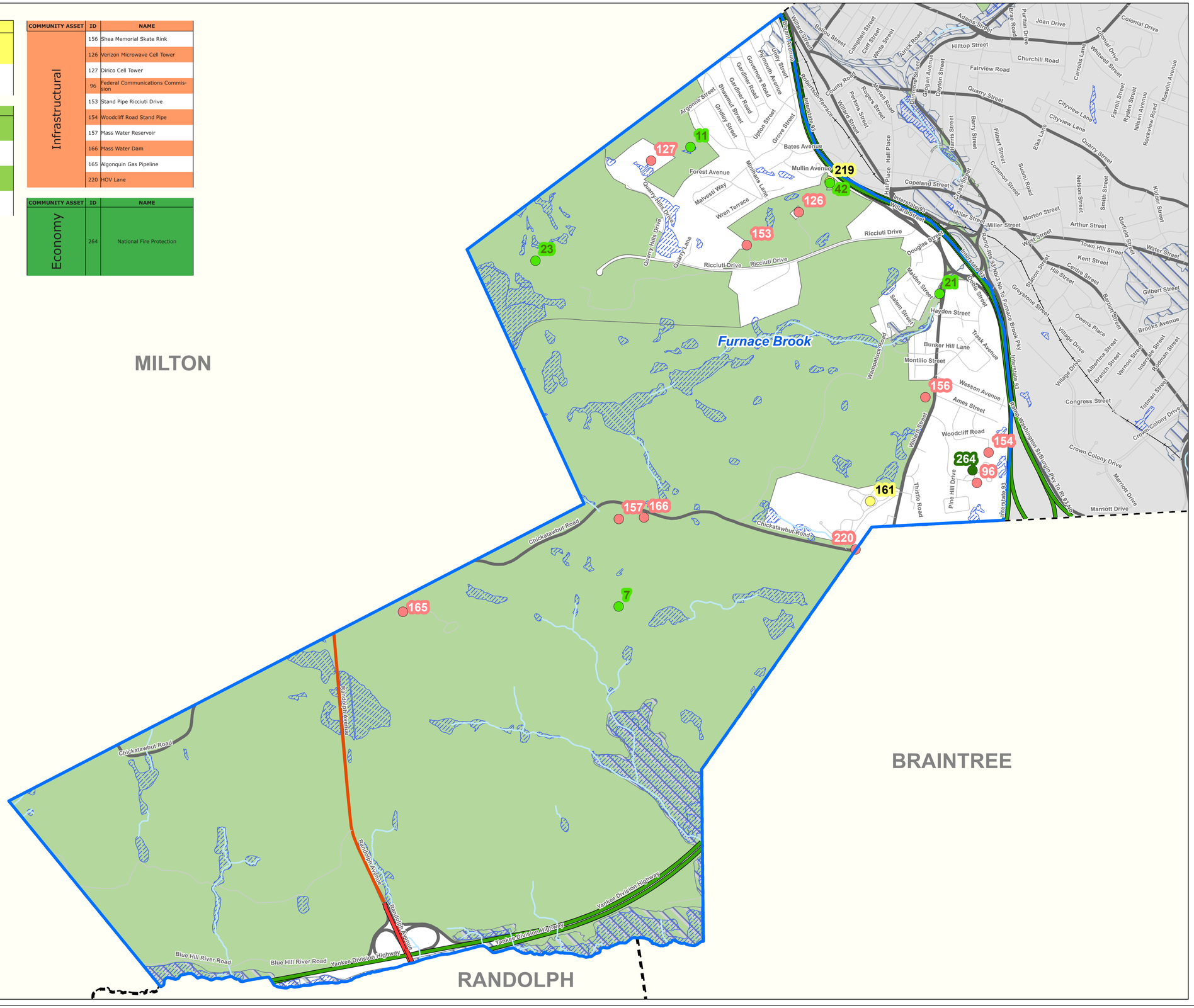
Q-0019

COMMUNITY ASSET	ID	NAME
Societal	161	Pine Hill Cemetery
	219	Granite Rail Incline

COMMUNITY ASSET	ID	NAME
Environmental	7	Blue Hills Reservation
	11	Cunningham Park
	21	Furnace Brook Parkway
	23	Granite Links Golf Course

COMMUNITY ASSET	ID	NAME
Infrastructural	156	Shea Memorial Skate Rink
	126	Verizon Microwave Cell Tower
	127	Dirico Cell Tower
	96	Federal Communications Commission
	153	Stand Pipe Ricciuti Drive
	154	Woodcliff Road Stand Pipe
	157	Mass Water Reservoir
	166	Mass Water Dam
	165	Algonquin Gas Pipeline
	220	HOV Lane

COMMUNITY ASSET	ID	NAME
Economy	264	National Fire Protection



Quincy, MA
Community Assets

LEGEND

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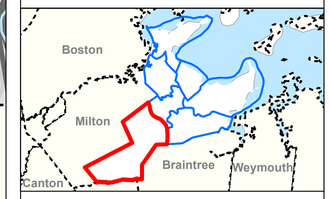
LOCUS MAP



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Feet

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NOTES

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Multi Hazard Mitigation Plan
Furnace Brook South

Quincy, Massachusetts

March 2019

Tighe&Bond
Engineers | Environmental Specialists

Quincy, MA
Community Assets

LEGEND

Community Assets

- Societal
- Environmental
- Infrastructural
- Economy

- Planning Areas
- Inland Wetlands
- Coastal Wetlands
- 100 Year Flood Zone
- NOAA SLR - 2ft
- Natural Resources

LOCUS MAP

N
W E
S

0 1,200
Feet

1:7,200

NOTES

Map Created for City of Quincy. Resource data provided by: Bureau of Geographic Information (MassGIS), Commonwealth of Massachusetts, Executive Office of Technology and Security Services Executive Office of Environmental Affairs, Federal Emergency Management Agency (FEMA) National Flood Hazard Layer, City of Quincy, Metropolitan Area Planning Council, and MassDOT

Multi Hazard Mitigation Plan
South Quincy/ Fore River

Quincy, Massachusetts

March 2019

Tighe&Bond
Engineers | Environmental Specialists

Societal

COMMUNITY ASSET	ID	NAME
	77	1000 Southern Artery Complex
	81	Senior Citizen's Housing
	82	Senior Citizens Housing
	84	Louis George Village
	50	Community Care For Kids
	93	Amelio Della Chiesa Early Childhood Center
	167	Fort Square Presbeterian Day Care
	130	St Johns Church
	131	Salem Lutheren Church
	132	Fort Square Presbeterian Church
	197	High Rock Church
	205	Islamic Center Of New England
	207	Ithna Asheri-Muslims Association
	211	Dhammakaya Meditation
	251	Way Of Hope Pentecostal
	178	QCAP Emergency Food Pantry
	51	Abigail Adams Cairn
	56	Liberty Tree Park
	57	Christ Church Burial Ground
	58	U.S.S. Salem/U.S. Shipbuilding Museum
	63	Granite Trust Company Building
	65	Adams Office Building
	191	Hancock Cemetery
	208	Adams Birthplaces
	70	Sterling Middle School
	85	Clifford H Marshall Elem
	88	Lincoln-Hancock Elementary School
	90	Reay E Sterling Middle
	80	Granite Place
	87	Drohan Apartments
	97	Bright Horizon's Children's Center

Environmental

COMMUNITY ASSET	ID	NAME
	17	Faxon Field/Faxon Park
	59	Town Brook Flood Control

Infrastructural

COMMUNITY ASSET	ID	NAME
	74	Army Recruiting Station
	78	Quincy Fire Dept - Engine 3
	83	Quincy Fire Dept.
	94	Quincy Mental Health Ctr
	95	John Adams Continuing Care Center
	209	Atrium At Faxon Woods
	213	Crown Colony Medical
	91	Bolea Funeral Home
	92	Sweeney Bros. Home For Funerals
	137	MWRA Sludge Plant
	142	Sithe Energy in Weymouth
	138	Fore River Bridge
	147	Ship Yard Pier
	155	HOV Command Center
	158	MBTA Parking Garage and station
	171	MBTA Station and Garage

Economy

COMMUNITY ASSET	ID	NAME
	135	Walmart
	136	Walgreens
	146	Ship Yard
	192	Stop And Shop Headquarters
	210	Fallon Ambulance
	214	Arbella Insurance
	250	Twin Rivers Technologies
	258	Boston Financial Data
	128	Star Market
	133	Kam Man Foods
	134	Roche Brothers
	206	Good Fortune Market
	159	Home Depot
	212	Lowes Home Improvement
	254	Reggie's Oil Services
	257	Scott-Williams Inc.
	265	Burke Oil
	129	Rite Aid Pharmacy
	256	Schlager's Automobile
	255	Bogan Tree

QUINCY HAZARD MITIGATION PLAN SUMMARY

Draft: February 2019

Hazard Mitigation Plan Executive Summary

Hazard Mitigation planning is a proactive effort to identify actions that can be taken to reduce the dangers to life and property from natural hazard events. The Federal Disaster Mitigation Act of 2000 requires all municipalities that wish to be eligible to receive Federal Emergency Management Agency (FEMA) funding for hazard mitigation grants to adopt a local multi-hazard mitigation plan and update this plan in five-year intervals. In the communities of the Boston region of Massachusetts, hazard mitigation planning tends to focus most on flooding, the most likely natural hazard to impact these communities.

The 5-year update for Quincy Hazard Mitigation Plan was prepared with funding from FEMA under the Pre-Disaster Mitigation Grant (PDM) Program. The planning process included updating the plan to reflect the new Massachusetts State Hazard Mitigation Plan and incorporating a variety of natural hazard risk and vulnerability assessments into the plan including future impacts due to climate change. The City of Quincy recognized climate change as a factor that will affect weather patterns, flooding extent, habitat and species distribution, and ultimately impact the ability to recover from disaster and increase risk to the economy of Quincy. The 5-year update was completed during a year that experienced record setting flood events and extensive damages to coastal properties. These unfortunate events highlighted the importance developing a Hazard Mitigation Plan (HMP), including providing opportunities for community engagement, a platform for better understanding changing climate impacts on the Cities resources and providing a systematic plan for funding hazard mitigation projects for Quincy City officials. The following summary provides a snapshot of the Quincy HMP process to identify natural hazards, evaluate potential losses, and goals and actions to reduce or eliminate the long-term risk to people, buildings, economy and the natural environment .

QUINCY'S RESILIENCY VISION

A resiliency vision for Quincy includes empowering the residents, business community and City Leaders to make near, mid and long-term changes that will reduce future climate change impacts, protect its vital community assets, and adapt to changes already occurring. The mitigation actions included in the 2019 Hazard Mitigation Plan complement and support this resiliency vision.

Contents

The HMP Planning Process

The City of Quincy used a planning process framework, described in Section 1 of the HMP, based on FEMA's hazard mitigation planning guidance focusing on local needs and priorities, but maintaining a regional perspective on natural hazard events. To support the planning process for the 2019 HMP Quincy accomplished the following:

- Developed HMP Planning Team
- Identified hazards and mapped of concerns
- Profiled and prioritized these hazards
- Identified critical community assets and evaluated risk and potential losses associated with these hazards
- Developed mitigation strategies that address the hazards impacting Quincy
- Developed an implementation, maintenance and update procedure to be executed upon approval of the plan.

While flooding continues to be the number one priority for Quincy, the risk and vulnerability analysis completed for the 2019 HMP shifted priorities to include addressing a wider range of natural hazards (see Natural Hazards on Page 3). Climate change was considered in relation to inland and coastal flooding and mitigation projects were recommended based on potential inundation related to storm surge, sea level rise and extreme precipitation.

The City has provided opportunities for the public to be involved by holding public workshops, conducting surveys and other outreach events. The MVP plan described below will further engage and educate residents and business to better understand the Cities vulnerabilities to natural hazard risk and the necessity to plan projects that will enable Quincy to adapt and recover from these event.

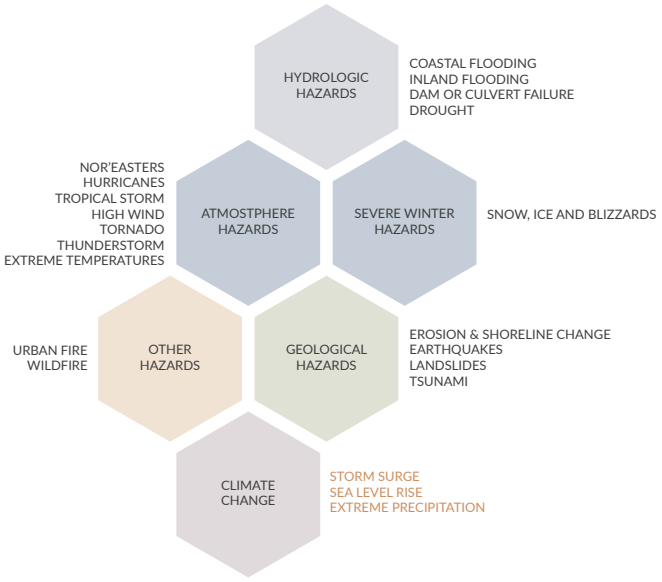
The MVP planning process will engage and educate the resident and businesses in Quincy so they can better understand the Cities vulnerabilities to climate change and necessity for implementing specific mitigation projects.

Muncipal Vulnerability Preparedness Planning

The City of Quincy obtained a state grant in the fall of 2018 to complete a Municipal Vulnerability Preparedness Plan (MVP) . The planning process will utilize information complied in the HMP and then further engage and educate the resident and businesses in Quincy so they can better understand the Cities vulnerabilities to climate change and necessity for implementing specific mitigation projects and adaptation strategies.

Two outreach workshops will be organized to engage specific Community Sectors (i.e. individuals representing businesses, residents impacted by coastal flooding, public health and emergency response professionals) in discussion of priority projects. The workshops will provide the City with critical feedback on how these different groups perceive the degree of risk from natural hazards, how willing they are to accept the changes needed to adapt and reduce damages from natural hazard and how much residual risk can be tolerated if adaptation is not an option.

Once the MVP plan is completed, Quincy will become a designated Municipal Vulnerability Preparedness Community and receive preferential treatment in applying for both state and federal grant programs.



Natural Hazard Risks

The City of Quincy elected to include all 16 hazards from the 2018 State Plan as the basis for evaluating natural hazard risk for the Quincy Hazard Mitigation Plan (HMP) 5-year update. Climate change impacts are integrated into the natural hazard elements where appropriate, consistent with regional climate change information used in the 2018 State Hazard Mitigation Plan.

The highest ranked natural hazards for Quincy include Coastal and Inland Flooding, Nor'easters, Coastal Erosion and Severe Winter Weather. Within the past year Quincy has witnessed 21 coastal flooding events including record breaking high tide and storm surge.

Climate change projections for Quincy were included using multiple sources including data developed by the Northeast Climate Science Center (NCSC) at the University of Massachusetts Amherst for the State HMP Plan.

The City is already feeling the impacts of climate change, particularly related to coastal flooding due to storm surge and sea level rise and extreme temperatures. Quincy already has some of the highest repetitive loss claims in the Commonwealth due to flood damage from coastal storms and extreme precipitation. With more than 27 miles of coastline, and three isolated dense residential peninsulas, Quincy is particularly vulnerable to sea level rise and storm surge. Inland the City is vulnerable as storm water conveyed by numerous waterways frequently overtop during large precipitation events flooding adjacent neighborhoods and businesses. With climate change, inland flooding will worsen as riparian waterway drainage is blocked by advancing storm surge and sea level rise. Extreme heat impacts many of Quincy's most vulnerable populations including elderly, financially disadvantaged and physically challenged populations. Temperatures in Quincy can rise into the 90's during the summer, and heat island effects can add an additional 5-10 degrees in highly urbanized areas.

Quincy has keenly felt the effects of extreme weather in 2018, including weeks of below zero temperatures and record breaking high tides in January, temperatures 30 degrees above normal in February and three back to back Nor'easters in March resulting in some of the worst flooding that Quincy has seen. The timing of the 5-year HMP update and MVP workshops will take advantage of Quincy's recent experience with extreme weather events and the heightened awareness of how vulnerable the community is.

