

COMMUNITY RESILIENCE BUILDING WORKSHOPS- SUMMARY OF FINDINGS

TOWN OF WEST BRIDGEWATER
MUNICIPAL VULNERABILITY PREPAREDNESS (MVP)
PLAN



SUBMITTED TO

Town of West Bridgewater

FINAL June 2022

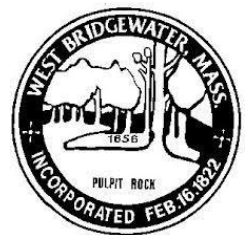


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Section 1

Community Resilience Building Workshops

1.1 Overview

Similar to other communities in the Commonwealth of Massachusetts (the Commonwealth), the Town of West Bridgewater (the Town) is experiencing the impacts of climate change. In particular, the community has experienced severe weather related to inland flooding and extreme storm events. There have been 16 natural hazard incidents that triggered federal or state disaster declarations since 1991 that have affected West Bridgewater.

- The March 12-16, 2010, storm, or St Patrick's Day nor'easter caused the widespread flooding from over 12 inches of rain, resulting in substantial impacts in West Bridgewater including closure of multiple Town-owned roadways.
- Tropic Storm Irene in August 2011 caused devastating flooding and wind damage.
- West Bridgewater experienced a drought that lasted from June 2016 through May 2017 which impacted the public water supply, businesses, and the public.
- The Town has had to manage extreme storm events such as the back to back Winter Storms Riley, Quinn and Skylar in March 2018, where over 20 inches of snow was recorded by the end of the second storm.
- Additionally, on October 27, 2021, Tropical Storm Wanda downed hundreds of trees from heavy rain and high winds, causing power outages throughout Town.

In the future, the Town anticipates more severe and frequent weather events due to climate change such as increased flooding, substantial winds, winter storms, and drought. These extreme weather events will test West Bridgewater's ability to prepare for and respond to emergencies.

In 2017, the Commonwealth of Massachusetts inaugurated the Municipal Vulnerability Preparedness (MVP) program to assist municipalities in planning for and implementing strategies to adapt to predicted changes in our warming climate. The Executive Office of Energy and Environmental Affairs (EEA) oversees and implements the MVP program. Funds are awarded to municipalities under two categories of work: planning grants and action grants.

To proactively prepare for climate resiliency and begin to consider adaptation strategies, West Bridgewater applied for an MVP Planning Grant that also includes funding to prepare a Town-specific update of the 2015 Regional Hazard Mitigation Plan.

1.1.1 How does the MVP Planning Process Augment the HMP?

The Federal Disaster Mitigation Act, adopted in 2000, requires that after November 1, 2004, all municipalities that wish to continue to be eligible to receive Federal Emergency Management Agency (FEMA) Hazard Mitigation Grant funding for hazard mitigation activities must adopt a local Hazard Mitigation Plan (HMP) and update the plan every five years. This planning requirement does not affect federally authorized disaster assistance funding which is exempt from the HMP requirement.

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West Bridgewater is included in the “Hazard Mitigation Plan for the Old Colony Region”, which was approved by FEMA in October 2015. This plan covers Abington, Avon, Bridgewater, East Bridgewater, Easton, Halifax, Hanson, Kingston, Pembroke, Plymouth, Plympton, Stoughton, West Bridgewater, Whitman, and Brockton. The 2015 Regional HMP was prepared under the overall direction of the Old County Regional Planning Commission (OCRPC) and expired in October 2020.

The MVP effort supplements the HMP process by providing a statewide and major basin-specific climate change data to use in the natural hazard risk assessment and a consistent methodology for public engagement through the Community Resilience Building (CRB) process. The overlap between the MVP and HMP development is demonstrated in Figure 1.



FIGURE 1: Overlap between MVP and HMP Development

1.1.2 Overview of the Community Resilience Building (CRB) Process

The CRB methodology is an “anywhere at any scale” format that draws on stakeholders’ wealth of information and experiences to foster a collaborative dialogue about the strengths and vulnerabilities within a community, identify potential resiliency actions, and advance the education, planning, and ultimately implementation of priority actions. An overview of this process from the CRB Workshop Guide is provided in Figure 1 and is available online at: <https://www.communityresiliencebuilding.com/>.

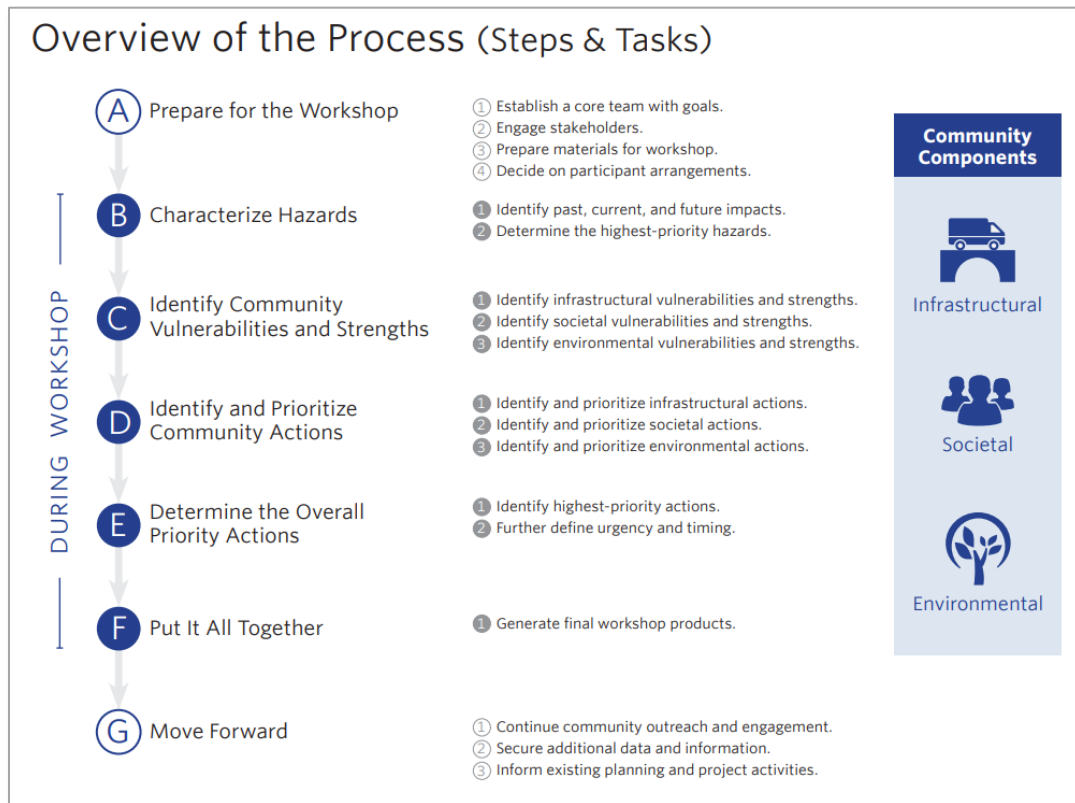


FIGURE 2: Overview of the CRB Process

During the workshops, participants interact in both small and large groups using an iterative process to gather input, synthesize ideas across groups, and ultimately develop a set of priority resilience and adaptation actions. The central objectives of the workshops are to:

- Define the top local natural and climate-related hazards of concern;
- Identify existing and future strengths and vulnerabilities of the community;
- Develop prioritized actions for the community; and
- Identify immediate opportunities to collaboratively advance actions to increase resilience.

1.2 West Bridgewater's CRB Planning Activities

Chris Iannitelli, the West Bridgewater Department of Public Works Director, served as the Local Project Manager for undertaking the integrated MVP and HMP planning process. The Town partnered with Tighe & Bond, a state-certified MVP Provider, to complete the Town-specific HMP Update and undertake the CRB process including holding the CRB workshops.

To complete Step A of the CRB Guide, the Town of West Bridgewater drew from multiple departments, boards, and commissions to form the Core Team for the MVP Planning and HMP Update.

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The Core Team identified and engaged the community stakeholders to participate in the CRB workshops and the listening session. Community stakeholders included municipal staff, elected and appointed officials in West Bridgewater, representatives from abutting communities, OCRPC staff, environmental non-profits, representatives from the Council on Aging, students from the Bridgewater High School, and the citizens involved in local planning such as the ongoing Open Space and Recreation Plan.

The following provides additional detail on the overcall CRB planning process undertaken by the Town to obtain MVP Community Designation and support the ongoing town-specific HMP update.

1.2.1 Core Team Meetings

The following Core Team Meeting were completed as part of the MVP Program:

- **November 30, 2021** (MVP Kickoff Meeting) – Tighe & Bond presented an overview of EEA’s MVP Program and Goals, reviewed the scope, schedule, and budget, discussed public involvement and outreach, and reviewed the CRB process. This meeting was coordinated to involve the Core Team at an early stage in the planning process
- **December 14, 2021** – The Core Team met to finalize the stakeholder list, review and prioritize natural hazards, discuss the draft asset inventory and assets most at risk, and plan for the workshops including planning and outreach.
- **January 11, 2022** – The Core Team met to reevaluate additional hazards, augment specific planning needs, plan community outreach opportunities for Environmental Justice (EJ) and Climate Vulnerable Populations, prioritize the mitigation strategies, review draft deliverables to date, prioritize projects for future funding, and define further Advisory Group actions.
- **February 1, 2022** - The Core Team met to finalize the schedule for the public meeting and listening session, review workshop materials and attendance, and confirm the Teams’ roles.
- **March 21, 2022** - The Core Team met to review the draft Matrix and discuss the Capabilities Assessment.

Materials documenting the Core Team meetings are provided in Appendix A.

1.2.2 West Bridgewater Community Resilience Building Workshops

Community stakeholders were invited to participate in CRB workshops on February 8 or February 15, 2022, which were held at the West Bridgewater Community Center. The list of community stakeholders invited to the workshops is included in Appendix A.

The February 8th workshop was attended by 19 participants and the February 15th workshop was attended by 18 participants.

Chris Iannitelli, Director of Public Works, provided an introduction to the Town’s MVP/HMP planning process and welcomed attendees to the workshop.

Tighe & Bond provided a presentation of the MVP program, the CRB workshop process, outlined climate change projections for the Town and Commonwealth, and reviewed West

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Bridgewater's top natural hazards (Step B of the CRB Guide). Attendees were invited to discuss the top hazards and modify as needed.

Participants were asked to complete a series of three facilitated small group discussions to fill out the CRB Risk Matrix by:

1. Identifying important community assets most vulnerable to natural hazards in four categories (for consistency with HMP requirements): infrastructure, societal, economic, and environmental, and define if these are a vulnerability, strength, or both (Step C of the CRB Guide);
2. Determining mitigation actions to address vulnerabilities and protect strengths (Step D of the CRB Guide); and
3. Prioritizing and scheduling the mitigation actions (Step E of the CRB Guide).

PHOTO 1: (On right) Group from Workshop #2 in process determining community assets strengths and vulnerabilities and completing a portion of the CRB Risk Matrix



PHOTO 2: (On left) Group from Workshop #2 working to define mitigation actions

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PHOTO 3: (On left) Group from Workshop #2 working to define mitigation actions and complete the CRB matrix

PHOTO 4: (Below) Group from Workshop #2 working to define reporting to the entire workshop group about their priorities.

Following this small group discussion process, each group reported to the full group on the top risks and strengths and mitigation actions based on the group's prioritization and scheduling. Collectively, the group voted to further define the priorities (Step E/F of the CRB Guide).

Workshop meeting materials including completed sign-in sheets, presentations, maps, notes, and completed matrices are provided in Appendix B. The compiled CRB matrix is provided in Appendix D.



PHOTO 5: (On left) Listing priorities from each table workshop #2



1.2.3 Listening Session

A listening session to present the final report and review the high priority actions identified through the CRB workshops was held on May 4th, at the West Bridgewater Town Hall. Town Staff led the session with support from Tighe & Bond. Six residents were in attendance.

Town staff facilitated discussion including resident input on the following:

- Storms have become more intense, seasonal temperatures are more unpredictable.
- Heat waves will cause tremendous increase in energy use and compound impacts to air quality.
- Invasive species are now commonplace, increased nutrient loading to water bodies and warmer waters are contributing factors.
- Town was proactive in identifying building needs 20 years ago with an implementation plan that continues to the present.
- Medical services are not local, residents must travel to neighboring towns.
- Gas stations do not have generators which could be devastating if power loss is severe or long lasting.
- Tree planting program is ongoing, but more maintenance of mature trees is needed.
- Conservation require three new trees planted for every tree removed

Sign in sheets, meeting materials, and the presentation for the listening session are provided in Appendix E.

Section 2

Top Hazards and Vulnerable Areas

This section discusses Steps B and C of the CRB Process to characterize hazards and identify community vulnerabilities and strengths (a.k.a. community assets).

2.1 Natural Hazard Risks

2.1.1 State Identified Hazards

The 2018 Massachusetts State Hazard Mitigation and Climate Adaptation Plan (SHMCAP)¹ provides an in-depth overview of natural hazards in Massachusetts. The State Plan identifies 14 natural hazards that have an impact or have a history of impacting communities in the Commonwealth of Massachusetts. These hazards are as follows:

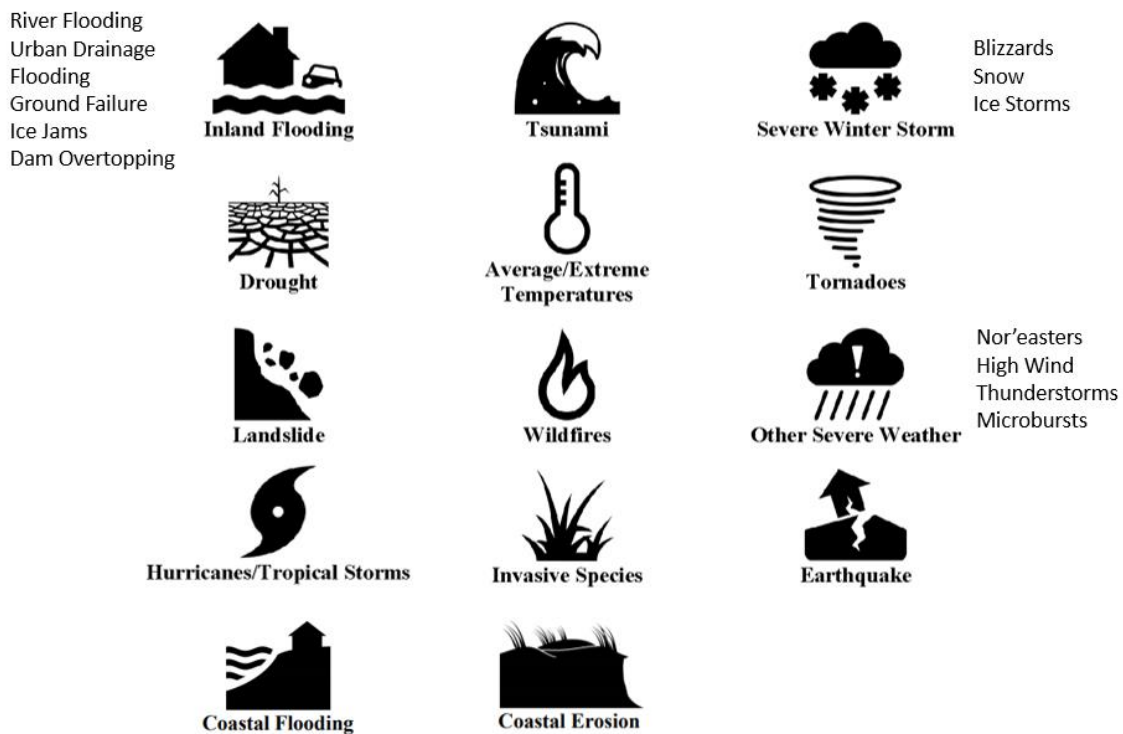


FIGURE 3: Hazards Identified in the SHMCAP

¹ <https://www.mass.gov/files/documents/2018/10/26/SHMCAP-September2018-Full-Plan-web.pdf>

Section 2 Top Hazard and Vulnerable Areas

2.1.2 Hazards that Apply to West Bridgewater

The SHMCAP includes coastal flooding, coastal erosion, and tsunamis; however, because West Bridgewater is not a coastal community, these hazards are not applicable and are not further discussed or evaluated in this report.

The Core Team reviewed the remaining natural hazards identified in the SHMCAP and identified natural hazards that have impacted West Bridgewater in the past or could impact West Bridgewater in the future. The hazards selection for West Bridgewater was made using local expertise from the Core Team, information from the 2015 Regional Hazard Mitigation Plan, the SHMCAP and other sources. All of the natural hazards presented in the SHMCAP except those applicable to coastal communities were included in the ranking process.

The Core Team reviewed each natural hazard and analyzed the history of occurrence in Town, hazard probability, hazard frequency, geographic extent, and severity of impact. Each of these categories were ranked based off of the Hazard Profile Definitions, displayed in Table 1 and taken from the 2018 SHMCAP.

TABLE 1: Hazard Profile Definitions (2018 SHMCAP)

Points	Rank	Description
Hazard Probability (Possible occurrence in the future)		
1	Unlikely	Less than a 1% probability over the next 100 years
2	Possible	1-10% probability in the next year or at least one chance in the next 100 years
3	Likely	10-100% probability in the next year or at least one chance in the next 10 years
4	Highly Likely	Near 100% probability in the next year
Hazard Frequency		
0	Very Low	Events that occur less frequently than once in 1,000 years (less than 0.1% per year)
1	Low	Events that occur from once in 100 years to once in 1,000 years (0.1% - 1% per year).
2	Medium	Events that occur from once in 10 years to once in 100 years (1% - 10% per year).
3	High	Events that occur more frequently than once in 10 years (greater than 10% per year).
Geographical Extent (Area Impacted by a Given Natural Hazard)		
1	Small	Less than 10% of the Town affected
2	Medium	10-50% of the Town affected
3	Large	More than 50% of the Town affected
Severity of Impact from Hazard		
1	Minor	Limited and scattered property damage; no damage to public infrastructure (roads, bridges, trains, airports, public parks, etc.); contained geographic area (i.e. one or two communities); essential

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Points	Rank	Description
		services (utilities, hospitals, schools, etc.) not interrupted; no injuries or fatalities.
2	Serious	Scattered major property damage (more than 10% destroyed); some minor infrastructure damage; wider geographic area (several communities); essential services briefly interrupted up to 1 day; some minor injuries.
3	Extensive	Consistent major property damage (more than 25%); major damage public infrastructure damage (up to several days for repairs); essential services are interrupted from several hours to several days; many injuries and possible fatalities.
4	Catastrophic	Property and public infrastructure destroyed (more than 50%); essential services stopped for 30 days or more, multiple injuries and fatalities.

The hazards selected by West Bridgewater for inclusion in this Summary of Findings Report and the HMP update is provided in Table 2. The HMP Update includes profiles for each natural hazard that document additional detail about the history of occurrence and potential future occurrence.

TABLE 2: Relevant Natural Hazards for the Town of West Bridgewater

Type of Natural Hazard	History of Occurrence in West Bridgewater	Hazard Probability	Hazard Frequency	Geographic Extent	Severity of Impact	Hazard Risk Ranking
Hydrological Hazards						
Flood Related						
• Heavy Rain	Yes	4	3	3	3	1
• Ice Jams	Yes	3	2	1	1	4
• Beavers	Yes	4	3	1	1	3
• Snow Melt	Yes	4	3	3	3	1
• Dam Failure	Yes	2	2	1	1	4
Coastal Flooding	No	0	0	0	0	NA
Drought	Yes	4	3	3	2	1
Atmospheric Hazards						
High Winds	Yes	4	3	3	2	1
Hurricanes/Tropical Storms	Yes	4	3	3	3	1
Severe Winter-Storm/Nor'easter	Yes	4	3	3	2	1
Heavy Snow	Yes	4	3	3	2	1
Ice Storms	Yes	4	3	3	2	1

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Type of Natural Hazard	History of Occurrence in West Bridgewater	Hazard Probability	Hazard Frequency	Geographic Extent	Severity of Impact	Hazard Risk Ranking
Severe Weather-Thunderstorms	Yes	4	3	3	1	2
Blizzards	Yes	4	3	3	2	1
Extreme Temperature	Yes	4	3	3	1	2
Tornadoes	Yes	3	3	3	3	1
Geological Hazards						
Coastal Erosion	No	0	0	0	0	NA
Earthquake	Yes	2	1	3	3	3
Landslide	No	0	0	0	0	NA
Tsunami	No	0	0	0	0	NA
Other Hazards						
Wildfires	Yes	4	3	1	1	3
Invasive Species	Yes	4	3	1	1	3

2.1.3 Top Hazards for West Bridgewater

Based on the evaluation of natural hazard risk ranking coupled with the history of occurrence, the geographic extent of impact, economic impact, and consideration for climate change, the Advisory Group determined the highest ranked natural hazards for West Bridgewater consist of:

- Severe winter storms including blizzards, nor'easters, heavy snow and ice;
- Severe weather including high winds, hurricanes, tropical storms and tornadoes;
- Inland flooding due to heavy rain and snow melt; and
- Drought and extreme temperatures.

The 2022 Regional HMP natural hazard risk index rated West Bridgewater at high risk for flooding from extreme precipitation and snow melt, high winds, hurricanes, tropical storms and tornadoes, drought, and severe winter weather including blizzards, nor'easters, heavy snow and ice; at moderate risk for thunderstorms, extreme temperature, wildfire, flooding due to beavers, earthquakes and invasive species; and at low risk for dam failure and flooding due to ice jams.

2.2 Areas of Concern

During the CRB Workshops, participants outlined areas of concern under three categories of community assets, consistent with the CRB Workshop Guide: infrastructural, societal, , economic, and environmental. Additionally, for consistency with the HMP update,

Section 2 Top Hazard and Vulnerable Areas

participates included areas of concern in West Bridgewater's economic assets. The completed CRB Risk Matrix is provided in Appendix D.

2.2.1 Infrastructural (Built Environment)

Critical facilities necessary for a community's response to and recovery from emergencies, infrastructure critical for public health and safety, economic viability, or for critical facilities to operate.

The workshop participants identified the following categories of or specific infrastructural assets with vulnerabilities or strengths within the community (presented alphabetically):

- Bridges (e.g. Walnut Street, Scotland Street, Spring Street, and River Street);
- Culverts (Town-wide);
- Department of Public Works facilities;
- Fire and Police facilities;
- Highway Department;
- Municipal Roadways (e.g. Scotland Street, Route 106, Clinton Road, and State Route 24);
- Public wells and water facilities;
- Stormwater drainage system;
- Transfer Station on Elm Street;
- Wastewater treatment plant and pump stations (e.g. Cyr Street, Manley Street, and Norman Avenue,); and
- Water Supply and Distribution.

2.2.2 Societal (People / Vulnerable Populations)

Areas of greater population density, or population with unique vulnerabilities or less able to respond and recover during a disaster.

The workshop participants identified the following categories or specific societal assets with vulnerabilities or strengths within the community (presented alphabetically):

- Council on Aging;
- 55+ Communities (e.g. West Center Street, North Main Street, and Captain Carlson Way);
- Cemetery;
- Churches;
- Food pantry;
- Historical Society (e.g. Keith House);
- Historic structures;
- Life Care Center;
- Schools;

Section 2 Top Hazard and Vulnerable Areas

- Senior housing; and
- Town library.

2.2.3 Environmental (Natural Environment)

Areas that provide protective function to reduce magnitude of hazard impact and increase resiliency. Areas of sensitive habitat that are vulnerable to hazard events, protection of areas that are important to community objectives, such as the protection of sensitive habitat, provide socio-economic benefits, etc.

The workshop participants identified the following categories or specific environmental assets with vulnerabilities or strengths within the community (presented alphabetically):

- Areas of Critical Environmental Concern (ACEC);
- Conservation lands and open space (e.g. parks, forests, country club, wildlife preserves);
- Major wetlands and waterbodies (e.g. Salisbury Plain River and marshes)
- Memorials,
- Threatened species;
- Trails (Town-wide); and
- Water supply (e.g. aquifer).

2.2.4 Economy

Major employers, primary economic sectors and commercial centers where loss or inoperability would have severe impact on the community and ability to recover from a disaster.

The workshop participants identified the following categories or specific economic assets with vulnerabilities or strengths within the community (presented alphabetically):

- Center Street businesses;
- Commercial properties (town-wide);
- Communication infrastructure (e.g. Crown Atlantic);
- Farm and farm stands (town-wide);
- Gas/heating oil companies (e.g. National Grid);
- Gas stations;
- Grocery stores (e.g. Market Basket and Trucchi's);
- Hardware and textile stores (e.g. Lowes and Shawmut);
- Industrial park (e.g. United Drive);
- Pharmacies;
- Shopping plazas (e.g. Hockomock Plaza);
- Transportation services (e.g. Noonan Trucking and ABF Freight)

Section 3

Current Concerns and Challenges Presented by Hazards and Climate Change

3.1 History of Natural Hazards that have Impacted West Bridgewater

Chapter 3 of the HMP Update includes hazard profiles for each of the natural hazards that have impacted the Town or can impact the Town in the future, including a definition and description of the hazard, previous occurrence and extent (including historical data), local areas of impact, and probability for future occurrence. Evaluation of the extent or severity of the hazard includes the measuring scale for a specific hazard. Locally identified areas of impact include maps showing the areas identified by the hazard whenever possible. The probability of future occurrences is based on best available science and historic events using the hazard probability.

The following provides an overview of the general concerns about natural hazards as expressed by workshop participants:

- Severe storms appear to be more frequent and have a great impact on the Town. The March 2018 winter storms left over 20 inches of snow and many people were out of power for multiple days. Attendees recalled many blizzards including the "Snowtober" event in October 2011, winter storms in February 2013, and January 2015.
- Flooding is a serious concern in West Bridgewater. There was a record storm in March 2010 where multiple roadways were closed in West Bridgewater. Hurricane Irene in August 2011 caused devastating flooding and wind damage.
- The community is feeling the impacts from extreme temperatures, including drought. Atmospheric hazards impact farmers, the public water supply, and private wells.
- Tropical storms and hurricanes impact West Bridgewater, resulting in flooding and power outages.
- Invasive species are everywhere and harm the Town's waterbodies.
- Microbursts have occurred a number of times and had significant impacts to localized areas.

These hazards are anticipated to be amplified by climate change as discussed in Commonwealth's resilient MA Climate Change Clearinghouse website (<http://www.resilientma.org/>)

Section 3 Current Concerns and Challenges Presented by Hazards and Climate Change



Changes in Precipitation: Changes in the amount, frequency, and timing of precipitation—including both rainfall and snowfall—are occurring across the globe as temperatures rise and other climate patterns shift in response.



Rising Temperatures: Average global temperatures have risen steadily in the last 50 years, and scientists warn that the trend will continue unless greenhouse gas emissions are significantly reduced. The 9 warmest years on record all occurred in the last 20 years (2017, 2016, 2015, 2014, 2013, 2010, 2009, 2005, and 1998), according to the U.S. National Oceanographic and Atmospheric Administration (NOAA).






Extreme Weather: Climate change is expected to increase extreme weather events across the globe, as well as right here in Massachusetts. There is strong evidence that storms—from heavy downpours and blizzards to tropical cyclones and hurricanes—are becoming more intense and damaging, and can lead to devastating impacts for residents across the state.

Section 3 Current Concerns and Challenges Presented by Hazards and Climate Change

The following table (Table 3) reproduced from the SHMCAP shows how climate change interacts with natural hazards.

TABLE 3: Climate Change Interactions

Primary Climate Change Interaction	Natural Hazard	Other Climate Change Interactions	Representative Climate Change Impacts
 Changes in Precipitation	Inland Flooding	Extreme Weather	Flash flooding, urban flooding, drainage system impacts (natural and human-made), lack of groundwater recharge, impacts to drinking water supply, public health impacts from mold and worsened indoor air quality, vector-borne diseases from stagnant water, episodic drought, changes in snow-rain ratios, changes in extent and duration of snow cover, degradation of stream channels and wetland
	Drought	Rising Temperatures, Extreme Weather	
	Landslide	Rising Temperatures, Extreme Weather	
 Rising Temperatures	Average/Extreme Temperatures	N/A	Shifting in seasons (longer summer, early spring, including earlier timing of spring peak flow), increase in length of growing season, increase of invasive species, ecosystem stress, energy brownouts from higher energy demands, more intense heat waves, public health impacts from high heat exposure and poor outdoor air quality, drying of streams and wetlands, eutrophication of lakes and ponds
	Wildfires	Changes in Precipitation	
	Invasive Species	Changes in Precipitation, Extreme Weather	
 Extreme Weather	Hurricanes/Tropical Storms	Rising Temperatures, Changes in Precipitation	Increase in frequency and intensity of extreme weather events, resulting in greater damage to natural resources, property, and infrastructure, as well as increased potential for loss of life
	Severe Winter Storm / Nor'easter	Rising Temperatures, Changes in Precipitation	
	Tornadoes	Rising Temperatures, Changes in Precipitation	
	Other Severe Weather (Including Strong Wind and Extreme Precipitation)	Rising Temperatures, Changes in Precipitation	
Non-Climate-Influenced Hazards	Earthquake	Not Applicable	There is no established correlation between climate change and this hazard

3.2 Massachusetts Climate Change Projections

Researchers from the Northeast Climate Science Center at the University of Massachusetts Amherst prepared projections for changes in temperature, precipitation, and sea level rise for the entire state, as well as each major watershed in recognition that there are differences regionally. EEA is encouraging municipalities, industry, non-government organizations, state government, and others to utilize this information as a standard, peer-reviewed set of climate change projections and is recommending these projections be included in MVP planning efforts. The Town of West Bridgewater is entirely included within the Taunton River Basin watershed. The information presented in this section is specific

to this watershed and was excerpted from Massachusetts Climate Change Projections, dated March 2018².

3.2.1 Increasing Temperatures

Warmer temperatures and extended heat waves could have significant impacts on public health in our state, as well as the health of plants, animals and ecosystems like forests and wetlands. Rising temperatures will also affect important economic sectors like agriculture and tourism, and infrastructure like the electrical grid. Even what seems like a small rise in average temperatures can cause major changes in other factors, such as the relative proportion of precipitation that falls as rain or snow.

In Massachusetts, temperatures are projected to increase significantly over the next century. Winter average temperatures are likely to increase more than those in summer, with major impacts on everything from winter recreation to increased pests and challenges to harvesting for the forestry industry. Beyond this general warming trend, Massachusetts will experience an increasing number of days with extreme heat in the future. Generally, extreme heat is considered to be over 90 degrees F, because at temperatures above that threshold, heat-related illnesses and mortality show a marked increase. Residents in Massachusetts – especially those who are young, ill, or elderly, and those who live in older buildings without air conditioning – will face greater risks of serious heat-related illnesses when extreme heat becomes more common. Extreme heat and dry conditions or drought could also be detrimental to crop production, harvest, and livestock.

While warmer winters may reduce burdens on energy systems, more heat in the summer may put larger demands on aging systems, creating the potential for power outages. The number of cooling degree days is expected to increase significantly by the end of the century adding to this strain. In addition, heat can directly stress transmission lines, substations, train tracks, roads and bridges, and other critical infrastructure.

The Taunton River Basin is expected to experience increased average temperatures throughout the 21st century. Maximum and minimum temperatures are also expected to increase throughout the end of the century. These increased temperature trends are expected for both annual and seasonal projections. Seasonally, maximum summer and fall temperatures are expected to see the highest projected increase throughout the 21st century.

Days with Maximum Temperatures

Due to projected increases in average and maximum temperatures throughout the end of the century, the Taunton basin is also expected to experience an increase in days with daily maximum temperatures over 90°F and 95°F, and to a lesser extent, daily maximum temperatures over 100°F.

Days with Minimum Temperatures

Due to projected increases in average and minimum temperatures throughout the end of the century, the Taunton basin is expected to experience a significant decrease in days

² <https://www.mass.gov/files/ma-statewide-and-majorbasins-climate-projections-final.pdf>

Section 3 Current Concerns and Challenges Presented by Hazards and Climate Change

with daily minimum temperatures below 32°F and a notable decrease in days with daily minimum temperatures below 0°F.

Heating Degree-Days and Cooling Degree-Days

Due to projected increases in average, maximum, and minimum temperatures throughout the end of the century, the Taunton basin is expected to experience a decrease in heating degree days and increases in both cooling degree-days and growing degree-days.

3.2.2 Changing Precipitation

Rainfall is expected to increase in spring and winter months in particular, with increasing consecutive dry days in summer and fall. More total rainfall can have an impact on the frequency of minor but disruptive flooding events, especially in areas where stormwater infrastructure (such as drainage systems, bridges, and culverts) has not been adequately sized to accommodate higher levels. Increased total rainfall will also affect agriculture, forestry and natural ecosystems.

More intense downpours often lead to inland flooding as soils become saturated and stop absorbing more water, river flows rise, and the capacity of urban storm water systems is exceeded. Flooding may occur as a result of heavy rainfall and snowmelt, but precipitation is the strongest driver of flooding in Massachusetts. Winter flooding is also common in Massachusetts, particularly when the ground is frozen.

The climate projections suggest that the frequency of high-intensity rainfall events will trend upward. Overall, it is anticipated that the severity of flood-inducing weather events and storms will increase, with events that produce sufficient precipitation to present a risk of flooding likely increasing. A single intense downpour can cause flooding and widespread damage to property and critical infrastructure. The coast will experience the greatest increase in high-intensity rainfall days, but some level of increase will occur in every area of Massachusetts.

Intense rainfall from developed areas can cause pollutants on roads and parking lots to get washed into nearby rivers and lakes, reducing habitat quality. As rainfall and snowfall patterns change, certain habitats and species that have specific physiological requirements may be affected.

Climate projections for Massachusetts indicate that in future decades, winter precipitation could increase, but by the end of the century most of this precipitation is likely to fall as rain instead of snow due to warmer winters. There are many human and environmental impacts that could result from this change including reduced snow cover for winter recreation and tourism, less spring snow melt to replenish aquifers, higher levels of winter runoff, and lower spring river flows for aquatic ecosystems.

A small projected decrease in average summer precipitation in Massachusetts could combine with higher temperatures to increase the frequency of episodic droughts, like the one experienced across the Commonwealth in the summer of 2016. Droughts will create challenges for local water supply by reducing surface water storage and the recharge of groundwater supplies, including private wells. More frequent droughts could also exacerbate the impacts of flood events by damaging vegetation that could otherwise help mitigate flooding impacts. Droughts may also weaken tree root systems, making them more susceptible to toppling during high wind events.

Days with High Precipitation

The projections for expected number of days receiving precipitation over one inch are variable for the Taunton basin, fluctuating between loss and gain of days.

Total Precipitation

Similar to projections for number of days receiving precipitation over a specified threshold, seasonal projections for total precipitation are also variable for the Taunton basin, although an increase in precipitation is more likely.

Consecutive Dry Days

Annual and seasonal projections for consecutive dry days, or for a given period, the largest number of consecutive days with precipitation less than 1 mm (~0.04 inches), are variable throughout the 21st century.

3.3 Specific Categories of Concerns and Challenges

Workshop attendees identified 57 community assets that were either vulnerable to the impacts of climate change or strengths to the Town. Of that list, the following concerns are challenges were discussed:

- Water supply systems upgrades to meet water quality standards and backup power at the treatment facility in the event of an emergency;
- Communication with the Town and public safety services in the event of an emergency including floods and power outages;
- Town buildings updates to maintain emergency services;
- Flooding impacts on road networks for evacuation and emergency response;
- Stormwater infrastructure, culverts, and dam upgrades to meet safety standards, mitigate flooding from storms and beavers and prepare for more extreme weather events;
- Senior housing in West Bridgewater (e.g. poor drainage, lack of backup power, and air conditioning);
- Natural resource preservation, particularly, water ways that critical to maintaining water supply, stormwater storage, habitat, open space and local and regional recreation.;
- Critical supplies in downtown area where loss of access would impact the community and their ability to remain self-reliant during a natural hazard event (e.g. fuel, food, prescriptions, and supplies for repairs are difficult to obtain during power outages and other severe storm events); and
- Private Federal Communication Commission (FCC) registered cell tower that provides the radio communications essential to law enforcement and safety officials

3.4 Current Strengths and Assets

West Bridgewater officials, public works staff, and emergency response staff are actively engaged in preparing the community to respond to and adapt to current and future natural hazards. Collaboration, communication, and responsiveness of these staff is viewed as a strength in West Bridgewater. Additionally, West Bridgewater has an active and engaged Council on Aging that helps facilitate outreach and education and provides resources for senior resident of Town. West Bridgewater's has a number of ongoing programs for education and outreach to implement mitigation activities and communicate hazard-related information such as the Open Space Committee, Conservation Commission, SAFE Schools program, and dedicated websites for each municipal department.

The Town also completes thoughtful planning exercises, such as currently updating its Comprehensive Emergency Management Plan, and is currently preparing a Local Natural Hazard Mitigation Plan update. Capabilities are further discussed in Appendix C in the completed FEMA Capabilities Assessment Worksheet.

3.5 Top Recommendations and Strategies to Improve Resiliency

According to the FEMA's Local Multi-Hazard Mitigation Planning Guidance, hazard mitigation measures can generally be sorted into six categories:

1. **Prevention:** Government administrative or regulatory actions or processes that influence the way land and buildings are developed and built, and direct public activities to reduce hazard losses. Examples include planning and zoning, building codes, capital improvement programs, open space preservation, and stormwater management regulations.
2. **Property Protection:** Modification or removal of existing buildings or infrastructure to protect them from a hazard. Examples include acquisition, elevation, relocation, structural retrofits, flood proofing, storm shutters, and shatter resistant glass.
3. **Public Education and Awareness:** Actions to inform and educate citizens, elected officials, and property owners about the potential risks from hazards and ways to mitigate them. Such actions include outreach projects, real estate disclosure requirements, hazard information centers, and school-age and adult education programs.
4. **Natural Resource Protection and Green Infrastructure:** Actions that, in addition to minimizing hazard losses, preserve or restore the functions of natural systems. These actions include low impact development, sediment and erosion control, stream corridor restoration, watershed management, urban forest and vegetation management, and wetland restoration and preservation.
5. **Structural Projects:** Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include storm water controls (e.g., culverts), floodwalls, seawalls, retaining walls, and safe rooms.
6. **Emergency Services Protection:** Actions that will protect emergency services before, during, and immediately after an occurrence. Examples of these actions include protection of warning system capability, protection of critical facilities, and protection of emergency response infrastructure

Section 3 Current Concerns and Challenges Presented by Hazards and Climate Change

All Mitigation Projects listed in the mitigation strategy (Chapter 7) of the HMP update and identified in the CRB workshops (Table 4) are considered resiliency actions for the Town. The list prepared below is subject to change based on evolving conditions in the Town.

Table 4 Priority Mitigation Actions			
Category of Action	Description of Action	Hazard Addressed	Timeframe/ Priority
Emergency Services Protection	Update emergency services and communication avenues for public outreach and information center connections	All Hazards	Ongoing/H
Emergency Services Protection	Upgrade the roof of the Fire Station to withstand nor'easter and high winds	Winter Storms and Other Severe Storms	Short-term/H
Emergency Services Protection	Provide additional storage for DPW equipment to maintain emergency services. Install electric vehicle charger	All Hazards	Ongoing/ H
Emergency Services Protection	Develop evacuation plan and update senior community housing with emergency solar back up power supplies	All Hazards	Ongoing/H
Emergency Services Protection	Identify high school as secondary emergency shelter and provide public outreach on Council on Aging primary emergency shelter	Flooding, Hurricanes, Severe Winter Storms	Ongoing/ H
Emergency Services Protection	Assist with road access to private cell tower, which is the town hub for radio communications essential to law enforcement and safety officials	All Hazards	Ongoing/H
Emergency Services Protection	Improve reliability of power to Center of Town to maintain fueling services.	All Hazards	Long-term/H
Natural Resource Protection and Green Infrastructure	Upgrade stormwater drainage system and retrofit with green infrastructure	Flooding, Hurricanes, Severe Storms	Ongoing/H

Section 3 Current Concerns and Challenges Presented by Hazards and Climate Change

Category of Action	Description of Action	Hazard Addressed	Timeframe/ Priority
Natural Resource Protection and Green Infrastructure	Conduct a floodplain evaluation study for Town River and identify areas in need of improvements in regard to flooding and drainage. Encourage use of green infrastructure where feasible.	Climate Change, Flooding, Severe Storms	Ongoing/H
Natural Resource Protection and Green Infrastructure	Implement trail improvements and tree management	Other Severe Storms	Ongoing/H
Natural Resource Protection and Green Infrastructure	Develop stormwater asset management plan to upgrade drainage system and retrofit where possible with green infrastructure	Flooding, Winter Storms and Other Severe Storms	Ongoing/H
Natural Resource Protection and Green Infrastructure	Provide upgrades for trails, parks and recreational area with LID and green infrastructure to minimize pervious surfaces, and protect water quality	All Hazards	Ongoing/H
Prevention	Review code for enforcement of agricultural preservation for farmlands	All Hazards	Ongoing/L
Public Education and Awareness	Create GIS database and public resource for town trails	All Hazards	Ongoing/H
Public Education and Awareness	Provide community outreach and education on natural hazard emergency preparedness for private businesses.	All Hazards	Long Term/ L
Structural Projects	Conduct capacity planning study for culverts to analyze design, permit, and construction	Climate Change, Flooding	Ongoing/H
Structural Projects	Upgrade and improve town dams to meet Dam Safety Standards and maintain fish passage.	Climate Change, Flooding, Severe Storms	Short-term/ H
Structural Projects	Address undersized culvert on Grant Street	Climate Change, Flooding, Severe Storms	Short-term/ H

Section 3 Current Concerns and Challenges Presented by Hazards and Climate Change

Category of Action	Description of Action	Hazard Addressed	Timeframe/ Priority
Structural Projects	Site upgrades to mitigate erosion and improve access and drainage.	All Hazards	Short-term/H
Structural Projects	Plan upgrades to meet water quality standards at Norman Ave well and pump station	All Hazards	Short-term/H
Structural Projects	Encourage State to improve West Meadow Dam to meet dam safety standards	Flooding	Short-term/H
Emergency Services Protection	Collaborate / improve communication with Town for emergency preparedness.	All Hazards	Ongoing/M
Structural Projects	Evaluate and improve structural integrity of Scotland Street Bridge	Climate Change, Flooding	Short-term/M
Structural Projects	Floodproof historical Town-owned buildings	Flooding, Severe Storms	Ongoing/L
Structural Projects	Address drainage on State Route 24 and Route 106 and improve evacuation route signage.	Flooding, Severe Storms	Ongoing/L

Section 4

Workshop Details

4.1 Workshop Participants

A list of those invited to participate in the workshops is included in Appendix B. The following provides a list of participants and affiliation. Members of the workshop project team that had a role are also documented.

4.1.1 Workshop #1 Attendance

Workshop Host: Chris Iannitelli, Department of Public Works Director

Workshop Facilitators: Gabrielle Belfit, CFM, Sharon Rooney, AICP, Annaliese Keimel, and Kristen Dippold (Tighe & Bond)

Table Facilitators: Gabrielle Belfit, Sharon Rooney, Annaliese Keimel, and Kristen Dippold (Tighe & Bond),

Table 5: Workshop #1: February 8, 2022

Name	Affiliation
Lincoln Thibeault	Fire Chief
Chris Iannitelli	DPW
Scott Golder	Treasurer/Collector
Deborah Taylor	GIS Administrator
Art Cabal	Water Department
Tim Hay	Conservation Commission Chairman
Berta Grossman	Open Space & Recreation Committee
John Delano	Conservation Agent
Robert Casper	Health Inspector
Marilyn Mather	Director of Elder Services
Victor Flaherty	Police Chief
Moe McCarthy	Conservation Commission
Shawn Anderson	DPW
Hugh Hurley	Planning Board
Linda Torres	Assistant Town Administrator

4.1.2 Workshop #2 Attendance

Workshop Host: Chris Iannitelli , Department of Public Works Director

Workshop Facilitators: Gabrielle Belfit, CFM, Annaliese Kiemel, and Emma Larkin (Tighe & Bond)

Section 4 Workshop Project Team

Table Facilitators: Gabrielle Belfit, Annaliese Kiemel, and Emma Larkin (Tighe & Bond)

Table 6: Workshop #2: February 15, 2022

Name	Affiliation
Brittany DeMolles	High School
Janice O'Brien	OSRC
Alexander Fisher	High School
Bruce Holmquist	COA
Deborah Taylor	GIS Administrator
Jim Noyes	Planning Board
Berta Grossman	Open Space & Recreation Committee
Lincoln Thibeault	Fire Chief
Lily Chisholm	High School
Emily Cruickshank	High School
Monica Armstrong	COA
Shawn Anderson	DPW
Chris Iannitelli	DPW
Deborah Cauley	ADA
Elijah Romdus	OCPC

4.2 Workshop Project Team

The following individuals provided invaluable assistance with coordination and implementation of the workshops and listening session.

TABLE 7: Core Team

Name	Title/Department/Affiliation
Chris Iannitelli	DPW Director
David Gagne	Town Administrator
Linda Torres	Assistant Town Administrator
John Delano	Conservation Agent
Lincoln Thibeault	Fire Chief
Victor Flaherty	Police Chief
Shawn Anderson	DPW Assistant Director
Wayne Parks	Water Superintendent
Hugh Hurley	Chair Planning Board
Deborah Taylor	GIS Administrator

4.3 Acknowledgements

Funding for the CRB workshop was provided through a Massachusetts Executive Office of Energy and Environmental Affairs (EEA) Municipal Vulnerability and Preparedness Planning Grant during Fiscal Year 2020.

Many thanks to Chris Iannitelli, West Bridgewater Director of Public Works and Linda Torres, Assistant Town Administrator for serving as leads for the MVP Planning Process. Thank you to Marilyn Mather for help in recruiting participants and providing a great meeting space in the Council on Aging Center for both MVP workshops . A special thanks to all MVP Core Team members and everyone who participated in the CRB workshops as presenters, facilitators, scribes and stakeholders.. A special thank you to the students from West Bridgewater High School who participated in Workshop #2 with great enthusiasm and creative ideas.

4.4 Report Citation

Tighe & Bond (2022). Community Resilience Building Workshop Summary of Findings, Town of West Bridgewater, Massachusetts.

APPENDIX A

Core Team Meeting Materials

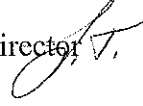


Office of the Assistant Town
Administrator/HR Director

Town Hall
65 North Main Street
West Bridgewater, MA 02379
508-894-1267
Fax: 508-894-1269

MEMORANDUM

TO: John Delano, Conservation Agent
Lincoln Thibeault, Fire Chief
Victor Flaherty, Police Chief
Chris Iannitelli, DPW Director
Shawn Anderson, DPW Assistant Director
Wayne Parks, Water Superintendent
Marilyn Mather, Director of Elder Services
Deborah Taylor, GIS Administrator

FROM: Linda A. Torres, Assistant Town Administrator/HR Director 

DATE: November 16, 2021

The Town was previously awarded a grant under the Municipal Vulnerability Preparedness program (MVP) that provides support for cities and towns in Massachusetts to begin the process of planning for climate change resiliency and implementing priority projects. The state awards communities with funding to complete vulnerability assessments and develop action-oriented resiliency plans. Communities who complete the MVP program become certified as an MVP community and are eligible for MVP Action Grant funding and other opportunities.

One of the first steps is to create a local Core Team. The Core Team will work with Tighe & Bond Engineers over the next 8-months, to complete the process. Tighe & Bond was recently selected as West Bridgewater's MVP Facilitator and they will also assist with completing a 5-year update of the Town Hazard Mitigation Plan.

I've been charged with creating the Core Team and have selected those persons included in this email to be on our team that will work on internal communications and plan coordination. The next steps include outreach efforts and community meetings to receive input on hazard vulnerabilities and create a plan to improve West Bridgewater's climate resiliency.

I will be in touch with you about when we will be holding a Core Team Kickoff Meeting. Please contact me if you have any questions.

West Bridgewater MVP Core Team Kickoff Meeting Agenda

To: MVP Core Team
LOCATION: West Bridgewater Town Hall
DATE: November 30, 2021
TIME: 10:30 AM-12:00 PM

10:30 AM Welcome & Introductions

10:40 AM Presentation

Background
MVP Grant and Workshop Goals and CRB Process
Hazard Mitigation Plan 5-year update
Guidelines/Guidance
More about the workshops
Deliverables
What does West Bridgewater get from this process?
Roles & Responsibilities
Schedule

11:00 AM Discussion Item: Natural Hazard Risks

11:30 AM Discussion Item: Workshop Goals and Dates

11:45 AM Discussion Item: Stakeholders and Outreach

11:50 AM Next Steps

12:00 PM Conclude

West Bridgewater MVP Core Team Kickoff Meeting Summary

To: MVP Core Team (see sign in sheet)
LOCATION: West Bridgewater Town Hall
DATE: November 30, 2021
TIME: 10:30 AM-12:00 PM

10:30 AM Welcome & Introductions

10:40 AM Presentation

Background
MVP Grant and Workshop Goals and CRB Process
Hazard Mitigation Plan 5-year update
Guidelines/Guidance
More about the workshops
Deliverables
What does West Bridgewater get from this process?
Roles & Responsibilities
Schedule

11:00 AM Discussion Item: Natural Hazard Risks

- *Lincoln, John, Chris, and Shawn will form a subgroup to work through the Natural Hazard Risks from the HMP and take the lead on any HMP specific tasks.*

11:30 AM Discussion Item: Workshop Goals and Dates

- *One, 8-hour session broken into two sessions*
- *First Session town employees/volunteers, second general community members*
- *Held at the Senior Center*
- *Tentatively February 8, 2022 (with February 15, 2022 as the snow date)*
- *Workshop goals are attached*

11:45 AM Discussion Item: Stakeholders and Outreach

- *Each Core Team member submitted suggestions for Stakeholders, preliminary stakeholders list is attached*

11:50 AM Next Steps

- *Next Core Team meeting will be a Conference Call held on December 14, 2021*

12:00 PM Conclude

Workshop Goals:

- Use the CRB Workshops to identify next steps and/or augment specific planning needs and priorities already identified in the 2015 HMP.
- Provide community outreach opportunity for EJ and Climate Vulnerable Populations
- Identify and map vulnerabilities and strengths to develop infrastructure, societal, and environmental risk profiles for the Community
- Use the CRB Workshops to collaborate with local organizations, academic institutions, businesses, private citizens, neighborhoods, and community groups and neighboring communities to identify specific planning needs and priorities
- Develop and prioritize actions that reduce vulnerabilities and reinforce strengths for your community - create the CRB Natural Hazard Risk Matrix
- Identify immediate opportunities to collaboratively advance actions that further reduce the impact of hazards and increase resilience in the Community.
- Prioritize projects for future funding

West Bridgewater MVP Core Team, Kickoff Meeting November 30, 2021

Name and Title	Mailing Address	Email	Phone	Sign-In
Chris Iannitelli, MVP Project Lead, DPW Director	63 North Main Street West Bridgewater, MA 02379	ciannitelli@wbridgewater.com	508.894.1217	Attending in person
Linda Torres, Assistance Town Administrator	Town Hall 65 North Street West Bridgewater, MA 02379	ltorres@wbridgewater.com	508.894.1267	Attending in person
John L Delano, Conservation Agent	Town Hall 65 North Street West Bridgewater, MA 02379	jdelano@wbridgewater.com	508.894.1200 Ext 7107	Attending in person
Lincoln Thibeault, Fire Chief	99 West Center Street West Bridgewater, MA 02379	lthibeault@wbridgewater.com	508.586.3232	Attending via Teams
Victor Flaherty, Police Chief	99 West Center Street West Bridgewater, MA 02379	vflaherty@wbpd.com	508.586.2525	Attending in person
Shawn Anderson, DPW Assistant Director	63 North Main Street West Bridgewater, MA 02379	sanderson@wbridgewater.com	508.894.1217	Attending in person
Wayne Parks, Water Superintendent	29 Cyr Street West Bridgewater, MA	wparks@wbridgewater.com	508.894.1271	Attending in person
Marilyn Mather, Director of Elder Services	Senior Center 97 West Center Street West Bridgewater, MA 02379	mmather@wbridgewater.com	508.894.1262	Attending in person
Hugh Hurley, Chair Planning Board	Town Hall 65 North Street West Bridgewater, MA 02379	hhurley@wbridgewater.com		Attending in person
Deborah Taylor, GIS Administrator	Town Hall 65 North Street West Bridgewater, MA 02379	dtaylor@wbridgewater.com		Attending in person

Name and Title	Mailing Address	Email	Phone	Sign-In
State Coordinator & MVP Provider Contact Information:				
Courtney Rocha, MVP Coordinator Central Region	Executive Office of Energy and Environmental Affairs Municipal Vulnerability Preparedness (MVP) Program	Courtney.rocha@mass.gov	617.877.3072	Attending via Teams
Thomas Mahanna Senior Project Manager/ Business Director	Tighe & Bond 120 Front Street, Suite 700 Worcester, MA 01608	TJMahanna@tigheBond.com	978.335.6987	
Gabrielle Belfit, CFM Senior Environmental Scientist (Project Manager)	Tighe & Bond 4 Barlows Landing Rd Pocasset, MA 02559	GCBelfit@tigheBond.com	508.367.5598	Attending
Sharon Rooney, AICP, RLA Principal Planner	Tighe & Bond 4 Barlows Landing Rd Pocasset, MA 02559	SRooney@tigheBond.com	508.221.6667	Attending via Teams
Kristin Yankauskas, Planner 2	Tighe & Bond 1 University Ave #100 Westwood, MA 02090	KYankauskas@tigheBond.com	814.335.0763	Attending

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**TOWN OF WEST BRIDGEWATER
MUNICIPAL VULNERABILITY PREPAREDNESS**

Core Team Kickoff Meeting
November 2021



Tighe&Bond

1

TODAY'S AGENDA

1. Review MVP / HMP grant and CRB process and schedule
2. Discuss Roles and Responsibilities
3. Natural Hazard Risks & Climate Change
4. Review Workshop Goals
5. Identify Stakeholders
6. Next Steps



Tighe&Bond

2

BACKGROUND

- Executive Order 569: An Integrated Climate Change Strategy for the Commonwealth
- Environmental Bond Bill: \$2.4 billion - focus on climate change resiliency. Over \$200 million for climate change. Bill codified EO569, including the MVP program
- West Bridgewater awarded \$22K for **Municipal Vulnerability Preparedness (MVP)** Community Resilience Building (CRB) Workshop Process and to prepare a **draft Hazard Mitigation Plan (HMP) Update**

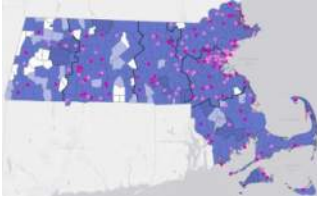


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3

WHAT IS THE MVP PROGRAM?

- Your community was awarded a **Municipal Vulnerability Preparedness (MVP) Planning Grant** from the Executive Office of Energy and Environmental Affairs (EEA)
- The **MVP Planning Grant and Hazard Mitigation Plan (HMP) update** is the first step to unlocking **additional funding opportunities** from FEMA/MEMA



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4

MVP PRINCIPLES



- **Community-led Process** that employs local knowledge & buy-in
- **Accessible**
- **Utilizes partnerships** and leverages existing efforts
- **Mainstreams** climate change
- Addresses **social equity**, vulnerabilities, and strengths
- **Frames** coordinated statewide efforts



Springfield MVP Workshop
www.communityresiliencebuilding.com



Tighe&Bond

5

Copies available

Community Resilience Building WORKSHOP GUIDE



www.CommunityResilienceBuilding.org

ResilientMA.org

Tighe&Bond

6

Overview of the Process (Steps & Tasks)



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7

MVP PROGRAM PLANNING FOCUS

Natural hazards

Hazard mitigation

Climate change

Resilience

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8

MULTI-HAZARD MITIGATION PLAN GUIDANCE

- Disaster Mitigation Act of 2000, 44 CRF Part 201.6**
- Commonwealth of Massachusetts State Hazard Mitigation & Climate Adaptation Plan 2018**
- FEMA Local Mitigation Plan Review Guidance, October 2011**
- FEMA Local Mitigation Planning Handbook, March 2013**
 - Document the Planning Process
 - Document Methodologies Used
 - Involve Larger Community
 - Address FEMA concerns from 2015



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9

WHAT DOES WEST BRIDGEWATER GET FROM THIS PROCESS?

MVP Community Designation = Eligibility for MVP Action Grants

- \$25,000- \$2M per project
- \$20M available annually
- Implement priority actions identified through planning process



Tighe & Bond

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WHAT DOES WEST BRIDGEWATER GET FROM THIS PROCESS?

FEMA Hazard Mitigation Grant Program= Eligibility for FEMA BRIC Grants and Disaster Specific FEMA Hazard Mitigation Grants

- \$BRIC has no \$cap per project, HMGP per project limit varies
- \$100M available in FY22 for HMGP
- Implement priority mitigation actions identified through planning process



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MVP GRANT AND CRB PROCESS

1. Establish Core Team ✓
2. Complete MVP Evaluation/Assessment
 - Natural Hazard Risks
 - Community Assets
 - Multi-Hazard Vulnerability Mapping
3. Outreach to Stakeholders, EJ and Climate Vulnerable Populations and Public Meeting on HMP with Planning Board
4. Hold One or Two workshops
5. Draft and Final MVP Report
6. Hold Listening Session
7. Draft and Final HMP



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SCHEDULE

Task	Date
1. Kickoff Meeting and MVP Focus	November 2021 (Core Team)
2. Engage Stakeholders/ Capabilities Assessment	November 2021 – December 2022 (Interviews & Core Team Call)
3. Update Vulnerability Assessment & Planning Board Meeting	January 2022 (Core Team Attendance)
4. MVP Workshops	March-April 2022 (Core Team Attendance)
5. Draft and Final MVP Report	April – June 2022 (Core Team Review)
6. Public Community Listening Session	May 2022 (Core Team to Present)
7. Draft and Final HMP Plan	May- June 2022 (Core Team Review)



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13

DELIVERABLES

- MVP Report
- Hazard Mitigation Plan



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WHY ARE YOU HERE?

See roles & responsibilities handout

- Kickoff Meeting
- Conference calls to review / provide input on work products
- Attend Planning Board Meeting and MVP Workshop
- Review draft reports & provide comments
- Attend the final Listening Session



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2015 HMP NATURAL HAZARD RISKS *

Hazard	Frequency	Severity	Hazard Ranking
Flooding	High	Serious	6
Winter Storms	High	Serious	6
Hurricanes/Tropical Storms	Medium	Serious	5
Extreme Temperatures	High	Minor	5
Wildfires	Medium	Minor	4
Tornadoes	Very Low	Serious	3
Earthquakes	Very Low	Serious	3
Landslides	Very Low	Minor	2

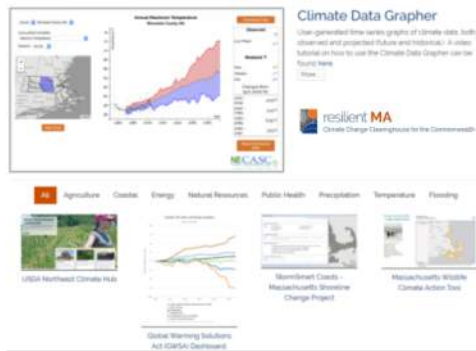
*Must be updated to reflect current
FEMA/ HMP Guidelines*



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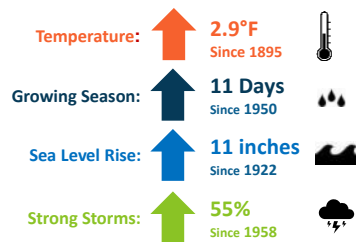
CLIMATE CHANGE PROJECTIONS



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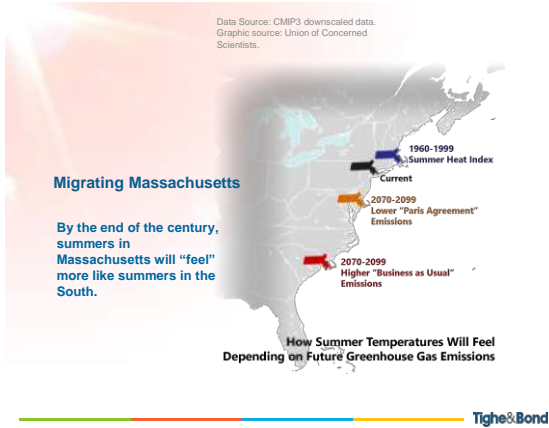
MASSACHUSETTS OBSERVED CLIMATE CHANGES



resilientma.org

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WHY PARTICIPATE IN THIS PROCESS?

Help your Community Build Resilience and Preparedness:

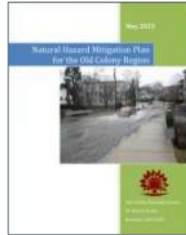
- Build on the community's existing emergency management capabilities
- Plan for more frequent and intense weather events that are linked to climate change
- Engage multiple stakeholders in the planning process
- Improve access to funding for mitigation and adaptation



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WORKSHOP GOALS OR FOCUS MUST BE IDENTIFIED

- Review priorities and next steps in the 2015 Regional Hazard Mitigation Plan (HMP).
 - Further discuss, define, and strategize on how to accomplish the highest priority projects.
- Focus on top natural hazard prioritized in the 2015 HMP to further define West Bridgewater's vulnerabilities and strengths.
- Use the CRB Workshops to identify next steps and/or augment specific planning needs and priorities already identified in the 2015 HMP.
- Examine how to integrate climate change planning into other Town plans and programs identified in the HMP Capabilities Assessment.



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2015 HAZARD MITIGATION GOALS

- Regional Goal: Reduce the loss of life, property, infrastructure, and environmental and cultural resources from natural disaster.
- Goal: Investigate, design and implement structural projects that will reduce and minimize the risks and impacts from riverine and coastal flooding.
- Goal: Investigate, design and implement projects that will reduce and minimize the risks and impacts from non-flooding hazards, such as wildfires, earthquakes, tornadoes, etc.
- Goal: Improve pre-disaster planning, communication and coordination between federal, state, county, community, private and non-profit entities so that they can plan for and mitigate natural hazards in a clear and comprehensive manner.
- Goal: Increase the awareness of the public and communities to the risks presented by the multiple natural hazards that affect the region as well as to the mitigation activities and grant opportunities available to minimize the impacts of these hazards.
- Goal: Improve existing policies and programs to further reduce or eliminate the impacts of natural hazards.



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SPECIFIC MVP WORKSHOP FOCUS

- Use the CRB Workshops to identify next steps and/or augment specific planning needs and priorities already identified in the 2015 HMP.
- Provide community outreach opportunity for EJ and Climate Vulnerable Populations
- Identify and map vulnerabilities and strengths to develop infrastructure, societal, and environmental risk profiles for the Community
- Use the CRB Workshops to collaborate with local organizations, academic institutions, businesses, private citizens, neighborhoods, and community groups and neighboring communities to identify specific planning needs and priorities
- Develop and prioritize actions that reduce vulnerabilities and reinforce strengths for your community - create the CRB Natural Hazard Risk Matrix
- Identify immediate opportunities to collaboratively advance actions that further reduce the impact of hazards and increase resilience in the Community.
- Prioritize projects for future funding



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YOUR CHANCE FOR INPUT TODAY ON LOGISTICS...

• Plan for Communication & Workshops

- Identify Stakeholders
- Public Outreach
 - Town Website
 - Press Releases
 - Direct Email
 - Direct Calls
- Logistics:
 - Location, Date, Time
 - Group Size
 - Facilitators and Scribes
 - Snacks



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NEXT STEPS



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OPEN DISCUSSION & QUESTIONS

Contact Information:

- Gabrielle Belfit, CFM, Senior Environmental Scientist
 - GCBelfit@tighebond.com
 - 508.304.6362
- Sharon Rooney, AICP/ RLA, Principal Planner
 - SR Rooney@tighebond.com
 - 508.221.6667
- Kristin Yankauskas, Environmental Planner
 - KYankauskas@tighebond.com
 - 814.335.0763



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West Bridgewater MVP Core Team, Meeting #2 December 14, 2021

Name and Title	Mailing Address	Email	Phone	Sign-In
Chris Iannitelli, MVP Project Lead, DPW Director	63 North Main Street West Bridgewater, MA 02379	ciannitelli@wbridgewater.com	508.894.1217	Attended via Teams
Linda Torres, Assistance Town Administrator	Town Hall 65 North Street West Bridgewater, MA 02379	ltorres@wbridgewater.com	508.894.1267	Attended via Teams
John L Delano, Conservation Agent	Town Hall 65 North Street West Bridgewater, MA 02379	jdelano@wbridgewater.com	508.894.1200 Ext 7107	Attended via Teams
Lincoln Thibeault, Fire Chief	99 West Center Street West Bridgewater, MA 02379	lthibeault@wbridgewater.com	508.586.3232	Attended via Teams
Victor Flaherty, Police Chief	99 West Center Street West Bridgewater, MA 02379	vflaherty@wbpd.com	508.586.2525	
Shawn Anderson, DPW Assistant Director	63 North Main Street West Bridgewater, MA 02379	sanderson@wbridgewater.com	508.894.1217	Attended via Teams
Wayne Parks, Water Superintendent	29 Cyr Street West Bridgewater, MA	wparks@wbridgewater.com	508.894.1271	Attended via Teams
Marilyn Mather, Director of Elder Services	Senior Center 97 West Center Street West Bridgewater, MA 02379	mmather@wbridgewater.com	508.894.1262	Attended via Teams
Hugh Hurley, Chair Planning Board	Town Hall 65 North Street West Bridgewater, MA 02379	hhurley@wbridgewater.com		

Name and Title	Mailing Address	Email	Phone	Sign-In
Deborah Taylor, GIS Administrator	Town Hall 65 North Street West Bridgewater, MA 02379	dtaylor@wbridgewater.com		Attended via Teams
Courtney Rocha, MVP Coordinator Central Region	Executive Office of Energy and Environmental Affairs Municipal Vulnerability Preparedness (MVP) Program	Courtney.rocha@mass.gov	617.877.3072	Attended via Teams
Thomas Mahanna Senior Project Manager/ Business Director	Tighe & Bond 120 Front Street, Suite 700 Worcester, MA 01608	TJMahanna@tigheBond.com	978.335.6987	
Gabrielle Belfit, CFM Senior Environmental Scientist (Project Manager)	Tighe & Bond 4 Barlows Landing Rd Pocasset, MA 02559	GCBelfit@tigheBond.com	508.367.5598	Attended via Teams
Sharon Rooney, AICP, RLA Principal Planner	Tighe & Bond 4 Barlows Landing Rd Pocasset, MA 02559	SRooney@tigheBond.com	508.221.6667	
Kristin Yankauskas, Planner 2	Tighe & Bond 1 University Ave #100 Westwood, MA 02090	KYankauskas@tigheBond.com	814.335.0763	Attended via Teams

AGENDA ITEMS

- Reviewed Stakeholder list and suggested additional names, and persons for interview
- Completed Community Assets list
- Discussed potential workshop dates, locations and formats



CRB Workshop Participant Worksheet

The following guidance is designed to help you and your core team identify a diverse, cross-section of participants for a Community Resilience Building Workshop(s). Ultimately, the participants will be representatives of and vested in a resilient future for your community. The final list of participants is yours to create and will depend largely on the goals and intended outcomes that are right for your community (refer to Step A1 and A2 of the CRB Workshop Guide). Review attached list of participant affiliations from previous Workshops.