HAZARD RISK ASSESSMENT

A key component of the mitigation plan is the identification of risks posed by hazard and the corresponding impacts to the community. The process of identifying hazards of concern, profiling hazard events, and conducting a vulnerability assessment is known as a risk assessment. The risk assessment is a 4-step process:

Step 1: Identify Risks

Identify natural hazards that could impact Quincy in the future or have impacted Quincy in the past.

Step 2: Profile Hazards

Hazard profiles were developed for each of the 16 natural hazards that could impact Quincy in the future or have impacted it in the past. Each hazard profile includes a definition and description of the hazard, previous occurrence and extent based on historic data, local areas of impact, and probability for future occurrence.

For each natural hazard, the major vulnerability issues for four key sectors are summarized. The key sectors or categories of community assets include:

- Special populations and places (vulnerable populations and cultural assets)
- Built environment (municipal buildings and critical infrastructure)
- Economic centers
- Natural environment

Step 3 : Community Assets

FEMA defines a community asset as anything that is important to the character and function of a community. Community assets can be split up into four different categories: People, Economy, Built Environment, and Natural Environment.

The People category includes populations that are more vulnerable to disaster (e.g., elderly, children, visiting populations), densely populated areas, and societal assets such as cultural and historical resources.

Economy is included because economic drivers are a major part of disaster recovery. Community assets in the Economy category can include major employers, commercial centers and locations providing food, medical supplies and building materials.

The Built Environment is the largest category and includes existing structures, infrastructure (transportation and utilities) and critical facilities important for disaster response and evacuation (e.g., police, fire stations and medical facilities).

The Natural Environment category is meant to capture any natural resources important to the community's character, economy (tourism, recreation, and the protection of clean air and water), and ecosystem services (e.g., wetlands providing flood storage, coastal areas providing erosion control as a first line of defense from coastal storms).

Identifying Important Community Assets

Quincy is classified as a regional urban center due to its high population density, large proportion of multifamily housing, and its moderate and high-density neighborhoods that surround a historically significant downtown. Natural resources, along with much industrial economic activity, contributed to the development of distinct residential patterns throughout the City that endure today in Quincy's unique neighborhoods.

Seven geographic planning areas were delineated for the Hazard Mitigation Plan approximately defining these neighborhoods. The areas were primarily based on watershed boundaries and then further refined to include coastal flooding patterns. Community assets within each planning area were identified including features from each category defined in the inset to the right. A total of 326 community assets were identified as being important to the character and function of the City of Quincy for the 2019 HMP.

The geographic areas serve as planning boundaries allowing areas to be compared and contrasted, laying the foundation for the vulnerability analysis and development of mitigation strategies.

The geographic areas with total number of defined community assets are listed below. :

- Squantum Point/ Marina Bay (31 community assets)
- Neponset River/ North Quincy (59 community assets)
- Merrymount/ Blacks Creek (23 community assets)
- Houghs Neck/ Germantown (100 community assets)
- South Quincy/ Fore River (69 community assets)
- Furnace Brook North (26 community assets)
- Furnace Brook South (17 community assets)

Separate inserts were prepared for each geographic area to further describe the community assets and results of the vulnerability analysis.

Vulnerability Assessment

An exposure assessment was used to estimate losses due to inland and coastal flooding. An exposure assessment is a geospatial evaluation where geographic areas and hazards are mapped together to show the physical relationship to one another. The geospatial relationship can also be used to quantify the number and value of parcels and structures within the hazard area to estimate losses. For flooding, a GIS-based exposure analysis was used to identify potential losses of developed properties that fall within Quincy's 100-year flood zones and areas that may become impacted in the next 25-30 years due to sea level rise, as defined in the HMP in Section 3.2.1. (continued on page 6)

Inland Flooding

Inland or Riverine Flooding occurs where the rate of precipitation from a severe storm like a Nor'easter or tropical storm causes a large amount of rain in a short period of time, overwhelming the capacity of Quincy's natural or constructed storm drainage systems causing overflows, flooding streets and properties. Poor drainage after flood events is usually associated with poorly infiltrating soils and undersized stormwater conveyance, including channelized streambeds and culverts that do not have adequate capacity to handle runoff from larger storm events. Areas where both coastal and inland flooding occur may be especially hard hit when storm surge, high tides and stream discharge coincide in the same storm, and high tides backwater the inland drainage system. Tide gates have been installed in over 80 locations to address this issue and prevent the backflow from rising tides and storm surge to upland areas via the storm drainage system.

Coastal Flooding

Currently, coastal storms present a threat to development along the 25 miles of Quincy's coastline due to storm surges that overtop coastal structures and natural shorelines, resulting in coastal flooding. Hurricanes typically do not penetrate the Quincy shore as it is protected by adjacent coastal barrier landmasses including the Town of Hull and the Boston Harbor Islands. Nor'easters pose the biggest threat to Quincy and other east facing communities on Boston Harbor and Massachusetts Bay. Damage from nor'easters is exacerbated when combined with spring tides and when they extend across multiple high tides.

Step 4: Vulnerability Assessment– Potential Losses to Quincy

Quincy completed a vulnerability assessment (VA) to estimate the extent or magnitude of potential damages from natural hazards of varying types and intensities. The VA focuses on flood risk and the identified community assets to estimate the potential losses that Quincy could experience during a flood under existing and future conditions with climate change.

The VA included flood analysis for each geographic area in Quincy, and additional analysis for vulnerable community assets under current and future conditions with climate change.

FEMA data for repetitive and severe repetitive loss claims due to flooding was included in the HMP. Quincy ranks the 5th highest in repetitive loss claim in Massachusetts, involving over 185 locations and 650 claims from 1979-2017.

The HMP also evaluates impacts for areas slated for future development. This assessment identified natural hazard risk from hurricanes, earthquakes, and flooding, and is further described in Section 5.3.2 of the HMP.

Future Flood Risk

Future flood risk was determined by using NOAA Sea Level rise (SLR) data looking at 1, 2 and 4 feet of sea level rise. The 1 and 2-foot SLR values were chosen to align with the level of sea level rise that fall within the likely or 66% probability of occurrence range for the time periods 2030-2070 for Boston Harbor. 4 feet of SLR was included in the analysis to visualize a long term (2100) potentially worst case SLR Scenario.

Flooding within the 1, 2 and 4-foot flood zone includes area of the City in almost all of the planning areas except for Furnace Brook North and South, which only experience inland flooding. Flooding impacts solely due to SLR impact 6% of all developed parcels in Quincy.

The analysis showed that 199 properties may be flooded with 2 feet of SLR in the Merrymount/ Blacks Creek planning area compared to 114 properties for Houghs Neck/ Germantown, and 10 for Squantum Point/ Marina Bay. 4 feet of SLR planning area has the greatest impact on Houghs Neck/ Germantown. The analysis showed 395 properties would be impacted with a 4 foot SLR inn the Houghs Neck/ Germantown area, compared to 199 in Squantum Point/ Marina Bay and 160 in Merrymount/ Black Creek.

NOAA SLR data used for future flood risk does not consider natural processes such as erosion, subsidence, or future construction and is only a screening level tool. Inundation is shown on Map 5.1 as it would appear during Mean Higher High Water as observed over the past 19 years.

Vulnerability Analysis (cont.)

(Continued from page 5)

This exposure assessment was completed using GIS analysis for existing flooding and future flooding due to climate change for the entire City, based on geographical areas, referred to as "planning areas" (see Section 3.2 for more detail), assessor's data, current FEMA FIRMs and data from the 2017 NOAA Sea level Rise Viewer. This assessment is described in Section 5.3.1

A separate detailed assessment was completed to determine whether specific critical facilities and other identified community assets could be exposed to flooding, surge, sea level rise and coastal erosion. The assessment looks at existing flood conditions based on approved FEMA FIRMS with 2017 and 2018 map revisions and future flood conditions due to climate change from sea level rise and storm surge for time periods 2030 and 2070 based on NOAA and modeling data from the Resilient Quincy Report and the Boston Harbor Model. This assessment is described in Section 5.5 of the HMP.

Out of a total of 19,603 developed parcels in Quincy about 20% (4,100) are located in the FEMA 100-year flood plain with a combined building value over 1.75 billion dollars. 13% (2630) of the properties are in coastal floodplain areas and the remaining 7% (1456) are in inland floodplain areas.

Regionally, Merrymount/Blacks Creek neighborhood has the greatest number of potentially impacted coastal properties, and Furnace Brook North has the greatest number of potentially impacted inland properties.

Fifty-five (55) of the 260 community assets were identified within the 100-year flood zone, 33 of which were in the coastal zone and 22 in inland flood zone. Established base flood elevations for each location were determined (ranging from 10-49 feet NAVD88) . All coastal community assets were further evaluated to compare established base flood elevations against modeled SLR and base flood with a 2 foot rise. No determination of elevation of the building first flood relative to flood depths were included.

Mitigation Project Goals & Objectives

1. Public Health and Safety

Recommended Goal: Protect the health and safety of the public.

Objectives:

- Promote cost-effective hazard mitigation actions that protect and promote public health and safety from all hazards with an emphasis on reducing damage to repetitive and severe repetitive loss properties.
- Encourage people to be prepared before, during and after a hazard event.
- Ensure that services related to public health (e.g., sanitation, water, debris removal, hospitals and emergency services) can function during and after a hazard.
- Ensure that evacuation can happen in an organized and efficient manner.
- Minimize secondary impacts from hazards, such as the release of pollutants. (e.g., fuel spills into waterbodies).
- Promote public communications.

2. Protection of Existing Infrastructure

Recommended Goal: Protect existing properties and structures

Objectives:

- Provide resources for residents and businesses to make their buildings and properties more disaster resistant.
- Educate the public on measures they can take to protect their property from natural hazards.
- Maintain existing drainage and seawall infrastructure to protect residential and business areas from flooding.
- Ensure that critical facilities and infrastructure are protected from hazards.
- Upgrade existing structures to mitigate repetitive or severe repetitive loss properties.
- Ensure that future development / redevelopment does not make existing properties more vulnerable to hazards.

3. Protection of Natural Resources

Recommended Goal: Increase resilience by protecting and enhancing natural resources.

Objectives:

- Preserve and restore marsh ecosystems along coast-line and subtidal area (including shellfish habitat).
- Protect natural areas (including open space, wetlands, green spaces) to ensure that they buffer impacts to developed areas during a natural disaster.
- Protect and increase urban tree canopy.
- Manage stormwater with Low Impact Development techniques (provide capital resources to encourage investment in LID upgrades).
- Optimize techniques to provide safe access to the waterfront to avoid erosion.

4. Emergency Response to Hazards

Recommended Goal: Ensure that essential services can function during and after a hazard event.

Objectives:

- Ensure that critical infrastructure is protected from natural hazards.
- Ensure that key service emergency personnel and employees can get into and around the City to provide services.
- Promote effective and consistent interdepartmental communication.
- Maintain the Comprehensive Emergency Management Plan (CEMP)

5. Planning for Future Development

Recommended Goal: Minimize hazard risks for future development.

Objectives:

- Encourage future development in areas that are not prone to natural hazards.
- Engage developers in discussions regarding the Hazard Mitigation Plan and known hazards in Quincy.
- Enforce existing zoning and building regulations, and make updates to address known hazards and risks.
- Ensure that future development meets federal, state, and local standards for preventing and reducing the impacts of natural hazards including impacts due to climate change on natural and historic resources.

6. Regional Cooperation

Recommended Goal: Work regionally to mitigate impacts from natural hazards and to respond and recover from hazard events.

Objectives:

- Continue to participate in regional efforts.
- Cooperate with other agencies, communities, and private entities.
- Understand priorities and capabilities of other entities to allow for resource-sharing, mutual aid, and entering into memoranda of understanding (MOU).

7. Hazard Awareness

Recommended Goal: Maintain Hazard Awareness

Objectives:

- Track and compile hazard related data.
- Understand the potential implications of climate change on the frequency and extent of natural hazard events and incorporate that knowledge into hazard mitigation efforts.
- Maintain publicly available information on natural hazard risks in the City.
- Integrate hazard mitigation into other City initiatives and plans.
- Encourage the business community and local agencies representing vulnerable populations to work with the City to participate in development of the hazard mitigation plan.
- Plan outreach events educating the broader community on hazard risks and community vulnerability, and the benefits of hazard mitigation.

8. Hazard Mitigation Resources

Recommended Goal: Determine priorities for directing resources for hazard mitigation and response.

Objectives:

- Maintain adequate staff resources.
- Prioritize mitigation projects.
- Continue to include mitigation projects in the Capital Improvement Plan.
- Pursue various funding sources.
- Encourage private property owners to implement measures to protect their own properties.

Mitigation Progress

Nearly $17M in drainage improvements were completed in the last 5-years resolving many problematic areas. Mitigation Progress Tide gates have been installed in over 90 locations to address flooding and prevent the backflow from rising tides and storm surge to upland areas via the storm drainage system.

How Will Future Projects be Funded?

Municipal Vunlerability and Preparedness Action Grants

Coastal Zone Management Resiliency Grants

FEMA Hazard Mitigation Grants - Pre-Disaster Mitigation and Hazard Mitigation Grant Program

Executive Office of Energy and Environmental Affairs Dam and Seawall Repair Funds

Quincy Capital Improvement Plan

Top Priority Mitigation Projects

A total of 52 mitigation actions were selected by the planning team to include in the HMP. The projects were ranked using a FEMA standardized benefit cost review called STAPLEE that considers the social, technical, administrative, political, legal, environmental and economic costs and benefits for each action. A total of 28 mitigation projects are at the top of the list addressing a wide range of natural hazards that will result in protecting property, providing public education and awareness, natural resource protection, infrastructure improvements, and emergency services. The complete list is included in the HMP as Table 7.3 -2019 Mitigation Action Plan.

A few of the immediate high priority needs that benefit the whole City include:

- More opportunities for Hazard Mitigation Public Education (such as the MVP workshops)
- Improving Emergency Power Generators
- Updates to Quincy's Emergency Communication System
- Improvements to the Building Inspections Records System
- A City-wide Tide Gate Management Plan
- Additional Tree Removal Equipment

MITIGATION ACTION	GEOGRAPHIC AREA
Public Education	Citywide
Emergency Power Generators	Citywide
Quincy's Emergency Communication System	Citywide
Faxon Park Outreach	South Quincy/Fore River
Building Inspections Records System	Citywide
Tide Gate Management Plan	Citywide
Tree Removal Equipment	Citywide
Stormwater Control Station	Furnace Brook North
Stormwater Pumping Station	Houghs Neck/Germantown
High Capacity Mobile Pumps	Houghs Neck/Germantown
Pump Station Rehabilitation	Merrymount/Blacks Creek
Drainage Hydraulic Model	Squantum Point/Marina Bay
Hurricane Barrier Evaluation	Citywide
Coastal Buffer Maintenance	Houghs Neck/Germantown
Invasive Species Removal Program	Citywide
Drainage Improvements	Houghs Neck/Germantown
Tide Gate Modernization	Houghs Neck/Germantown, Merrymount/Blacks Creek
Salt Marsh Restoration	Merrymount/Blacks Creek
Seawall Construction	Houghs Neck/Germantown
Tide Gate Construction	Houghs Neck/Germantown
Hydraulic Model and Tide Gate Updates	Houghs Neck/Germantown
Drainage Improvements	South Quincy/Fore River
Seismic Impact Evaluation and Gas Utility Study	Citywide
Flood Protection	Houghs Neck/Germantown
Sewer System Rehabilitation	Merrymount/Blacks Creek
Sewer Interceptor Relief	South Quincy/Fore River
Slope Protection and Infrastructure Hardening	Squantum Point/Marina Bay
O'Rourke Field Conversion	Furnace Brook North

VULNERABILITY ASSESSMENT

Quincy completed a vulnerability assessment (VA) to estimate the extent or magnitude of potential damages from natural hazards of varying types and intensities. The VA focuses on flood risk and the identified community assets to estimate the potential losses that Quincy could experience during a flood under existing and future conditions with climate change.

The VA included analysis for each geographic area in Quincy, and separate analysis for vulnerable community assets and future development.

Economic losses due to a flood include, but are not limited to damages to buildings (and their contents) and infrastructure, business interruption (including loss of wages), impacts on tourism, and tax base.

MITIGATION STRATEGY FOR SOUTH QUINCY/FORE RIVER

The City has evaluated a number of projects to include in the 2019 HMP mitigation strategy that will directly benefit the residents and business in the South Quincy/ Fore River Area. The projects related to flooding are listed below. Additional projects addressing other natural hazards are listed in Table 7.3 of the HMP.

- Complying with Federal and State stormwater program requirements to improve water quality
- Ongoing retrofit and flood proofing of existing buildings subject to repetitive flooding
- Ongoing elevation of repetitive loss structures

Fore River/South Quincy - Flooding Vulnerability

City-wide, about 20% (4,100) of all 19,603 developed parcels in Quincy are located in the FEMA 100-year flood plain. 13% (2630) are in coastal floodplain areas and the remaining 7% (1456) are in inland floodplain areas. Areas where both coastal and inland flooding occur are especially impacted when storm surge, high tides, and stream discharge coincide in the same storm.

South Quincy/Fore River is subject to mainly inland/riverine flooding but also experiences coastal flooding in some areas. Seven properties in this area have been seriously impacted by floods sustaining repetitive losses between 1979 and November 2017. 8% of developed parcels in the South Quincy/Fore River Planning Area are within inland or riverine flood areas and less than 1% are within coastal flood hazard areas.

Inland Flooding

Inland or Riverine Flooding occurs where the rate of precipitation from a severe storm like a Nor'easter or tropical storm causes a large amount of rain in a short period of time, overwhelming the capacity of natural or constructed drainage systems causing overflows

The potential building value of parcels in the South Quincy/ Fore River planning area impacted by riverine/inland flooding is over $187 million dollars and includes: $73 million for residential building, $67 million for commercial an industrial building and $47 million for government or other non-profit buildings.

Coastal Flooding

Currently, coastal storms present a threat to development along the 25 miles of Quincy's coastline due to storm surges that overtop coastal structures and natural shorelines, resulting in coastal flooding. Nor'easters pose the biggest threat to Quincy. Damage from nor'easters is exacerbated when combined with spring tides and when they extend across multiple high tides.

The potential building value of parcels impacted by riverine/inland flooding in South Quincy is over $16 million dollars and includes: $3 million for commercial an industrial building and $13 million for government or other non-profit buildings.

Future Flooding

Projected sea level rise and storm surge will intensify flooding concerns along the Quincy shoreline in the future. As water levels rise, coastal storm surge events will cause inundation of larger areas, and will occur more frequently.

Six important community assets in the South Quincy/Fore River area are located within the 100-year flood plain for inland/riverine flooding, including a grocery store, pharmacy and church, among others. The properties are listed in Table 5.8 of the HMP.

Four important community assets are located within the 100-year flood plain for coastal flooding, including the MWRA Sludge Plant, the Fore River Bridge and Ship Yard Pier, among others. The properties are listed in Table 5.10 of the HMP.

Five community assets are located outside of the 100– year floodplain but within areas known to flood from other sources, such as undersized stormwater system, where extreme events may back up catch basins and flood streets and properties. These community assets include a medical facility, elder housing and subway station, among others. The risk of increased flooding and future flooding at these locations should be considered during any proposed upgrades to the South Quincy/Fore River area. The risk should be compared against the ability of the asset to withstand additional flooding and the cost of potential adaptation strategies to mitigate future flooding.

FORE RIVER/ SOUTH QUINCY

Issue: February 2019

Community Assets

South Quincy and the Fore River area include a mix of industrial, commercial and large residential complexes. The Fore River area became a shipbuilding center in the 1880s notably having the second-largest shipbuilding crane in the world, used to construct hundreds of ships for both military and civilian clients. The Fore River Shipyard is still designated as a maritime industrial working port of regional significance, protected as part of the Weymouth (Fore River) Designated Port Area. The area supports a variety of industrial activities including major Quincy employers, such as Twin River Technologies, Fallon Ambulance, Arbella Insurance and the Stop and Shop Headquarters. Fore River also remains one of the largest small runs in Massachusetts with relatively high catches of American eel and Atlantic cod. This area is home to two fire stations, four medical facilities, two mortuaries, eight churches, eight historic sites, five assisted living elder homes, three schools and two natural resource areas. Notable features include Fore River Ship Yard, Adams Birthplaces and Hancock Cemetery. The South Quincy/Fore River Community Assets are shown on Map 4G and a detailed list is provided in Table 4.10 of the HMP. A summary of the Community Assets is included in the table below.

#	Name
1	Federal Office
2	Fire Station
4	Medical Facility
2	Mortuary
1	MWRA Facility
1	Power Utilities
5	Transportation
2	Natural Resources

#	Name
3	Dry Goods
4	Employer
1	Financial Services
2	Hardware
1	Pharmacy
1	Towing Services
1	Tree Removal Service
4	Food

ID	Name
5	Elder Housing
3	Child Care
8	Church
1	Food Pantry
8	Historic
3	School
3	Special Needs Facility
3	Oil Services

WEYMOUTH FORE RIVER

Historic observations by the Division of Marine Fisheries indicate the Weymouth Fore River was one of the largest smelt runs in Massachusetts supporting a large recreational fishery in Quincy Bay. The Fore River remains one of the largest smelt runs in Massachusetts with relatively higher catches of American eel and Atlantic cod. However, due to the industrialized nature of the former Fore River Shipyard area, polychlorinated biphenyls (PCBs) are still present in fish samples within the Weymouth Fore River; specifically within the headwaters at the Route 3A Bridge to the mouth of the River between Shipyard and Germantown Points. The River has also tested positive for traces of fecal coliform from urban stormwater, which has impacted the past shell fishing industry in the estuary.

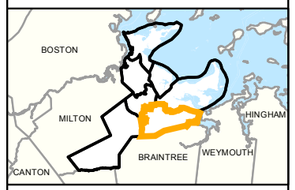
Map 3.2G FEMA Flood Zones and Repetitive Loss Properties

South Quincy/ Fore River

LEGEND

- Severe Repetitive Loss
- Repetitive Loss
- Limited Access Highway
- Multi-Lane Highway, NOT Limited Access
- Other Numbered Highway
- Major Road - Collector
- Minor Street or Road
- Inland Wetlands
- Coastal Wetlands
- 100 Year Flood Zone
- Waterbodies
- Planning Areas
- Town Boundary

LOCUS MAP



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NOTES

Map Created for City of Quincy. Resource data provided by: Bureau of Geographic Information (MassGIS), Commonwealth of Massachusetts, Executive Office of Technology and Security Services Executive Office of Environmental Affairs, Federal Emergency Management Agency (FEMA) National Flood Hazard Layer, City of Quincy, Metropolitan Area Planning Council, and MassDOT

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2018 Multi-Hazard Mitigation Plan

Quincy, Massachusetts

September 2018

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Town River Bay

Weymouth Fore River

Town Brook

BRAINTREE

VULNERABILITY ASSESSMENT

Quincy completed a vulnerability assessment (VA) to estimate the extent or magnitude of potential damages from natural hazards of varying types and intensities. The VA focuses on flood risk and the identified community assets to estimate the potential losses that Quincy could experience during a flood under existing and future conditions with climate change.

The VA included analysis for each geographic area in Quincy, and separate analysis for vulnerable community assets and future development.

Economic losses due to a flood include, but are not limited to damages to buildings (and their contents) and infrastructure, business interruption (including loss of wages), impacts on tourism, and tax base.

MITIGATION STRATEGY FOR FURNACE BROOK

The city has evaluated a number of projects to include in the 2019 HMP mitigation strategy that will directly benefit the residents and business in the Furnace Brook North area. The projects related to flooding are listed below. Additional projects addressing other natural hazards are listed in Table 7.3 of the HMP.

- Miller/Cross/Furnace Ave Stormwater Control Station
- Ongoing elevate repetitive loss structures
- Ongoing retrofit and flood proof existing buildings subject to repetitive flooding
- Blacks Creek tide gate operational improvement

Furnace Brook/North - Flooding Vulnerability

City-wide, about 20% (4,100) of all 19,603 developed parcels in Quincy are located in the FEMA 100-year flood plain, 13% (2,630) are in coastal floodplain areas and the remaining 7% (1,456) are in inland floodplain areas.

Furnace Brook North is subject to inland flooding. Over 40 properties in this area have been seriously impacted by floods, sustaining repetitive losses between 1979 and November 2017. 17% of developed parcels (418 parcels out of a total of 2,445) in the Furnace Brook North planning area are within a riverine flood area. The boundaries of this geographic area do not include any proper ties with coastal flooding.

Inland Flooding

Inland or Riverine flooding occurs where the rate of precipitation from a severe storm like a Nor'easter or tropcial storm causes a large amount of rain in a short period of time, overwhelming the capacity of natural or constructed drainage system causing overflows.

The potential building values of impacted parcels is over $129 million dollars and includes: $105 million for residential building, $15 million for commercial an industrial building and $9 million for government or other non-profit buildings.

Future Flooding

There are no coastal properties located in Furnace Brook that could in the future be impacted by flooding exacerbated by sea level rise, however, climate change may worsen flooding along Furnace Brook as the flood zone area expands due to increasing precipitation amounts and prolonged duration of storm events.

Seven important community assets are located within the 100-year flood plain in the Furnace Brook North area including a school, pharmacy, MBTA station, grocery store and utilities, among others. The properties are listed in Table 5.7 of the HMP.

Six community assets are located outside of the 100-year floodplain are within areas knows to flood from other sources, such as undersized stormwater system, where extreme events may back up catch basins and flood streets and properties. These community assets include a school, fire department, utilities, emergency towing and water feed, among others. The risk of future flooding at these locations should be considered during any proposed upgrade to these locations. The risk should be compared against the ability of the asset to withstand additional flooding and the cost of potential adaptation strategies to mitigate future flooding.

FURNACE BROOK/NORTH

HAZARD VULNERABILITY SUMMARY

Draft: February 2019

Community Assets

The Furnace Brook North area borders Quincy center and the Milton town line. The neighborhoods adjacent to the city center have become home to more mixed-use development as the city has grown. Neighborhoods immediately adjacent to Furnace Brook and its wetlands, residential open spaces, golf courses and playgrounds, are less densely populated and continue to decrease in density as you move towards the Blue Hill Reservation. This area is mostly populated by single and multi-family homes, with more apartment complexes and larger-scale developments closer to the Center. This area is home to one fire station, four medical facilities, two churches, four historic sites, two schools and two natural resource areas. Notable features include Adams National Historic Site, Adams National Peacefield, John Winthrop Blast Furnace, St. Mary's Church, Furnace Brook Golf Club and Furnace Brook Parkway. The Furnace Brook – North Community Assets are shown on in the figure above and a detailed list is provided below. Assets with an asterisk are located in the 100-year floodplain

ID	Name
14	Gavin House
48	Steward Health ER
62	Keohane Funeral Home
86	Quincy Fire Dept - Engine 5
110	Substation*
114	Water Feed
215	Compass Urgent Care Center*
31	Adams National Historic Site
196	Adams National Park Peacefield

ID	Name
125	Home Depot
216	Curry Hardware
261	AAA Quincy
123	Walgreen's
259	Blue Hills Towing
260	American Towing*
217	John Winthrop Blast Furnace*
218	Hall Place Cemetery
20	Furnace Brook Golf Club

ID	Name
89	Jack N Jill Kindergarten & Child Care Center, Inc.
124	St. Mary's Church
226	Restore Christian Church
227	Campus Kinderhaus
198	Adams Montessori
22	Central Middle School
33	Charles A. Bernazzani Elementary*
21	Furnace Brook Parkway

Furnace Brook Watershed

Furnace Brook originates near Chickatawbut Road in the Blue Hills Reservation and travels approximately four miles through West Quincy to Black's Creek. As noted in the City's 2012 Open Space and Recreation Plan, Furnace Brook serves as the primary storm water conveyance for the watershed area. Furnace Brook is culverted underground upstream of Quarry Street and daylights near the Bernazzani Elementary School. The Massachusetts Bays Program identifies Furnace Brook as habitat for rainbow smelt. According to the MassDEP 2004 Water quality assessment, the spawning habitat is degraded due to urban stormwater influences, sedimentation, and excessive periphyton growth.

The City, in its HMP, has identified areas adjacent to Furnace Brook as susceptible to frequent and, at times, intense flooding and notes that tidal conditions at Black's Creek can exacerbate flooding. The HMP recommends inspection and cleaning of the culverts to assess their condition and avoid clogging. These are critical pieces of information to consider with respect to the potential resiliency of the stormwater system under climate conditions, as further discussed in the vulnerabilities section.

The Furnace Brook Watershed has many low lying area that tend to flood during large rain events. Flooding is compounded by tidal backflow that reduces the drainage capacity of the Brook.

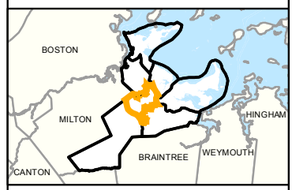
Map 3.2D FEMA Flood Zones and Repetitive Loss Properties

Furnace Brook North

LEGEND

- Severe Repetitive Loss
- Repetitive Loss
- Limited Access Highway
- Multi-Lane Highway, NOT Limited Access
- Other Numbered Highway
- Major Road - Collector
- Minor Street or Road
- Inland Wetlands
- Coastal Wetlands
- 100 Year Flood Zone
- Waterbodies
- Planning Areas
- Town Boundary

LOCUS MAP



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NOTES

Map Created for City of Quincy. Resource data provided by: Bureau of Geographic Information (MassGIS), Commonwealth of Massachusetts, Executive Office of Technology and Security Services Executive Office of Environmental Affairs, Federal Emergency Management Agency (FEMA) National Flood Hazard Layer, City of Quincy, Metropolitan Area Planning Council, and MassDOT

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2018 Multi-Hazard Mitigation Plan

Quincy, Massachusetts

September 2018

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VULNERABILITY ASSESSMENT

Quincy completed a vulnerability assessment (VA) to estimate the extent or magnitude of potential damages from natural hazards of varying types and intensities. The VA focuses on flood risk and the identified community assets to estimate the potential losses that Quincy could experience during a flood under existing and future conditions with climate change.

The VA included analysis for each geographic area in Quincy, and separate analysis for vulnerable community assets and future development.

Economic losses due to a flood include, but are not limited to damages to buildings (and their contents) and infrastructure, business interruption (including loss of wages), impacts on tourism, and tax base.

MITIGATION STRATEGY FOR HOUGHS NECK

The City has evaluated a number of projects to include in the 2019 HMP mitigation strategy that will directly benefit the residents and business in the Houghs Neck/ Germantown Area. The projects related to coastal erosion and flooding are listed below. Additional projects addressing other natural hazards are listed in Table 7.3 of the HMP.

- Houghs Neck/Manet Seawalls Construction
- Germantown Seawalls Design, Permitting & Construction
- Broadmeadows School Flood Protection
- Houghs Neck Emergency Access along MWRA sewer easement
- Develop hydraulic model and update tide gates for Norton Road, Post Island Road and Bayswater Road

Town Brook/Houghs Neck & Germantown - Flooding Vulnerability

City-wide, about 20% (4,100) of all 19,603 developed parcels in Quincy are located in the FEMA 100-year flood plain. 13% (2630) are in coastal floodplain areas and the remaining 7% (1456) are in inland floodplain areas. Areas where both coastal and inland flooding occur are especially impacted when storm surge, high tides, and stream discharge coincide in the same storm.

Houghs Neck/Germantown is subject to both inland/riverine flooding and coastal flooding and is one of the areas at greatest risk of flooding in the City. Over 108 properties in this area have been seriously impacted by floods sustaining repetitive losses between 1979 and November 2017. 12% of developed parcels in the Houghs Neck/Germantown Planning Area are within inland or riverine flood areas and 29% are within coastal flood hazard areas.

Inland Flooding

Inland or Riverine Flooding occurs where the rate of precipitation from a severe storm like a Nor'easter or tropical storm causes a large amount of rain in a short period of time, overwhelming the capacity of natural or constructed drainage systems causing overflows.

The potential building values of parcels impacted by inland/riverine flooding in Hough/Neck/ Germantown is over $133 million dollars and includes: $54 million for residential building, $8 million for commercial an industrial building and $71 million for government or other non-profit buildings.

Coastal Flooding

Currently, coastal storms present a threat to development along the 25 miles of Quincy's coastline due to storm surges that overtop coastal structures and natural shorelines, resulting in coastal flooding. Nor'easters pose the biggest threat to Quincy. Damage from nor'easters is exacerbated when combined with spring tides and when they extend across multiple high tides.