Guiding Questions to Help Surface Workshop Participants:

- Who are the key decision makers in your community? (leadership)
- Who is directly responsible for implementing decisions? (staff/volunteers)
- Who has influence on decisions in your community? (boards, commissions, etc.)
- Which entities will be impacted by decisions? (community members)

CRB Core Team (refer to Step A1 of the CRB Workshop Guide):

Name	Affiliation
Chris Inannitelli	DPW Director, MVP Project Lead
Linda Torres	Assistant Town Administrator
John Delano	Conservation Agent
Lincoln Thibeault	Fire Chief
Victor Flaherty	Police Chief
Shawn Anderson	DPW Assistant Director
Wayne Parks	Water Superintendent
Marilyn Mather	Director of Elder Services
Hugh Hurley	Chair Planning Board
Participants: Deborah Taylor	GIS Administrator

Categories - Positions	Name	Affiliation	Vantage Point (State, Regional/County, Local)
LEADERSHIP (Mayor, President, Elected Council Members, Provost, State/US Representatives, CEO, etc.)			
BOARDS, COMMISSIONS, FORMAL COMMITTEES (Planning and Zoning, Finance/Budget/Capital Plan, Conservation, Economic/Community Development, Education, etc.)			
Water Department	Wayne Parks	Superintendent	
Conservation Commission	Steve Winters	Member	
Conservation Commission	Maurice McCarthy	Clerk	
COA Board of Directors	Bruce Holmauist	President	
COA Board of Directors	Linda Gibson	Vice President	
Council on Aging	Constance Holmes	Staff	
Zoning Board	Bill Lucini	Chairman	



PUBLIC SAFETY - HAZARD MITIGATION (Police/Fire/Ambulance; Safety Officer, Homeland Security, Port Authority, CERT, Campus Security, etc.)			
Hospice Providers			
EMS			
Building Inspector	Mike White		
Fire/EMS			
COMMUNITY PLANNING (Municipal/Campus Planner, Economic Development, Long Range – Regional Planner, Neighborhood Association, Land Trusts, Faith-based/Civic Organization, etc.)			
Community Preservation	Carol Ashton		
Board of Selectmen	Anthony Kinahan		
Planning Board	Gerry Stetson	Clerk	
Planning Board	Howard Anderson	Vice Chairman	
Planning Board	Jim Noyes	Member	
Old Colony Planning Council	Lori Munsey		
OTHERS (Finance, Administration, Operations, Neighborhood Associations, Chamber of Commerce)			
Bridgewater HS	Jonathan Pike	Science Teacher	
Treasurer/Collector	Scott Golder		
Silva Engineering	Larry Silva		
Coweaset Engineering	Arthur Cabral		
	Tim Hay		
	Janice O'Brien		
	Marilynn M. Rowley		
	Erik Diedrichsen		
Public Library	Laura Williams		
ADA Commission	Deborah Cauley	Member	
ADA Commission	Marilyn Raleigh	Treasurer	
ADA Commission	Brenda Cappiello	Chairman	
ADA Commission	Patricia Spry	Member	
ADA Commission	Maria Baker	Secretary	
ADA Commission	Eldon F. Moreira	ADA Coordinator	
ADA Commission	Michael White	Ex-Officio	
Youth Athletic Association	Greg Stipkovich	President	
Water Department	Art Cabral	Member	
Water Department	Richard Krugger	Chairman	

**Elected Officials (or equivalents):**

City/Town Council Members – (other appointed boards/commissions)

State Representatives and Senators

U.S. Representatives and Senators (or state-based aids/liaison)

Corporation Leadership: CEOs/Board Chair/President (or equivalent)

Federal Government: Secretary/Director/Division Head (or equivalent)

Academia: Provost/President (or equivalent)

Municipal Departments (or equivalents):

Emergency Management & Homeland Security

Engineering Department

Finance Department

Fire Department

Grants Office

Health & Social Services Department

Land Use, Construction & Review Department

Legal Affairs Department

Neighborhood Revitalization Zone Coordinator

Office of Planning & Economic Development

Parks and Recreation Department/Conservation

Police Department

Port Authority

Public Facilities Department

Public Library

Small & Minority Business Resource Office

Special Service Districts

Water Pollution Control Authority

Zoning Department

Corresponding Volunteer or Appointed Boards and Commissions

Key Stakeholders:

Water/Power Utility

Museums and Zoos

Sustainability Groups/Committees

Residential/Commercial Real Estate Agencies

Local Chapters of Professional Organizations: (APA, ASLA, PWS, etc.)

Land Grant Universities, Private Universities/Colleges, Community Colleges

Local & Regional Community Foundations

Local/Regional/State Housing Authorities

Major Employers

Environmental/Conservation NGOs

Engineering and Design Consulting Firms

Independent Nursing/Hospice Providers

Animal Shelters

Neighborhood Associations/Partnerships

Chamber of Commerce/Business Councils

West Bridgewater MVP Core Team Meeting #3 Summary

To: MVP Core Team (see sign in sheet)

LOCATION: Conference Call

DATE: January 11, 2022

TIME: 10:30 AM-12:00 PM

10:30 AM Welcome & Introductions

- Core group showing up and light conversation
- Introduction of Alex Ziter, new Planner for T&B
- Roll call of attendees of meeting (see MVP Core Team Meeting Doc)

10:40 AM MVP Workshops

- Discussion of how to fold workshops – online or in person – set for Feb 8-9?
 - Two sessions = 8 hours total, 8-12P.M / 12:15-4: 15P.M
 - Do community outreach for one session & town staff for the other.
- Chris I- Okay with whatever option
- Shawn A – Preferred to have all in person for lunch
- Gabbie B – Best engagement is with in person workshops but want to account for the current social climate. Her preference is for all in person method, then hybrid.
 - Hybrid model can be good for multi-media type of workshops – multiple break out groups, presenters, and other methods.
 - Should make decision as soon as possible to aid in planning for workshops.
- Linda & Marilyn should make that decision depending on the Town's current social climate
 - Sending email to both to finalize format and method.
 - CC'd Deborah, Chris and Shawn for transparency
- Gabbie following up with Hugh to set up meeting with the Planning Board
 - If everything is a GO for the 8th of Feb – Should set up a call for the 1st to finalize – 10:30 A.M conference call.

10:50 AM HMP Discussion

- Core team needs to reevaluate the additional hazards included in the 2018 updated doc.
 - Need to complete exercise
 - Shawn and Chris and Lincoln would like to make another meeting with Gabbie B. to finish the exercise
 - Jan 25th works for all involved – Call time for 10:30A.M. – Teams Call

11:00 A.M Meeting Ended

West Bridgewater MVP Core Team, Meeting #3 January 11th 2022

Name and Title	Mailing Address	Email	Phone	Sign-In
Chris Iannitelli, MVP Project Lead, DPW Director	63 North Main Street West Bridgewater, MA 02379	ciannitelli@wbridgewater.com	508.894.1217	Attended via Teams
Linda Torres, Assistance Town Administrator	Town Hall 65 North Street West Bridgewater, MA 02379	ltorres@wbridgewater.com	508.894.1267	Not present
John L Delano, Conservation Agent	Town Hall 65 North Street West Bridgewater, MA 02379	jdelano@wbridgewater.com	508.894.1200 Ext 7107	Not present
Lincoln Thibeault, Fire Chief	99 West Center Street West Bridgewater, MA 02379	lthibeault@wbridgewater.com	508.586.3232	Attended via Teams
Victor Flaherty, Police Chief	99 West Center Street West Bridgewater, MA 02379	vflaherty@wbpd.com	508.586.2525	Not present
Shawn Anderson, DPW Assistant Director	63 North Main Street West Bridgewater, MA 02379	sanderson@wbridgewater.com	508.894.1217	Attended via Teams
Wayne Parks, Water Superintendent	29 Cyr Street West Bridgewater, MA	wparks@wbridgewater.com	508.894.1271	Not present
Marilyn Mather, Director of Elder Services	Senior Center 97 West Center Street West Bridgewater, MA 02379	mmather@wbridgewater.com	508.894.1262	Not present
Hugh Hurley, Chair Planning Board	Town Hall 65 North Street West Bridgewater, MA 02379	hhurley@wbridgewater.com		Not present
Deborah Taylor, GIS Administrator	Town Hall 65 North Street West Bridgewater, MA 02379	dtaylor@wbridgewater.com		Attended via Teams

Name and Title	Mailing Address	Email	Phone	Sign-In
Courtney Rocha, MVP Coordinator Central Region	Executive Office of Energy and Environmental Affairs Municipal Vulnerability Preparedness (MVP) Program	Courtney.rocha@mass.gov	617.877.3072	Not present
Thomas Mahanna Senior Project Manager/ Business Director	Tighe & Bond 120 Front Street, Suite 700 Worcester, MA 01608	TJMahanna@tigheBond.com	978.335.6987	Not present
Gabrielle Belfit, CFM Senior Environmental Scientist (Project Manager)	Tighe & Bond 4 Barlows Landing Rd Pocasset, MA 02559	GCBelfit@tigheBond.com	508.367.5598	Attended via Teams
Sharon Rooney, AICP, RLA Principal Planner	Tighe & Bond 4 Barlows Landing Rd Pocasset, MA 02559	SRooney@tigheBond.com	508.221.6667	Attended via Teams
Kristin Yankauskas, Planner 2	Tighe & Bond 1 University Ave #100 Westwood, MA 02090	KYankauskas@tigheBond.com	814.335.0763	Attended via Teams
Alex Ziter, Planner 1	Tighe & Bond 53 Southampton Rd. Westfield, MA, 01085	AZiter@tighebond.com	413.207.1334	Attended via Teams

West Bridgewater MVP Core Team, HMP Sub Group Meeting #1 January 25th 2022

*HMP Sub Group Members- Chris, Shawn, John, Lincoln

Name and Title	Mailing Address	Email	Phone	Sign-In
*Chris Iannitelli, MVP Project Lead, DPW Director	63 North Main Street West Bridgewater, MA 02379	ciannitelli@wbridgewater.com	508.894.1217	Attended via Teams
Linda Torres, Assistance Town Administrator	Town Hall 65 North Street West Bridgewater, MA 02379	ltorres@wbridgewater.com	508.894.1267	
*John L Delano, Conservation Agent	Town Hall 65 North Street West Bridgewater, MA 02379	jdelano@wbridgewater.com	508.894.1200 Ext 7107	Attended via Teams
*Lincoln Thibeault, Fire Chief	99 West Center Street West Bridgewater, MA 02379	lthibeault@wbridgewater.com	508.586.3232	Attended via Teams
Victor Flaherty, Police Chief	99 West Center Street West Bridgewater, MA 02379	vflaherty@wbpd.com	508.586.2525	
*Shawn Anderson, DPW Assistant Director	63 North Main Street West Bridgewater, MA 02379	sanderson@wbridgewater.com	508.894.1217	Attended via Teams
Wayne Parks, Water Superintendent	29 Cyr Street West Bridgewater, MA	wparks@wbridgewater.com	508.894.1271	
Marilyn Mather, Director of Elder Services	Senior Center 97 West Center Street West Bridgewater, MA 02379	mmather@wbridgewater.com	508.894.1262	
Hugh Hurley, Chair Planning Board	Town Hall 65 North Street West Bridgewater, MA 02379	hhurley@wbridgewater.com		
Deborah Taylor, GIS Administrator	Town Hall 65 North Street West Bridgewater, MA 02379	dtaylor@wbridgewater.com		Attended via Teams

Name and Title	Mailing Address	Email	Phone	Sign-In
Courtney Rocha, MVP Coordinator Central Region	Executive Office of Energy and Environmental Affairs Municipal Vulnerability Preparedness (MVP) Program	Courtney.rocha@mass.gov	617.877.3072	
Thomas Mahanna Senior Project Manager/ Business Director	Tighe & Bond 120 Front Street, Suite 700 Worcester, MA 01608	TJMahanna@tigheBond.com	978.335.6987	
Gabrielle Belfit, CFM Senior Environmental Scientist (Project Manager)	Tighe & Bond 4 Barlows Landing Rd Pocasset, MA 02559	GCBelfit@tigheBond.com	508.367.5598	Attended via Teams
Sharon Rooney, AICP, RLA Principal Planner	Tighe & Bond 4 Barlows Landing Rd Pocasset, MA 02559	SRooney@tigheBond.com	508.221.6667	
Kristin Yankauskas, Planner 2	Tighe & Bond 1 University Ave #100 Westwood, MA 02090	KYankauskas@tigheBond.com	814.335.0763	
Alex Ziter, Planner 1	Tighe & Bond 53 Southampton Rd. Westfield, MA, 01085	AZiter@tighebond.com	413.207.1334	

West Bridgewater MVP Core Team, Meeting #4 February 1, 2021- 30 Minutes

Name and Title	Mailing Address	Email	Phone	Sign-In
Chris Iannitelli, MVP Project Lead, DPW Director	63 North Main Street West Bridgewater, MA 02379	ciannitelli@wbridgewater.com	508.894.1217	Attended via Teams
Linda Torres, Assistance Town Administrator	Town Hall 65 North Street West Bridgewater, MA 02379	ltorres@wbridgewater.com	508.894.1267	Attended via Teams
John L Delano, Conservation Agent	Town Hall 65 North Street West Bridgewater, MA 02379	jdelano@wbridgewater.com	508.894.1200 Ext 7107	Attended via Teams
Lincoln Thibeault, Fire Chief	99 West Center Street West Bridgewater, MA 02379	lthibeault@wbridgewater.com	508.586.3232	Attended via Teams
Victor Flaherty, Police Chief	99 West Center Street West Bridgewater, MA 02379	vflaherty@wbpd.com	508.586.2525	
Shawn Anderson, DPW Assistant Director	63 North Main Street West Bridgewater, MA 02379	sanderson@wbridgewater.com	508.894.1217	Attended via Teams
Wayne Parks, Water Superintendent	29 Cyr Street West Bridgewater, MA	wparks@wbridgewater.com	508.894.1271	
Marilyn Mather, Director of Elder Services	Senior Center 97 West Center Street West Bridgewater, MA 02379	mmather@wbridgewater.com	508.894.1262	
Hugh Hurley, Chair Planning Board	Town Hall 65 North Street West Bridgewater, MA 02379	hhurley@wbridgewater.com		
Deborah Taylor, GIS Administrator	Town Hall 65 North Street West Bridgewater, MA 02379	dtaylor@wbridgewater.com		Attended via Teams

Name and Title	Mailing Address	Email	Phone	Sign-In
Courtney Rocha, MVP Coordinator Central Region	Executive Office of Energy and Environmental Affairs Municipal Vulnerability Preparedness (MVP) Program	Courtney.rocha@mass.gov	617.877.3072	
Thomas Mahanna Senior Project Manager/ Business Director	Tighe & Bond 120 Front Street, Suite 700 Worcester, MA 01608	TJMahanna@tigheBond.com	978.335.6987	
Gabrielle Belfit, CFM Senior Environmental Scientist (Project Manager)	Tighe & Bond 4 Barlows Landing Rd Pocasset, MA 02559	GCBelfit@tigheBond.com	508.367.5598	Attended via Teams
Sharon Rooney, AICP, RLA Principal Planner	Tighe & Bond 4 Barlows Landing Rd Pocasset, MA 02559	S Rooney@tigheBond.com	508.221.6667	
Kristin Yankauskas, Planner 2	Tighe & Bond 1 University Ave #100 Westwood, MA 02090	KYankauskas@tigheBond.com	814.335.0763	Attended via Teams
Alex Ziter Planner 1	Tighe & Bond 53 Southampton Rd Westfield, MA 01085	AAiter@tigheBond.com	413.207.1334	Attended via Teams

AGENDA SUMMARY

- Confirm agenda, location, set up and snacks
- Review workshop materials
- Discuss Chris introduction
- Update on RSVP status and survey link that was provided to invited stakeholders- confirmed 4 tables used for stakeholders
- Deborah Taylor volunteered to serve as table facilitator
- Facillitator training scheduled for February 2
-

West Bridgewater MVP Core Team Meeting #5 Agenda

To: MVP Core Team (see sign in sheet)

LOCATION: Conference Call

DATE: March 21, 2022

TIME: 10:30 AM-11:30 PM

10:30 AM MVP Risk Matrix Discussion (30 minutes)

- Comments on draft Matrix, please review prior to meeting if possible

11:00 AM HMP Core Team Assignment (30 minutes)

- Assistance needed to complete Chapter 6, Capabilities Assessment
 - Review 2016 capabilities and update
 - Complete HMP Capabilities Assessment Worksheet
 - Assign team as appropriate
 - Report back to GCB via email by April 4th (2 weeks)

11:30 A.M Meeting Ended

CC: MVP Risk Matrix

West Bridgewater MVP Core Team Meeting #5 Agenda

To: MVP Core Team (see sign in sheet)

LOCATION: Conference Call

DATE: March 21, 2022

TIME: 10:30 AM-11:30 PM

Discussed whether to go before planning or conservation – leaning toward planning, with invite to others to participate (May 4th) Public meeting, in person meeting recorded & posted at later date (for HMP public hearing requirement)

10:30 AM MVP Risk Matrix Discussion (30 minutes)

- Comments on draft Matrix, please review prior to meeting if possible

Explanation from Gab on matrix

Any assets listed that the group wants to list as a priority asset?

"Too late to add stuff?" – Shawn (no it is not - Gab)

Gab - Multiple times maintenance was listed – routine maintenance are not ideal actions (more of a capability) removed maintenance actions and include in capabilities assessment (HMP)

Water dept/supply maybe just include vulnerability assessment since hard to come up with specific actions (relocation, look at open space, conduct assessment in order to come up with specific action) – Courtney Rocha

Municipal buildings – include any other assets as priorities?

Shawn – Transfer station, they are currently working on, taking it to Town meeting this June to see if facility can be rebuilt, adjusted timeline and vulnerability comments

Gab – separated Route 24 and 106, gave points to route 106 since it is a municipal road

Shawn – change SW & drainage to ongoing

Do we want to move culverts up/Grant St culvert/culverts impacted by beavers?

Chris – culverts are an issue especially with new trapping rules, Grant St is a priority, culverts are definitely a priority (Shawn agrees)

Decided to bring culverts up to a priority based on feedback from departments and core team

Shawn agrees to keep walnut st bridge as lower priority

Senior services – keeping as is, no comments on current prioritization here

Any change of opinions on school priority – group in agreement on this

Howard school is missing

Library – are roof repairs done – thinking yes

Change status of library – Linda – yes

Keith house only one as priority, any changes? – No

Env assets – Town River Park only one brought forward

Shawn – another line just for fish ladder, Chris agrees, higher priority and separate priority from dam repairs

Gab – moved fish ladder to env assets under War Memorial Park

Town River Park – combine with War Memorial Park

Any other parks also a priority? – West Meadows are all the same things, not State Park – wildlife preserve

Chris – West Bridgewater Country Club

Not elevating to high priority status

Trail system – combine all the trails, agreement from Chris

Keep protected waterways as is

Ecological assets – keep as is

Economic assets – does this look good? Yes

Gab to send cleaned version to core team and get more detail on some of the action items

Chris to add detail on vulnerabilities and strengths

Chris, give assignments to diff core team members to give more detail

Dividing tasks:

Wayne for public water supply

Public safety - chief

Chris – municipal buildings, culverts bridges,

Marilyn – senior services

Schools – Lincoln to reach out to Julie and Mark

Env – John

Economic – Shawn

National Grid – Lincoln

11:00 AM HMP Core Team Assignment (30 minutes)

- Assistance needed to complete Chapter 6, Capabilities Assessment
 - Review 2016 capabilities and update
 - Complete HMP Capabilities Assessment Worksheet
 - Assign team as appropriate
 - Report back to GCB via email by April 4th (2 weeks)

Requirement for HMP to address capabilities of the Town

HMP 9 – Chapters (chapter 1-4 done)

Chapter 6 Capabilities analysis – existing policies programs & resources that can be used to reduce impacts from natural hazards

Gab explaining the assignment

Lincoln – CEMP Plan being updated and sent for approval in next month (they'll have a new one as of early 2022)

Gab – explaining Capability Assessment Worksheet from FEMA

Gab will be sending memo which describes the work in similar detail, will also include table and list names of core team and how they can help

Any questions?

Nope

Gab quick summary on process – 75% through MVP planning

Summary of findings soon

Community listening session (for MVP) in May – separate from Planning Board meeting, invite everyone who was invited to workshops (Gab to check with Courtney) Linda thinking to do separate meeting before Planning Board meeting on May 4th, community listening at end of MVP, can we do community listening session early, then 5 minutes in planning board meeting for HMP update

Meeting prior and call community listening session May 4th

Then HMP update during planning board

11:30 A.M Meeting Ended**CC: MVP Risk Matrix**

West Bridgewater MVP Core Team, Meeting #5 March 21st 2022

Name and Title	Mailing Address	Email	Phone	Sign-In
Chris Iannitelli, MVP Project Lead, DPW Director	63 North Main Street West Bridgewater, MA 02379	ciannitelli@wbridgewater.com	508.894.1217	Joined through Teams
Linda Torres, Assistance Town Administrator	Town Hall 65 North Street West Bridgewater, MA 02379	ltorres@wbridgewater.com	508.894.1267	Joined through Teams
John L Delano, Conservation Agent	Town Hall 65 North Street West Bridgewater, MA 02379	jdelano@wbridgewater.com	508.894.1200 Ext 7107	
Lincoln Thibeault, Fire Chief	99 West Center Street West Bridgewater, MA 02379	lthibeault@wbridgewater.com	508.586.3232	508-586-3232 Joined through Teams
Victor Flaherty, Police Chief	99 West Center Street West Bridgewater, MA 02379	vflaherty@wbpd.com	508.586.2525	
Shawn Anderson, DPW Assistant Director	63 North Main Street West Bridgewater, MA 02379	sanderson@wbridgewater.com	508.894.1217	Joined through Teams
Wayne Parks, Water Superintendent	29 Cyr Street West Bridgewater, MA	wparks@wbridgewater.com	508.894.1271	
Marilyn Mather, Director of Elder Services	Senior Center 97 West Center Street West Bridgewater, MA 02379	mmather@wbridgewater.com	508.894.1262	
Hugh Hurley, Chair Planning Board	Town Hall 65 North Street West Bridgewater, MA 02379	hhurley@wbridgewater.com		
Deborah Taylor, GIS Administrator	Town Hall 65 North Street West Bridgewater, MA 02379	dtaylor@wbridgewater.com		Joined through Teams

Name and Title	Mailing Address	Email	Phone	Sign-In
Courtney Rocha, MVP Coordinator Central Region	Executive Office of Energy and Environmental Affairs Municipal Vulnerability Preparedness (MVP) Program	Courtney.rocha@mass.gov	617.877.3072	Joined through Teams
Thomas Mahanna Senior Project Manager/ Business Director	Tighe & Bond 120 Front Street, Suite 700 Worcester, MA 01608	TJMahanna@tigheBond.com	978.335.6987	
Gabrielle Belfit, CFM Senior Environmental Scientist (Project Manager)	Tighe & Bond 4 Barlows Landing Rd Pocasset, MA 02559	GCBelfit@tigheBond.com	508.367.5598	Joined through Teams
Sharon Rooney, AICP, RLA Principal Planner	Tighe & Bond 4 Barlows Landing Rd Pocasset, MA 02559	SRooney@tigheBond.com	508.221.6667	
Kristin Yankauskas, Planner 2	Tighe & Bond 1 University Ave #100 Westwood, MA 02090	KYankauskas@tigheBond.com	814.335.0763	
Alex Ziter, Planner 1	Tighe & Bond 53 Southampton Rd. Westfield, MA, 01085	AZiter@tighebond.com	413.207.1334	

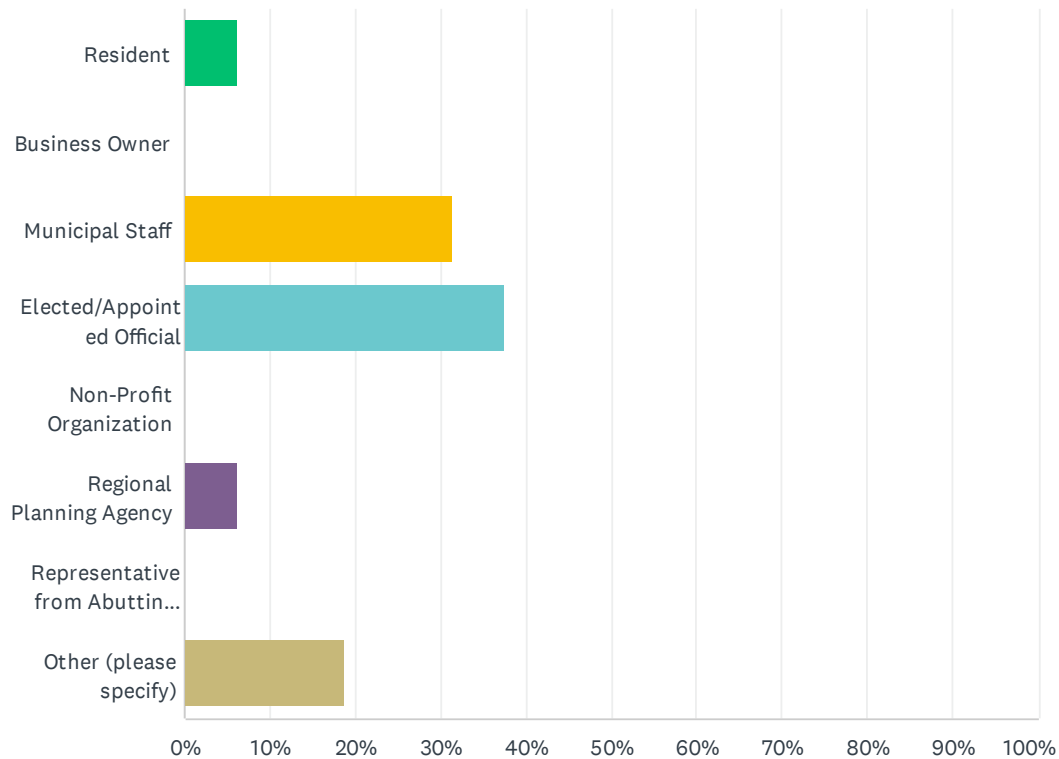
APPENDIX B

MVP Workshops Materials and Documentation

West Bridgewater MVP Contact List	Affiliation	Contact: Phone	Contact: Email
TOWN STAFF STAKEHOLDERS (2/8/22)			
Marilyn Mather	Director of Elder Services	508-894-1262	mmather@wbridgewater.com
Chris Inannitelli	DPW Director, MVP Project Lead	508-894-1217	ciannitelli@wbridgewater.com
David Gagne	Town Administrator	508-894-1267	dgagne@wbridgewater.com
Linda Torres	Assistant Town Administrator	508-894-1268	ltorres@wbridgewater.com
John Delano	Conservation Agent	508-894-1200 Ext 7107	idelano@wbridgewater.com
Lincoln Thibeault	Fire Chief	508-586-3232	lthibeault@wbridgewater.com
Victor Flaherty	Police Chief	508-586-2525 Ext 5121	vflaherty@wbpd.com
Shawn Anderson	DPW Assistant Director	508-894-1217	sanderson@wbridgewater.com
Wayne Parks	Water Superintendent	508-894-1271	wparks@wbridgewater.com
Hugh Hurley	Chair Planning Board		hhurley@wbridgewater.com
Deborah Taylor	GIS Administrator	508-894-1216 Ext. 3	dtaylor@wbridgewater.com
Steve Winters	Conservation Commission Member	508-894-1200 Ext 7112	kdoherty@wbridgewater.com
Maurice McCarthy	Conservation Commission Clerk	508-894-1200 Ext 7112	kdoherty@wbridgewater.com
Mike White	Building Inspector	508-894-1207 Ext 4	mwhite@wbridgewater.com
Anthony Kinahan	Board of Selectmen	508-894-1267	icarroll@wbridgewater.com
Scott Golder	Treasurer/Collector	508-894-1203	sgolder@wbridgewater.com
Tim Hay	Conservation Commission- Chairman	508-894-1200 Ext 7112	kdoherty@wbridgewater.com
Art Cabal	Water Department - Member	(508) 894-1271	kbuckley@wbridgewater.com
Robert Casper	Health Inspector		rcasper@wbridgewater.com
Richard Krugger	Water Department - Chairman	(508) 894-1272	kbuckley@wbridgewater.com
COMMUNITY STAKEHOLDERS (2/15/22)			
Bruce Holmquist	COA Board of Directors- President	508-894-1262 (Staff)	patchme2@aol.com
Monica Armstrong			mjarm@aol.com
Jim Henderson			
Janice O'Brien	Open Space & Recreation Committee	508-894-1200 Ext 7107	idelano@wbridgewater.com
Berta Grossman	Open Space & Recreation Committee	508-894-1200 Ext 7107	berta.grossman@maritime.edu
Constance Holmes	COA Staff	508-894-1262 (Staff)	cholmes@wbridgewater.com
Bill Lucini	Zoning Board of Appeals - Chairman	508-894-1200	welucini@hotmail.com
Gerry Stetson	Planning Board - Clerk		retfdit@yahoo.com
Howard Anderson	Planning Board- Vice Charman		cma02685@comcast.net
Jim Noyes	Planning Board- Member		inoves@gpinet.com
Larry Silva	Silva Engineering	508-697-3100	larrys@silvaeng.com
Arthur Cabral	Coweaset Engineering	508-427 0065	acabralpe@aol.com
Laura Williams	Public Library - Assistant Director	508-894-1255	williams@westbpl.org
Deborah Cauley	ADA Commission- Member	508-894-1267	sanka143@yahoo.com
Marilyn Raleigh	ADA Commission- Treasurer	508-894-1267	ralautobod@comcast.net
Brenda Cappiello	ADA Commission- Chairman	508-894-1267	bcappiello@jordans.com
Patricia Spry	ADA Commission- Member	508-894-1267	Patriciaspry@comcast.net
Maria Baker	ADA Commission -Secretary	508-894-1267	FBaker6550@yahoo.com
Greg Stipkovich	Youth Athletic Association- President		
Lilly Chishom	West Bridgewater Highschool		23lillianchisholm@wbridgewaterschools.org
Alexander Fisher	West Bridgewater Highschool	508-245-3899	22alexanderfisher@wbridgewaterschools.org
Emily Cruickshank	West Bridgewater Highschool		22emilycruickshank@wbridgewaterschools.org
Brittany Demolles	West Bridgewater Highschool		demolles23@icloud.com
Erik Diedrichsen	Volume 11 Marketing, Inc - President	888-698-6511	info@volume11marketing.com
Jonathan Pike	Bridgewater HS - Science Teacher		jpike@wbridgewater.com
BROCKTON			
Rob May	Planning Department- Director	508-580-7113	planning@cobma.us
Elijah Romulus	Old Planning Colony Council - Senior Planner	508- 583-1833 Ext. 217	eromulus@ocpcrpa.org
Mary Waldron	Old Planning Colony Council - Ex. Director	508-583-1833	mwaldron@ocpcrpa.org
BRIDGEWATER			
Jennifer Burke	Community & Econ. Development -Director	508-697-0950	jburke@bridgewaterma.org
Steven Solbo	Environmental Planner	508-697-0907	ssolbo@bridgewaterma.org
MVP Coordinator			
Courtney Rocha	Southeast Regional Coordinator	617-877-3072	courtney.rocha@state.ma.us

Q1 What is your affiliation with the Town of West Bridgewater?

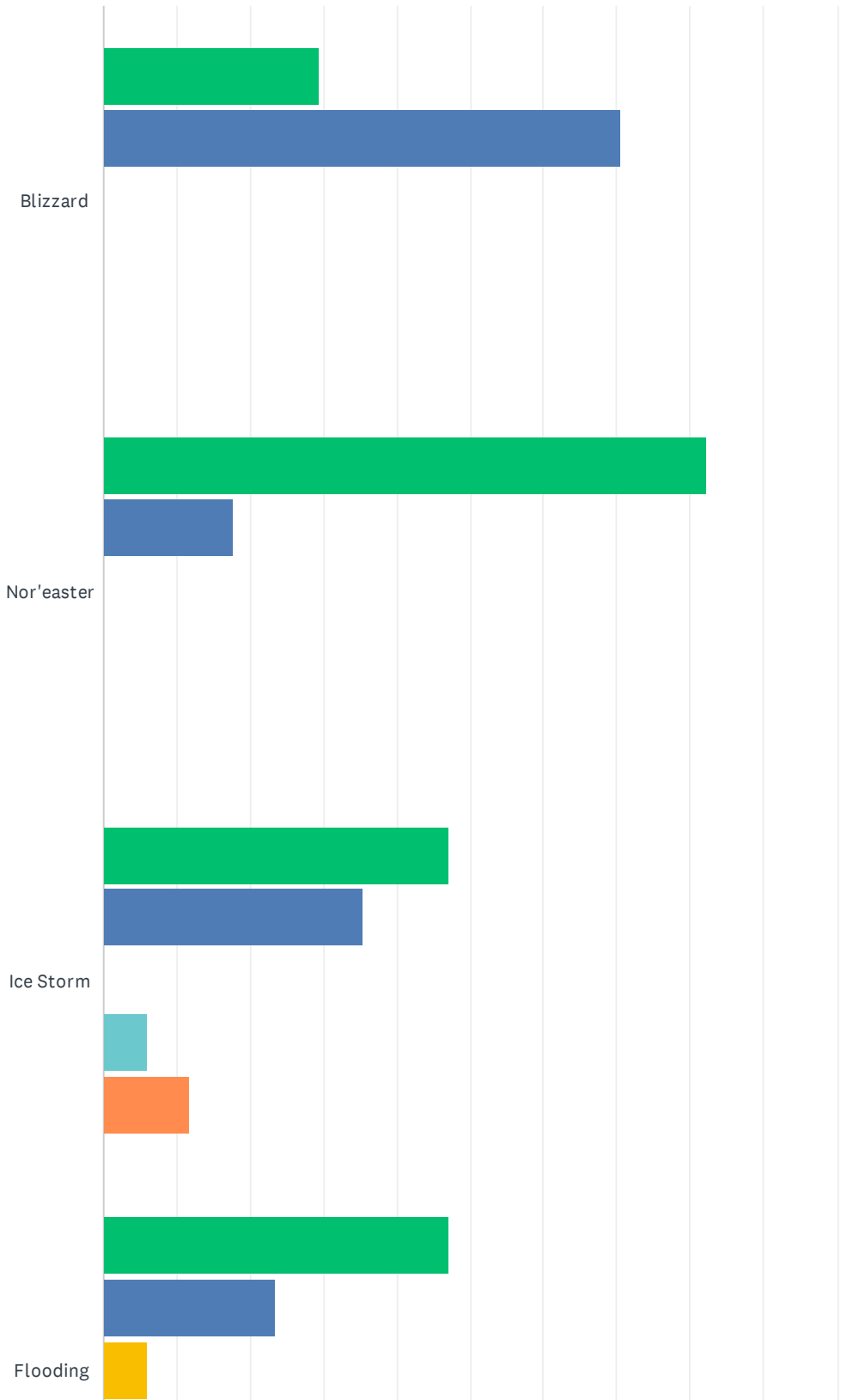
Answered: 16 Skipped: 1

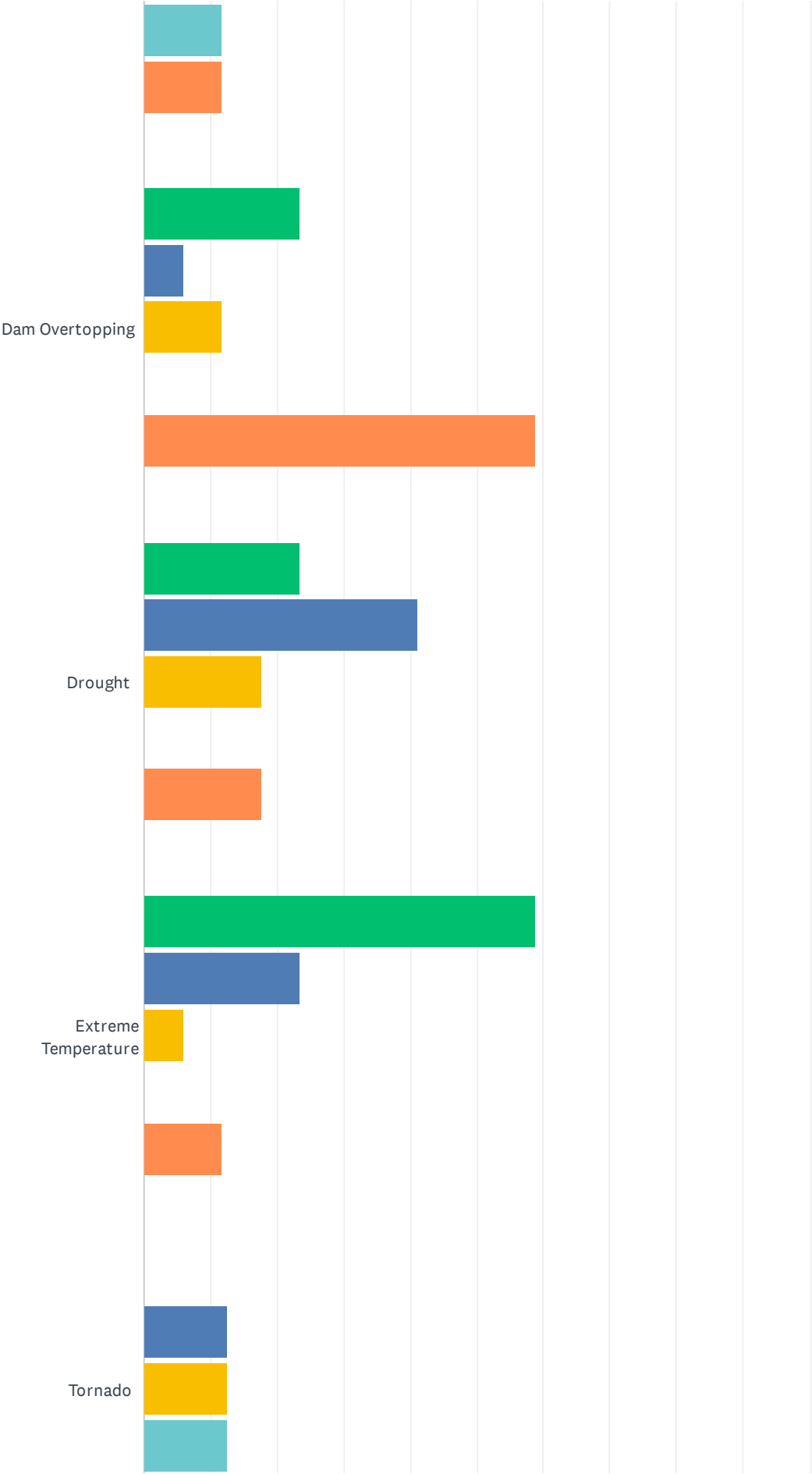


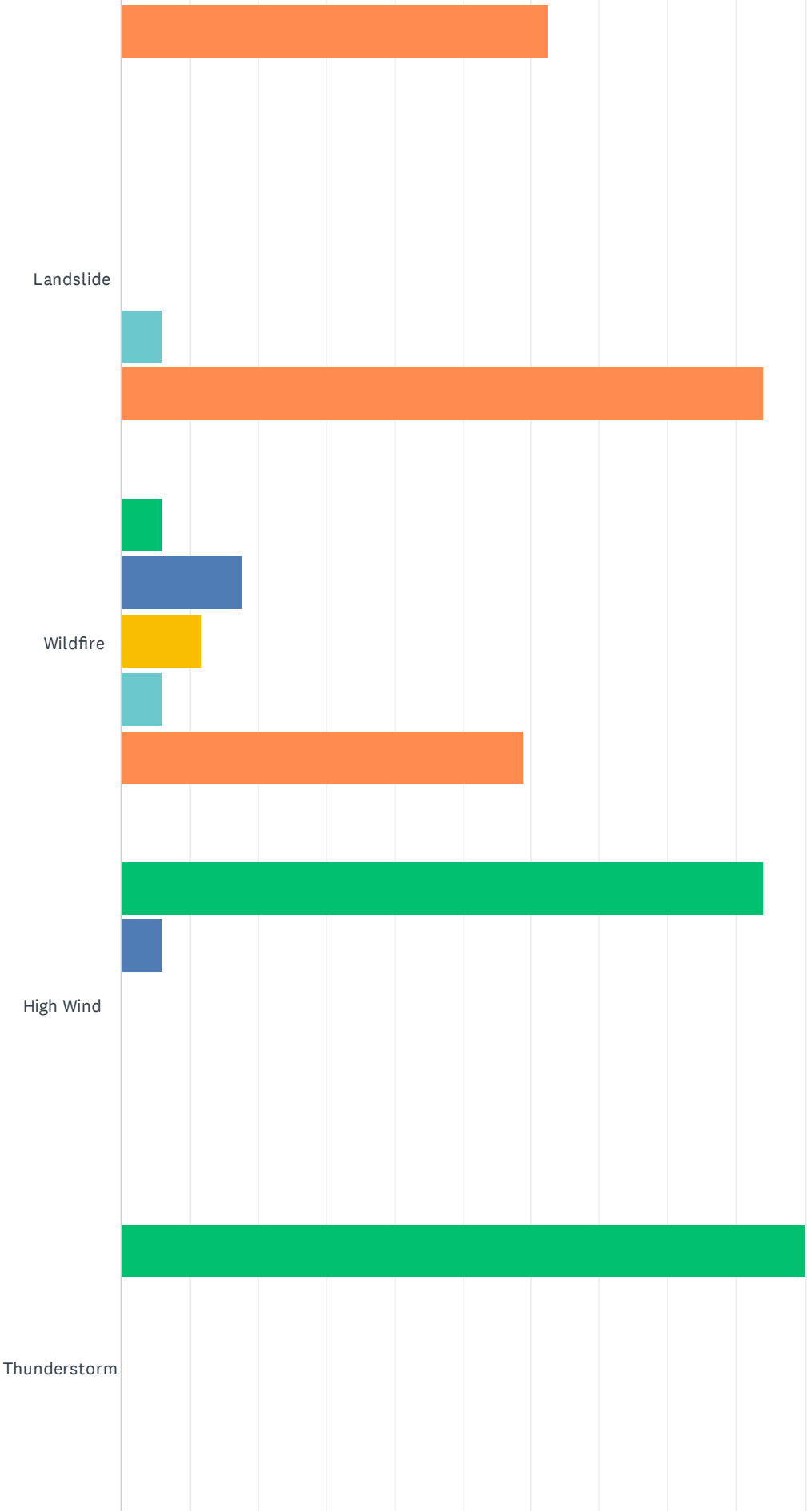
ANSWER CHOICES	RESPONSES	
Resident	6.25%	1
Business Owner	0.00%	0
Municipal Staff	31.25%	5
Elected/Appointed Official	37.50%	6
Non-Profit Organization	0.00%	0
Regional Planning Agency	6.25%	1
Representative from Abutting Community	0.00%	0
Other (please specify)	18.75%	3
TOTAL		16

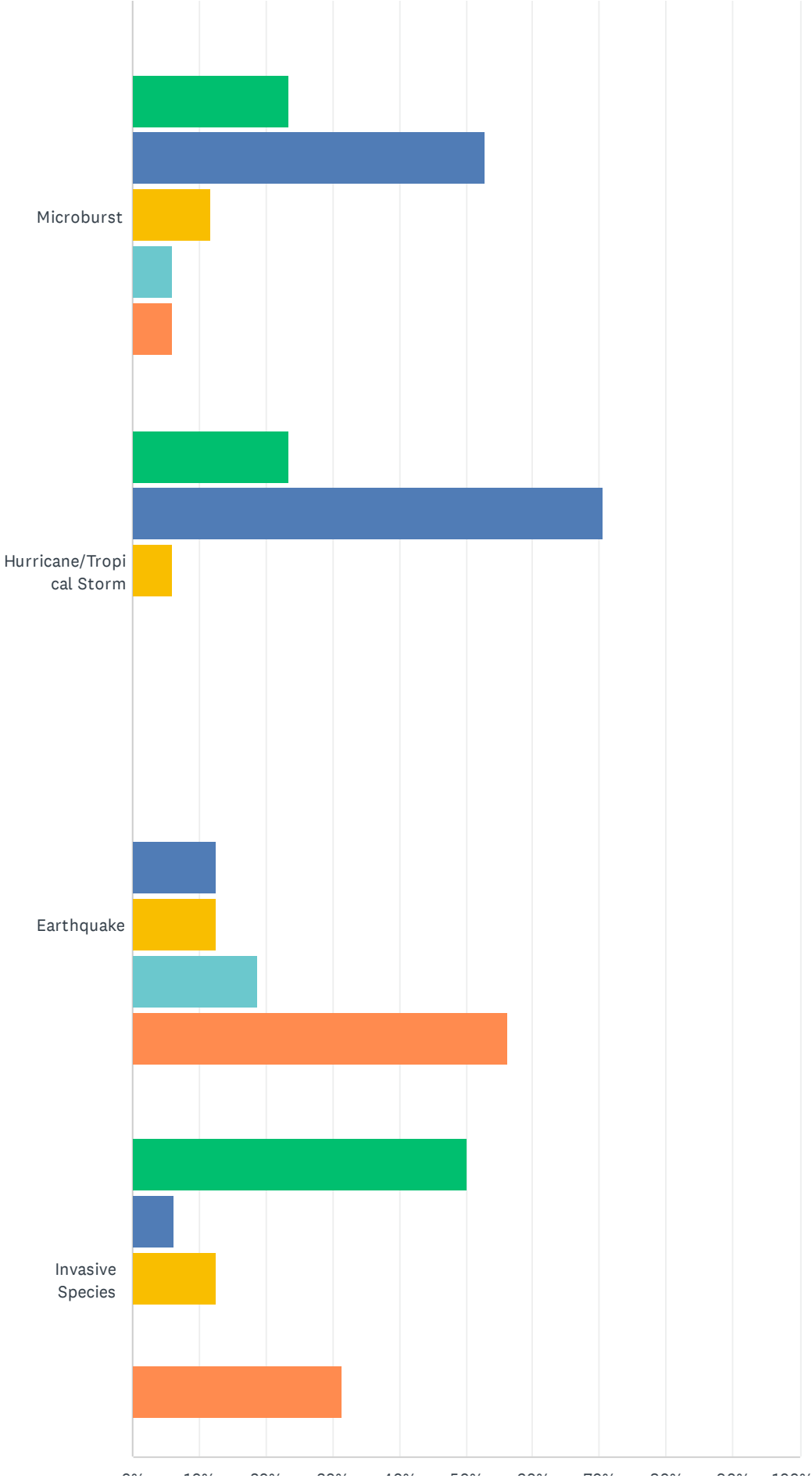
Q2 How often have each of these natural hazards occurred in your community?

Answered: 17 Skipped: 0









Municipal Vulnerability and Preparedness Pre Workshop Survey

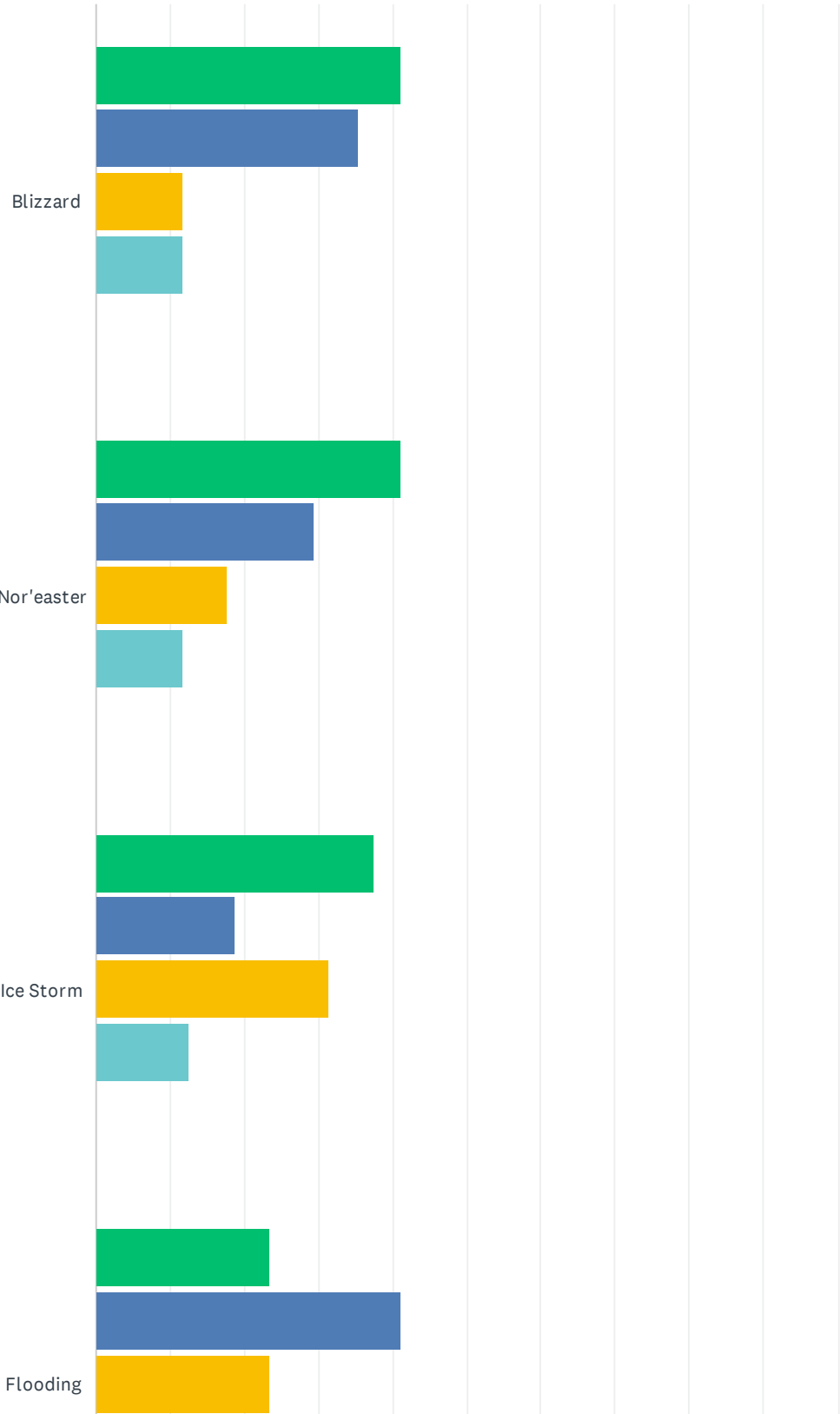
0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

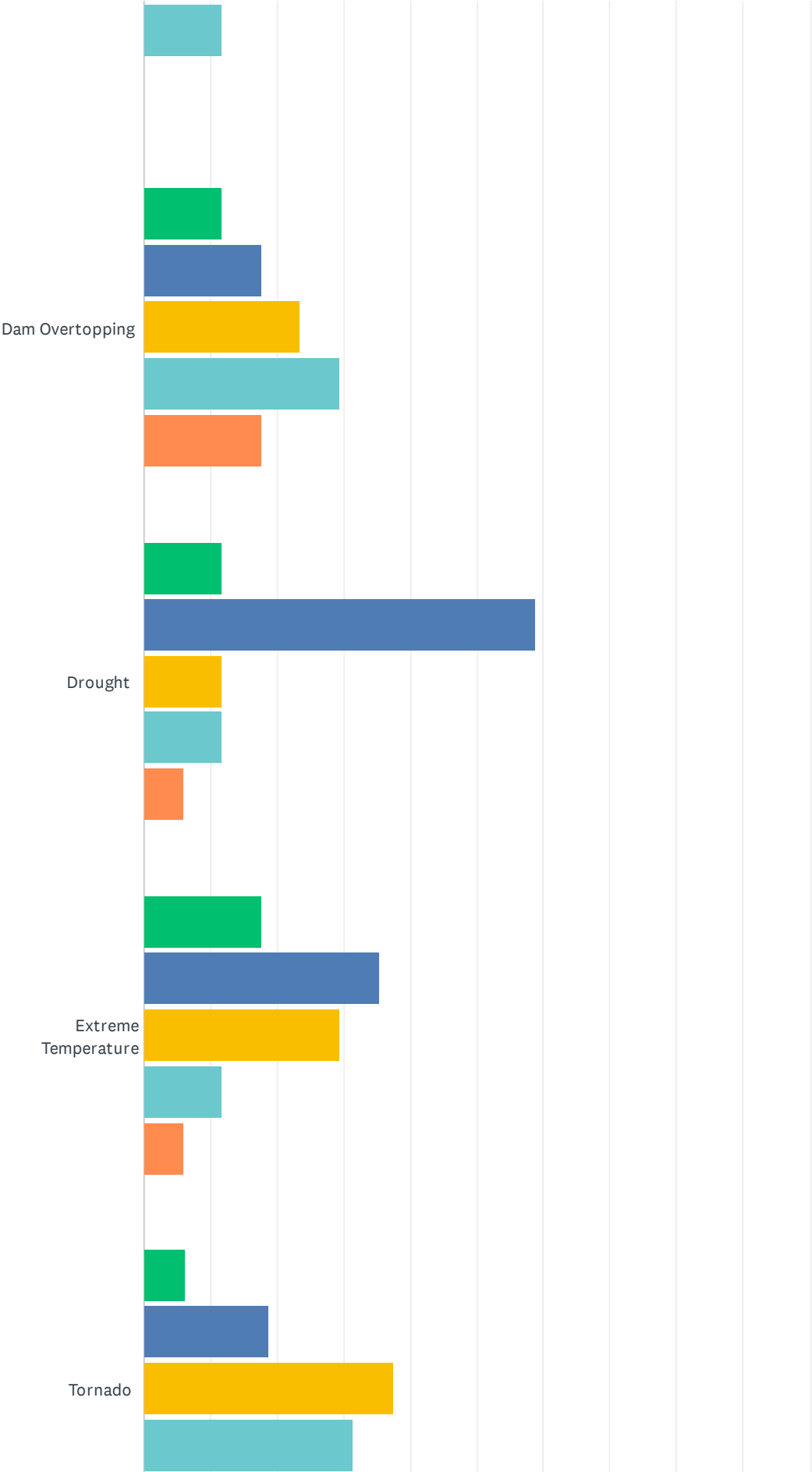
Once a year or more often Once every 3-5 years Once in a decade Once in my lifetime Unsure/never

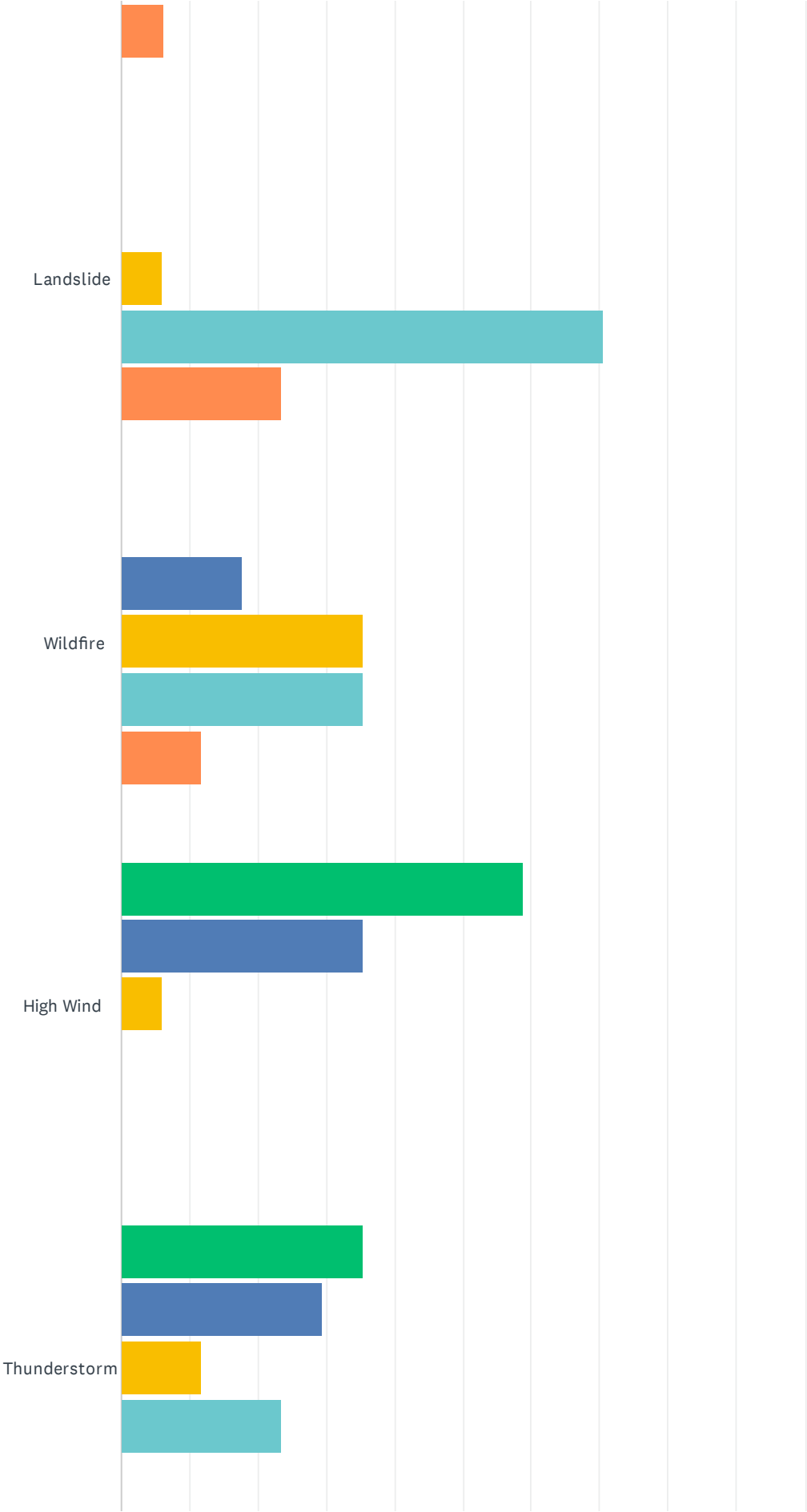
	ONCE A YEAR OR MORE OFTEN	ONCE EVERY 3-5 YEARS	ONCE IN A DECADE	ONCE IN MY LIFETIME	UNSURE/NEVER	TOTAL	WEIGHTED AVERAGE
Blizzard	29.41% 5	70.59% 12	0.00% 0	0.00% 0	0.00% 0	17	1.71
Nor'easter	82.35% 14	17.65% 3	0.00% 0	0.00% 0	0.00% 0	17	1.18
Ice Storm	47.06% 8	35.29% 6	0.00% 0	5.88% 1	11.76% 2	17	2.00
Flooding	47.06% 8	23.53% 4	5.88% 1	11.76% 2	11.76% 2	17	2.18
Dam Overtopping	23.53% 4	5.88% 1	11.76% 2	0.00% 0	58.82% 10	17	3.65
Drought	23.53% 4	41.18% 7	17.65% 3	0.00% 0	17.65% 3	17	2.47
Extreme Temperature	58.82% 10	23.53% 4	5.88% 1	0.00% 0	11.76% 2	17	1.82
Tornado	0.00% 0	12.50% 2	12.50% 2	12.50% 2	62.50% 10	16	4.25
Landslide	0.00% 0	0.00% 0	0.00% 0	5.88% 1	94.12% 16	17	4.94
Wildfire	5.88% 1	17.65% 3	11.76% 2	5.88% 1	58.82% 10	17	3.94
High Wind	94.12% 16	5.88% 1	0.00% 0	0.00% 0	0.00% 0	17	1.06
Thunderstorm	100.00% 17	0.00% 0	0.00% 0	0.00% 0	0.00% 0	17	1.00
Microburst	23.53% 4	52.94% 9	11.76% 2	5.88% 1	5.88% 1	17	2.18
Hurricane/Tropical Storm	23.53% 4	70.59% 12	5.88% 1	0.00% 0	0.00% 0	17	1.82
Earthquake	0.00% 0	12.50% 2	12.50% 2	18.75% 3	56.25% 9	16	4.19
Invasive Species	50.00% 8	6.25% 1	12.50% 2	0.00% 0	31.25% 5	16	2.56

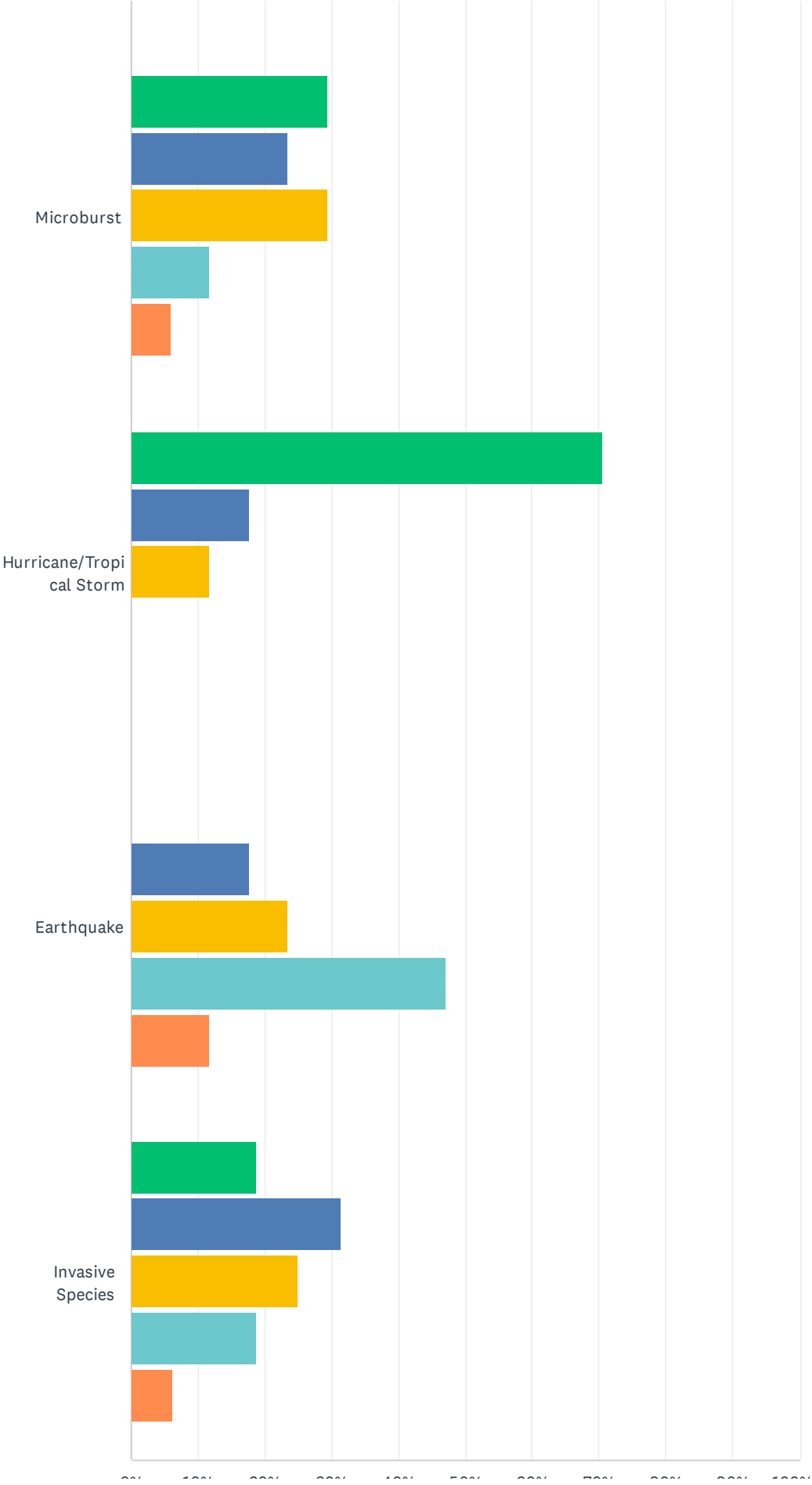
Q3 What natural hazards are you concerned about experiencing in the future?