Houghs Neck is surrounded by 16,730 linear feet of coastal structures. Seawalls located around Houghs Neck including Sea Street, Post Island, Shellton and Tern Roads were rated among those in poorest condition and highest need of replacement. The 2012 assessment recommended repairs for all seawall sections within Hough's Neck.

The potential building values of parcels impacted by coastal flooding in Houghs Neck/ Germantown is over $438 million dollars and includes: $306 million for residential building, $32 million for commercial an industrial building and $100 million for government or other non-profit buildings.

Future Flooding

Projected sea level rise and storm surge will intensify flooding concerns along the Quincy shoreline in the future. As water levels rise, coastal storm surge events will cause inundation of larger areas, and will occur more frequently.

Three important community assets in Houghs Neck/Germantown are located within the 100-year flood plain for inland flooding, including a school, special needs facility and a medical facility. The properties are listed in Table 5.8 of the HMP.

Thirteen (13) important community assets are located within the 100-year flood plain for coastal flooding including two schools, a fire department, two sewer pump stations and one MWRA substation, among others. The properties are listed in Table 5.10 of the HMP.

Four (4) community assets are located outside of the 100–year floodplain but within areas known to flood from other sources, such as undersized stormwater system, where extreme events may back up catch basins and flood streets and properties. These community assets include one school, one child care facility, one police station and one MWRA substation. The risk of increased flooding and future flooding at these locations should be considered during any proposed upgrades to the Houghs Neck/Germantown area. The risk should be compared against the ability of the asset to withstand additional flooding and the cost of potential adaptation strategies to mitigate future flooding.

TOWN BROOK/ HOUGHS NECK & GERMANTOWN

HAZARD VULNERABILITY SUMMARY

Draft: February 2019

Community Assets

Houghs Neck and Germantown are located, respectively, along the eastern and southern shorelines of one of the first residential peninsulas established South of Boston. Houghs Neck is bordered by Hingham Bay to the east, Rock Island Cove to the south and Quincy Bay to the west and Germantown is bordered by the Town River Bay. This area is surrounded by numerous salt marshes, including a large swath of salt marsh where the two areas meet. Houghs Neck is now densely developed but was once deemed the "Flounder capital of the world" as the area used to be a popular recreational fishing spot for flounder and other fish such as haddock, striped bass, bluefish, and cod. However, fish stocks have been heavily impacted by a variety of human activities, including a loss of salt marsh habitat that provides important nursery and spawning areas. Germantown was settled as the home to shipbuilders and their families who were primarily of German heritage. The area includes Quincy Center, the main retail center in Quincy, mixed-use development, several affordable housing complexes, with 900 units operated by the Quincy Housing Authority, in addition to numerous small-sized apartment buildings and single-family homes. Community assets in the area include two fire stations, the Adams Shore and Thomas Crane Libraries, seven medical facilities including community health centers and nursing and rehab facilities, 12 churches, 11 schools and 27 natural resource areas including parks, beaches and salt marsh. Notable features located in this neighborhood also include the Naval Reserve Center, Department of Public Works, City Hall and Nut Island Transfer Station. The Houghs Neck/Germantown Community Assets are shown on Map 4E and a detailed list is provided in Table 4.8 of the HMP. A summary of the types of Community Assets is included in the table below.

#	Name	ID	Name	ID	Name
1	Cold Storage - Emergency Mortuary	1	Employer	2	Child Care
2	Federal Office	1	Food	12	Church
2	Fire Station	1	Shelter	2	Community Center
6	Medical Facility	4	Special Needs Facility	1	Day Care
2	Mortuary	1	Insurance	1	Food Pantry
5	MWRA Facility	3	Marine Rescue	1	Historic
2	Police Station	1	Pharmacy	2	Library
1	Post Office	1	Assisted Living	10	School
3	Power Utilities	1	Cemetery	27	Natural Resources

Town Brook

Town Brook originates in Braintree as a tributary to the Old Quincy Reservoir and flows through the City, finally discharging into the Town River estuary. The original brook system has been altered (channeled, moved, and culverted) over time, commencing in the late 1800's and continuing to the present day. The majority of Town Brook in Quincy is underground and mostly culverted, controlling stormflow via weirs at the Center Street junction box and a deep rock tunnel inlet constructed by Army Corps off of Burgin Parkway.

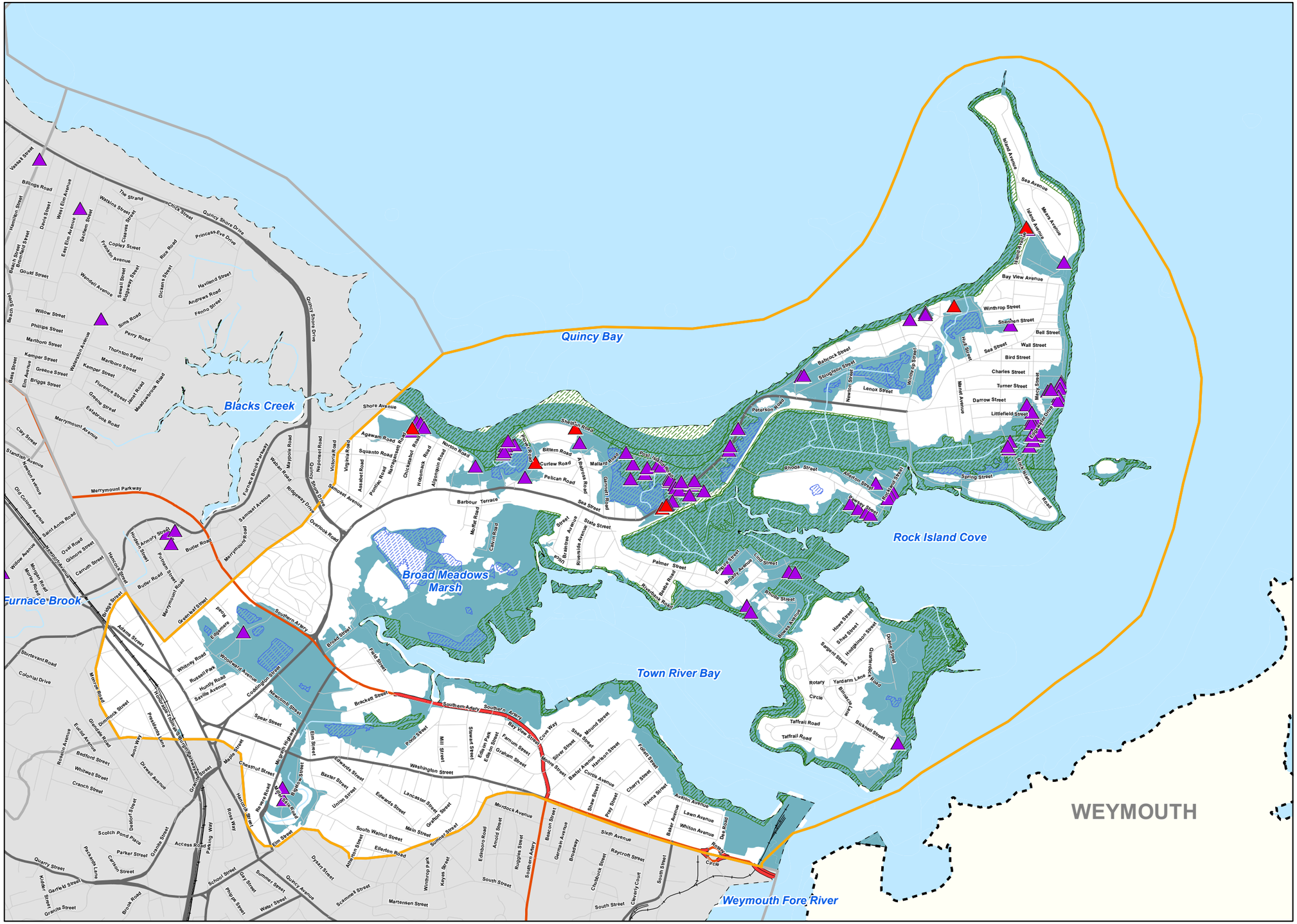
Given the highly urbanized nature of the Brook's historic catchment area (watershed) and its extensive alteration, it experiences "flashy" flows. In other words, the Brook rapidly collects flows that are channelized within the steep slopes of its primarily engineered banks, resulting in flood peaks soon after a precipitation event.

Aquatic life within the Brook was documented in the 2003 MassDEP Weir River Watershed Water Quality Report as impaired, evidenced by smelt egg mortality in 2008. The smelt that live and spawn in the brook are the primary food source of the Atlantic cod, a focal point of the New England fishing industry. The City of Quincy recently partnered with the MassDEP and the DMF, to monitor and preserve smelt habitat in the brook. The City values the ecological importance of the brook and has made efforts over the past decade to improve its functionality.

The Town Brook Enhancement project of 2013 daylighted portions of the brook via the removal of above-ground obstructions and uncovering culverted sections within the Quincy Center; and introduced low flow channel and vegetated wetland island environmental engineering elements.

Map 3.2E FEMA Flood Zones and Repetitive Loss Properties

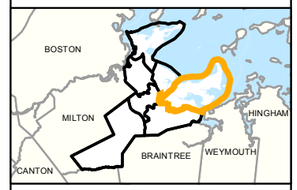
Houghs Neck/ Germantown



LEGEND

- Severe Repetitive Loss
- Repetitive Loss
- Limited Access Highway
- Multi-Lane Highway, NOT Limited Access
- Other Numbered Highway
- Major Road - Collector
- Minor Street or Road
- Inland Wetlands
- Coastal Wetlands
- 100 Year Flood Zone
- Waterbodies
- Planning Areas
- Town Boundary

LOCUS MAP



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NOTES

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2018 Multi-Hazard Mitigation Plan

Quincy, Massachusetts

September 2018

Tighe&Bond

Engineers | Environmental Specialists

VULNERABILITY ASSESSMENT

Quincy completed a vulnerability assessment (VA) to estimate the extent or magnitude of potential damages from natural hazards of varying types and intensities. The VA focuses on flood risk and the identified community assets to estimate the potential losses that Quincy could experience during a flood under existing and future conditions with climate change.

The VA included analysis for each geographic area in Quincy, and separate analysis for vulnerable community assets and future development.

Economic losses due to a flood include, but are not limited to damages to buildings (and their contents) and infrastructure, business interruption (including loss of wages), impacts on tourism, and tax base.

MITIGATION STRATEGY FOR MERRYMOUNT/BLACKS CREEK

The City has evaluated a number of projects to include in the 2019 HMP mitigation strategy that will directly benefit the residents and business in the Merrymount/ Blacks Creek Area. The projects related to coastal erosion and flooding are listed below. Additional projects addressing other natural hazards are listed in Table 7.3 of the HMP.

- Merrymount Seawalls Design, Permitting and Construction
- Blacks Creek tide gate operational improvement

Furnace Brook/Merrymount & Blacks Creek - Flooding Vulnerability

City-wide, about 20% (4,100) of all 19,603 developed parcels in Quincy are located in the FEMA 100-year flood plain. 13% (2630) are in coastal floodplain areas and the remaining 7% (1456) are in inland floodplain areas. Areas where both coastal and inland flooding occur are especially impacted when storm surge, high tides, and stream discharge coincide in the same storm.

Merrymount/Blacks Creek is subject to both inland/riverine flooding and coastal flooding and Merrymount Park near Blacks Creek is one of the areas at greatest risk of flooding in the City. Five properties in this area have been seriously impacted by floods sustaining repetitive losses between 1979 and November 2017. 4% of developed parcels in the Neponset River/North Quincy Planning Area are within inland or riverine flood areas and 35% are within coastal flood hazard areas.

Inland Flooding

Inland or Riverine Flooding occurs where the rate of precipitation from a severe storm like a Nor'easter or tropical storm causes a large amount of rain in a short period of time, overwhelming the capacity of natural or constructed drainage systems causing overflows

The potential building values of parcels impacted by inland/riverine flooding in Merrymount/ Blacks Creek is over $28 million dollars and includes: $23 million for residential building and $5 million for government or other non-profit buildings.

Coastal Flooding

Currently, coastal storms present a threat to development along the 25 miles of Quincy's coastline due to storm surges that overtop coastal structures and natural shorelines, resulting in coastal flooding. Nor'easters pose the biggest threat to Quincy. Damage from nor'easters is exacerbated when combined with spring tides and when they extend across multiple high tides.

There are approximately 1,385 linear feet of coastal structures around Merrymount that are owned by the City, constructed of pre-cast concrete blocks. The remaining seawall in this area is privately owned. Many of the seawalls that protect Merrymount are near the end of their 50-year design life and need repair and improvement to extend their service life.

The potential building value of parcels impacted by coastal flooding in Merrymount/Blacks Creek is over $180 million dollars and includes: $131 million for residential building, $1.5 million for commercial an industrial building and $48 million for government or other non-profit buildings.

Future Flooding

Projected sea level rise and storm surge will intensify flooding concerns along the Quincy shoreline in the future. As water levels rise, coastal storm surge events will cause inundation of larger areas, and will occur more frequently.

Three important community assets in Merrymount/Blacks Creek are located within the 100-year flood plain for coastal flooding including one school, one church and the Wollaston Yacht Club. The properties are listed in Table 5.10 of the HMP.

Merrymount and Blacks Creek are often subject to localized flooding from Furnace Brook. Shore Avenue, Chickatabot Road and Norton Road in Merrymount are low lying areas also prone to flooding during rainfall and coastal events. The risk of future flooding at these locations should be considered during any proposed upgrades to the Merrymount/Blacks Creek area. The risk should be compared against the ability of the asset to withstand additional flooding and the cost of potential adaptation strategies to mitigate future flooding.

FURNACE BROOK/ MERRYMOUNT & BLACKS CREEK

HAZARD VULNERABILITY SUMMARY

Draft: February 2019

Community Assets

Merrymount and Blacks Creek are primarily residential, populated largely by single-family homes and bordered by Quincy Bay, Quincy Center and Adams Shore. This area was the initial site of Quincy's settlement and a large Indian population. In the early 1900s the Adams family acquired it and the area was subsequently developed. The hilly terrain provides impressive vistas of surrounding bays and marshland making it a popular neighborhood for homebuyers. This area is home to three historic sites, the Dorothy Quincy Home, Josiah Quincy Home and Maypole Park, one school, two churches and eight natural resource areas. Notable features include the National Guard Armory, the Emergency Management Office, the Wollaston Yacht Club, Merrymount Park and Grossman Park. The Merrymount/Blacks Creek Community Assets are shown on Map 4C in the HMP and a detailed list is provided below. Assets with an Asterix are located in the 100-year floodplain.