Answered: 17 Skipped: 0









Municipal Vulnerability and Preparedness Pre Workshop Survey

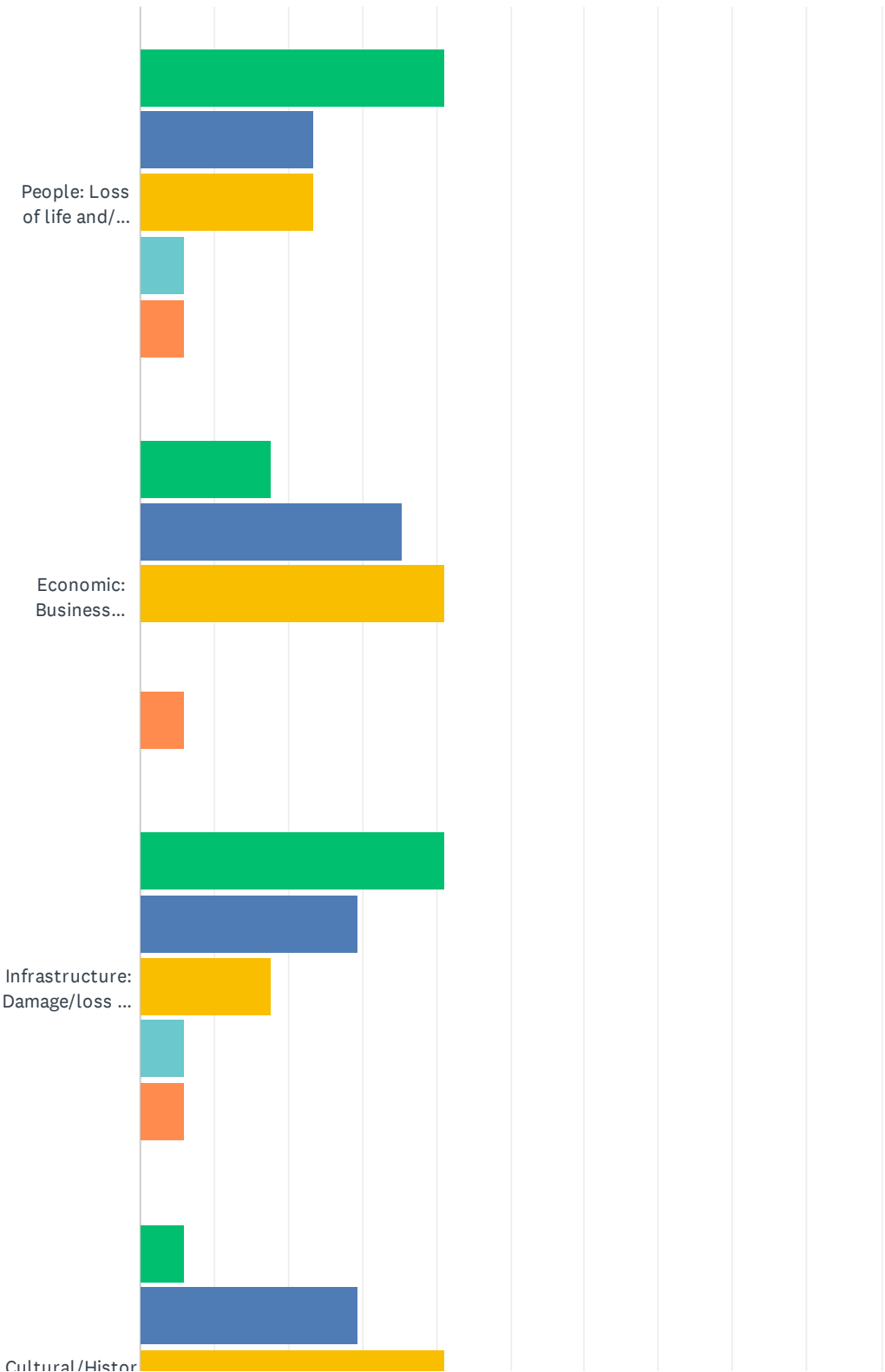
0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

■ Very concer...
 ■ Moderately...
 ■ Slightly con...
 ■ Not concer...
 ■ Unsure

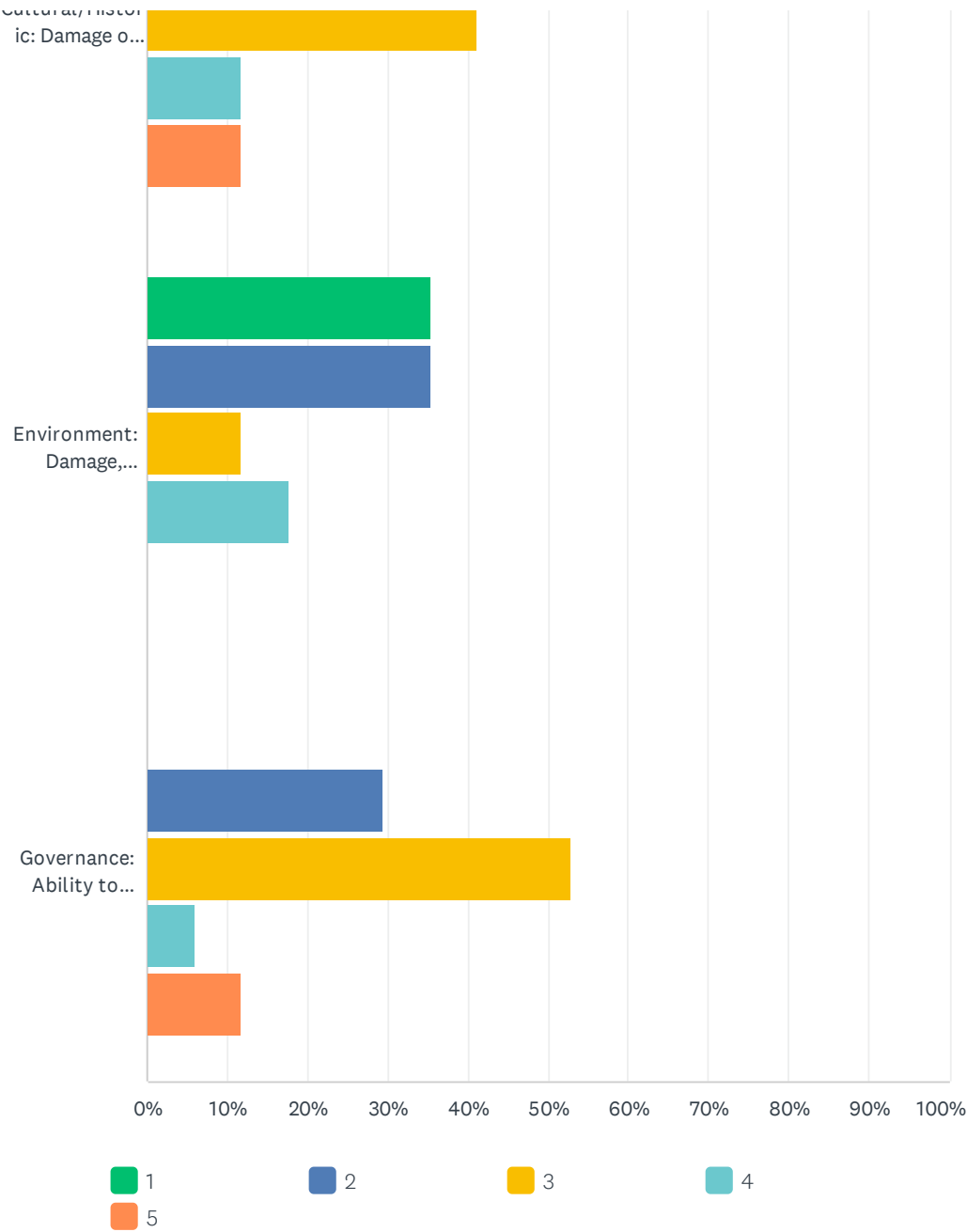
	VERY CONCERNED	MODERATELY CONCERNED	SLIGHTLY CONCERNED	NOT CONCERNED	UNSURE	TOTAL
Blizzard	41.18% 7	35.29% 6	11.76% 2	11.76% 2	0.00% 0	17
Nor'easter	41.18% 7	29.41% 5	17.65% 3	11.76% 2	0.00% 0	17
Ice Storm	37.50% 6	18.75% 3	31.25% 5	12.50% 2	0.00% 0	16
Flooding	23.53% 4	41.18% 7	23.53% 4	11.76% 2	0.00% 0	17
Dam Overtopping	11.76% 2	17.65% 3	23.53% 4	29.41% 5	17.65% 3	17
Drought	11.76% 2	58.82% 10	11.76% 2	11.76% 2	5.88% 1	17
Extreme Temperature	17.65% 3	35.29% 6	29.41% 5	11.76% 2	5.88% 1	17
Tornado	6.25% 1	18.75% 3	37.50% 6	31.25% 5	6.25% 1	16
Landslide	0.00% 0	0.00% 0	5.88% 1	70.59% 12	23.53% 4	17
Wildfire	0.00% 0	17.65% 3	35.29% 6	35.29% 6	11.76% 2	17
High Wind	58.82% 10	35.29% 6	5.88% 1	0.00% 0	0.00% 0	17
Thunderstorm	35.29% 6	29.41% 5	11.76% 2	23.53% 4	0.00% 0	17
Microburst	29.41% 5	23.53% 4	29.41% 5	11.76% 2	5.88% 1	17
Hurricane/Tropical Storm	70.59% 12	17.65% 3	11.76% 2	0.00% 0	0.00% 0	17
Earthquake	0.00% 0	17.65% 3	23.53% 4	47.06% 8	11.76% 2	17
Invasive Species	18.75% 3	31.25% 5	25.00% 4	18.75% 3	6.25% 1	16

Q4 Which of the following categories are most susceptible to natural hazards in your community? Please rank the community assets in order of vulnerability, 1 being the most vulnerable and 5 being the least vulnerable.

Answered: 17 Skipped: 0



Municipal Vulnerability and Preparedness Pre Workshop Survey

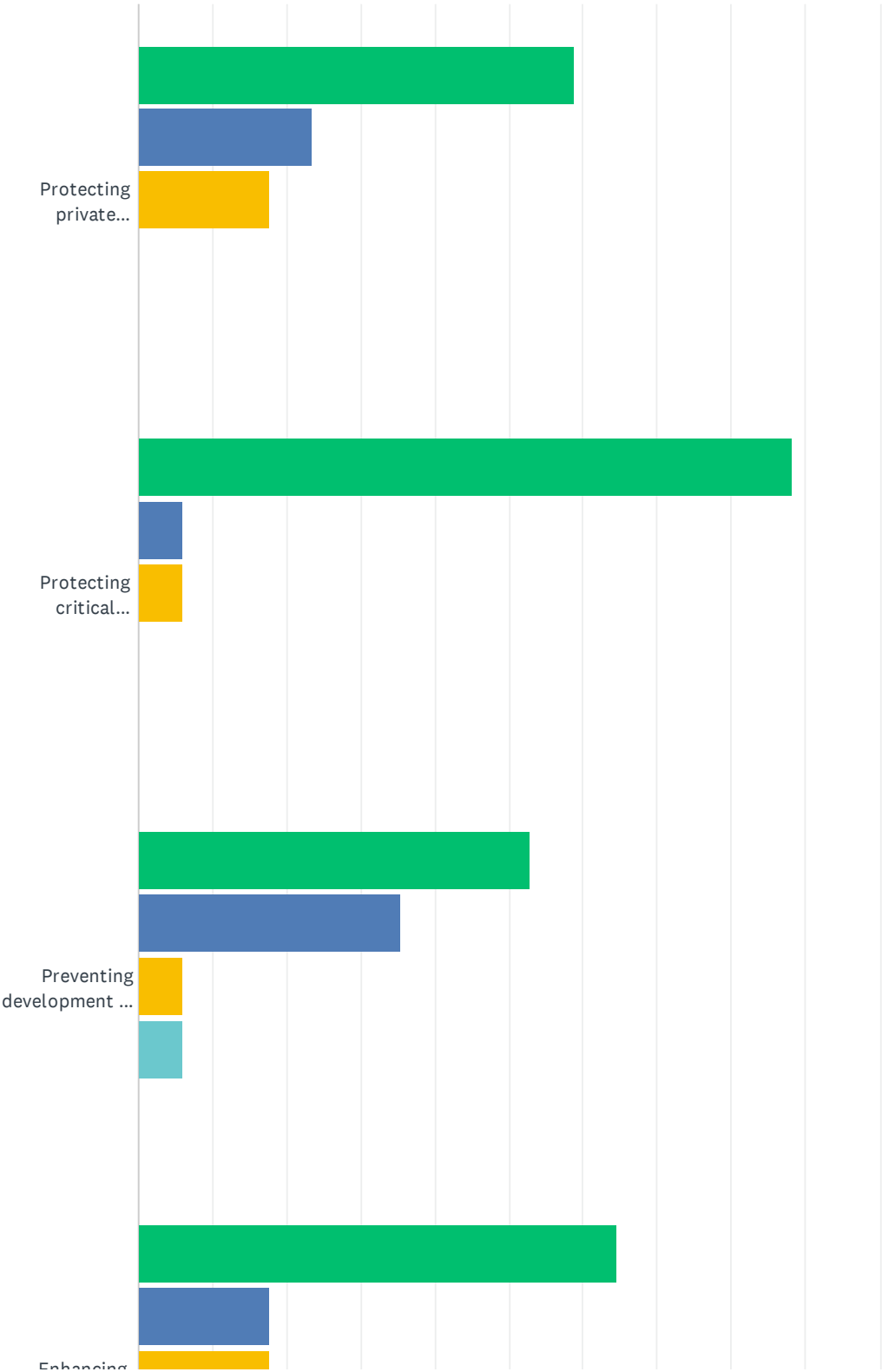


Municipal Vulnerability and Preparedness Pre Workshop Survey

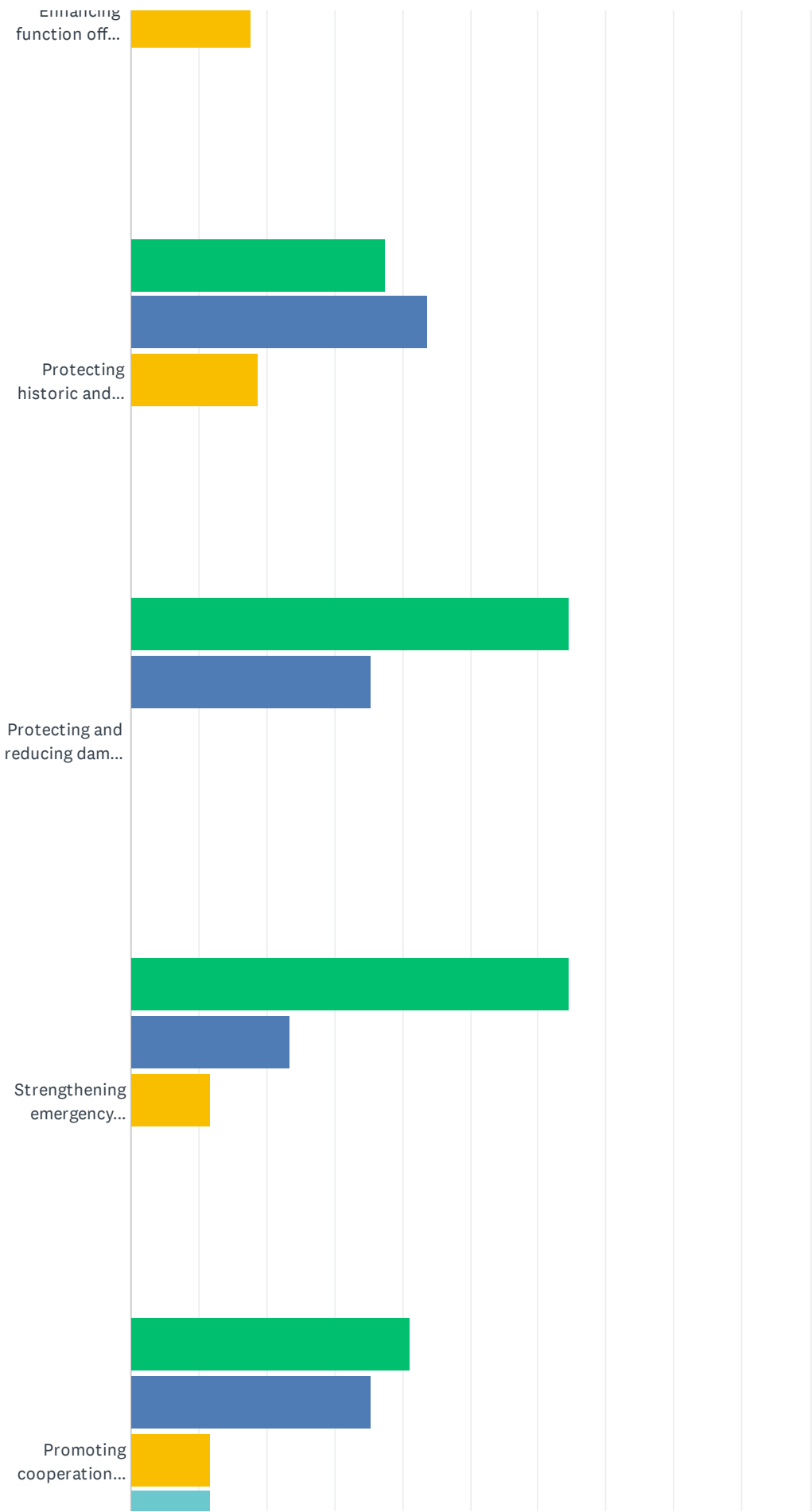
	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
People: Loss of life and/or injuries	41.18% 7	23.53% 4	23.53% 4	5.88% 1	5.88% 1	17	2.12
Economic: Business interruptions/closures, job losses, etc.	17.65% 3	35.29% 6	41.18% 7	0.00% 0	5.88% 1	17	2.41
Infrastructure: Damage/loss of roads, bridges, utilities, schools, etc.	41.18% 7	29.41% 5	17.65% 3	5.88% 1	5.88% 1	17	2.06
Cultural/Historic: Damage or loss of libraries, museums, historic properties, etc.	5.88% 1	29.41% 5	41.18% 7	11.76% 2	11.76% 2	17	2.94
Environment: Damage, contamination or loss of forests, wetlands, waterways, etc.	35.29% 6	35.29% 6	11.76% 2	17.65% 3	0.00% 0	17	2.12
Governance: Ability to maintain order and/or provide public amenities and services	0.00% 0	29.41% 5	52.94% 9	5.88% 1	11.76% 2	17	3.00

Q5 Natural hazards can have a significant impact on a community. Please tell us how important each statement is to you by checking the appropriate box for each.

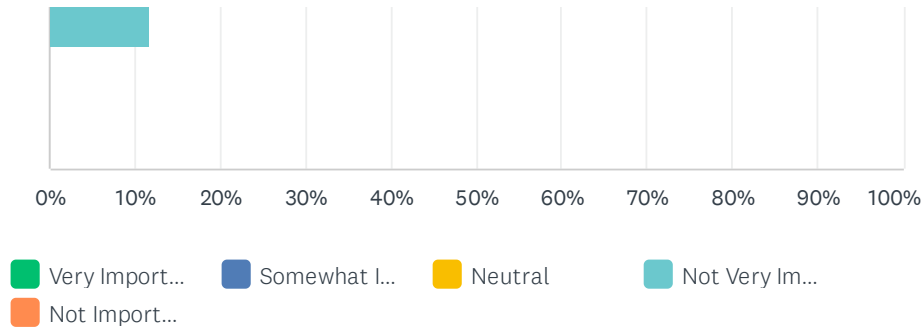
Answered: 17 Skipped: 0



Municipal Vulnerability and Preparedness Pre Workshop Survey



Municipal Vulnerability and Preparedness Pre Workshop Survey



	VERY IMPORTANT	SOMEWHAT IMPORTANT	NEUTRAL	NOT VERY IMPORTANT	NOT IMPORTANT	TOTAL
Protecting private property	58.82% 10	23.53% 4	17.65% 3	0.00% 0	0.00% 0	17
Protecting critical facilities (transportation networks, hospitals, fire stations, etc)	88.24% 15	5.88% 1	5.88% 1	0.00% 0	0.00% 0	17
Preventing development in hazard areas	52.94% 9	35.29% 6	5.88% 1	5.88% 1	0.00% 0	17
Enhancing function off natural assets (streams, wetlands, beaches, etc)	64.71% 11	17.65% 3	17.65% 3	0.00% 0	0.00% 0	17
Protecting historic and cultural landmarks	37.50% 6	43.75% 7	18.75% 3	0.00% 0	0.00% 0	16
Protecting and reducing damage to utilities	64.71% 11	35.29% 6	0.00% 0	0.00% 0	0.00% 0	17
Strengthening emergency services (police, fire, ambulance, etc)	64.71% 11	23.53% 4	11.76% 2	0.00% 0	0.00% 0	17
Promoting cooperation among public agencies, citizens, non-profits, academia, and businesses	41.18% 7	35.29% 6	11.76% 2	11.76% 2	0.00% 0	17

Q6 What specific community assets have helped you get through storm events and aided in recovery after storm events such as blizzards, flooding, extreme heat? Please be specific and list name, location, and owner of the three most important. (Examples include: Gas stations, pharmacies, supermarkets, towing services, etc) You may find it helpful to reference the community asset list included in Handout 1 to answer this question.

Answered: 12 Skipped: 5

ANSWER CHOICES	RESPONSES	
Name/Location/Owner	100.00%	12
Name/Location/Owner	83.33%	10
Name/Location/Owner	66.67%	8

Q7 What infrastructure (examples include: roadways, community buildings, churches, schools, open space, dams, etc) have been impacted by storm events? Please list 3 specific things in Town that you have seen impacts to in the past. You may find it helpful to reference the community asset list included in Handout 1 to answer this question.

Answered: 11 Skipped: 6

ANSWER CHOICES	RESPONSES	
Name/Location/Owner	100.00%	11
Name/Location/Owner	90.91%	10
Name/Location/Owner	81.82%	9

Q8 If there were a loss or inoperability, what major employers, primary economic sectors, and commercial centers would have a severe impact on the community and its ability to recover from a disaster? You may find it helpful to reference the community asset list included in Handout 1 to answer this question.

Answered: 10 Skipped: 7

ANSWER CHOICES	RESPONSES	
Name/Location/Owner	100.00%	10
Name/Location/Owner	60.00%	6
Name/Location/Owner	60.00%	6

Q9 Which populations, groups of people, or communities are less able to respond and recover during a disaster? (examples include: elderly populations, environmental justice populations, special needs schooling, child care, shelters, homeless, etc.) You may find it helpful to reference the community asset list included in Handout 1 to answer this question.

Answered: 12 Skipped: 5

ANSWER CHOICES	RESPONSES	
Name/Location/Owner	100.00%	12
Name/Location/Owner	75.00%	9
Name/Location/Owner	75.00%	9

Q10 Please list the top 3 natural environments in town that the community values and provides protective function to reduce the magnitude of hazard impact and increase resiliency? (examples include: open space, wetlands and waterbodies, trails, recreation areas, etc.) You may find it helpful to reference the community asset list included in Handout 1 to answer this question.

Answered: 12 Skipped: 5

ANSWER CHOICES	RESPONSES	
Name/Location/Owner	100.00%	12
Name/Location/Owner	83.33%	10
Name/Location/Owner	83.33%	10

Meeting Agenda

ATTENDEES: West Bridgewater Municipal Vulnerability Preparedness
Community Resilience Building Workshop

LOCATION: West Bridgewater Council on Aging

DATE: February 8, 2022 and February 15, 2022 (February 22 snow date)

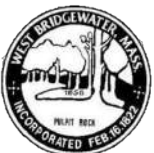
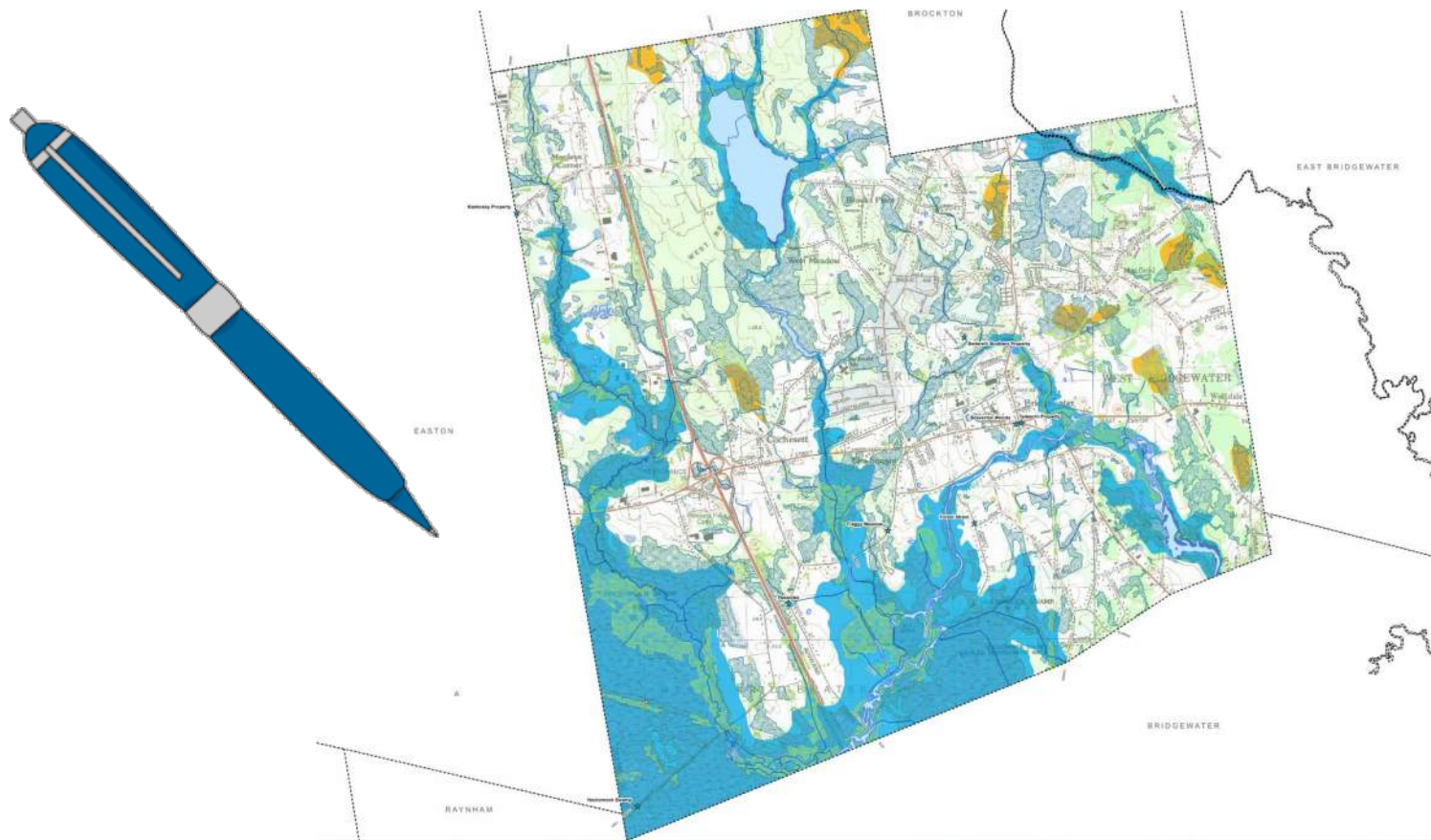
START TIME: 8:00 AM

8:00 AM	Sign in, Refreshments, Map Exercise	
8:15AM	Table Group Ice Breaker and Participant Roles	Core Team- Lead
8:25 AM	Welcome from Town, Purpose of Workshop	Tighe & Bond
8:30 AM	Natural Hazard Risks, Climate Change, Projections and Implications for West Bridgewater	Tighe & Bond
8:55 AM	Discussion #1 Identifying Risk Area (Assets) Vulnerabilities and Community Strengths	Table groups
10:00 AM	Short Break	
10:10 AM	Discussion #2 Identify Actions to address vulnerabilities or protect strengths.	Table groups
10:40 AM	Discussion #3 Prioritize Climate Actions	Table groups
11:10 PM	Short Break	
11:20 PM	Discussion #4 Small group report out to full group top 5-6 actions	Table groups report out
12:00 PM	Wrap up and closing remarks	Tighe & Bond, Core Team Lead
12:15 PM	Adjourn	

PLEASE SIGN IN & MAKE A NAMETAG

Where do you live or work in West Bridgewater?

Help us by marking it on the map on the table.





TOWN OF WEST BRIDGEWATER

COMMUNITY RESILIENCE BUILDING WORKSHOP

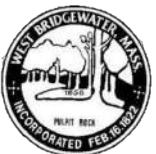
February 8th, 2022



WELCOME & INTRODUCTIONS

Help West Bridgewater Build Resilience and Preparedness:

- Plan for more frequent and intense weather events
- Improve pre-event planning, response & recovery, and long-term actions
- A prepared and resilient West Bridgewater will be able to maintain functions, protect its residents and businesses, and be ready for future storm events and a changing climate



A brief thanks to West Bridgewater Hazard Mitigation Plan and MVP Core Team



Chris Iannitelli

Linda Torres

John L Delano

Lincoln Thibeault

Victor Flaherty

Shawn Anderson

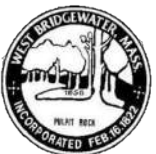
Wayne Parks

Marilyn Mather

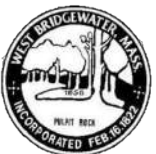
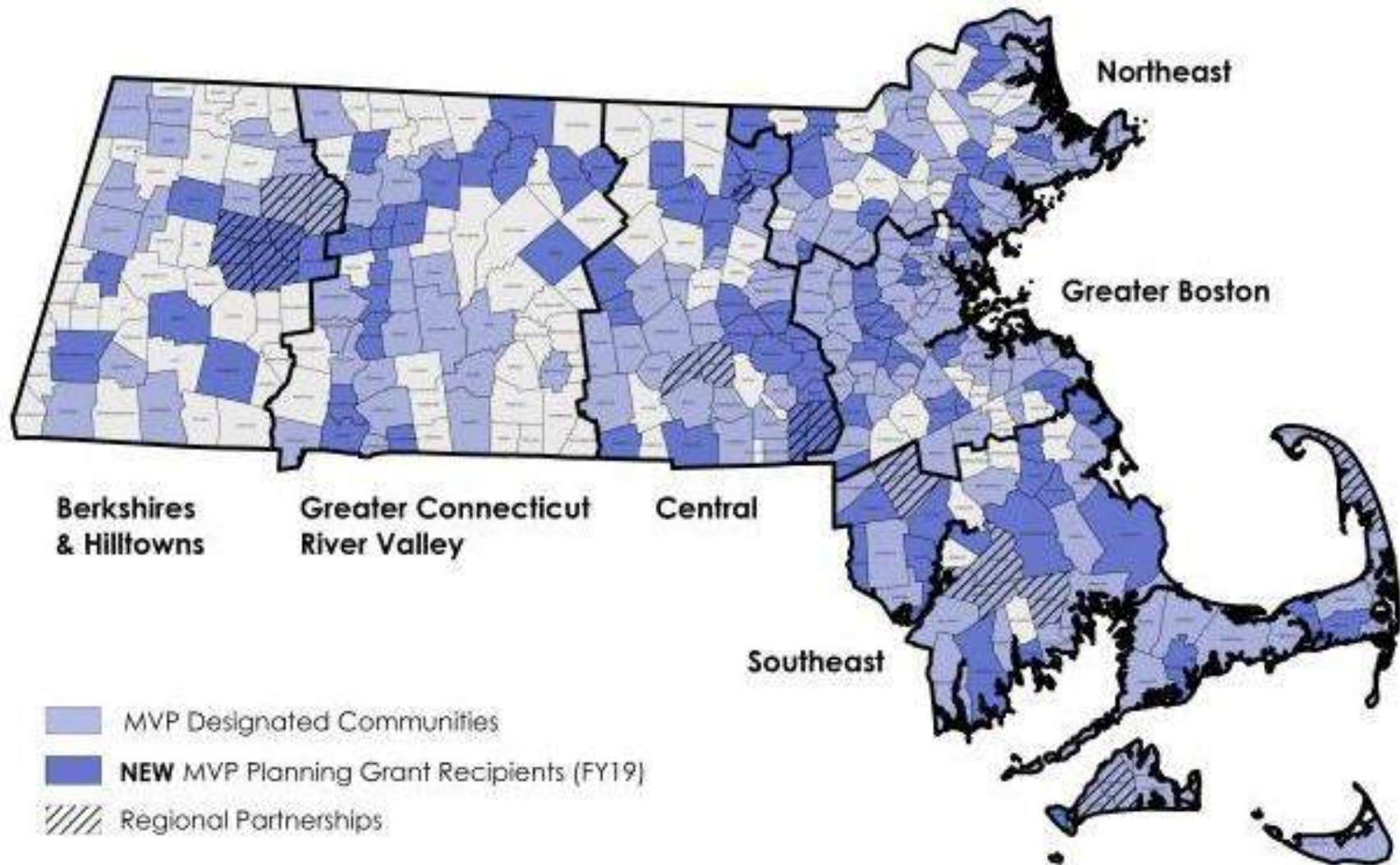
Hugh Hurley

Deborah Taylor

Courtney Rocha



MVP PLANNING GRANTS



MVP ACTION GRANTS

- Detailed Vulnerability and Risk Assessment*
- Community Outreach and Education
- Local Bylaws, Ordinances, Plans, and Other Management Measures**
- Redesigns and Retrofits***
- Nature-Based Flood Protection, Drought Mitigation, Water Quality, and Water Infiltration Techniques
- Nature-Based, Infrastructure and Technology Solutions to Reduce Vulnerability to Extreme Heat and Poor Air Quality



* Most common project type

** Second-most common project type

***Third-most common project type



MVP ACTION GRANTS (CONT)



- Nature-Based Solutions to Reduce Vulnerability to other Climate Change Impacts
- Ecological Restoration and Habitat Management to Increase Resiliency

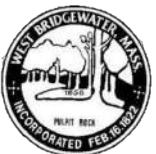
NEW IN 2019

- Energy Resilience
- Chemical Safety
- Land Acquisition for Resilience
- Subsidized Low-Income Housing Resilience Strategies
- + Expanded eligibility of project location



BRIEF OVERVIEW OF THE HAZARD MITIGATION and MVP PLANNING PROCESS

- 1) Define potential risk due to natural hazards including impacts of climate change
- 2) Identify key community assets and vulnerability to risk
- 3) Define mitigation projects to improve resiliency
- 4) Prioritize projects for areas most at risk



HISTORICAL EVENTS - CHAPTER 3 HMP

- **August 1948 Highest Temperature Recorded**
Temperature of 104 degrees recorded in Brockton
- **February 1934 Lowest Temperature Recorded**
Temperature of -21 degrees recorded in Stoughton
- **August 1991 Hurricane Bob**
Category 2 Hurricane
- **March 2010 Flooding**
Over 14 inches of rain in 2 weeks causing extensive flooding
- **August 2021 Hurricane/ Tropical Storm Irene**
Over 100,000 residents without power in Old Colony area
- **January 2015 Winter Storm Juno**
Severe winter storm, snowstorm and flooding
- **March 2018 Nor'easter- Winter Storm Riley**
 - West Bridgewater received 20 inches of snow from a winter nor'easter
- **January 2022 Blizzard**
West Bridgewater received 24 inches of snow from a winter nor'easter



WHAT ARE NATURAL HAZARDS?