ID	Name
113	Telecom Switching Station
27	National Guard Armory
28	Emergency Management Office
106	Sewer Pump Station
60	United States Post Office - Wollaston
170	MBTA Bus Barn
150	Wollaston Yacht Club*
119	Eastern Nazarene Church

ID	Name
225	Willow Preschool
184	Dorothy Quincy Home
224	Josiah Quincy House
184	Maypole Park
13	Beechwood Knoll Elementary
72	Eastern Nazarene College
10	Butler's Pond
1	Don Kent Park

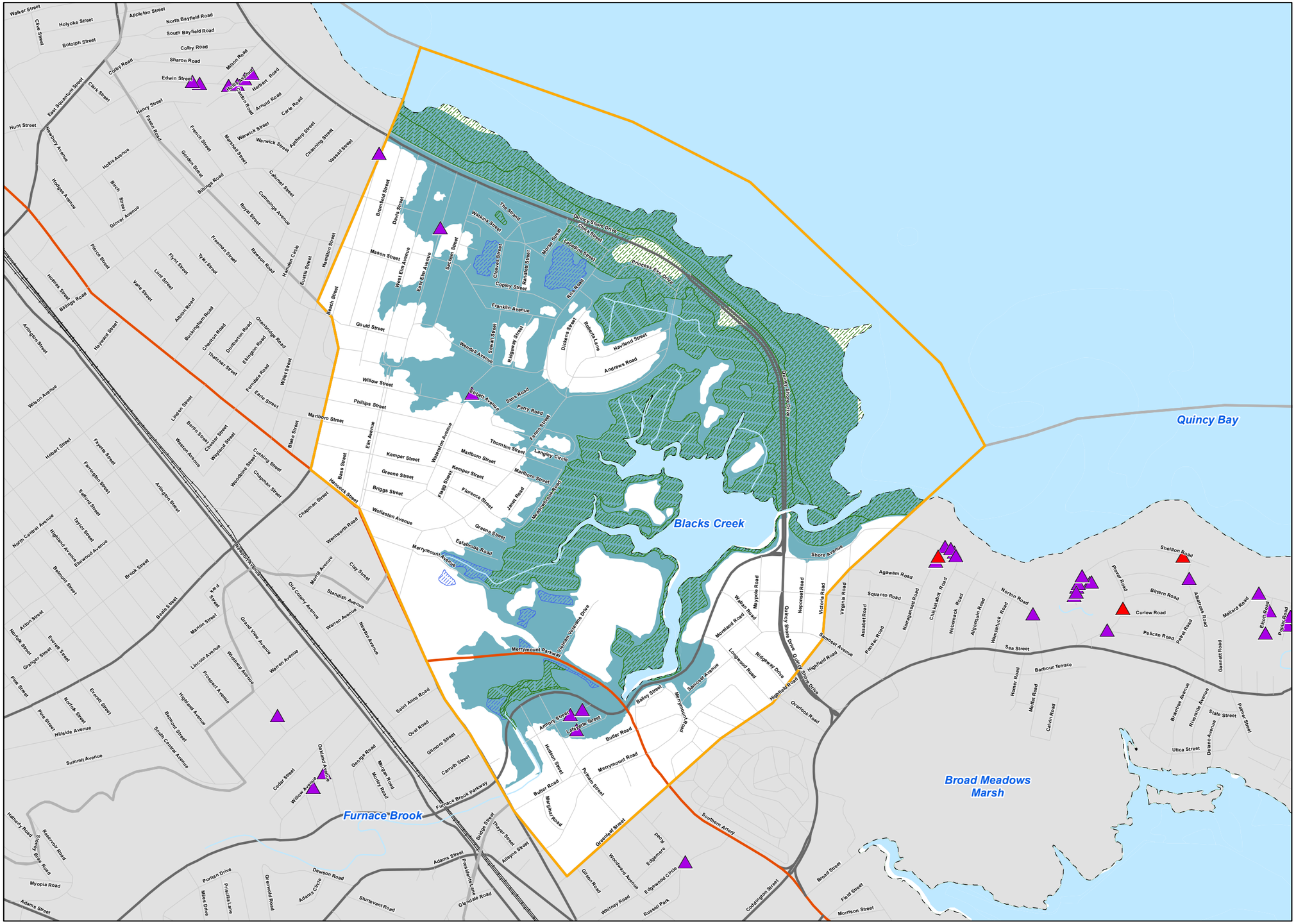
ID	Name
223	Union Congregational Church
15	Eastern Nazarene College Tennis Courts
10	Furnace Brook Parkway
24	Grossman Park - Blacks Creek
30	Merrymount Park
44	Quincy Shores Reservation
47	Sailors Home Pond

FURNACE BROOK

Furnace Brook originates near Chickatawbut Road in the Blue Hills Reservation and travels approximately four miles through West Quincy to Black's Creek. As noted in the City's 2012 Open Space and Recreation Plan, Furnace Brook serves as the primary storm water conveyance for the watershed area. Furnace Brook is culverted underground upstream of Quarry Street and daylights near the Bernazzani Elementary School. The Massachusetts Bays Program identifies Furnace Brook as habitat for rainbow smelt. According to the MassDEP 2004 Water quality assessment, the spawning habitat is degraded due to urban stormwater influences, sedimentation, and excessive periphyton growth. The Quincy HMP identified areas adjacent to Furnace Brook as susceptible to frequent and, at times, intense flooding and notes that tidal conditions at Black's Creek can exacerbate flooding. The HMP recommends inspection and cleaning of the culverts to assess their condition and avoid clogging. These are critical pieces of information to consider with respect to the potential resiliency of the stormwater system under future climate conditions.

Map 3.2C FEMA Flood Zones and Repetitive Loss Properties

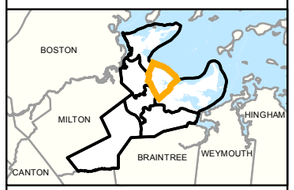
Merrymount/ Blacks Creek



LEGEND

- Severe Repetitive Loss
- Repetitive Loss
- Limited Access Highway
- Multi-Lane Highway, NOT Limited Access
- Other Numbered Highway
- Major Road - Collector
- Minor Street or Road
- Inland Wetlands
- Coastal Wetlands
- 100 Year Flood Zone
- Waterbodies
- Planning Areas
- Town Boundary

LOCUS MAP



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NOTES

Map Created for City of Quincy. Resource data provided by: Bureau of Geographic Information (MassGIS), Commonwealth of Massachusetts, Executive Office of Technology and Security Services Executive Office of Environmental Affairs, Federal Emergency Management Agency (FEMA) National Flood Hazard Layer, City of Quincy, Metropolitan Area Planning Council, and MassDOT

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2018 Multi-Hazard Mitigation Plan

Quincy, Massachusetts

September 2018

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VULNERABILITY ASSESSMENT

Quincy completed a vulnerability assessment (VA) to estimate the extent or magnitude of potential damages from natural hazards of varying types and intensities. The VA focuses on flood risk and the identified community assets to estimate the potential losses that Quincy could experience during a flood under existing and future conditions with climate change.

The VA included analysis for each geographic area in Quincy, and separate analysis for vulnerable community assets and future development.

Economic losses due to a flood include, but are not limited to damages to buildings (and their contents) and infrastructure, business interruption (including loss of wages), impacts on tourism, and tax base.

MITIGATION STRATEGY FOR NEPONSET RIVER/ NORTH QUINCY

The City has evaluated a number of projects to include in the 2019 HMP mitigation strategy that will directly benefit the residents and business in the Neponset River/North Quincy Area. The projects related to flooding are listed below. Additional projects addressing other natural hazards are listed in Table 7.3 of the HMP.

- Complying with Federal and State stormwater program requirements to improve water quality
- Ongoing retrofit and flood proofing existing buildings subject to repetitive flooding
- Ongoing elevation of repetitive loss structures

Neponset River/North Quincy - Flooding Vulnerability

City-wide, about 20% (4,100) of the 19,603 developed parcels in Quincy are located in the FEMA 100-year flood plain. 13% (2630) are in coastal floodplain areas and the remaining 7% (1456) are in inland floodplain areas. Areas where both coastal and inland flooding occur are especially impacted when storm surge, high tides, and stream discharge coincide in the same storm.

North Quincy is subject to both inland/riverine flooding from and coastal flooding. Four properties in this area have been seriously impacted by floods sustaining repetitive losses between 1979 and November 2017. 6% of developed parcels in the Neponset River/North Quincy Planning Area are within inland or riverine flood areas and 3% are within coastal flood hazard areas.

Inland Flooding

Inland or Riverine Flooding occurs where the rate of precipitation from a severe storm like a Nor'easter or tropical storm causes a large amount of rain in a short period of time, overwhelming the capacity of natural or constructed drainage systems causing overflows

The potential building value of parcels impacted by inland/riverine flooding in North Quincy is over $170 million dollars and includes: $45 million for residential building, $89 million for commercial an industrial building and $36 million for government or other non-profit buildings.

Coastal Flooding

Currently, coastal storms present a threat to development along the 25 miles of Quincy's coastline due to storm surges that overtop coastal structures and natural shorelines, resulting in coastal flooding. Nor'easters pose the biggest threat to Quincy. Damage from nor'easters is exacerbated when combined with spring tides and when they extend across multiple high tides.

The potential building value of parcels impacted by coastal flooding in North Quincy is over $244 million dollars and includes: $95 million for residential building, $114 million for commercial an industrial building and $35 million for government or other non-profit buildings.

Future Flooding

Projected sea level rise and storm surge will intensify flooding concerns along the Quincy shoreline in the future. As water levels rise, coastal storm surge events will cause inundation of larger areas, and will occur more frequently.

Seven important community assets in the Neponset River/North Quincy area are located within the 100-year flood plain for inland/riverine flooding including a pharmacy, school, public transit center, and grocery store. The properties are listed in Table 5.8 of the HMP.

Two important community assets are located within the 100-year flood plain for coastal flooding including one subway bridge and one vehicle bridge important for evacuation from the City of Quincy. The properties are listed in Table 5.10 of the HMP.

Two community assets are located outside of the 100– year floodplain but within areas known to flood from other sources, such as undersized stormwater system, where extreme events may back up catch basins and flood streets and properties. The risk of increased flooding and future flooding at these locations should be considered during any proposed upgrades to the Neponset River/North Quincy area. The risk should be compared against the ability of the asset to withstand additional flooding and the cost of potential adaptation strategies to mitigate future flooding.

NEPONSET RIVER/ NORTH QUINCY

HAZARD VULNERABILITY SUMMARY

Draft: February 2019

Community Assets

North Quincy and the Neponset River area are densely populated with an increasing number of multi-family homes along Newport Avenue and single-family residences along the northwest boundary of the city. Construction of single family homes began in the early 1900s and continued into the 1970s when the North Quincy Red Line subway station was constructed to service the residents and commuters to downtown Boston. Commercial activity has also expanded along Newport Ave, the Neponset River and Wollaston Beach. This area is home to two fire stations, two mortuaries, 11 churches, the Thomas Crane Public Library – Wollaston branch, seven schools and seven natural resource areas. Notable features include the North Quincy and Wollaston Train stations, the Neponset Bridge, Presidents Golf Course, Hobart Street Woods and Sherman Street Bog. The Neponset River/ North Quincy Community Assets are shown on Map 4B and a detailed list is provided in Table 4.5 in the HMP. A summary of the community assets is provided in the table below.

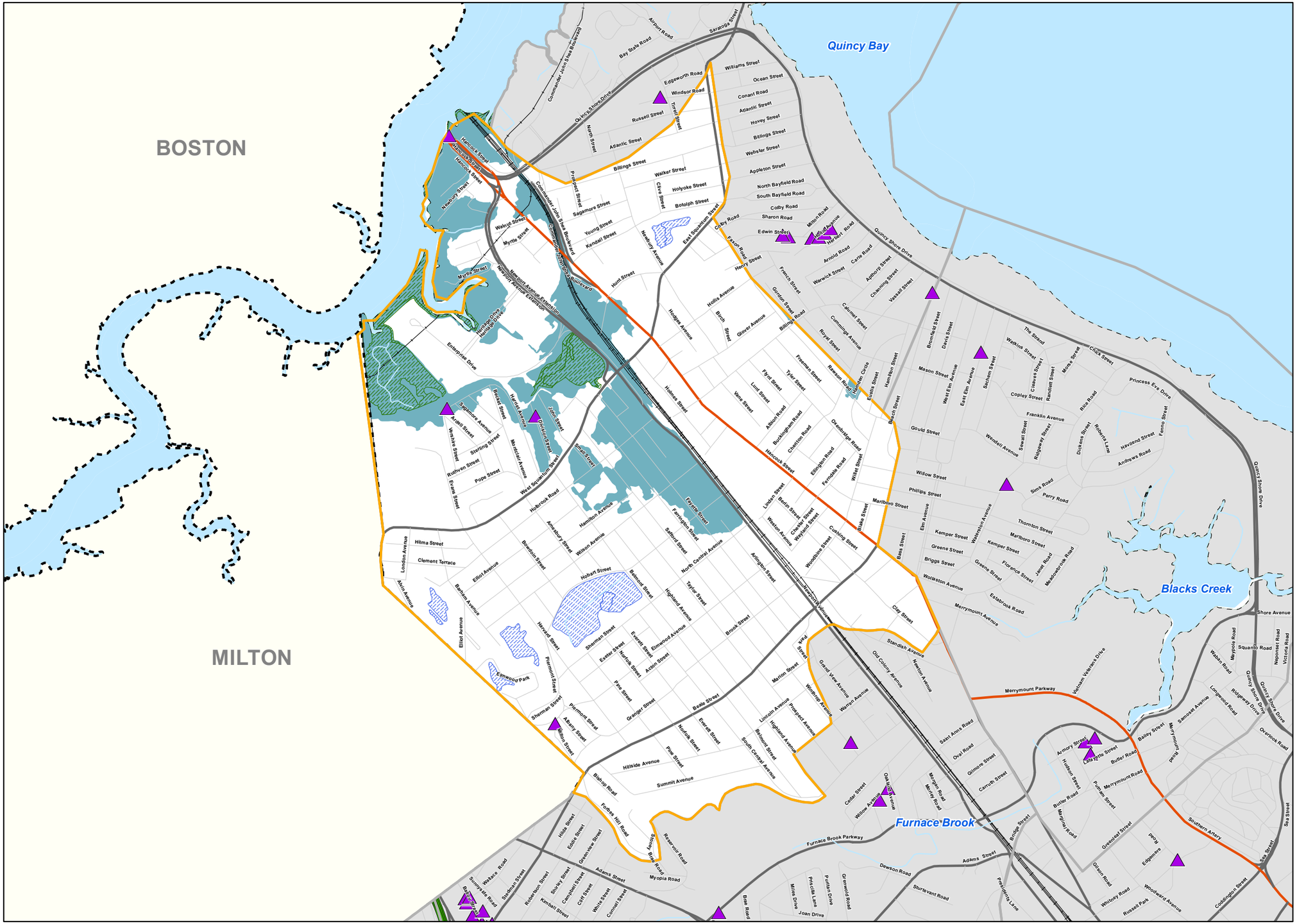
#	Name	#	Name	ID	Name
2	Fire Station	3	Food	7	School
2	Medical Facility	1	Hardware	2	Special Needs Center
2	Mortuary	3	Pharmacy	7	Natural Resources
3	MWRA Facility	1	Assisted Living - Elder Care	1	Library
1	Post Office	4	Child Care	1	Financial Services
4	Transportation	11	Church		
1	Employer	2	Community Center		

Neponset River Watershed

The Neponset River Estuary Area of Critical Environmental Concern (ACEC) is approximately 1,300 acres in size and is located primarily in Quincy (470 acres), as well as in Boston (435 acres) and Milton (355 acres).

The ACEC boundary is based on the Wetlands Protection Act Regulations (wetlands resource areas and a 100-foot buffer) plus adjacent public open space and historic districts. The ACEC begins at the Lower Mills Dam in Milton and Dorchester, which separates the coastal estuary from the inland fresh water portion of the Neponset, and extends to the mouth of the river at Squantum Point in Quincy.

The central resource features of the Neponset River Estuary ACEC are the Neponset River and portions of its tributaries, the estuary, salt marshes, floodplains, fishery habitat, and diverse wildlife habitat. Substantial soft-shell clam beds are located at the mouth of the River near Squantum Point. This area also provides habitat for a tremendous diversity of bird species and is one of the most important wildlife habitats in the urbanized Boston area.



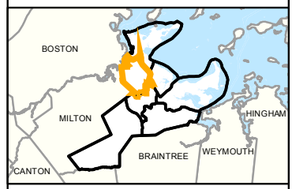
Map 3.2B FEMA Flood Zones and Repetitive Loss Properties

Neponset River

LEGEND

- Severe Repetitive Loss
- Repetitive Loss
- Limited Access Highway
- Multi-Lane Highway, NOT Limited Access
- Other Numbered Highway
- Major Road - Collector
- Minor Street or Road
- Inland Wetlands
- Coastal Wetlands
- 100 Year Flood Zone
- Waterbodies
- Planning Areas
- Town Boundary

LOCUS MAP



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Map Created for City of Quincy. Resource data provided by: Bureau of Geographic Information (MassGIS), Commonwealth of Massachusetts, Executive Office of Technology and Security Services Executive Office of Environmental Affairs, Federal Emergency Management Agency (FEMA) National Flood Hazard Layer, City of Quincy, Metropolitan Area Planning Council, and MassDOT

2018 Multi-Hazard Mitigation Plan

Quincy, Massachusetts

September 2018

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VULNERABILITY ASSESSMENT

Quincy completed a vulnerability assessment (VA) to estimate the extent or magnitude of potential damages from natural hazards of varying types and intensities. The VA focuses on flood risk and the identified community assets to estimate the potential losses that Quincy could experience during a flood under existing and future conditions with climate change.