Inland Flooding



Tsunami



Severe Winter Storm

Blizzards
Snow
Ice Storms



Drought



Average/Extreme
Temperatures



Tornadoes



Landslide



Wildfires



Other Severe Weather

Nor'easters
High Wind
Heavy Precipitation
Microbursts



Hurricanes/Tropical Storms



Invasive Species



Earthquake



MASSACHUSETTS CLIMATE PROJECTIONS

By end of century:

Changes in precipitation

- 18% increase in consecutive dry days
- 57% increase in days with > 1 in. rainfall
- 7.3 inches additional annual rainfall

Rising temperatures

- 10.8°F increase in average annual temperature
- 42% decrease in days/year with min. temperatures < 32* F
- 1,280% increase in 90-degree days/year

Sea level rise

- 4-10.5 feet along the MA coast

Extreme weather

- Increase in frequency and magnitude



CHANGES IN PRECIPITATION - TAUNTON RIVER BASIN

Climate Indicator		Observed Value 1971-2000 Average	Mid-Century Projected Change in 2050s	End of Century Projected Change in 2090s
Days with Precipitation > 1"	Annual	7 days	Increase by 10-42% 8-10 more days per year	Increase by 15-55% 8-11 more days per year
	Winter	2 days	Increase by 10-69% 2-3 more days per year	Increase by 25-109% 2-3 more days per year
	Spring	2 days	Increase by 2-46% 2 more days per year	Increase by 11-82% 2-3 more days per year
Total Precipitation	Annual	47 inches	Increase by 2-13% Increase of 1 - 6 inches	Increase by 3-16% Increase of 1.2 - 7.3 inches
	Winter	11.2 inches	Increase by 1-21% Increase of 0.1 - 2.4 inches	Increase by 4-35% Increase of 0.4 - 3.9 inches
Consecutive Dry Days	Summer	12 days	Variable (-1 - +2 days)	Variable (-1 - +3 days)
	Fall	12 days	Increase by 0 - 3 days	Increase by 0 - 3 days

<https://resilientma.org/changes/changes-in-precipitation>



IMPACTS OF CHANGING PRECIPITATION

- Episodic droughts
- Public drinking water supply
- Flora and fauna
- Agriculture



RIISING TEMPERATURES – TAUNTON RIVER BASIN

Taunton Basin		Observed Baseline 1971-2000 (°F)	Projected Change in 2030s (°F)	Mid-Century Projected Change in 2050s (°F)	Projected Change in 2070s (°F)	End of Century Projected Change in 2090s (°F)
Average Temperature	Annual	49.85	+2.03 to +3.77	+2.68 to +5.94	+3.12 to +8.62	+3.43 to +10.49
	Winter	30.01	+2.17 to +4.37	+2.88 to +6.74	+3.48 to +8.76	+3.91 to +10.07
	Spring	47.34	+1.67 to +3.35	+2.35 to +5.44	+2.57 to +7.54	+3.05 to +9.16
	Summer	69.57	+1.72 to +3.92	+2.22 to +6.31	+2.76 to +9.56	+3.39 to +11.62
	Fall	52.14	+2.06 to +4.51	+3.42 to +6.31	+3.18 to +9.04	+3.70 to +11.18
Maximum Temperature	Annual	60.27	+1.90 to +3.71	+2.47 to +5.89	+2.82 to +8.62	+3.14 to +10.37
	Winter	39.49	+1.83 to +4.23	+2.48 to +6.22	+3.02 to +8.13	+3.44 to +9.37
	Spring	58	+1.48 to +3.35	+1.99 to +5.24	+2.52 to +7.62	+2.97 to +9.00
	Summer	80.51	+1.63 to +3.84	+2.10 to +6.22	+2.65 to +9.68	+3.14 to +11.64
	Fall	62.7	+2.07 to +4.39	+3.30 to +6.41	+3.10 to +8.95	+3.43 to +11.30
Minimum Temperature	Annual	39.44	+2.14 to +3.91	+2.89 to +6.08	+3.42 to +8.61	+3.76 to +10.56
	Winter	20.53	+2.48 to +4.71	+3.24 to +7.25	+4.05 to +9.38	+4.41 to +10.75
	Spring	36.67	+1.76 to +3.50	+2.70 to +5.74	+2.68 to +7.42	+3.17 to +9.12
	Summer	58.62	+1.81 to +3.91	+2.35 to +6.48	+2.88 to +9.39	+3.64 to +11.48
	Fall	41.58	+2.05 to +4.68	+3.46 to +6.26	+3.25 to +8.98	+3.97 to +11.11

<https://resilientma.org/changes/rising-temperatures>



IMPACTS OF RISING TEMPERATURES

- Heat and public health
- Agriculture and livestock
- Aquatic and terrestrial habitat
- Energy systems and infrastructure
- Drought and wildfires



EXTREME WEATHER & IMPACTS

Blizzards

- There have been more than 6 in Massachusetts since 2011 including January 28, 2022.

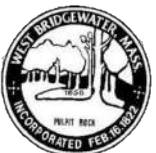
Nor'easters and Hurricanes

- Upward trend since the 1970s

- **Public safety**
- **Economy**
- **Property and infrastructure**
- **Natural resources**

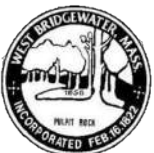


<https://resilientma.org/changes/extreme-weather>



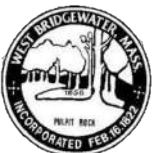
WEST BRIDGEWATER TOP NATURAL HAZARDS

Natural Hazard Risk Index- West Bridgewater, MA						
Type of Natural Hazard	History of Occurrence in West Bridgewater	Hazard Probability	Hazard Frequency	Geographic Extent	Severity of Impact	Hazard Risk Ranking
Hydrological Hazards						
Flood Related						
• Heavy Rain	Yes	4	3	3	3	1
• Ice Jams	Yes	3	2	1	1	4
• Beavers	Yes	4	3	1	1	3
• Snow Melt	Yes	4	3	3	3	1
• Dam Failure	Yes	2	2	1	1	4
Coastal Flooding	No	0	0	0	0	NA
Drought	Yes	4	3	3	2	1
Atmospheric Hazards						
High Winds	Yes	4	3	3	2	1
Hurricanes/Tropical Storms	Yes	4	3	3	3	1
Severe Winter-Storm/Nor'easter	Yes	4	3	3	2	1
Heavy Snow	Yes	4	3	3	2	1
Ice Storms	Yes	4	3	3	2	1
Severe Weather-Thunderstorms	Yes	4	3	3	1	2
Blizzards	Yes	4	3	3	2	1
Extreme Temperature	Yes	4	3	3	1	2
Tornadoes	Yes	3	3	3	3	1
Geological Hazards						
Coastal Erosion	No	0	0	0	0	NA
Earthquake	Yes	2	1	3	3	3
Landslide	No	0	0	0	0	NA
Tsunami	No	0	0	0	0	NA
Other Hazards						
Wildfires	Yes	4	3	1	1	3
Invasive Species	Yes	4	3	1	1	3



ASSESSMENT METHOD

Definitions		
Points		Description
Hazard Probability (Possible occurrence in the future)		
1	Unlikely	Less than a 1% probability over the next 100 years
2	Possible	1-10% probability in the next year or at least one chance in the next 100 years
3	Likely	10-100% probability in the next year or at least one chance in the next 10 years
4	Highly Likely	Near 100% probability in the next year
Hazard Frequency		
0	Very Low	Events that occur less frequently than once in 1,000 years (less than 0.1% per year).
1	Low	Events that occur from once in 100 years to once in 1,000 years (0.1% - 1% per year).
2	Medium	Events that occur from once in 10 years to once in 100 years (1% - 10% per year).
3	High	Events that occur more frequently than once in 10 years (greater than 10% per year).
Geographical Extent (Area Impacted by a Given Natural Hazard)		
1	Small	Less than 10% of the Town affected
2	Medium	10-50% of the Town affected
3	Large	More than 50% of the Town affected
Severity of Impact from Hazard		
1	Minor	Limited and scattered property damage; no damage to public infrastructure (roads, bridges, trains, airports, public parks, etc.); contained geographic area (i.e. one or two communities); essential services (utilities, hospitals, schools, etc.) not interrupted; no injuries or fatalities.
2	Serious	Scattered major property damage (more than 10% destroyed); some minor infrastructure damage; wider geographic area (several communities); essential services briefly interrupted up to 1 day; some minor injuries.
3	Extensive	Consistent major property damage (more than 25%); major damage public infrastructure damage (up to several days for repairs); essential services are interrupted from several hours to several days; many injuries and possible fatalities.
4	Catastrophic	Property and public infrastructure destroyed (more than 50%); essential services stopped for 30 days or more, multiple injuries and fatalities.



WEST BRIDGEWATER TOP NATURAL HAZARDS

SEVERE WINTER STORMS

OTHER SEVERE WEATHER

INLAND FLOODING

DROUGHT & EXTREME
TEMPERATURE



**CLIMATE
CHANGE**



AMPLIFIED RISKS

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

- **Facilitated table-top/group discussions**
- **Fill out matrix**

- **As a group, we report and prioritize**



Session #1

Identify Risk Areas
and Community
Strengths

8:55 AM



DISCUSSION AT TABLE



Community Resilience Building Risk Matrix				www.CommunityResilienceBuilding.org					
H - M - L priority for action over the Short or Long term (and Ongoing) V = Vulnerability S = Strength				Actions to Address West Bridgewater's Top Hazards				Priority	Time
West Bridgewater's Priority Assets				Severe Winter Storm	Other Severe Weather	Inland Flooding	Average/Extreme Temperatures & Drought	H - M - L	Short Long Ongoing
Name	Location	Ownership (Town, State, Federal, Private)	V or S						
Infrastructural									
Societal									
Environmental									
Economy									



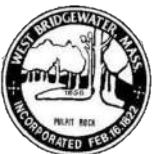
WHAT ARE COMMUNITY ASSETS?

Built Environment: Critical facilities necessary for a community's response to and recovery from emergencies, infrastructure critical for public health and safety, economic viability, or for critical facilities to operate.

Economy: Major employers, primary economic sectors and commercial centers where loss or inoperability would have severe impact on the community and ability to recover from a disaster.

People: Areas of greater population density, or population with unique vulnerabilities or less able to respond and recover during a disaster.

Natural Environment: Areas that provide protective function to reduce magnitude of hazard impact and increase resiliency. Areas of sensitive habitat that are vulnerable to hazard events, protection of areas that are important to community objectives, such as the protection of sensitive habitat, provide socio-economic benefits, etc.



EXAMPLES OF VULNERABILITIES & STRENGTHS



Vulnerabilities

- Main road floods during storms, blocking emergency response.
- Power outages during heat waves lead to health concerns.
- Sewer pump stations become submerged and inoperable
- Senior housing without back-up generators during heat waves.
- Residents without access transportation during hurricane evacuation.
- Limited areas of refuge in schools during tornados.

Strengths

- Critical road elevated and passable by emergency management.
- Hardened utility lines reduce outages due to ice storms.
- Undersized culvert replaced to reduce flooding in key intersection.
- Improvement to communication systems during extreme weather.
- Private businesses provide services aligned with emergency operations.
- Floodplains provide stormwater storage and downstream flood reduction.



Session #2




Identify Actions to
Address
Vulnerabilities and
Protect Strengths

10:10 AM



DISCUSSION AT TABLE



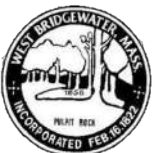
Community Resilience Building Risk Matrix 					www.CommunityResilienceBuilding.org					
<small>H-M-L</small> priority for action over the Short or Long term (and Ongoing) <small>V</small> = Vulnerability <small>S</small> = Strength					Actions to Address Pepperell's Top Hazards					
Pepperell's Priority Assets					Severe Winter Storm	Other Severe Weather	Inland Flooding	Average/Extreme Temperatures & Drought	Priority	Time
Name	Location	Ownership (Town, State, Federal, Private)	V or S	H - M - L					Short Long Ongoing	
Infrastructural										
Societal										
Environmental										
Economy										



TYPES OF MITIGATION ACTIONS



1. Prevention
2. Property Protection
3. Public Education and Awareness
4. Natural Resource Protection and Green Infrastructure (nature-based solutions)
5. Structural Projects
6. Emergency Services Protection



Session #3



Table Groups Prioritization

10:50 PM





Select Top 5 to 6

Community Resilience Building

www.CommunityResilienceBuilding.org

Select Top 5 to 6

Identify Priority Assets

Location

Ownership
(Town, State, Federal, Private)

V or S

Severe Winter Storm

Other Severe Weather

Inland Flooding

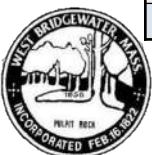
Average/Extreme Temperatures & Drought

Priority

Time

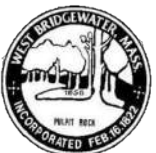
H - M - L

Short Long Ongoing



WHEN PRIORITIZING, CONSIDER...

- **Funding availability and terms**
- **Consensuses in community for project**
- **Needed to advancing longer-term outcomes (e.g. phase of a project)**
- **Does it contribute towards meeting local and regional planning objectives**



Session #4

Table Groups report
out to Full Group

11:20 PM

REPORT TO LARGE GROUP & RANK

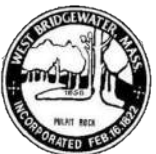


Community Resilience Building Risk Matrix				www.CommunityResilience.org					
H-M-L priority for action over the Short or Long term (and Ongoing) V = Vulnerability S = Strength				Actions to Address West Bridgewater's Top Hazards					
West Bridgewater's Priority Assets				Severe Winter Storm	Other Severe Weather	Inland Flooding	Average/Extreme Temperatures & Drought	Priority	Time
Name	Location	Ownership (Town, State, Federal, Private)	V or S					H - M - L	Short Long Ongoing
Infrastructural									
Societal									
Environmental									
Economy									



NEXT STEPS

- Prepare MVP/HMP Report
- Become a certified Municipal Vulnerability Preparedness Community
- Maintain MVP status with annual progress updates to State (combined with Hazard Mitigation Planning update)
- Eligible for MVP action grant funding





Town of West Bridgewater
Municipal Vulnerability and Preparedness Stakeholder Workshop
February 8, 2022
8:00 AM – 12:00 PM

Name	Affiliation	Contact Information – Email or Phone
CHIEF Lincoln Thibeault	WEST BRIDGEWATER FIRE / RESCUE	508-586-3232 Lthibeault@wbridgewater.com
Chris Iannitelli	DPW	C Iannitelli@wbridgewater.com
Scott Golder	Treasurer / Collector	sgolder@wbridgewater.com
Deborah Taylor	West Bridgewater GIS	dtaylor@wbridgewater.com
Art Cabral	Water Commission	acabralpe@aol.com
Tim Hay	Conservation Commission	Timhay@bigelowseries.com
Berta Grossman	Open Space & Recreation	berta.grossman@maritime.edu
JOHN DELANO	CON COM	JDELANO@WBRIDGEWATER.COM
Linda Torres	Board of selectmen	L.Torres@wbridgewater.com
Robert Casper	Health Agent	rcasper@wbridgewater.com
Marilyn Mather	Dir. of Elder Services	mmather@wbridgewater.com

VICTOR FLAHERTY

CHIEF OF
POLICE

VFLAHERTY@
WBPD.COM



Town of West Bridgewater
Municipal Vulnerability and Preparedness Stakeholder Workshop
February 8, 2022
8:00 AM – 12:00 PM

Name	Affiliation	Contact Information – Email or Phone
Moe McCarty	Conservation Comm	backhomenow@Comcast.net
Shawn D Anderson	DPW	sanderson@wb.bridgewater.com
Hugh Hurley	Planning Board	hrhurley@comcast.net
Sharon Rooney	T&B	MVP Prouper
Gabrielle Belfit	T&B	//
Annaleise Kienel	T&B	//
Kristen Dippold	y. T&B	//

Table #1

part 1

Part 2

Part 3

Community Resilience Building Risk Matrix				www.CommunityResilienceBuilding.org					
H-M-L priority for action over the Short or Long term (and Ongoing) V = Vulnerability S = Strength				Actions to Address West Bridgewater's Top Hazards					
West Bridgewater's Priority Assets				Severe Winter Storm/ Blizzards, Nor'easters, Heavy Snow, Ice	High Winds /Hurricanes/Tropical Storms/ Tornadoes	Inland Flooding/ Heavy Rain/ Snowmelt	Drought	Priority	Time
Name	Location	Ownership (Town, State, Federal, Private)	V or S					H - M - L	Short Long Ongoing
Infrastructural									
Water Towers (2)	Sunset & Walnut	TOWN	S	Continue maintenance and site protection				M	O
Wells (2)	Manley St	TOWN	S/V	Manley St. Well elevation study/mitigation				M	S
Transfer Station	S Elm	TOWN	V	Flood prevention study + green int. retrofit if possible				M	S
W. Meadow Dam	River St Spring St	TOWN State	V	Repair West Meadow Dam to meet Dam Safety Standards				H	S
Drainage System	TOWN wide	TOWN	V	Upgrade drainage system; retrofit with green infrastructure as possible.				L	L
Societal Drainage System	"	"	V	retrofit green int./maint plan/asset mngs				H	S
Senior Center	West Center St	TOWN of W.B.	S	Increased public outreach on use of center as emergency shelter				L	O
55+ Communities (Mathfield Woods)	W. Bridge Landing	Private	V	Flood proofing units @ W Bridge Landing				M	L
Esther Woods	Esther Drive	TOWN	V	Instal back up generator (solar?), evacuation plan				H	S/O
Spring Street School	Spring Street	TOWN	V	Drainage improvements/green infrastructure				M	L/O
TOWN Hall	N Main Street	TOWN	V	Maintenance Plan				H	S
Environmental	Rose L McDonald School	N. Elm	TOWN	V	Evac. Plan, improve Crescent St sidewalk access for emergencies			H	S
War Memorial Park	River St	TOWN	V	Maintain/Repairs to water control structures				M	O
War Memorial Dam	River Spring St	State TOWN	V	Repair/improve dam to meet dam safety standards				H	S
Rail Trail		TOWN	S	Trail improvements, public outreach kiosk, cont. access				M	O
TOWN River	TOWN wide	Federal	V	Encourage green infra. throughout river corridor				M	L
Trees	TOWN wide	Mixed	V	Implement forestry management, high risk tree inventory				M	S
Country Club	East Center	TOWN	V	Review/Revise water mngn plan/encourage green infra. (drought/flood)				M	L/O
Economy									
Truchi Market (Grocery Store)	East Center	Private	S	Collaborate for emergency preparedness				M	L
CVS	West Center	Private	S						
Life Care Center	West Center	Private	V						
Cumberland Farms	Multiple	Private	S/V						
Market Basket	West Center	Private	S						
S	High School		TOWN	S	Community wide evac Planning/education			M	O
I	Clinton Road	Clinton Rd		V	Evacuation planning and increase public awareness			H	S
E	Noonan Trucking	West St	Private	V/S	Flood proofing of facility - Private - collaboration			M	L
E	United Drive Industrial Park	United Dr	Private	V/S	retrofit building & parking lot drainage to green infrastructure			L	L
Env	Hocomock ACFC	Southwestern Part of TOWN	STATE/Private	V/S	green infrastructure for existing development/redevelopment.		increase protected area	M	O
Env	SALISBURY PLAIN RIVER FLOODING	BROCKTON BROCKTON	FEDERAL	V	regional SW mng plan			M	L

TABLE #2


Community Resilience Building Risk Matrix				 www.CommunityResilienceBuilding.org					
H-M-L priority for action over the Short or Long term (and Ongoing) V = Vulnerability S = Strength				Actions to Address West Bridgewater's Top Hazards					
West Bridgewater's Priority Assets				Severe Winter Storm/ Blizzards, Nor'easters, Heavy Snow, Ice	High Winds /Hurricanes/Tropical Storms/ Tornadoes	Inland Flooding/ Heavy Rain/ Snowmelt	Drought	Priority	Time
Name	Location	Ownership (Town, State, Federal, Private)	V or S					H - M - L	Short Long Ongoing
Infrastructural									
Town Police Stations	99 W Center	Town	#S/V	Protect Emergency Services + Communication Avenues - Public outreach/info center connections				M	O
Norman Ave Well+ Pump	Norman Ave	Town	S/V ^{#1}	Snow clearing, keep access open w/o road improvements	Emergency town sewer access on roads → treatment plant			H ^{x(1)}	S
Walnut St Bridge	Walnut St.	Town	V	Infrastructure improvements				L	L
Societal									
High School	155 W Center	Town	S ^{#1}					L	O
Elder Care Center	765 W Center	Private	V	Coordination planning with emergency services Public Education/Rental information on digger temp days + severe weather alerts →	Maintain drainage			M	S
Council on Aging	97 W Center	Town	S					L	O
Environmental									
Aquifer	Underground	Town/Private	#S/V ^{#1}			Protect recharge areas + enforce by-laws	develop plan to minimize impact on wells	H ⁽³⁾	O/S
Hockomock Swamp	5/W W.Bridgewater	Town/State/Private	S ^{#2}					L	O
Town River	S W.Bridgewater	Multiple	S/V ^{#2}	Maintain existing culverts/dams Incorporate nature-based systems to lessen pollutants in runoff.	Select river cleaning to remove fallen debris			M	O
War Memorial Park	River St.	Town	S ^{#4}					L	O
Economy									
Market Basket	352 W Center	Private	S ^{#1}					L	O
Lowes	724 W Center	Private	S ^{#2}					L	O
Inucci's	53 E. Center	Private	S ^{#2}					L	O
Cumberland Farms (Town Center Area)	8 N Main	Private	#S/V	Improve reliability of power to center of town area →	→			H ^(a)	S

TABLE #3

Community Resilience Building Risk Matrix				www.CommunityResilienceBuilding.org					
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West Bridgewater's Priority Assets				Severe Winter Storm/ Blizzards, Nor'easters, Heavy Snow, Ice	High Winds /Hurricanes/Tropical Storms/ Tornadoes	Inland Flooding/ Heavy Rain/ Snowmelt	Extreme Temperatures Drought	Priority	Time
Name	Location	Ownership (Town, State, Federal, Private)	V or S					H - M - L	Short Long Ongoing
Infrastructural	Public Library	West Meadow	TOWN	V/S	PROVIDE GENERATOR	Roof repaired (ice/wind)		H	S
DAMS	Town Park Crescent St	Public private	V	tested every 10 years, low impact rebuilt in 2000		Fire ladder to be redesigned Town Park / Shulinsky & Carrolls also being rebuilt.		M	OS
Public Safety, Fire, Town Hall (10)		Public / TOWN	S	Roof / Fire suppression are old Dry need addition to store equipment, maintain services. check status of NA	Fire Station roof leaks during Nor'easter or Highwind dry storage	3		H	S
Water Supply / Distribution	various	Public	V/S						
Transfer Station	Rt 106	Public	S	current building is failing, roof at risk to snow loads, high winds, icing				H	S
Roads & Bridges	various	State, Town, Private	V/S	improve culverts in low lying areas & elevate roads, grant to replace culvert		grant street culvert is under construction. trapping policy update - commonwealth Beaver		H	OL
Societal									
Senior Center COA	97 W. Center	Public	S						
High school	155 W. Center	Public	S						
Keith House / Historic Society	River/Hunter	TOWN / Private / TOWN	S/V						
Churches (10+)	various	Private	S/V						
Senior Housing		Public (3) Private (2)	S/V						
Environmental									
West Meadows		State	S/V						
PINE HILL (cemetery)		PRIVATE	S/V						
Walking Trails		TOWN	S						
Rail Trail		TOWN	S			second 1/2 is eroding from heavy rainfall - East St.		M	L
Town Park	Rivers	TOWN	V/S			potholes walkway needed to improve drainage - ADA		M	O
Town River		TOWN / Private	V/S		tree removal is ongoing issue			M	O
Economy									
Route 106 - market basket - Trucchi's	W. Center Rt 106	Route 106 Private	V/S	Town relies on Shell Station for Town Fuel Depot Backup					
Anderson Farm	River	Private	S						
Demolis Farm	Manley St	Private	S						
Loves	W. Center	Private	S						
Cumberland farms	N. Main	Private	S						

- 1 ✓
- 2 ✓ ✓
- 3 ✓ ✓ ✓ ✓ ✓
- 4 ✓ ✓ ✓
- 5 ✓ ✓ ✓ ✓ ✓
- 6 ✓ ✓ ✓ ✓ ✓
- 7 ✓ ✓ ✓ ✓ ✓
- 8 ✓ ✓ ✓ ✓ ✓
- 9 ✓ ✓ ✓ ✓ ✓ ✓
- 10 ✓ ✓ ✓ ✓ ✓ ✓

4

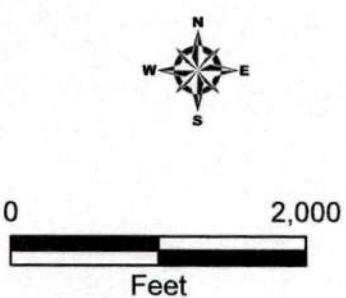
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Name	Location	Ownership (Town, State, Federal, Private)	V or S					H - M - L	Short Long Ongoing	
Infrastructural										
DPW	63 N. Main St.	Town	S	Maintenance	Preventive Maintenance	Preventative Maintenance	Maintenance	H	O	
WATER DEPT.	29 Cyr St.	Town	S	Maintenance	Preventative Maintenance	Preventative Maintenance	Maintenance	H	O	
Police	99 W. Center	Town	S	Maintenance	Preventive Maintenance	Preventative Maintenance	Maintenance	H	O	
Fire	99 W. Center	Town	S	Maintenance	Preventive maintenance	Preventative maintenance	Maintenance	H	O	
Schools (4)	Throughout	Town	S	Maintenance	" "	Preventative maintenance	Maintenance	M	O	
Societal										
COA	W. Center	Town	S	Upkeep	Preventive Maintenance	Maintenance	Upkeep	H	O	
Food pantry	S. Main St.	Private	S	Upkeep	Preventive Maintenance	Maintenance	Upkeep	H	O	
Life Care Center	W. Center	Private	S/V	Upkeep	Preventative Maintenance	Maintenance	Upkeep	H	O	
Golf course	E. Center	public/Town	V	Upkeep	Preventative Maintenance	Clear Debris, Preventative Maint. Dredging/Drainage Improvement	Upkeep	L	O/L	
Historic structures	throughout	throughout town	S	Upkeep	Preventative maintenance	Maintenance	Upkeep	M	O	
Environmental										
Rail trails (2)	Beaverton Woods	Town	S	Clear Debris/Maintenance	Preventative Maintenance	Maintenance	Clear Debris	L	O	
conservation areas	town wide	Town	S/V	Clear Debris	" "	Maintenance, Drainage Improvement/Dredging	Clear Debris	H	O/L	
War Memorial Park	River St.	Town	S	Clear Debris	" "	Maintenance	Clear Debris	M	O	
Wetlands/marshes	throughout	Town	S	Clear Debris	" "	Maintenance	Clear Debris	H	O	
West Meadow	Spring St.	State	S	Clear Debris	" "	Maintenance	Clear Debris	M	O	
Cochesett Trail	throughout	Town	S/V	Clear Debris	" "	Maintenance, Drainage Improvement/Dredging	Clear Debris	L	O/L	
Economy										
Farms + farmlands	town	privately owned	S/V	Upkeep, code enforcement	Preventative Maintenance	Drainage Improvement	Maintenance	H	O/L	
Grocery stores (2)	throughout	private	S	Upkeep, code enforcement	" "	Preventative maintenance	Maintenance	H	O	
Commercial/props.	throughout	private	S	Upkeep, code enforcement	" "	Preventative maintenance	Maintenance	M	O	
Shawmut	town Mainly St.	private	S	upkeep, code enforcement	" "	Preventative maintenance	Maintenance	M	O	
Gas stations	throughout	private	S	upkeep, code enforcement, backup power	" "	Preventative maintenance	Maintenance	H	O	

Community Assets
Inventory:
Built Environment

LEGEND

- ★ Built Environment
- Limited Access Highway
- Major Road - Collector
- Minor Street or Road
- Other Numbered Highway
- Public Surface Water Supply (PSWS)
- Water Bodies
- Stream/Intermittent Stream
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine
- Inland Wetlands
- NWI Rivers and Streams
- 100 Year Flood Zone
- 500 Year Flood Zone

LOCUS MAP



NOTES

1. Based on USGS Topo Map (1987)
2. MassGIS: 2014 Integrated List Data (2016), Community Boundary (2017), National Wetlands Inventory (2007), FEMA National Flood Hazard (2017), MassDOT Major Roads (2014)
3. Central MA Regional Planning Commission

MVP Workshop
West Bridgewater, Massachusetts

January 2022

Tighe & Bond
Engineers | Environmental Specialists

BUILT ENVIRONMENT/ INFRASTRUCTURE ASSETS IN WEST BRIDGEWATER

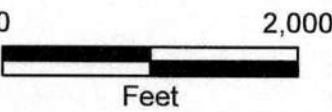
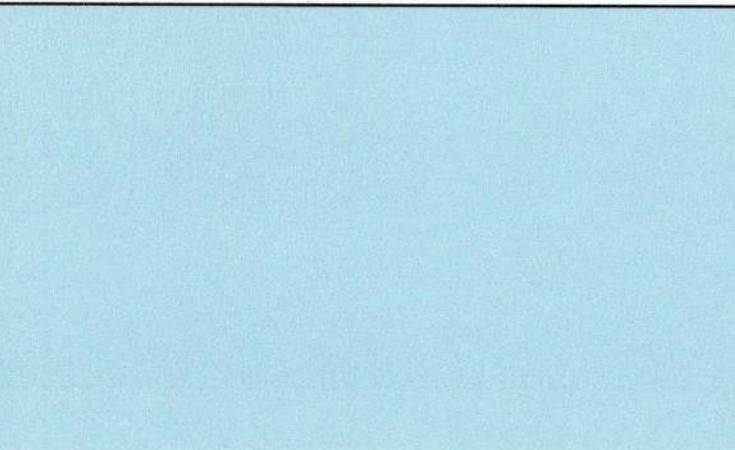
Belmont Street Bridge	
Forest Street Bridge	
Route 24 Bridge	
Scotland Street Bridge	
South Main Street Bridge	
South Street Bridge	
Walnut Street Bridge	
West Center Street Bridge	
West Street Bridge	
Mill Pond Dam	
War Memorial Park Dam	
West Meadow Dam	
Highway Department	63 North Main Street
Town Hall	65 North Main Street
Transfer Station	218 South Elm Street
Fire Station & Police Station	99 West Center Street
Matfield Woods	775 North Main Street
Westbridge Landing	855 North Main Street
USPS West Bridgewater Office	78 North Main Street
Spring Street Water Storage Tank	Spring Street
Walnut Street Water Storage Tank	359 Walnut Street
Water Treatment Facility	Manley Street
Cyr Street Well & Pumping Station	29 Cyr. Street
Manley Street Well & Pumping Station	8 Manley Street
Norman Avenue Well & Pumping Station	Norman Ave
Drainage System	Town Wide

Community Assets
Inventory:
Societal

LEGEND

- Societal Resources
- Historic Resources
- Limited Access Highway
- Major Road - Collector
- Minor Street or Road
- Other Numbered Highway
- Public Surface Water Supply (PSWS)
- Water Bodies
- Stream/Intermittent Stream
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine
- Inland Wetlands
- NVRI Rivers and Streams
- 100 Year Flood Zone
- 500 Year Flood Zone

LOCUS MAP



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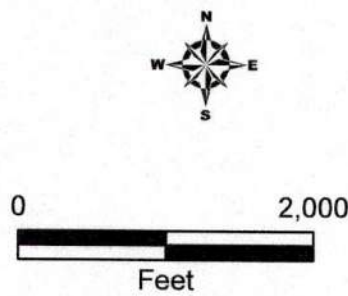
SOCIETAL COMMUNITY ASSETS IN WEST BRIDGEWATER		
West Bridgewater Public Library	80 Howard Street	
Howard Elementary School	70 Howard Street	
Rose L. MacDonald Elementary School	1 Stepping Stone Drive	
Spring Street School	2 Spring Street	
West Bridgewater Middle/Senior High School	155 West Center Street	
Council on Aging	97 West Center Street	
Children's Express Learning Center	359 Manley Street	
Cowlicks & Pigtales Child Care Center	395 West Street	
Four Seasons Creative Learning Center	120 West Center Street	
Cadence Academy Preschool	199 West Center Street	
Magic Touch Nursery Preschool	387 East Center Street	
Church of Jesus Christ of Latter Day Saints	574 Manley Street	
Cochessett United Methodist Church	517 West Center Street	
First Church	29 Howard Street	
New England Baptist Church & Academy	560 North Main Street	
Old Bridgewater Historical Society	162 Howard Street	
St. Ann's Catholic Church	103 North Main Street	
Temple Baptist Church	540 Manley Street	
West Bridgewater Baptist Church	83 North Elm Street	
West Bridgewater Housing Authority	7 Easter Drive	
Life Care Center of West Bridgewater	765 West Center Street	
Brockton Area Multi Services Inc	5 Thomas Circle	
Grace Church	237 West Center Street	
New Beginnings Baptist Church	194 South Main Street	
Voice of the Truth Church	North Main Street	
Keith House	199 River Street	
Pine Hill Cemetery	483 North Main Street	
Pleasant Hill Cemetery		
Old Graveyard of West Bridgewater	136-112 South Street	
The Learning Well	91 Copeland Street	

Community Assets
Inventory:
Natural Resources

LEGEND

- ★ Natural Resources
- Protected Recreation and Open Space
- Limited Access Highway
- Major Road - Collector
- Minor Street or Road
- Other Numbered Highway
- Public Surface Water Supply (PSWS)
- Water Bodies
- Stream/Intermittent Stream
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine
- Inland Wetlands
- NWI Rivers and Streams
- 100 Year Flood Zone
- 500 Year Flood Zone

LOCUS MAP



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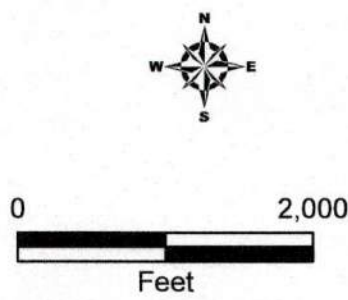
ENVIRONMENTAL COMMUNITY ASSETS IN WEST BRIDGEWATER	
Flaggy Meadow	129 South Elm Street
Hockmuck Swamp	Maple Street
Kaminsky Property	Walnut Street
Bertarelli Brothers Property	Harvestwood Drive
Tedeschi Property	East Center Street
Aquifer	
Town River	
Nunckatesett Greenway	
W. Meadow Pond	
Mill Pond	
Town River Pond	
Endangered Species	
Reynolds Landing	
Trucchi's Landing	
War Memorial Park	
Friendship Park	
Fish and Game Land	Forest Street
West Bridgewater State Forest	
Spadea Trail	
Woodchuck's Chase	
Samoset Ridge	
Solitude Stone	
Pratt's Landing	
West Crest Meadow Pond	
Snell Landing	
Haseotes	Scotland Street
Beaverton Woods	West Center Street
Maple Street Trail	
Bay Circuit Trail	
Cochesett Trail	
Rail Trail	

Community Assets
Inventory:
Economic Resources

LEGEND

- ★ Economic Resources
- Limited Access Highway
- Major Road - Collector
- Minor Street or Road
- Other Numbered Highway
- Public Surface Water Supply (PSWS)
- Water Bodies
- Stream/Intermittent Stream
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine
- Inland Wetlands
- NW Rivers and Streams
- 100 Year Flood Zone
- 500 Year Flood Zone

LOCUS MAP



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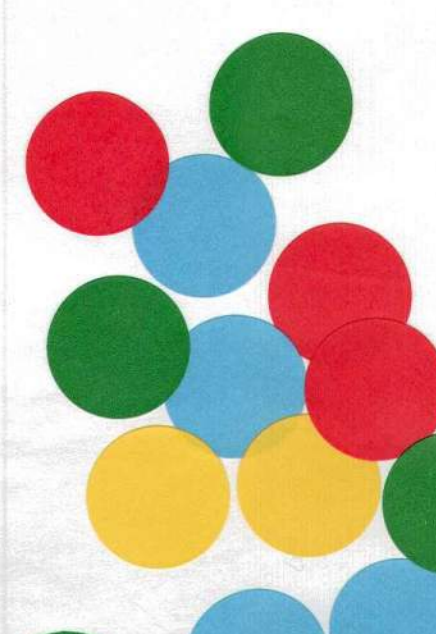
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West Bridgewater, Massachusetts

January 2022

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Engineers | Environmental Specialists

ECONOMIC COMMUNITY ASSETS IN WEST BRIDGEWATER

Cumberland Farms	8 North Main Street
Hess	244 West Center Street
Mobil	575 West Center Street
Motion Gas	710 North Main Street
Shell	506 West Center Street
Tedeschi	397 West Center Street
ABF Freight	150 Manley Street
J.P. Noonan Transportation	116 West Street
Ryder Truck	130 Manley Street
Lowe's Home Improvement Store	724 West Center Street
Crown Atlantic Company	45 Turnpike Street
Industrial Comm & Electronics Inc	70 Pleasant Street
Mobilite Investments	1 Component Ave
National Grid	750 West Center Street
Anderson Farm	River Street
Shaw's Headquarters	756 MA-106
River Bend Country Club	250 East Center Street
Hockomock Plaza	237 West Center Street
Trucchi's Supermarkets	53 East Center Street
Market Basket	352 West Center Street

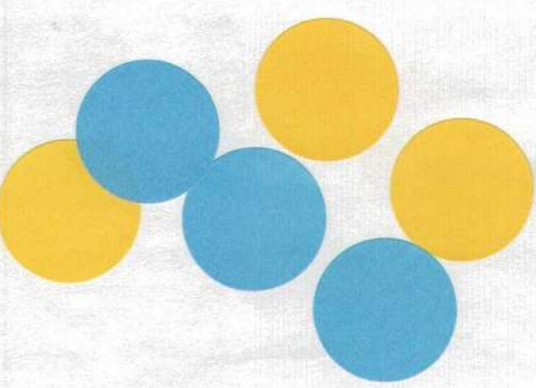


W. Meadow Dam → Repair

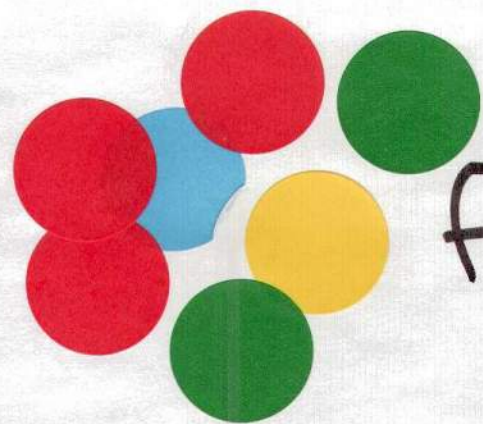
③

Town Drainage System → Upgrade ⑦

Town Drainage System → Retrofit Green Infrastructure/
Asset Management ④

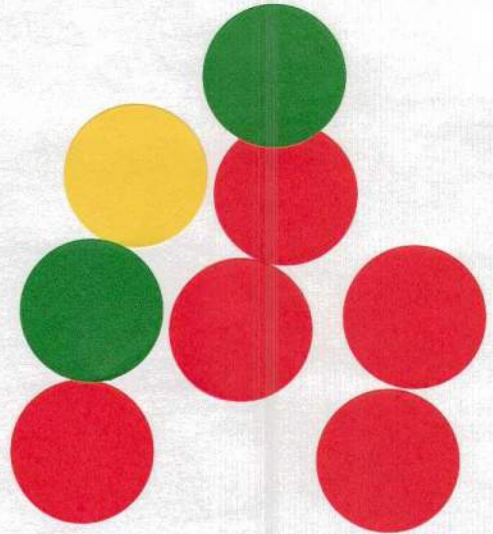


Norman Avenue Water Supply → keep access open/improve road
Treatment Plant emergency power supply infrastructure ⑥



Fire Station → roof repairs & fire

⑦



DPW → dry storage facility
culverts (upgrade on Grant St.)
update beaver control

⑧

● DPW → Police & fire

①

Infrastructure

Esther Drive → Evacuation plan & back-up generators ⑥

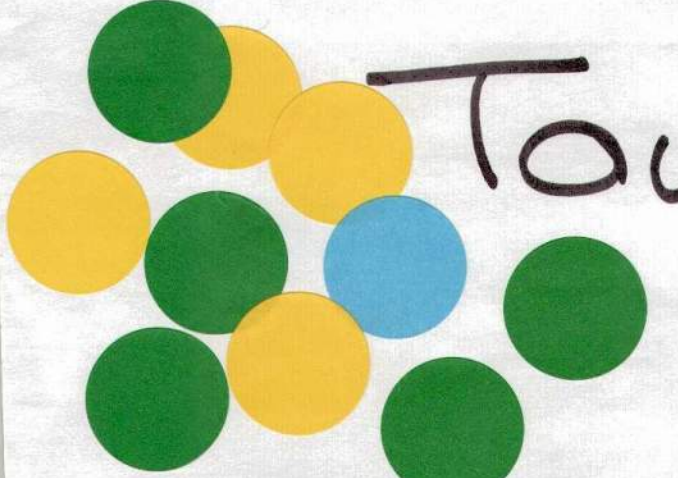
Town Hall → Maintenance Plan ②

Life Care Center → coordination planning w/ emergency services
public education
central information ⑨


Societal

 War Memorial Dam → repair dam to standard (2)

Aquifer → protect recharge area w/ bylaw
protect wells


 Town River → maintain culverts & dam
nature base solutions for stormwater
remove debris (10)

River → tree removal

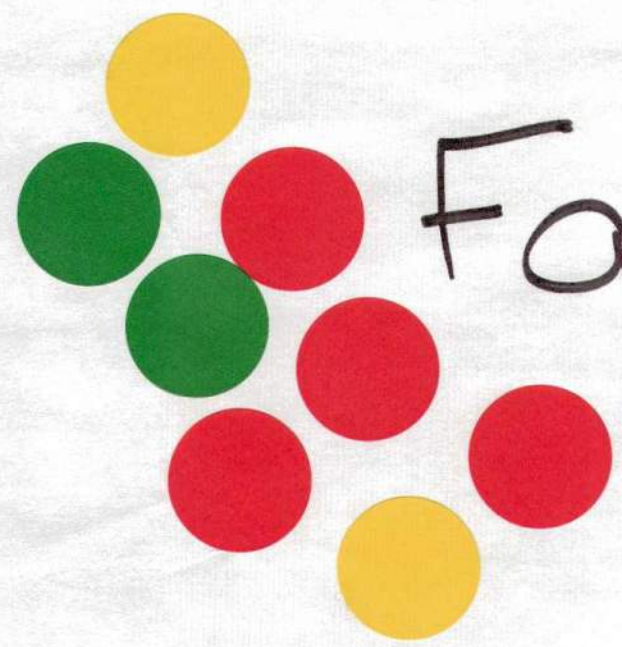
 Town Park → ADA approved walkway system (9)

Wetlands & marshes → maintenance

ENVIRONMENTAL

 Cumberland Farms
/ Center of Town

→ improve reliability of power



Farms & Farmstands

→ ensure maintenance ⑧

ECONOMY

Env Town River 10

Soc Life Care Center 9

~~Env~~ Town Park 9

Ecoc Farms / Farmstands 8

Tax DPW Building
Dry Storage 8

Tax Fire station Roof 7

Tax Town Drainage 7

Tax Norman Ave Water Treatment 6

Soc Esther Drive Etc 6



Town of West Bridgewater
Municipal Vulnerability and Preparedness Stakeholder Workshop
February 15, 2022
8:00 AM – 12:00 PM

print
write email

Name	Affiliation	Contact Information – Email or Phone
Brittany Demolles	School	demolles23@icloud.com
Lilly Chisholm		23lillianchisholm@wbridgewaterschools.org
Janice O'Brien	OSRC	JLO8727@comcast.net
Emily Cruickshank		22emilycruickshank@wbridgewaterschools.org
Alexander Fisher	School	22alexanderfisher@wbridgewaterschools.org Phone: 508-245-3899
MONICA ARMSTRONG	COA	31 CRESCENT ST MJARM@AOL.COM
BRUCE HOLMQUIST	COA	99 BRYANT JR Pete@me2@aol.com
Shawn D Anderson	DPW	sanderson@wbridgewater.com
Deborah Taylor	WB GIS	dtaylor@wbridgewater.com
Chris Innittelli	WB DPW	cinnittelli@wbridgewater.com
Jim Noyes	WB Planning Board	jnoyes@gpinet.com



Town of West Bridgewater
Municipal Vulnerability and Preparedness Stakeholder Workshop
February 15, 2022
8:00 AM – 12:00 PM

Name	Affiliation	Contact Information – Email or Phone
Emma Larkin	Tighe & Bond	e.larkin@Tighebond.com
Anna Keimel	Tighe & Bond	akeimel@Tighebond.com
Deborah Cauty	ADA	sqhka143@yahoo.com
Berta Grossman	Open Space	berta.grossman@maritime.edu
Elijah Romulus	OCPC	eromulus@ocpcrpa.org
Lincoln Thibeault	W.B.F.D.	Lthibeault@wbridgewater.ca 508-586-3232
Genevieve Bellet	Tighe & Bond	gcaps1513@tighebond.com

TABLE 1

Community Resilience Building Risk Matrix				www.CommunityResilienceBuilding.org					
H-M-L priority for action over the Short or Long term (and Ongoing) V = Vulnerability S = Strength				Actions to Address West Bridgewater's Top Hazards					
West Bridgewater's Priority Assets				Severe Winter Storm/ Blizzards, Nor'easters, Heavy Snow, Ice	High Winds /Hurricanes/Tropical Storms/ Tornadoes	Inland Flooding/ Heavy Rain/ Snowmelt	Drought	Priority	Time
Name	Location	Ownership (Town, State, Federal, Private)	V or S					H - M - L	Short Long Ongoing
Infrastructural									
Fire station & Police Station	91 West Center St	Town	S	Equipment upgrades, Increased staff, Implement Emergency Alert System (IPAWS)				H	
Highway Dept	63 North Main St	Town	S	Increased staff, Equipment upgrades,				M	
Matfield Woods/West Bridgewater	775 & 885 N. Main St	Private	S/V	Evaluate evacuation routes, Create /Implement evacuation plan				M	
Drainage	Town wide	Town	V	Update drainage system, evaluate green infrastructure				H	O
Manley St well	8 Manley St	Town	V	Water quality improvements,				H	
Societal									
West Bridgewater MS/HS	155 W. Center St	Town	S	Make high school available for emergency use, supply inventory				H	
Council on Aging	97 W. Center St	Town.	S	create /implement evacuation plan for transportation				L	
Keith House	199 River Street	Private.	V/S	Stormproofing building,				M	
West Bridgewater Library	80 Howard St	Town	S					L	
Environmental									
Town River	—	Town	V/S	Study Flooding on Scotland Street				H	L
Aquifer	Town wide		V	Evaluate alternatives to current town well				H	
War Memorial Park	—	Town	V/S	Evaluate Flooding, consider ADA compliance				M	
Ecological diversity	Town wide (wooded areas)	Town / Private	V	Inventory project				M	
Trail system	Town wide	Town	V/S	Publish GIS Maps online.				M	
Friendship Park	—	Town	S	Tree maintenance				L	
Economy									
Market Basket	352 W. Center St	Private	V/S	Make sure roads are maintained					
Cumberland Farms	8 N. Main St	Private	S	"					
Lowes	724 W. Center St	Private	S	"					
National Grid	750 W. Center St	Private	V/S	communication w/ town				H	O

TABLE 2

Community Resilience Building Risk Matrix				www.CommunityResilienceBuilding.org					
H-M-L priority for action over the Short or Long term (and Ongoing) V = Vulnerability S = Strength				Actions to Address West Bridgewater's Top Hazards					
West Bridgewater's Priority Assets				Severe Winter Storm/ Blizzards, Nor'easters, Heavy Snow, Ice	High Winds /Hurricanes/Tropical Storms/ Tornadoes	Inland Flooding/ Heavy Rain/ Snowmelt	Drought	Priority	
Name	Location	Ownership (Town, State, Federal, Private)	V or S					H - M - L	
Infrastructural									
Fire Station /Public Safety	99 W.Center	Town	S	New roof				L	
Highway/ DRW building	63 N. Main	Town	S/V	• lighting sheet solar budget • tree inventory (develop)				L	
Townhall	65 N. Main	Town	S	electric car charging station				H	
Route 106	E/W Center St	Town	V	• improve drainage • increase width				M	
Arch St. / Town Park		Town	V	install pervious walkways				M	
Societal									
Historical Society	Howard St./Keith Road	Town	V	update building w/ new electrical, roof reinforcement (1663 building)				L	
Town Park	River	Town	S/V	1. tree management 2. pervious walkways 3. repair drainage ways				M	
High School	W Center	Town	S	improve drainage on all fields (athletic, etc.)				L	
Library	Howard St.	Town	S	install generator				H	
COA	99 W. Center St	Town	S	repair parking lot				H	
Environmental									
Bay Circuit Trail	River St. Throughout	Private/Public Town	S/V	1. improve fish ladder 2. raise boat/improve boat access 3. improve dam to meet DCR standards				H	
Town Park Dam	Meadows/Spring St. River St.	Town Town/State	S/V	improve dam upstream				M	
West Meadows	Throughout Meadows/Spring St.	Town/State Private/Public	V	1. drainage improvement 2. tree management				L	
Rail Trail	N. Main to East	Town	V	drainage improvement tree management				L	
Hockomock Swamp	Throughout	Town/State	S/V	culvert improvements/study				L	
Town River	Throughout		S/V	1. erosion improvements 2. clear/upkeep tree debris				M	
Economy									
Anderson's Farm	223 River	Private	S/V	drainage improvements				L	
Trucchi's Supermarket/Market Basket	106 E & W Center	Private	S	generator for Trucchi's				H	
Lowe's	W Center St	Private	S/V	generator				H	
Restaurants	Rt. 106	Private	S/V						
Industrial Park	United Dr.	Private	S						
Gas Stations	Throughout	Private	S/V	generators				H	
Route 24		Town State	S/V	→ improve evacuation route signage → drainage improvements				L	
Municipal Roadways		Town	S/V	Tree planting on roadside + plant salt resistant trees					

Table 3

Community Resilience Building Risk Matrix				www.CommunityResilienceBuilding.org						
H-M-L priority for action over the Short or Long term (and Ongoing) V = Vulnerability S = Strength				Actions to Address West Bridgewater's Top Hazards						
West Bridgewater's Priority Assets				Severe Winter Storm/ Blizzards, Nor'easters, Heavy Snow, Ice	High Winds /Hurricanes/Tropical Storms/ Tornadoes	Inland Flooding/ Heavy Rain/ Snowmelt	Drought	Priority	Time	
Name	Location	Ownership (Town, State, Federal, Private)	V or S					H - M - L	Short Long Ongoing	
Infrastructural										
War Memorial Dam 3		Town	V	Repair, Strengthen, Rebuild	Repair, Strengthen, Rebuild	" "		H	S	
Town Hall		Town	S							
Scotland St. Bridge 4		Town	V	Repair, Strengthen, rebuild	" "	" "		M	S	
Societal										
Life Care Center 2		Private	V	Improved communications	" "	Better Drainage, Rain Gardens	Higher Water Priority	H	O	
WBMSHS 5		Town	V/S	community outreach	maintenance for drainage			M	O	
All Churches		Private	V	community activity, additional	drainage, more plants and trees			L	S	
Environmental										
Endangered Species/Hockomock Swamp 1		Town / State	V	Bylaws on Pollution, littering, and drain cleaning	Natural Filtration	More Drainage to the swamp		H	O	
Haseotes Trail	Scotland St	Town	V	Clearing Fallen trees,	marking trails, community outreach			M	S	
Westmeadow Pond		Town/State	S							
Rail Trail		Town	S							
Economy										
ABF Freight		Private	V	Better Drainage, Drainage Ditches, Alternative Routes, etc...				M	S	
Anderson Farm/Keith House		Private	V	additional draining, more	community outreach, flood protection			L	S	
Market Basket		Private	S							
Crown Atlantic Co.		Private	S							

War Memorial Park Dam

- Erosion
- Wood Rotting Planks
- Flooding concerns
- Failure concerns

Life care center of west Bridgewater

- Near flood zone
- Room Space
- Vulnerable Pop.

#1

Endangered Species

- Harsh weather may put species at risk

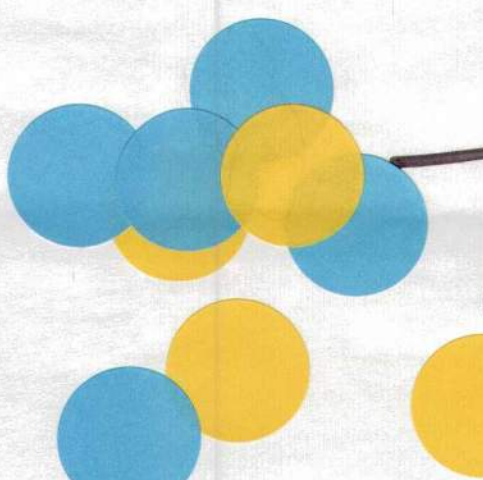
Hockomock Swamp

- flooding
- Cultural importance

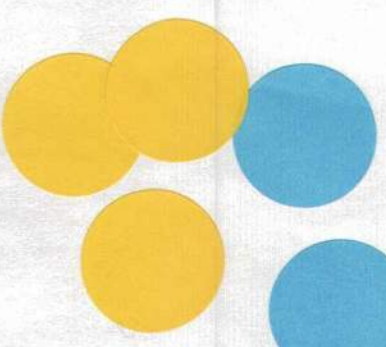
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West Bridgewater's Priority Assets				Severe Winter Storm/ Blizzards, Nor'easters, Heavy Snow, Ice	High Winds /Hurricanes/Tropical Storms/ Tornadoes	Inland Flooding/ Heavy Rain/ Snowmelt	Drought	Priority	Time
Name	Location	Ownership (Town, State, Federal, Private)	V or S					H M L	Short Long Ongoing
Infrastructural									
Rte 24 / Rte. 106	24 / 106	STATE - Town	V		Trees TRIMMED	DRain cleaning / Culverts cleared		M	O
Public / SAFETY DPN	W. Center / N. Main	Town	S	Storage Building for DPN	FD Roof LEAK Fix			H	S
Arch ST / Town Park	Arch st	Town	V/S	Pettrious walkways	Tree Trimming / Removal	Fish LAKEED improvements		H	L/O
Prospect / W. Center + Clinton RD	Clinton Prospect W. Center	Town	V			Upkeep / maintenance / Repairment?		H	O
CULVERTS	Town-wide	Town	V			Maintenance / cleaning		H	O
Societal									
LIBRARY	Hammond	Town	S/V	NEW Generator NEEDED		NEW ROOF?		H	S
COA	W. center	Town	S	Pettrious Walkway - back to Plot		BACKYARD Flooding / Retaining wall / Slope mitigation		H	S
55+ communities	N. Main MATRICID Father	Private or STATE	V/S		Generators			L	L
Churches	multiple	Private	S	Generators	Generators			M	S
Food Pantry	S. Main st	Private	S			First Church frontyard	FIND THEM A HOME *	H	O
Environmental									
Town River	N/A	Town	S/V		Tree removal / cleanup			M	O
Memorial Park	River st	Town	S/V	walkways improvement	Tree Removal / cleanup			M	O
Trails / walking	Town-wide	Town	S/V	walkway / trails open	Tree removal / cleanup			M	O
West Meadows	Stoney RD	STATE	S/V			Dam / Culvert cleaning / UPGRADE		H	O/L
Animals / Species	Town-wide	Town	S/V				LAND Preservation *	M	O
Economy									
Grocery Stores	E. W. center	PVT	S	Emergency Preparedness	Keep Power ON			M	L
Loues	W. center	PVT	S						
Farm Farm stands	E. center W. center	PVT	S/V			Flooding mitigation Efforts		H	O
INDUSTRIAL comm Town	Pleasant ST	PVT	S		Road / Trees clear			M/H	O
Gas STATIONS	W. center N. Main st	PVT	S	Emergency Preparedness	Keep Power ON			M	L

West Bridgewater Highschool → develop evacuation route to + evaluate viability as shelter

9  Town Park →

tree management
drainage improvement
pervious walkway

5  Life Care Center →

improve communication
improve drainage/rain gardens
water priority during drought

1  Highschool →

use as community outreach or shelter
drainage maintenance

W. Bridgewater Library → generator

16  COA

→ pervious walkway from porch
\$ around building
retaining wall to mitigate slope
\$ flooding issue

SOCIETAL

1 National Grid → Formalize communication system w/ National Grid

2 ● Anderson Farm → drainage improvements
com. 11

1 ● Keith House → "community outreach"

3 Farm & Farmstands  discuss w/ farms
mitigation for flood & drought

13 Communication Tower → increased communication w/ owners

ECONOMY

5 ●● Town River → study on flooding near Scotland St.

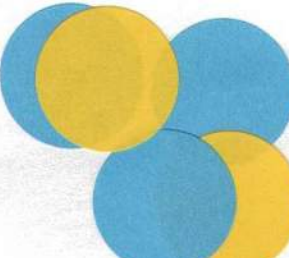
1 ● Hockomock Swamp + Town River → culvert improvement study

9 ●●●●● Endangered Species
Hockomock Swamp

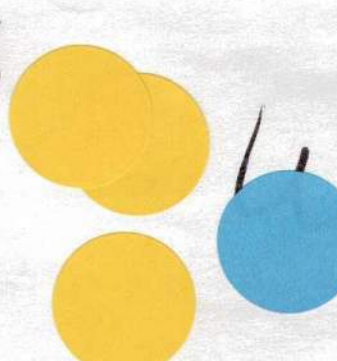
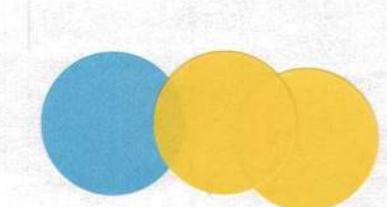
→ by laws on pollution
ensure drainage into swamp
education on drainage into swamp


1 ● Trails + Walking routes → tree removal
walkway improvements

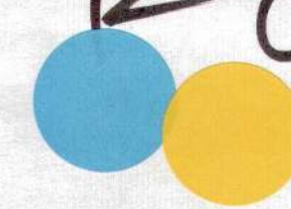
ENVIRONMENTAL

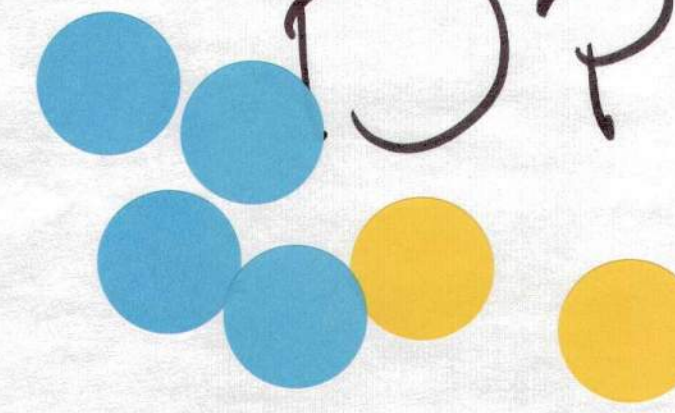
5  Drainage throughout town → update, improve
green infrastructure

Shell Gas station → generator

8  War Memorial Dam → repair, strengthen 

1  Scotland St. Bridge → repair strengthen

2  Route 24 + 106 → clear of trees
drainage improvement
culverts cleared

6  DPW/Town offices → cold storage building
fire station roof repairs

INFRASTRUCTURE

Community Assets Inventory: FEMA Flood Zone



LEGEND

-  Limited Access Highway
-  Major Road - Collector
-  Minor Street or Road
-  Other Numbered Highway
-  Public Surface Water Supply (PSWS)
-  Water Bodies
-  Stream/Intermittent Stream

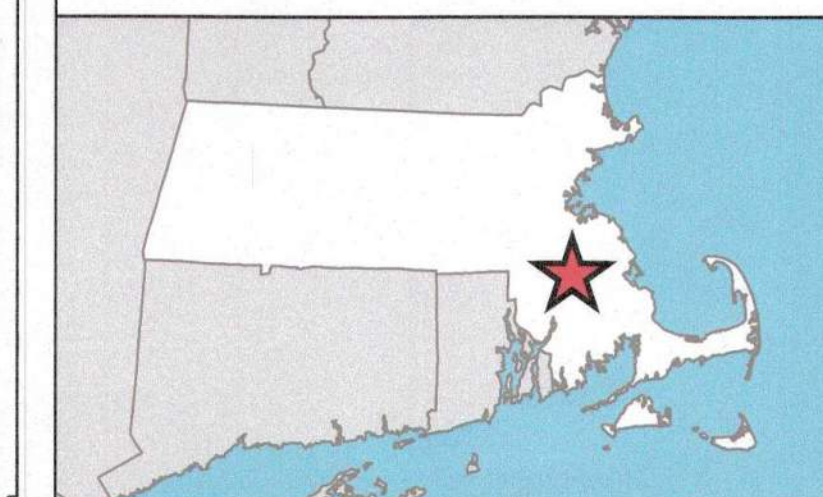
FEMA Floodway



FEMA Flood Zone

- A - 100 Year Flood Zone
-  AE - 100 Year Flood Zone
-  X - 500 Year Flood Zone

LOCUS MAP



NOTES

1. Based on USGS Topo Map (1987)
2. MassGIS: 2014 Integrated List Data (2016), , Community Boundary (2017), National Wetlands Inventory (2007), FEMA National Flood Hazard (2017), MassDOT Major Roads (2014)
3. Central MA Regional Planning Commission

MVP Workshop
Bridgewater, Massachusetts

January 2022

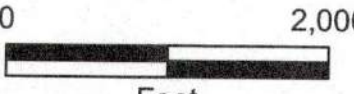
Tighe & Bond
Engineers | Environmental Specialists

Community Assets
Inventory:
FEMA Flood Zone

LEGEND

- Limited Access Highway
- Major Road - Collector
- Minor Street or Road
- Other Numbered Highway
- Public Surface Water Supply (PSWS)
- Water Bodies
- Stream/Intermittent Stream
- FEMA Floodway
- FEMA Flood Zone
 - A - 100 Year Flood Zone
 - AE - 100 Year Flood Zone
 - X - 500 Year Flood Zone

LOCUS MAP



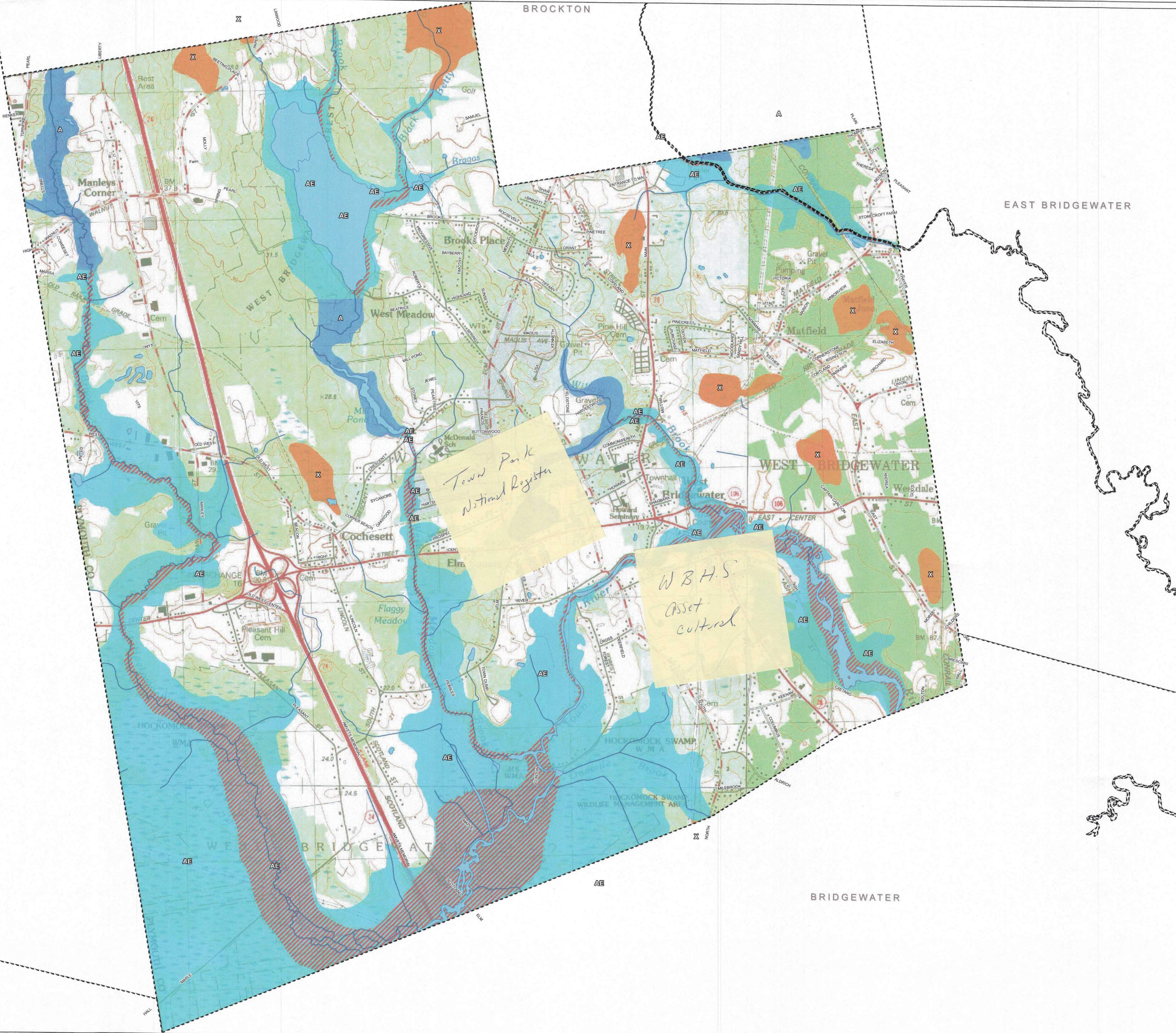
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West Bridgewater, Massachusetts












January 2022

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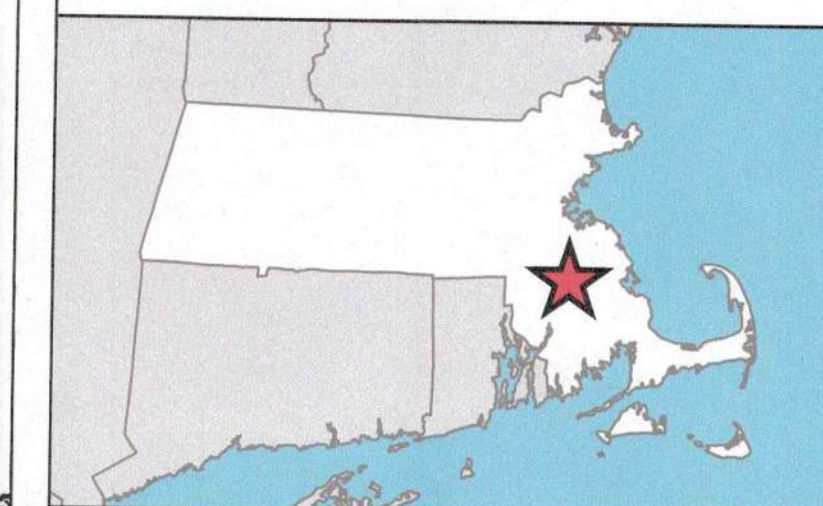


Community Assets Inventory: FEMA Flood Zone

LEGEND

-  Limited Access Highway
 -  Major Road - Collector
 -  Minor Street or Road
 -  Other Numbered Highway
 -  Public Surface Water Supply (PSWS)
 -  Water Bodies
 -  Stream/Intermittent Stream
- FEMA Floodway**
-  FEMA Floodway
- FEMA Flood Zone**
-  A - 100 Year Flood Zone
 -  AE - 100 Year Flood Zone
 -  X - 500 Year Flood Zone

LOCUS MAP



NOTES

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WBMSHS
In a very large
flam zone

Anderson Farm
Vulnerable - !!
Part of Farming economy in WB.
Near FEMA Floodplain for
town River, Keith House -
Historic Building!