The VA included analysis for each geographic area in Quincy, and separate analysis for vulnerable community assets and future development.

Economic losses due to a flood include, but are not limited to damages to buildings (and their contents) and infrastructure, business interruption (including loss of wages), impacts on tourism, and tax base.

MITIGATION STRATEGY FOR SQUANTUM POINT AND MARINA BAY

The City has evaluated a number of projects to include in the 2019 HMP mitigation strategy that will directly benefit the residents and business in the Squantum Point/Marina Bay Area. The projects related to flooding and coastal erosion are listed below. Additional projects addressing other natural hazards are listed in Table 7.3 of the HMP.

- East Squantum/Dorchester Streets Drainage Hydraulic Model—describe more
- Squantum Seawalls Design, Permitting & Construction—describe more
- Evaluate elevating critical access routes—describe more

Neponset River/Squantum Point & Marina Bay - Flooding Vulnerability

City-wide, about 20% (4,100) of all 19,603 developed parcels in Quincy are located in the FEMA 100-year flood plain. 13% (2630) are in coastal floodplain areas and the remaining 7% (1456) are in inland floodplain areas. Areas where both coastal and inland flooding occur are especially impacted when storm surge, high tides, and stream discharge coincide in the same storm.

Squantum Point/Marina Bay is subject to both inland/riverine flooding and coastal flooding and is one of the areas with the most concentrated risk of flooding in Quincy. 16 properties in this area have been seriously impacted by floods sustaining repetitive losses between 1979 and November 2017. 6% of developed parcels in the Squantum Point/Marina Bay Planning Area are within inland or riverine flood areas and 26% are within coastal flood hazard areas.

Inland Flooding

Inland or Riverine Flooding occurs where the rate of precipitation from a severe storm like a Nor'easter or tropical storm causes a large amount of rain in a short period of time, overwhelming the capacity of natural or constructed drainage systems causing overflows.

The potential building value of parcels impacted by inland/riverine flooding in the Squantum/Marina Bay planning area is over $87 million dollars and includes: $64 million for residential building, $12 million for commercial an industrial building and $11 million for government or other non-profit buildings.

Coastal Flooding

Currently, coastal storms present a threat to development along the 25 miles of Quincy's coastline due to storm surges that overtop coastal structures and natural shorelines, resulting in coastal flooding. Nor'easters pose the biggest threat to Quincy. Damage from nor'easters is exacerbated when combined with spring tides and when they extend across multiple high tides.

Squantum is accessible only by East Squantum Street which is protected by a coastal structure approximately 2,860 feet in length, which risks overtopping during costal storms. When flooded, East Squantum Street can isolate the entire Squantum Point area from the rest of the City. Low lying areas in Squantum and East Squantum are also prone to flooding, including the tidal creek abutting Mosswetusset Hammock.

The potential building value of parcels impacted by coastal flooding in the Squantum/Marina Bay area is over $226 million dollars and includes: $180 million for residential building, $40 million for commercial an industrial building and $6 million for government or other non-profit buildings.

Future Flooding

Projected sea level rise and storm surge will intensify flooding concerns along the Quincy shoreline in the future. As water levels rise, coastal storm surge events will cause inundation of larger areas, and will occur more frequently.

Eleven (11) important community assets in Squantum Point/Marina Bay are located within the 100-year flood plain for coastal flooding, including a day care, historic site, pharmacy and sewer pump station, among others. The properties are listed in Table 5.10 of the HMP. The risk of future flooding at these locations should be considered during any proposed upgrades to this area. The risk should be compared against the ability of the asset to withstand additional flooding and the cost of potential adaptation strategies to mitigate future flooding.

NEPONSET RIVER/ SQUANTUM POINT & MARINA BAY

HAZARD VULNERABILITY SUMMARY

Draft: February 2019

Community Assets

Squantum Point and Marina Bay are located on the Squantum Peninsula, bordered on the north and the west by Dorchester Bay. Marina Bay is a planned development area comprised primarily of residential multi-unit condo buildings and large housing development clusters. Some commercial businesses line the coast, including marinas, restaurants, and retail. Squantum Point, a former luxury summer resort area, is now populated year-round via the conversion of summer cottages to permanent homes after a causeway was built to allow vehicle access. This area includes medium-density residential, multifamily residences and some commercial activity. Salt marshes line the border between Squantum Point and Marina Bay, but unlike Marina Bay, the coastline of Squantum is primarily lined by beaches. This area is home to one fire station, three medical facilities, one church, one school and 11 natural resource areas. Notable features include Moon Island, the Squantum Marshes, Squantum Point Park, Squaw Rock Park, Squantum Yacht Club and Marina Bay Conservation Area. A detailed list of the Squantum Point/Marina Bay Community Assets is provided and shown on Map 4A in the HMP. Assets with an Asterix are located in the 100-year floodplain.

ID	Name
69	Quincy Fire Dept - Engine 7
243	Brewster Ambulance*
244	Alliance Health Marina Bay
107	Sewer Pump Station*
242	Quincy Public School Bus Barn*
252	Fallon Ambulance
149	Squantum Yacht Club*
152	Marina Bay*
34	Neponset River Reservation
56	Squaw Rock Park

#	Name
151	CVS*
262	Ayers Towing
1	Jack N' Jill Child Care at Marina Bay
4	Childs View Daycare
116	First Church Squantum
221	Quincy Crisis Center Inc.
52	Myles Standish Cairn
53	Moswetuset Hummock
35	Nickerson Beach

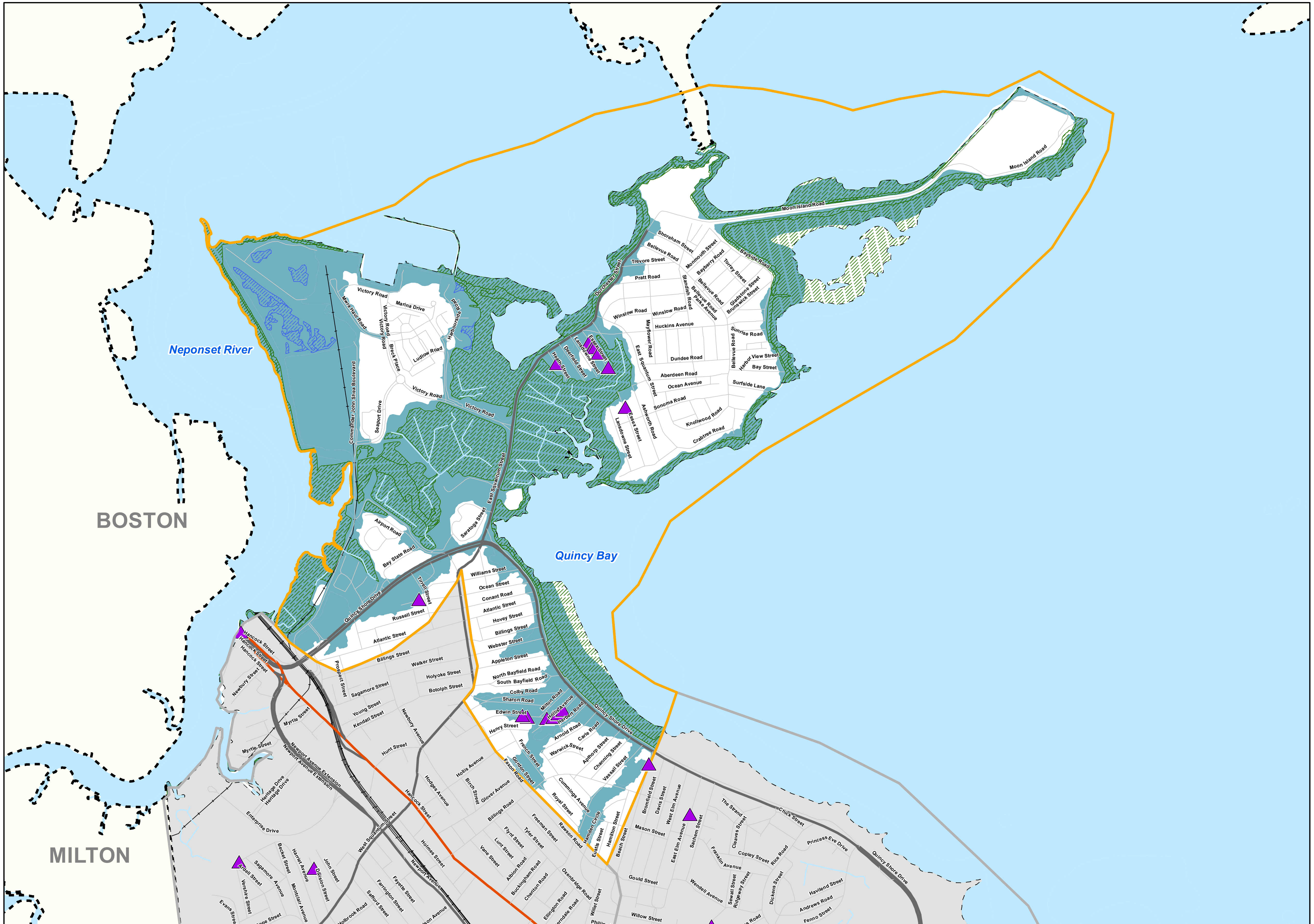
ID	Name
59	Former Squantum Airfield Site
2	Squantum Elementary
55	Squantum Point Park
15	Kennedy Center, Council on Aging*
13	Dickinson Waterfront
14	Don Kent Park
29	Marina Bay Conservation Area
32	Moon Island
38	Orchard Beach

NEPONSET RIVER WATERSHED

The Neponset River Estuary Area of Critical Environmental Concern (ACEC) is approximately 1,300 acres in size and is located primarily in Quincy (470 acres), as well as in Boston (435 acres) and Milton (355 acres). The ACEC boundary is based on the Wetlands Protection Act Regulations (wetlands resource areas and a 100-foot buffer) plus adjacent public open space and historic districts. The ACEC begins at the Lower Mills Dam in Milton and Dorchester, which separates the coastal estuary from the inland fresh water portion of the Neponset, and extends to the mouth of the river at Squantum Point in Quincy. The central resource features of the Neponset River Estuary ACEC are the Neponset River and portions of its tributaries, the estuary, salt marshes, floodplains, fishery habitat, and diverse wildlife habitat. Substantial soft-shell clam beds are located at the mouth of the River near Squantum Point. This area also provides habitat for a tremendous diversity of bird species and is one of the most important wildlife habitats in the urbanized Boston area.

Map 3.2A FEMA Flood Zones and Repetitive Loss Properties

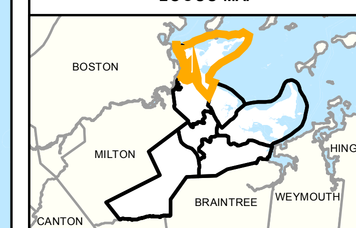
Squantum Point/ Marina Bay



LEGEND

- Severe Repetitive Loss
- Repetitive Loss
- Limited Access Highway
- Multi-Lane Highway, NOT Limited Access
- Other Numbered Highway
- Major Road - Collector
- Minor Street or Road
- Inland Wetlands
- Coastal Wetlands
- 100 Year Flood Zone
- Waterbodies
- Planning Areas
- Town Boundary

LOCUS MAP



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NOTES

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2018 Multi-Hazard Mitigation Plan

Quincy, Massachusetts

September 2018

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Houghs Neck/Germantown –*Flood Risk*

Present and Future Flood Risk for Inland Community Assets

Community Asset #	Community Asset	Present and Historic Flood Risk	Future Flood Risk	
		FEMA 100-year Floodplain [1]	FEMA Base Flood Elevation plus 2 ft (NAVD88)	Other Flood Area*
		Based Flood Elevation (NAVD 88)		
25	New Concept Christian Day School	12	14	
43	O'Brien Towers	12	14	
47	Quincy Rehab & Nursing Center	15	17	1 -Bigelow Street, Miller Stile Road

Community Assets outside of FEMA Flood Areas but within Locally Identified Flood Areas

Community Asset #	Community Asset	Local Flood Area *
19	Merrymount Elementary	17—Shore Avenue/ Chickatabot Rd.
49	Salvation Army Sunshine Preschool	1—Bigelow Street, Miller Stile Road
54	Navy Security/police	1—Bigelow Street, Miller Stile Road
109	Substation	13—Post Island Road

Present and Future Flood Risk for Coastal Community Assets

Community Asset #	Community Asset	Present and Historic Flood Risk				Future Flood Risk	
		FEMA 100-year Floodplain [1]				FEMA Base Flood Elevation plus 2 ft (NAVD88)	Other Flood Area-
		AO	AE	VE	Based Flood Elevation (NAVD 88)		
24	Broad Meadows Middle		X		12	14	
39	Quincy Fire Dept - Engine 8		X		12	14	
40	Quincy High School		X		11	13	
42	YMCA South Shore Child Care Program		X		11	13	
104	Sewer Pump Station		X		14	16	
105	Sewer Pump Station		X		12	14	13—Post Island Road
108	Substation		X		12	14	
140	Sprague Energy		X		13	15	
141	Twin Rivers Tech.		X		16	18	
143	Town River Yacht Club		X		14	16	
139	Bay Point Marina			X	14	16	
144	Quincy Oil / Sprague Energy	X			depth 2 feet	NA	
148	Quincy Yacht Club			X	20	22	

Notes:

1) https://msc.fema.gov/

Focus on Houghs Neck/Germantown—Mitigation Actions

Geographic Area	Hazard	Mitigation Action #	Lead Department	Additional Funding Sources	Approximate Cost	Timeframe	Consistency with Mitigation Goals	Consistency with other City Plans	Benefit Cost Review Rating	Priority Ranking
Citywide	All Hazards	Revised Public Education-Provide additional opportunities for City Staff Departments	Mayor's Office, DPW, Planning		$	1 year	Hazard Awareness	Comprehensive Emergency Management Plan	13	High
Citywide	All Hazards	Revised- Emergency Power Generators will be added or improved as needed	DPW/ Emergency Management	FEMA	$	1 year	Emergency Response to Hazards	Comprehensive Emergency Management Plan	13	High
Citywide	All Hazards	Evaluation of hurricane barrier to address Sea Level Rise and increasing surge	DPW		$	1-3 years	Protect existing properties and structures	Resilient Quincy	11	High
Citywide	All Hazards	Cloud Based Record Storage and Access System for Building Inspections	IT/ Inspectional Services		$$	1-2 years	Emergency Response to Hazards	Comprehensive Emergency Management Plan	11	High
Citywide	All Hazards	Discuss Climate Change Adaptation Plan with Stormwater Advisory Committee annually	DPW		$	1 year	Planning for Future Development	Stormwater Management Plan	10	Medium
Citywide	All Hazards	Ongoing analysis to consolidate Emergency Communications System	IT/ Emergency Management		$	1 year	Emergency Response to Hazards	Comprehensive Emergency Management Plan	10	Medium
Citywide	All Hazards	Maintain Comprehensive Emergency Management Plan	Emergency Management		$	1-2 years	Emergency Response to Hazards	Comprehensive Emergency Management Plan	9	Medium
Citywide	All Hazards	Incorporate coastal management staff and resources into the proposed Natural Resource Department	Parks and Forestry		$$	1-2 years	Increase resilience by protecting and enhancing natural resources	Comprehensive Emergency Management Plan/ Open Space Plan	9	Medium
Citywide	Coastal Erosion	Maintain coastal buffers to stabilize shorelines	Parks and Forestry	DCR CZM MVP	$$	1-3 years	Increase resilience by protecting and enhancing natural resources	Open Space Plan	3	High
Houghs Neck / Germantown	Coastal Erosion	Houghs Neck/Manet Seawalls Construction	DPW	EOEA/ FEMA	$$$$	2-3 years	Protect existing properties and structures	Capital Improvement Plan	3	High
Houghs Neck / Germantown	Coastal Erosion	Adams Shore Seawalls inclusive of Chickatabot tide gate construction	DPW	EOEA/ FEMA	$$$$	2-3 years	Protect existing properties and structures	Capital Improvement Plan	3	High
Houghs Neck / Germantown	Coastal Erosion	Germantown Seawalls Design Permitting & Construction	DPW	EOEA/ FEMA	$$	3-5 years	Protect existing properties and structures	Capital Improvement Plan	0	Medium
Houghs Neck / Germantown	Coastal Erosion	Town River Bay Seawalls design permitting and construction	DPW	EOEA/ FEMA	$$	3-5 years	Protect existing properties and structures	Capital Improvement Plan	0	Medium
Houghs Neck / Germantown	Coastal Erosion	Rockland Street Private Seawalls Design Permitting & Construction	DPW	EOEA/ FEMA	$$$$	3-5 years	Protect existing properties and structures	Capital Improvement Plan	-1	Low

Focus on Houghs Neck/Germantown—Mitigation Actions

Geographic Area	Hazard	Mitigation Action #	Lead Department	Additional Funding Sources	Approximate Cost	Timeframe	Consistency with Mitigation Goals	Consistency with other City Plans	Benefit Cost Review Rating	Priority Ranking
Citywide	Flood	Sewer Interceptor Relief for Downtown- Burgin Parkway	DPW	SRF	$$$$	3-5 years	Protect existing properties and structures	Capital Improvement Plan	9	High
Citywide	Flood	Ongoing Tide-gate management plan- annual cost	DPW/ Inspec-tional Services	EOEA/ FEMA	$	1-2 years	Protect existing properties and structures	Stormwater Management Plan	9	High
Citywide	Flood	Incorporate Climate Change Adaptation Plan into HMP	Planning	FEMA	$	1-2 years	Protect existing properties and structures	Quincy Resilient Plan	8	High
Citywide	Flood	Purchase high capacity mobile pumps	DPW	FEMA	$$$$	1-2 years	Protect existing properties and structures	Stormwater Management Plan	6	High
Citywide	Flood	Ongoing Salt Marsh Restoration & coordination with US Army Corps of Engineers	Parks & Forest-ry Dept/ DPW	CZM/ USAC-OE	$	1-5 years	Increase resilience by protecting and enhancing natural resources	Open Space Plan	6	High
Citywide	Flood	Small MS4 Program - Drainage System O&M Plan includes invasive species removal	DPW	MassDEP	$	2-4 years	Protect existing properties and structures	Stormwater Management Plan	5	Medium
Citywide	Flood	Evaluate use of Tree Filter Boxes in flood prone areas to improve stormwater infiltration	Parks and For-estry	MassDEP	$	1-2 years	Increase resilience by protecting and enhancing natural resources	Stormwater Management Plan	5	Medium
Citywide	Flood	Ongoing Sea wall repairs	DPW	EOEA/ FEMA	$$$	1-5 years	Protect existing properties and structures	Capital Improvement Plan	4	Medium
Citywide	Flood	Small MS4 Program - water quality retrofits	DPW	MassDEP	$	3-5 years	Increase resilience by protecting and enhancing natural resources	Stormwater Management Plan	3	Medium
Citywide	Flood	Ongoing Retrofit and flood proof existing buildings subject to repetitive flooding	Planning	U.S. HUD/ FEMA	$$	1-5 years	Protect existing properties and structures	Community Rating System Plan	-1	Low
Citywide	Flood	Ongoing Property Acquisition	Mayor's Office	CPA/ Hotel-Motel Tax	$	1-5 years	Protect the health and safety of the public	Open Space Plan	-1	Low
Citywide	Flood	Ongoing Elevate Repetitive Loss Structures	Planning	U.S. HUD/ FEMA	$$	1-5 years	Protect existing properties and structures	Community Rating System Plan	-3	Low

Focus on Houghs Neck/Germantown—Mitigation Actions

Geographic Area	Hazard	Mitigation Action #	Lead Department	Additional Funding Sources	Approximate Cost	Timeframe	Consistency with Mitigation Goals	Consistency with other City Plans	Benefit Cost Review Rating	Priority Ranking
Houghs Neck / Germantown	Flood	Lower Town Brook Drainage Improvements- Bigelow Street	DPW	FEMA	$$$$	2-4 years	Protect existing properties and structures	Stormwater Management Plan	8	High
Houghs Neck / Germantown	Flood	Broadmeadows School Flood Protection	Public Buildings Department	FEMA	$$$	3-5 years	Protect existing properties and structures	Stormwater Management Plan	7	High
Houghs Neck / Germantown	Flood	Ongoing Drainage improvements for Upper Town Brook	DPW	CZM	$$$	1-5 years	Protect existing properties and structures	Stormwater Management Plan	7	High
Houghs Neck / Germantown	Flood	Develop hydraulic model and update tide gates for Norton Road, Post Island Road and Bayswater Road	DPW	EOEA/ FEMA	$$$$	2-4 years	Protect existing properties and structures	Capital Improvement Plan	6	High
Houghs Neck / Germantown	Flood	Adams Shore & Post Island Rd stormwater stationary pumping station	DPW	FEMA	$$$$	1-2 years	Protect existing properties and structures	Stormwater Management Plan	6	High
Houghs Neck / Germantown	Flood	Houghs Neck Emergency Access along MWRA sewer easement	DPW	FEMA	$$$$	3-5 years	Protect existing properties and structures	Comprehensive Emergency Management Plan	5	Medium
Houghs Neck / Germantown	Flood	Broad Street Pumping System to protect Public Safety Complex	PDW	FEMA	$$$$	3-5 years	Protect existing properties and structures	Capital Improvement Plan	3	Medium
Houghs Neck / Germantown	Flood	Evaluate elevating critical access routes- Sea, Palmer and East Squantum Streets and Commander Shea Blvd	DPW	FEMA	$	3-5 years	Emergency Response to Hazards	Comprehensive Emergency Management Plan	0	Low
Citywide	Invasive Species	Develop and implement invasive species removal program	Parks and Forestry, DPW	CZ/ DCR	$	1-5 years	Increase resilience by protecting and enhancing natural resources	Open Space Plan	11	High
Citywide	Winter Weather and Wind	Obtain additional equipment to improve ability to respond to tree removal from natural hazard events	Parks and Forestry	FEMA	$$	1-2 years	Ensure that essential services can function during and after a hazard event	Comprehensive Emergency Management Plan	13	High
Citywide	Earthquakes	**Revised** Seismic impact evaluation and gas utility study.	Public Buildings Department		$	3-5 years	Protect the health and safety of the public	Comprehensive Emergency Management Plan	11	High

Merrymount/Blacks Creek –*Flood Risk*

Present and Future Flood Risk for Coastal Community Assets

Community Asset #	Community Asset	Present and Historic Flood Risk				Future Flood Risk	
		FEMA 100-year Floodplain [1]				FEMA Base Flood Elevation plus 2 ft (NAVD88)	Other Flood Area-
		AO	AE	VE	Based Flood		
13	Beechwood Knoll Elementary		X		11	13	
119	Eastern Nazarene Church		X		11	13	
150	Wollaston Yacht Club			X	16	18	

Notes:

1) https://msc.fema.gov/

Focus on Merrymount/Blacks Creek—Mitigation Actions

Geographic Area	Hazard	Mitigation Action #	Lead Department	Additional Funding Sources	Approximate Cost	Timeframe	Consistency with Mitigation Goals	Consistency with other City Plans	Benefit Cost Review Rating	Priority Ranking
Citywide	All Hazards	Revised Public Education-Provide additional opportunities for City Staff Departments	Mayor's Office, DPW, Planning		$	1 year	Hazard Awareness	Comprehensive Emergency Management Plan	13	High
Citywide	All Hazards	Revised- Emergency Power Generators will be added or improved as needed	DPW/ Emergency Management	FEMA	$	1 year	Emergency Response to Hazards	Comprehensive Emergency Management Plan	13	High
Citywide	All Hazards	Evaluation of hurricane barrier to address Sea Level Rise and increasing surge	DPW		$	1-3 years	Protect existing properties and structures	Resilient Quincy	11	High
Citywide	All Hazards	Cloud Based Record Storage and Access System for Building Inspections	IT/ Inspectional Services		$$	1-2 years	Emergency Response to Hazards	Comprehensive Emergency Management Plan	11	High
Citywide	All Hazards	Discuss Climate Change Adaptation Plan with Stormwater Advisory Committee annually	DPW		$	1 year	Planning for Future Development	Stormwater Management Plan	10	Medium
Citywide	All Hazards	Ongoing analysis to consolidate Emergency Communications System	IT/ Emergency Management		$	1 year	Emergency Response to Hazards	Comprehensive Emergency Management Plan	10	Medium
Citywide	All Hazards	Maintain Comprehensive Emergency Management Plan	Emergency Management		$	1-2 years	Emergency Response to Hazards	Comprehensive Emergency Management Plan	9	Medium
Citywide	All Hazards	Incorporate coastal management staff and resources into the proposed Natural Resource Department	Parks and Forestry		$$	1-2 years	Increase resilience by protecting and enhancing natural resources	Comprehensive Emergency Management Plan/ Open Space Plan	9	Medium
Citywide	Coastal Erosion	Maintain coastal buffers to stabilize shorelines	Parks and Forestry	DCR CZM MVP	$$	1-3 years	Increase resilience by protecting and enhancing natural resources	Open Space Plan	3	High
Citywide	Earthquakes	**Revised** Seismic impact evaluation and gas utility study.	Public Buildings Department		$	3-5 years	Protect the health and safety of the public	Comprehensive Emergency Management Plan	11	High
Citywide	Flood	Sewer Interceptor Relief for Downtown- Burgin Parkway	DPW	SRF	$$$$	3-5 years	Protect existing properties and structures	Capital Improvement Plan	9	High
Citywide	Flood	Ongoing Tide-gate management plan- annual cost	DPW/ Inspectional Services	EOEA/ FEMA	$	1-2 years	Protect existing properties and structures	Stormwater Management Plan	9	High
Citywide	Flood	Incorporate Climate Change Adaptation Plan into HMP	Planning	FEMA	$	1-2 years	Protect existing properties and structures	Quincy Resilient Plan	8	High
Citywide	Flood	Purchase high capacity mobile pumps	DPW	FEMA	$$$$	1-2 years	Protect existing properties and structures	Stormwater Management Plan	6	High

Focus on Merrymount/Blacks Creek—Mitigation Actions

Geographic Area	Hazard	Mitigation Action #	Lead Department	Additional Funding Sources	Approximate Cost	Timeframe	Consistency with Mitigation Goals	Consistency with other City Plans	Benefit Cost Review Rating	Priority Ranking
Citywide	Flood	Ongoing Salt Marsh Restoration & coordination with US Army Corps of Engineers	Parks & Forestry Dept/ DPW	CZM/ USACOE	$	1-5 years	Increase resilience by protecting and enhancing natural resources	Open Space Plan	6	High
Citywide	Flood	Small MS4 Program - Drainage System O&M Plan includes invasive species removal	DPW	MassDEP	$	2-4 years	Protect existing properties and structures	Stormwater Management Plan	5	Medium
Citywide	Flood	Evaluate use of Tree Filter Boxes in flood prone areas to improve stormwater infiltration	Parks and Forestry	MassDEP	$	1-2 years	Increase resilience by protecting and enhancing natural resources	Stormwater Management Plan	5	Medium
Citywide	Flood	Ongoing Sea wall repairs	DPW	EOEA/ FEMA	$$$	1-5 years	Protect existing properties and structures	Capital Improvement Plan	4	Medium
Citywide	Flood	Small MS4 Program - water quality retrofits	DPW	MassDEP	$	3-5 years	Increase resilience by protecting and enhancing natural resources	Stormwater Management Plan	3	Medium
Citywide	Flood	Ongoing Retrofit and flood proof existing buildings subject to repetitive flooding	Planning	U.S. HUD/ FEMA	$$	1-5 years	Protect existing properties and structures	Community Rating System Plan	-1	Low
Citywide	Flood	Ongoing Property Acquisition	Mayor's Office	CPA/ Hotel-Motel Tax	$	1-5 years	Protect the health and safety of the public	Open Space Plan	-1	Low
Citywide	Flood	Ongoing Elevate Repetitive Loss Structures	Planning	U.S. HUD/ FEMA	$$	1-5 years	Protect existing properties and structures	Community Rating System Plan	-3	Low
Citywide	Invasive Species	Develop and implement invasive species removal program	Parks and Forestry, DPW	CZ/ DCR	$	1-5 years	Increase resilience by protecting and enhancing natural resources	Open Space Plan	11	High
Citywide	Winter Weather and Wind	Obtain additional equipment to improve ability to respond to tree removal from natural hazard events	Parks and Forestry	FEMA	$$	1-2 years	Ensure that essential services can function during and after a hazard event	Comprehensive Emergency Management Plan	13	High
Merrymount / Blacks Creek	Coastal Erosion	Merrymount Seawalls Design Permitting and Construction	DPW	EOEA/ FEMA	$$$$	3-5 years	Protect existing properties and structures	Capital Improvement Plan	-1	Low
Merrymount / Blacks Creek	Flood	Strand Pump Station rehabilitation	DPW	MWRA	$$$$	1-2 years	Protect existing properties and structures	Capital Improvement Plan	8	High
Merrymount / Blacks Creek	Flood	Blacks Creek tide gate modernization	DPW	EOEA/ FEMA	$$$$	1-5 years	Protect existing properties and structures	Capital Improvement Plan	6	High
Merrymount / Blacks Creek	Flood	Other sewer system coastal rehabilitation (Wollaston Beach, West Quincy)	DPW	MWRA	$$$$	3-5 years	Protect existing properties and structures	Capital Improvement Plan	6	High

Focus on Furnace Brook North / South—Mitigation Actions

Geographic Area	Hazard	Mitigation Action #	Lead Department	Additional Funding Sources	Approximate Cost	Timeframe	Consistency with Mitigation Goals	Consistency with other City Plans	Benefit Cost Review Rating	Priority Ranking
Citywide	All Hazards	Revised Public Education—Provide additional opportunities for City Staff Departments	Mayor's Office, DPW, Planning		$	1 year	Hazard Awareness	Comprehensive Emergency Management Plan	13	High
Citywide	All Hazards	Revised- Emergency Power Generators will be added or improved as needed	DPW/ Emergency Management	FEMA	$	1 year	Emergency Response to Hazards	Comprehensive Emergency Management Plan	13	High
Citywide	All Hazards	Evaluation of hurricane barrier to address Sea Level Rise and increasing surge	DPW		$	1-3 years	Protect existing properties and structures	Resilient Quincy	11	High
Citywide	All Hazards	Cloud Based Record Storage and Access System for Building Inspections	IT/ Inspectional Services		$$	1-2 years	Emergency Response to Hazards	Comprehensive Emergency Management Plan	11	High
Citywide	All Hazards	Discuss Climate Change Adaptation Plan with Stormwater Advisory Committee annually	DPW		$	1 year	Planning for Future Development	Stormwater Management Plan	10	Medium
Citywide	All Hazards	Ongoing analysis to consolidate Emergency Communications System	IT/ Emergency Management		$	1 year	Emergency Response to Hazards	Comprehensive Emergency Management Plan	10	Medium
Citywide	All Hazards	Maintain Comprehensive Emergency Management Plan	Emergency Management		$	1-2 years	Emergency Response to Hazards	Comprehensive Emergency Management Plan	9	Medium
Citywide	All Hazards	Incorporate coastal management staff and resources into the proposed Natural Resource Department	Parks and Forestry		$$	1-2 years	Increase resilience by protecting and enhancing natural resources	Comprehensive Emergency Management Plan/ Open Space Plan	9	Medium
Furnace Brook South	Brush Fire	**Ongoing** Installation of water pipes at Blue Hills Reservation and Faxon Park.	DPW		$$$$	1 year	Protect the health and safety of the public	Capital Improvement Plan	11	Medium
Citywide	Coastal Erosion	Maintain coastal buffers to stabilize shorelines	Parks and Forestry	DCR CZM MVP	$$	1-3 years	Increase resilience by protecting and enhancing natural resources	Open Space Plan	3	High
Citywide	Earthquakes	**Revised** Seismic impact evaluation and gas utility study.	Public Buildings Department		$	3-5 years	Protect the health and safety of the public	Comprehensive Emergency Management Plan	11	High
Citywide	Flood	Sewer Interceptor Relief for Downtown- Burgin Parkway	DPW	SRF	$$$$	3-5 years	Protect existing properties and structures	Capital Improvement Plan	9	High
Citywide	Flood	Ongoing Tide-gate management plan- annual cost	DPW/ Inspectional Services	EOEA/ FEMA	$	1-2 years	Protect existing properties and structures	Stormwater Management Plan	9	High
Citywide	Flood	Incorporate Climate Change Adaptation Plan into HMP	Planning	FEMA	$	1-2 years	Protect existing properties and structures	Quincy Resilient Plan	8	High
Citywide	Flood	Purchase high capacity mobile pumps	DPW	FEMA	$$$$	1-2 years	Protect existing properties and structures	Stormwater Management Plan	6	High

Geographic Area	Hazard	Mitigation Action #	Lead Department	Additional Funding Sources	Approximate Cost	Timeframe	Consistency with Mitigation Goals	Consistency with other City Plans	Benefit Cost Review Rating	Priority Ranking
Citywide	Flood	Ongoing Salt Marsh Restoration & coordination with US Army Corps of Engineers	Parks & Forestry Dept/ DPW	CZM/ USACOE	$	1-5 years	Increase resilience by protecting and enhancing natural resources	Open Space Plan	6	High
Citywide	Flood	Small MS4 Program - Drainage System O&M Plan includes invasive species removal	DPW	MassDEP	$	2-4 years	Protect existing properties and structures	Stormwater Management Plan	5	Medium
Citywide	Flood	Evaluate use of Tree Filter Boxes in flood prone areas to improve stormwater infiltration	Parks and Forestry	MassDEP	$	1-2 years	Increase resilience by protecting and enhancing natural resources	Stormwater Management Plan	5	Medium
Citywide	Flood	Ongoing Sea wall repairs	DPW	EOEA/ FEMA	$$$	1-5 years	Protect existing properties and structures	Capital Improvement Plan	4	Medium
Citywide	Flood	Small MS4 Program - water quality retrofits	DPW	MassDEP	$	3-5 years	Increase resilience by protecting and enhancing natural resources	Stormwater Management Plan	3	Medium
Citywide	Flood	Ongoing Retrofit and flood proof existing buildings subject to repetitive flooding	Planning	U.S. HUD/ FEMA	$$	1-5 years	Protect existing properties and structures	Community Rating System Plan	-1	Low
Citywide	Flood	Ongoing Property Acquisition	Mayor's Office	CPA/ Hotel-Motel Tax	$	1-5 years	Protect the health and safety of the public	Open Space Plan	-1	Low
Citywide	Flood	Ongoing Elevate Repetitive Loss Structures	Planning	U.S. HUD/ FEMA	$$	1-5 years	Protect existing properties and structures	Community Rating System Plan	-3	Low
Furnace Brook North	Flood	Miller/Cross/Furnace Ave Stormwater Control Station	DPW	FEMA	$$$$	1-2 years	Protect existing properties and structures	Capital Improvement Plan	8	High
Furnace Brook North	Flood	Convert O'Rourke Field for use as a temporary retention pond	DPW	FEMA	$$$$	5 years	Protect existing properties and structures.	Capital Improvement Plan	6	High
Furnace Brook North / South	Flood	Ballou Street bypass via Milton	DPW	SRF	$$	2-3 years	Protect existing properties and structures.	Stormwater Management Plan	4	Medium
Citywide	Invasive Species	Develop and implement invasive species removal program	Parks and Forestry, DPW	CZ/ DCR	$	1-5 years	Increase resilience by protecting and enhancing natural resources	Open Space Plan	11	High
Citywide	Winter Weather and Wind	Obtain additional equipment to improve ability to respond to tree removal from natural hazard events	Parks and Forestry	FEMA	$$	1-2 years	Ensure that essential services can function during and after a hazard event	Comprehensive Emergency Management Plan	13	High

Neponset River –*Flood Risk*

Present and Future Flood Risk for Inland Community Assets

Community Asset #	Community Asset	Present and Historic Flood Risk	Future Flood Risk	
		FEMA 100-year Floodplain [1]	FEMA Base Flood Elevation plus 2 ft (NAVD88)	Other Flood Area*
		Based Flood Elevation (NAVD 88)		
10	Toddler Tech Preschool	10	12	4– Farrington Street, Hobart Street, Arlington Street, North Central Avenue
120	Stop & Shop	10	12	
121	Stop & Shop Pharmacy	10	12	
168	MBTA North Quincy Train Station	10	12	
240	Boston Chinese Neighborhood Center	10	12	
246	Born Again Baptist	10	12	19—Newport Ave Extension, Sagamore Creek Tide Gate
249	Granite Telecommunications	10	12	

Community Assets outside of FEMA Flood Areas but within Locally Identified Flood Areas

Community Asset #	Community Asset	Local Flood Area *
17	Twelve Step Education Program Of Ne, Inc.	4– Farrington Street, Hobart Street, Arlington Street, North Central Avenue
68	Quincy Fire Dept - Engine 4	4—Farrington Street, Hobart Street, Arlington Street, North Central Ave

Present and Future Flood Risk for Coastal Community Assets

Community Asset #	Community Asset	Present and Historic Flood Risk				Future Flood Risk	
		FEMA 100-year Floodplain [1]				FEMA Base Flood Elevation plus 2 ft (NAVD88)	Other Flood Area-
		AO	AE	VE	Based Flood Elevation (NAVD 88)		
162	Neponset Bridge		X		12	14	
163	MBTA Bridge		X		12	14	

Notes:

1) https://msc.fema.gov/

Focus on Neponset River —Mitigation Actions

Geographic Area	Hazard	Mitigation Action #	Lead Department	Additional Funding Sources	Approximate Cost	Timeframe	Consistency with Mitigation Goals	Consistency with other City Plans	Benefit Cost Review Rating	Priority Ranking
Citywide	All Hazards	Revised Public Education-Provide additional opportunities for City Staff Departments	Mayor's Office, DPW, Planning		$	1 year	Hazard Awareness	Comprehensive Emergency Management Plan	13	High
Citywide	All Hazards	Revised- Emergency Power Generators will be added or improved as needed	DPW/ Emergency Management	FEMA	$	1 year	Emergency Response to Hazards	Comprehensive Emergency Management Plan	13	High
Citywide	All Hazards	Evaluation of hurricane barrier to address Sea Level Rise and increasing surge	DPW		$	1-3 years	Protect existing properties and structures	Resilient Quincy	11	High
Citywide	All Hazards	Cloud Based Record Storage and Access System for Building Inspections	IT/ Inspectional Services		$$	1-2 years	Emergency Response to Hazards	Comprehensive Emergency Management Plan	11	High
Citywide	All Hazards	Discuss Climate Change Adaptation Plan with Stormwater Advisory Committee annually	DPW		$	1 year	Planning for Future Development	Stormwater Management Plan	10	Medium
Citywide	All Hazards	Ongoing analysis to consolidate Emergency Communications System	IT/ Emergency Management		$	1 year	Emergency Response to Hazards	Comprehensive Emergency Management Plan	10	Medium
Citywide	All Hazards	Maintain Comprehensive Emergency Management Plan	Emergency Management		$	1-2 years	Emergency Response to Hazards	Comprehensive Emergency Management Plan	9	Medium
Citywide	All Hazards	Incorporate coastal management staff and resources into the proposed Natural Resource Department	Parks and Forestry		$$	1-2 years	Increase resilience by protecting and enhancing natural resources	Comprehensive Emergency Management Plan/ Open Space Plan	9	Medium
Citywide	Coastal Erosion	Maintain coastal buffers to stabilize shorelines	Parks and Forestry	DCR CZM MVP	$$	1-3 years	Increase resilience by protecting and enhancing natural resources	Open Space Plan	3	High
Citywide	Earthquakes	**Revised** Seismic impact evaluation and gas utility study.	Public Buildings Department		$	3-5 years	Protect the health and safety of the public	Comprehensive Emergency Management Plan	11	High
Citywide	Flood	Sewer Interceptor Relief for Downtown- Burgin Parkway	DPW	SRF	$$$$	3-5 years	Protect existing properties and structures	Capital Improvement Plan	9	High
Citywide	Flood	Ongoing Tide-gate management plan- annual cost	DPW/ Inspectional Services	EOEA/ FEMA	$	1-2 years	Protect existing properties and structures	Stormwater Management Plan	9	High
Citywide	Flood	Incorporate Climate Change Adaptation Plan into HMP	Planning	FEMA	$	1-2 years	Protect existing properties and structures	Quincy Resilient Plan	8	High
Citywide	Flood	Purchase high capacity mobile pumps	DPW	FEMA	$$$$	1-2 years	Protect existing properties and structures	Stormwater Management Plan	6	High

Focus on Neponset River —Mitigation Actions

Geographic Area	Hazard	Mitigation Action #	Lead Department	Additional Funding Sources	Approximate Cost	Timeframe	Consistency with Mitigation Goals	Consistency with other City Plans	Benefit Cost Review Rating	Priority Ranking
Citywide	Flood	Ongoing Salt Marsh Restoration & coordination with US Army Corps of Engineers	Parks & Forestry Dept/ DPW	CZM/ USACOE	$	1-5 years	Increase resilience by protecting and enhancing natural resources	Open Space Plan	6	High
Citywide	Flood	Small MS4 Program - Drainage System O&M Plan includes invasive species removal	DPW	MassDEP	$	2-4 years	Protect existing properties and structures	Stormwater Management Plan	5	Medium
Citywide	Flood	Evaluate use of Tree Filter Boxes in flood prone areas to improve stormwater infiltration	Parks and Forestry	MassDEP	$	1-2 years	Increase resilience by protecting and enhancing natural resources	Stormwater Management Plan	5	Medium
Citywide	Flood	Ongoing Sea wall repairs	DPW	EOEA/ FEMA	$$$	1-5 years	Protect existing properties and structures	Capital Improvement Plan	4	Medium
Citywide	Flood	Small MS4 Program - water quality retrofits	DPW	MassDEP	$	3-5 years	Increase resilience by protecting and enhancing natural resources	Stormwater Management Plan	3	Medium
Citywide	Flood	Ongoing Retrofit and flood proof existing buildings subject to repetitive flooding	Planning	U.S. HUD/ FEMA	$$	1-5 years	Protect existing properties and structures	Community Rating System Plan	-1	Low
Citywide	Flood	Ongoing Property Acquisition	Mayor's Office	CPA/ Hotel-Motel Tax	$	1-5 years	Protect the health and safety of the public	Open Space Plan	-1	Low
Citywide	Flood	Ongoing Elevate Repetitive Loss Structures	Planning	U.S. HUD/ FEMA	$$	1-5 years	Protect existing properties and structures	Community Rating System Plan	-3	Low
Citywide	Invasive Species	Develop and implement invasive species removal program	Parks and Forestry, DPW	CZ/ DCR	$	1-5 years	Increase resilience by protecting and enhancing natural resources	Open Space Plan	11	High
Citywide	Winter Weather and Wind	Obtain additional equipment to improve ability to respond to tree removal from natural hazard events	Parks and Forestry	FEMA	$$	1-2 years	Ensure that essential services can function during and after a hazard event	Comprehensive Emergency Management Plan	13	High
Neponset River	Flood	Ongoing Division Street Pump Station upgrades	DPW	SFR	$$$$	1-5 years	Protect existing properties and structures	Capital Improvement Plan	5	Medium
Neponset River	Flood	Ongoing -Sagamore Creek Tide Gate	DPW/ Conservation	CZM	$$$	1-5 years	Protect existing properties and structures	Stormwater Management Plan	3	Medium

South Quincy/Fore River –*Flood Risk*

Present and Future Flood Risk for Inland Community Assets

Community Asset #	Community Asset	Present and Historic Flood Risk	Future Flood Risk	
		FEMA 100-year Floodplain [1]	FEMA Base Flood Elevation plus 2 ft (NAVD88)	Other Flood Area*
		Based Flood Elevation (NAVD 88)		
128	Star Market	10	12	4– Farrington Street, Hobart Street, Arlington Street, North Central Avenue
129	Brooks Pharmacy	10	12	
159	Home Depot	10	12	
210	Fallon Ambulance	10	12	
211	Dhammakaya Meditation	10	12	
212	Lowes Home Improvement	10	12	19—Newport Ave Extension, Sagamore Creek Tide Gate

Community Assets outside of FEMA Flood Areas but within Locally Identified Flood Areas

Community Asset #	Community Asset	Local Flood Area *
87	Drohan Apartments	5—Furnace Brook
92	Sweeney Bros. Home For Funerals	8– Goddard Street/Independence Avenue
95	John Adams Continuing Care Center	12—Penn Hill/Faxon Park
158	MBTA Parking Garage and station	20—Town Brook Flood System
255	Bogan Tree	8– Goddard Street/Independence Avenue

Present and Future Flood Risk for Coastal Community Assets

Community Asset #	Community Asset	Present and Historic Flood Risk				Future Flood Risk	
		FEMA 100-year Floodplain [1]				FEMA Base Flood Elevation plus 2 ft (NAVD88)	Other Flood Area-
		AO	AE	VE	Based Flood Elevation (NAVD 88)		
58	U.S.S. Salem/U.S. Shipbuilding Museum			X	14	16	
137	MWRA Sludge Plant			X	14	16	
138	Fore River Bridge			X	16	18	
147	Ship Yard Pier			X	14	16	

Notes:

1) https://msc.fema.gov/

Focus on South Quincy/Fore River—Mitigation Actions

Geographic Area	Hazard	Mitigation Action #	Lead Department	Additional Funding Sources	Approximate Cost	Timeframe	Consistency with Mitigation Goals	Consistency with other City Plans	Benefit Cost Review Rating	Priority Ranking
Citywide	All Hazards	Revised Public Education-Provide additional opportunities for City Staff Departments	Mayor's Office, DPW, Planning		$	1 year	Hazard Awareness	Comprehensive Emergency Management Plan	13	High
Citywide	All Hazards	Revised- Emergency Power Generators will be added or improved as needed	DPW/ Emergency Management	FEMA	$	1 year	Emergency Response to Hazards	Comprehensive Emergency Management Plan	13	High
Citywide	All Hazards	Evaluation of hurricane barrier to address Sea Level Rise and increasing surge	DPW		$	1-3 years	Protect existing properties and structures	Resilient Quincy	11	High
Citywide	All Hazards	Cloud Based Record Storage and Access System for Building Inspections	IT/ Inspectional Services		$$	1-2 years	Emergency Response to Hazards	Comprehensive Emergency Management Plan	11	High
Citywide	All Hazards	Discuss Climate Change Adaptation Plan with Stormwater Advisory Committee annually	DPW		$	1 year	Planning for Future Development	Stormwater Management Plan	10	Medium
Citywide	All Hazards	Ongoing analysis to consolidate Emergency Communications System	IT/ Emergency Management		$	1 year	Emergency Response to Hazards	Comprehensive Emergency Management Plan	10	Medium
Citywide	All Hazards	Maintain Comprehensive Emergency Management Plan	Emergency Management		$	1-2 years	Emergency Response to Hazards	Comprehensive Emergency Management Plan	9	Medium
Citywide	All Hazards	Incorporate coastal management staff and resources into the proposed Natural Resource Department	Parks and Forestry		$$	1-2 years	Increase resilience by protecting and enhancing natural resources	Comprehensive Emergency Management Plan/ Open Space Plan	9	Medium
Citywide	Coastal Erosion	Maintain coastal buffers to stabilize shorelines	Parks and Forestry	DCR CZM MVP	$$	1-3 years	Increase resilience by protecting and enhancing natural resources	Open Space Plan	3	High
Citywide	Earthquakes	**Revised** Seismic impact evaluation and gas utility study.	Public Buildings Department		$	3-5 years	Protect the health and safety of the public	Comprehensive Emergency Management Plan	11	High
Citywide	Flood	Sewer Interceptor Relief for Downtown- Burgin Parkway	DPW	SRF	$$$$	3-5 years	Protect existing properties and structures	Capital Improvement Plan	9	High
Citywide	Flood	Ongoing Tide-gate management plan- annual cost	DPW/ Inspectional Services	EOEA/ FEMA	$	1-2 years	Protect existing properties and structures	Stormwater Management Plan	9	High
Citywide	Flood	Incorporate Climate Change Adaptation Plan into HMP	Planning	FEMA	$	1-2 years	Protect existing properties and structures	Quincy Resilient Plan	8	High
Citywide	Flood	Purchase high capacity mobile pumps	DPW	FEMA	$$$$	1-2 years	Protect existing properties and structures	Stormwater Management Plan	6	High