Cumberland Farms
Safe - Strength
Gas Station in town center,
Location Brings in a lot of
Business from all walks of
life

Church of ~~Jews~~
Jesus Christ of
latter day saints

- Big flood zone
- Cultural

↑
include
all
worship
places

W. Meadow Pond S
- popular attraction
(fishing)

Town Hall

- All records are stored

Old Bridgewater
Historical Society
- Howard Street
- Brings town together
and educates about
the town

South Street
Bridge
- Near flood area
Standard Bridge
Concerns

Hackensack Plaza
Vulnerable - 1
Location & stores provide to
local economy. Highly historic.
Location on near floodplain.
Threats 3 location.

Water Treatment ~~Plant~~
Facility

- Nalley street
- Treats the water

ABF Freight
Vulnerable -!!!
shipping Company near floodbed
Vital to local economy +
Supply Chain,

- Howard Elementary
- In Between 2 flood zones
- Next to senior center

Rail Trail S

- great natural resources

- Scotland Street Bridge
- flood zone
- connects with other towns
- evacuation / bus routes

Spring Street Water
Storage Tank
- Store water

Harvestwood Drive S
- people live there,
beautiful trees

Scotland Street V
- Dangerous flood zone

WATER

Crown Atlantic Company
Safe - strength
Shipping Company - vital to
Supply chain.

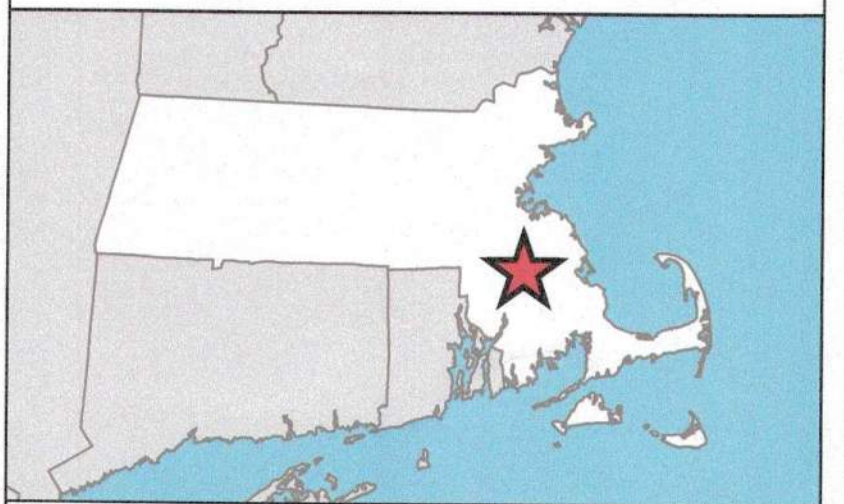
Market Basket
Safe - Strength
Large Employer, Attracts
customers from out of town.
Brings in large private \$ public
income,

Community Assets Inventory: FEMA Flood Zone

LEGEND

- Limited Access Highway
- Major Road - Collector
- Minor Street or Road
- Other Numbered Highway
- Public Surface Water Supply (PSWS)
- Water Bodies
- Stream/Intermittent Stream
- FEMA Floodway**
- FEMA Floodway
- FEMA Flood Zone**
- A - 100 Year Flood Zone
- AE - 100 Year Flood Zone
- X - 500 Year Flood Zone

LOCUS MAP



0 2,000 Feet

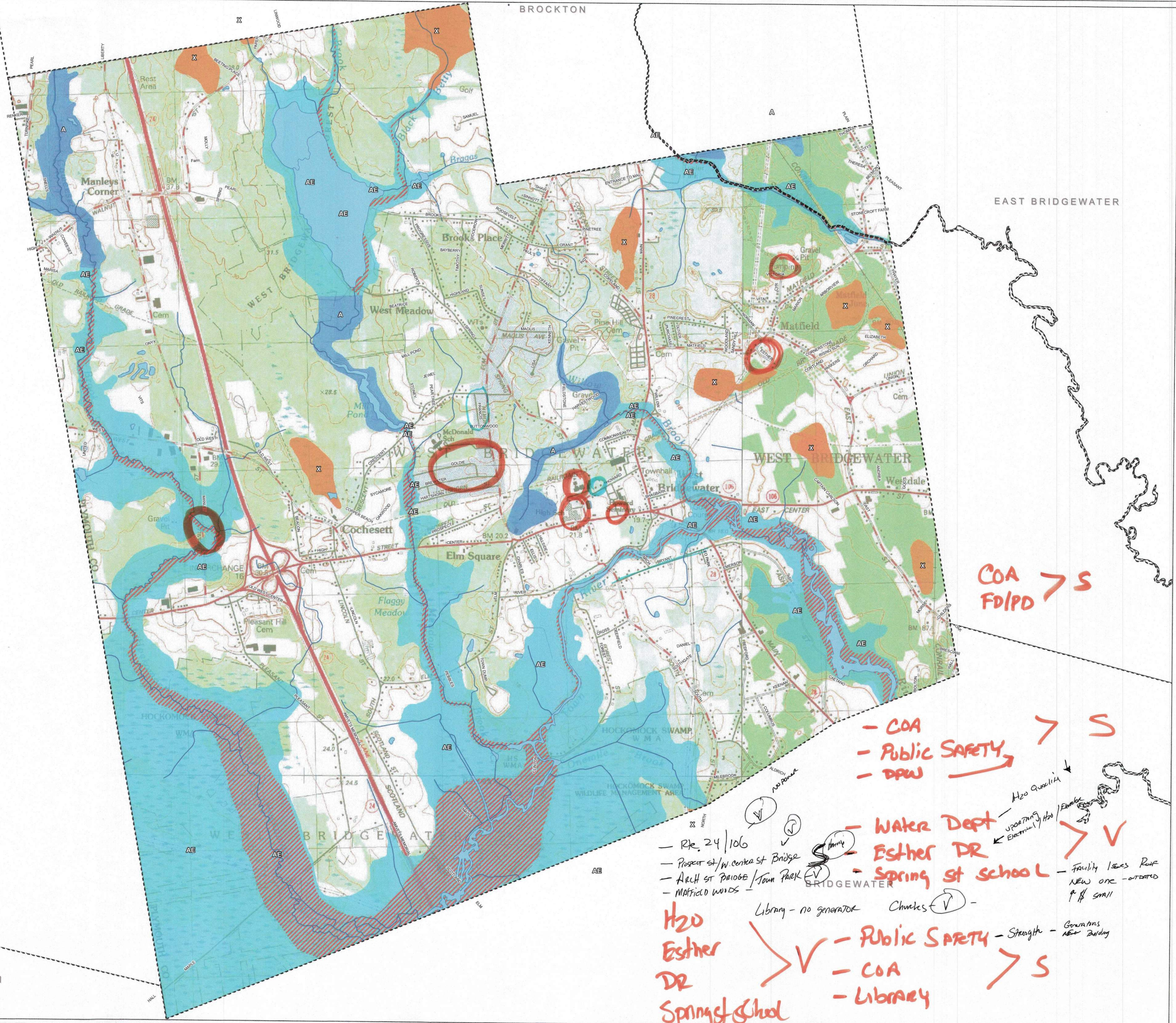
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APPENDIX C

Capabilities Assessment Worksheets

EXISTING CAPABILITIES OF WEST BRIDGEWATER TO ADDRESS NATURAL HAZARDS

Local mitigation capabilities are existing authorities, policies, programs, and resources that reduce hazard impacts or that could be used to implement hazard mitigation activities.

Please review the list below- taken from the 2015 Adopted HMP. Provide any comment you would like to see in the updated plan, or update as indicated (highlighted items). Comments might include specific improvements since the last plan, or identified weakness based on experience over the last 5 years. Please add any new Implementation Elements as appropriate.

Existing Flood Hazard Mitigation Resources					
Implementation Element	Lead Agency	Area Covered	Effectiveness/ Enforcement	2015 Adopted HMP Recommended these Improvements/ Changes	Is this Element still effective? If not, what changes are needed for 2022 HMP Update?
<i>Comprehensive Emergency Management Plan (CEMP)</i> - The CEMP addresses mitigation, preparedness, response and recovery from a variety of natural and man-made emergencies.	<i>Emergency Management</i>	Town-wide	Effective		Yes, new CEMP plan will be adopted in the year 2022 for the Town of West Bridgewater.
<i>Regional & Local Emergency Planning Committees</i> - The town regularly participates in local and regional emergency planning committees.	<i>Emergency Management</i>	Town-wide	Effective		The Town's EMD (Fire Chief) attends and works closely with MEMA in planning for local and regional emergencies.
<i>Natural Hazard Mitigation Plan</i> - Update and adopt the Natural Hazard Mitigation Plan every five years.	<i>Board of Selectmen</i>	Town-wide	Effective		
<i>Participation in the National Flood Insurance Program (NFIP)</i> - Provides flood insurance for structures located within a floodplain.	<i>Town Flood Plain Manager</i>	FEMA Flood Zones	Effective		
<i>Zoning Bylaws includes Floodplain District</i> - The Town bylaws contain a local floodplain bylaw consistent with the requirements of the National Flood Insurance Program. The district protects the public health, safety and general welfare; to protect life and property from the hazards of flooding; preserves the natural flood control characteristics and flood storage capacity of the floodplain; preserves and maintains the groundwater table and recharge areas within the floodplain.	<i>Planning Board</i>	Floodplain District	Effective	Bylaw language is not up to date. See model bylaw	Updated December 2020
<i>Zoning Bylaw includes Water Resource Protection Overlay District</i> . The Town zoning bylaw contains a water resource protection district consistent with the requirements of 310 CMR 22. The district protects the public health from contamination of existing and potential public groundwater supplies and protects, preserves and maintains the aquifers and recharge areas of existing and potential groundwater supplies.	<i>Planning Board/ Water Division</i>	Water Resource Protection District	Moderately Effective		Needs enforcement
<i>Local Wetlands Protection Bylaw (General Bylaw Article 44)</i> – The Town has adopted a wetlands protection bylaw that is more restrictive than the Massachusetts Wetlands Protection Act. The bylaw protects the wetlands and all resource areas in town, by controlling activities deemed to have a significant effect upon wetland values.	<i>Conservation Commission</i>	Town-wide	Effective		

Existing Flood Hazard Mitigation Resources					
<i>Implementation Element</i>	<i>Lead Agency</i>	<i>Area Covered</i>	<i>Effectiveness/ Enforcement</i>	2015 Adopted HMP Recommended these Improvements/ Changes	Is this Element still effective? If not, what changes are needed for 2022 HMP Update?
<i>Public Information & Outreach-</i> The town provides residents with information about potential natural hazards with leaflets and brochures in municipal buildings throughout the town.	<i>Board of Selectmen</i>	Municipal Buildings/Town-wide	Effective		
<i>Catch Basin Maintenance-</i> The town regularly cleans and maintains the catch basins throughout town.	<i>DPW</i>	Town-wide	Effective		
<i>Emergency Power Generators-</i> The town maintains emergency power generators in several important public facilities/shelters.	<i>DPW</i>	Varied	Moderately Effective		Installation of additional generators pending funding.
<i>Enforcement of State Building Code-</i> The Building Inspector enforces the state building code.	<i>Building Inspector</i>	Town-wide	Effective		
<i>Street Sweeping-</i> The town conducts street sweeping on a regular basis.	<i>DPW</i>	Town-wide	Effective		
<i>Tree Trimming-</i> The town works with utility providers to trim trees that may impact utility lines.	<i>Tree Warden</i>	Town-wide	Effective		
<i>Burn Permit-</i> The town requires residents to obtain a burn permit from the Fire Department before conducting outdoor burns.	<i>Fire Department</i>	Town-wide	Effective		All residents are required to have a Burn Permit in order to burn yard debris and brush. Permits can be obtained at the FD or online (sometime in 2022).
<i>Fire Department Review of New Development-</i> The Fire Department participates in the review of all new development in town.	<i>Fire Department</i>	Town-wide	Effective		The FD and Building Department are in constant contact regarding new construction in the Town of West Bridgewater.
<i>Cooling Centers-</i> The town opens cooling centers as weather conditions warrant.	<i>Emergency Management</i>	Town-wide	Effective		Yes, the Town has 2 cooling centers if and when needed.
NEW CAPABILITIES					
Stormwater Management and Soil Erosion Control (General Bylaw Article 54)l. The Town's general bylaw states that for all activities that result in a land disturbance of more than 5,000SF that drains to the municipal separate storm sewer or wetland areas, site design, materials, and construction processes shall be employed to avoid erosion damage, sedimentation, or uncontrolled surface water runoff.	Planning Board	Town-wide	Effective		

Existing Flood Hazard Mitigation Resources					
<i>Implementation Element</i>	<i>Lead Agency</i>	<i>Area Covered</i>	Effectiveness/ Enforcement	2015 Adopted HMP Recommended these Improvements/ Changes	Is this Element still effective? If not, what changes are needed for 2022 HMP Update?
<i>Public Information & Outreach</i> Media outreach includes town website, local cable broadcast, social media page.	<i>Board of Selectmen</i>	Town-wide	Effective		

Capability Assessment Worksheet

Local mitigation capabilities are existing authorities, policies, programs, and resources that reduce hazard impacts or that could be used to implement hazard mitigation activities. Please complete the tables and questions in the worksheet as completely as possible. Complete one worksheet for each jurisdiction.

Planning and Regulatory

Planning and regulatory capabilities are the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards. Please indicate which of the following your jurisdiction has in place.

Plans	Yes/No Year	Does the plan address hazards?
		Does the plan identify projects to include in the mitigation strategy? Can the plan be used to implement mitigation actions?
Comprehensive/Master Plan	Y 2022	The new CEMP plan will be adopted in the year 2022 for West Bridgewater.
Capital Improvements Plan	Y	West Bridgewater has a 5 year capital improvement plan, it does not identify projects for this mitigation study.
Economic Development Plan	N	
Local Emergency Operations Plan	Y	West Bridgewater regularly participates in MEMA meetings and local at risk areas are identified.
Continuity of Operations Plan	N	
Transportation Plan	N	
Stormwater Management Plan	Y	Regulations to reduce flooding are included here
Community Wildfire Protection Plan	N	
Other special plans (e.g., brownfields redevelopment, disaster recovery, coastal zone management, climate change adaptation)	N	

Building Code, Permitting, and Inspections	Yes/No	Are codes adequately enforced?
Building Code	Y	
Building Code Effectiveness Grading Schedule (BCEGS) Score	Y 5yr plan	Building ISO4 ratings are due for re-evaluation
Fire department ISO rating	Y 5yr plan	ISO3 rating is currently being updated
Site plan review requirements	Y	
Land Use Planning and Ordinances	Yes/No	Is the ordinance an effective measure for reducing hazard impacts? Is the ordinance adequately administered and enforced?
Zoning ordinance	Y	
Subdivision ordinance	Y	
Floodplain ordinance	Y	
Natural hazard specific ordinance (stormwater, steep slope, wildfire)	Y	Regulations to require more open space for mitigation of run-off
Flood insurance rate maps	Y	
Acquisition of land for open space and public recreation uses	Y	Various funds to purchase open space lands
Other		
How can these capabilities be expanded and improved to reduce risk?		

Administrative and Technical

Identify whether your community has the following administrative and technical capabilities. These include staff and their skills and tools that can be used for mitigation planning and to implement specific mitigation actions. For smaller jurisdictions without local staff resources, if there are public resources at the next higher level government that can provide technical assistance, indicate so in your comments.

Administration	Yes/No	Describe capability Is coordination effective?
Planning Board	Y	Board oversees global picture in lieu of town planner, assists all department heads with zoning information and changes
Mitigation Planning Committee	N	
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems)	Y	Limited in house capabilities, but coordinated efforts maintain functionality
Mutual aid agreements	Y	All towns adjacent to West Bridgewater provide mutual aid for Board of Health, Building Department, Fire, and Police
Staff	Yes/No FT/PT ¹	Is staffing adequate to enforce regulations? Is staff trained on hazards and mitigation? Is coordination between agencies and staff effective?
Chief Building Official	Y/FT	
Floodplain Administrator	Y	More training for staff is needed
Emergency Manager	Y/FT	
Community Planner	N	
Civil Engineer	N	
GIS Coordinator	Y/FT	
Other Conservation Agent	Y/FT	

¹ Full-time (F) or part-time (PT) position

Worksheet 4.1

Capability Assessment Worksheet

Technical	Yes/No	Describe capability Has capability been used to assess/mitigate risk in the past?
Warning systems/services (Reverse 911, outdoor warning signals)	Y	Reverse 911 – Police Local outdoor warning signals Cell Phone through MEMA IPAWS through MEMA
Hazard data and information	Y	Fire department gets Tier 2 Reports yearly for hazardous material storage, quantity and location.
Grant writing	Y	Each department is responsible for their own grant writing.
Hazus analysis	N	
Other		
How can these capabilities be expanded and improved to reduce risk?		

Financial

Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.

Funding Resource	Access/ Eligibility (Yes/No)	Has the funding resource been used in past and for what type of activities? Could the resource be used to fund future mitigation actions?
Capital improvements project funding	Y	
Authority to levy taxes for specific purposes	N	
Fees for water, sewer, gas, or electric services	Y	
Impact fees for new development	N	
Storm water utility fee	N	By-laws have provision to implement this but not in force at this time.
Incur debt through general obligation bonds and/or special tax bonds	Y	
Incur debt through private activities	N	
Community Development Block Grant	N	
Other federal funding programs	Y	
State funding programs	Y	
Other		
How can these capabilities be expanded and improved to reduce risk?		





Education and Outreach

Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information.

Program/Organization	Yes/No	Describe program/organization and how relates to disaster resilience and mitigation. Could the program/organization help implement future mitigation activities?
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	Y	Open Space Committee Conservation Commission
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Y	Each department has its own web-page on town web-site for posting information
Natural disaster or safety related school programs	Y	SAFE schools grant is done with our schools
StormReady certification	N	
Firewise Communities certification	N	
Public-private partnership initiatives addressing disaster-related issues	N	
Other		
How can these capabilities be expanded and improved to reduce risk?		

APPENDIX D

MVP Compiled Community Resilience Building Matrix

Community Resilience Building Risk Matrix				www.CommunityResilienceBuilding.org			
<div> <div>H-M-L</div> <div>priority for action over the</div> <div>Short or Long term (and Ongoing)</div> <div>V = Vulnerability S = Strength</div> </div>				<div> <div>     </div> <div>Actions to Address West Bridgewater's Top Hazards</div> </div>			
West Bridgewater's Priority Assets				<div>Severe Winter Storm: Blizzards, Nor'easters, Heavy Snow, Ice</div> <div>High Winds: Hurricanes/Tropical Storms/ Tornadoes</div> <div>Inland Flooding: Heavy Rain/ Snowmelt</div> <div>Drought</div>	Priority		Time
Name (Priority Assets in Red)	Location	Ownership (Town, State, Federal, Private)	Vulnerability (V) or Strength (S)		H - M - L	Workshop(s) Combined Score	Short Long Ongoing
INFRASTRUCTURAL ASSETS							
Public Water Supply							
Cyr Street Wells/Pump Stations #1 and #4/Treatment Facilities	29 Cyr St.	Town	S - Town public water supply/currently on preventative maintenance program/has a withdrawal permit for use/approved for pilot study to determine treatment options V - Subject to groundwater pollution/ loss would impact community/water that does not meet state MCLs cannot be distributed	Elevation study/treatment options Water treatment plans at Cyr St. Well to remediate naturally occuring contaminants Study nature based-solutions to enhance stormdrain system along roadways in industrial section of town that are also in the well recharge areas (water protection district).	H		O
Distribution System/Water Supply	Town Wide	Town	S - vital to functioning of society, fire protection, and agriculture/currently on preventative maintenance program V - loss would devastate community, decreasing volume in aquifer and increased contaminant levels in available water occur with changing climate	Vulnerability study to identify options, and to evaluate potential draws and stresses on system as water table drops and demand increases. Study nature based-solutions to enhance stormdrain system along roadways and reduce pollution from run-off that are in the well recharge areas (water protection district).			
Water Towers (3)	2 at Sunset St. 1 at Walnut St.	Town	S - Essential link in water distribution, provides pressure for water distribution/currently on preventative maintenance program V - Age of infrastructure/loss would impact community/very susceptible to severe weather events, earthquakes, etc.	Site protection/enforcement of no-trespass, continue regular maintenance/upgrades as needed	M		O
Manley Street Well/Pump Station #3/Treatment Facility	Manley Street	Town	S - Essential for water quality/currently on preventative maintenance program/community supports treatment options/approved for pilot study to determine treatment options V - PFAS detections above State MCL/ groundwater pollution that is worsened by runoff into our recharge areas during heavy rain events/loss would impact community	Manley St. Well elevation study/treatment options Water treatment plans at Manly St. Well to remediate PFAS and other naturally occuring contaminants Study nature based-solutions to enhance stormdrain system along roadways in industrial section of town that are also in the well recharge areas (water protection district).	M/H		S
Norman Ave Well/Pump Station #2/Treatment Facility	Norman Ave	Town	S - Town public water supply/currently on preventative maintenance program/community supports remediation efforts and treatment options/approved for pilot study to determine treatment options V - treatment system needs upgrades/ water that does not meet state MCLs cannot be distributed/loss would greatly impact community/ only pump station not supported by a generator back up system	Install emergency power source at treatment plant Complete Treatment System study and plan necessary upgrades to meet water quality standards Road improvements and snow clearing to keep access open	H	6	S
Municipal Buildings							
Transfer Station	218 S. Elm	Town	S - Community is aware and supports improvements V - Old, current structure is failing, roof at risk from snow loads, high winds and icing	Flood prevention studies & Green infrastructure retrofit feasibility Repair/improve building and roof to withstand snow loads, high winds, and icing	M/H		O
Town Hall Department of Public Works	65 North Main Street	Town	S - Center of Town government, record storage, leadership, education, central office for DPW operations V - old building, lacks air conditioning	Addition for storage for DPW to store equipment, maintain services Develop solar budget for lighting and heat Develop maintenance plan Install air conditioning Electric car charging station	M/L/H	17	O/S/S
Fire Station and Police Stations	99 West Center St	Town	S - Emergency Response, Emergency Operations Center V - Roof leaks during nor'easter or high winds	Protect emergency services and communication avenues with public outreach and information center connections Repair/replace fire station roof to mitigate Nor'easter and high wind leaks Equipment upgrades, increased staff, implement Emergency Alert System (IPAWS)	M/H/H	7	O/S/L
Highway Department	63 North Main	Town	S - Maintains roads, culverts, bridges and provides snow removal V - Staffing is spread too thin during large emergency events	Increased staff and equipment upgrades Develop solar budget for lighting and heat	M/L		S

Transportation Corridors and Drainage							
State Route 24		State	S - major highway/ evacuation route V - blockage would impact community and impede evacuation route	Improve evacuation route signage Drainage improvements Trim Trees	L/M	Remove Score of 2	L/O
Municipal Roadways-Scotland Street		Town	S - access to homes and businesses, evacuation, emergency response, currently on preventative maintenance program V - flooding and roadway damage during storm events, trees falling prevent access	Trim Trees Tree planting on roadside, including planting of salt resistant trees Study flooding on Scotland street	H		0
Route 106	E/W Center St.	Town	S - access to homes and businesses, evacuation, emergency response, currently on preventative maintenance program V - flooding at Bridge	Improve drainage, increase width Trim Trees	M	2	L/O
Clinton Road	Clinton Road	Town	S - access to homes and businesses, evacuation, emergency response V - Frequent flooding	Evacuation planning and increase public awareness	H		S/O
Stormwater Drainage System	Town Wide	Town	S - decreases flooding on roadways during typical rainfall events, currently on preventative maintenance program V - old system, past useful life, not functional during extreme weather events	Upgrade drainage system and retrofit with green infrastructure, evaluate green infrastructure, maintenance plan and asset management plan	L	16	0
Culverts, Bridges & Dams							
Culverts (shouldn't this be combined with or be part of the stormwater drainage system?)	Town Wide	Town	S - part of stormwater drainage system previously identified, currently on preventative maintenance program V - pipes clogging, bank overtops, localized flooding	Perform culvert assessments to understand condition, capacity, and needed repairs or replacement, Improve culverts in low lying areas Address undersized culvert on Grant Street Evaluate road elevation Evaluate alternative beaver control	H	Core Team Prioirty	0
Walnut St. Bridge	Walnut St	Town	S - provides egress V - flooding and structural erosion	Structural improvements	L		L
Scotland St. Bridge	Scotland St	Town	S - evacuation route, bus route, provides access to other towns V - in flood zone, blockage would impede function	Repair strengthen and rebuild as necessary to create a more resilient bridge to address increased flooding due to climat	M	1	S
West Meadow Dam- State	Spring Street	State	S - Allows West Meadow Pond, which provides space for health/recreation, to retain water V - Dam needs repairs, loss would impact surrounding area	Encourage State to repair West Meadow Dam to meet Dam Safety Standards	H/M	3	S/O/S
War Memorial Dam/Fish Ladder	River Street	Town	S - Historical location, fish ladder is popular attraction for town residents and neighboring Brockton (97% EJ population) and allows for the natural migration of herring to maintain local ecosystem V- Flooding from extreme rain events, dam in need of strengthening to handle increased volume, fish ladder in need of repair for yearly migrations	Repair/improve dam to meet Dam Safety Standards Repair/rebuild/improve the existing fish ladder using nature based solutions as an essential part of the local ecosystem and to maintain area as an educational site accessible to local and regional schools and colleges Tree management	H/M/L	10	S

SOCIETAL ASSETS							
Senior Services							
Council on Aging	97 W Center St	Town	S - Primary Emergency Shelter; Backup Generators, Kitchens, Warming and Cooling Center V - Poor drainage in parking area	Increased public outreach on uses of center as emergency shelter Upkeep/Preventative Maintenance Create/implement evacuation plan for transportation Repair/ upgrade parking lot to improve access and drainage Pervious walkway from porch and around building / path to parking lot Backyard flooding/retaining wall needed to mitigate eroding slope	L/H/L/H/H	16	0/0/S/S/S
55+ Communities (Private) Matfield Woods Westbridge Landing Captain Carlson Way	324 W Center 855 N Main Captain Carlson Way	Private	S - Senior living, recent improvements to electrical, water and elevators V - needs back up power, area floods, ill-equipped to deal with degree days, decreased access to transportation during emergencies, lack of evacuation plan	Flood proofing units at West Bridgewater Landing Generators Evaluate evacuation routes, create/implement evacuation plan	M/L/M		L
Esther Drive Senior Housing	Esther Drive	Town	S - Senior living V - lack of generator, area floods, lack of air contdioning for increasing number of degree temperature days	Install backup generators (solar batteries), evacuation plan, air conditioning in units or communal areas	H	6	S/L
Life Care Center	765 W Center St	Private	S - Nursing and rehabilitation V - power loss, minimal back up power, flooding	Collaborate for emergency preparedness Community education, centralize information on severe temperature days or severe weather alerts, maintain drainage Upkeep/preventative maintenance Improved communications Improve drainage, consider rain gardens Establish as a water priority	M/M/H/H	14	L/S/O/O
Schools							
West Bridgewater Middle/ Senior High School	155 W Center St	Town	S - Secondary Emergency Shelter; Generators V - flood zone, loss would impact community in emergency situations	Community wide evacuation planning/ education Make high school accessible for emergency use, supply inventory Improve drainage on all fields (athletic, etc.) Community outreach	M/H/L/M	1	0
Spring Street School	2 Spring Street	Town	S - provides education services V- flat, floods from rain, needs new roof	Drainage improvements/ green infrastructure Replace roof	M		L/O
Rose L McDonald School	1 Stepping Stone Dr	Town	S - provides education services V - remote location, tree issues, old generator	Evacuation plan, improve Crescent Street sidewalk access for emergencies	H		S
Public Services							
Public Library	80 Howard St	Town	S - Community resource, roof recently repaired V - needs generator	Provide generator	H		S
Food Pantry	2 Spring Street	Private	S - Supports vulnerable and low income population, currently on preventative maintenance plan, community supports program V - loss would impact vulnerable population in community	public outreach to promote awareness, emergency preparedness	H		0
Cultural Assets							
Historic structures	Throughout	Town	S - essential to character of the Town and maintaining link to the past V - susceptible to damage during severe storms	Create public awareness through outreach and programs to cultivate a concern for preservation.	M		0
Keith House/Historical Society	199 River Street	Private	S - educational and scenic point in town, essential to character of the Town and maintaining link to the past V - susceptible to damage during severe storms, located in flood plain	Stormproof the building Update building with new electrical, reinforce roof (building is from 1663) Additional drainage, community outreach, and flood protection	M/L/L	1	0/0/S
All Churches	Town Wide	Private	S- Place of refuge, community aid and may be warming centers V- power supply, falling trees, older structures	Community activity, additional/improved drainage, plant additional vegetation and trees Generators, first church front yard	L/M		S
Pine Hills Cemetery	483 N Main St	Private	S - Popular walking area, provides recreation, historical ties V - tree damage from high winds impairs recreational aspect	Create public awareness through outreach and programs to cultivate a concern for preservation			

ENVIRONMENTAL ASSETS							
Parks & Recreation							
War Memorial/ Town River Park	River Street	Town	S - historic, open space, walking paths, attracts visitors from out of town V - flooding- overflows banks during extreme events, erosion	Evaluate flooding and drainage Porous/pervious walkway (ADA compliant) to improve drainage Tree management	M/M/H	9	0
Friendship Park	Howard Street	Town	S - Natural resource area, picnicking, community recreation area/playground, recently renovated V - Tree management, maintenance, loss would impact community and visits from neighboring towns	Tree maintenance	L		0
West Meadow Wildlife Preserve West Meadow Pond	Meadows/Spring St.	Town/State	S - Protected open space, Open fields, valuable habitat area, popular fishing spot/recreational V - Development encroaching, access is being restricted, public safety issue	Encourage state to upgrade/repair dam Increased monitoring to limit unlawful activity Clear debris, preventative maintenance	M/H/M		L/O
West Bridgewater Country Club	East Center	Town	S - Recreation and Open Space, economic value from out of town guests V - Low-lying area floods golf course	Review/ revise water management plan/ encourage green infrastructure (drought/flood) Dredging/Drainage Improvements	M/H		L/O O/L
Trails							
Trail System including: Rail Trail Bay Circuit Trail Haseotes Trail Cocheset Trail	Town Wide	Town	S- Regional attraction, Provides access to unique natural resource area, currently on preventative maintenance plan V-Second half of trail (East St.), is eroding from heavy rainfall and needs to be addressed- severe weather events will continue to impact accessibility, is a low priority when town staffing is short	Trail improvements Publish GIS Maps Online, public outreach kiosk, access, trail markings and public outreach to increase community support Drainage improvements Tree managment	M/ H/M/L/M/L	10	O/S/L/O/L/O
Protected Areas/ Waterways							
Town River	Town Wide	Federal	S - Floodplain drainage, provides local and regional recreation and natural habitat for several species of critical concern V - River floods, tree removal is ongoing issue	Encourage green infrastructure throughout river corridor Incorporate nature based systems to minimize pollutants in runoff, Clean river area to remove fallen debris and improve tree removal, Maintain existing culverts/dams Erosion control/improvements Study on flooding near Scotland St	M/M/H/M	15	L/O/L/O
Salisbury Plain River	Brockton	Federal	S - Floodplain drainage, provides local and regional recreation and natural habitat for several species of critical concern V - River floods with increased severe weather events	Regional stormwater management plan	M		L
Hockomock ACEC	Southwestern Area	State/ Private	S - Protected open space, Floodplain provides stormwater storage and downstream flood reduction, provides local and regional recreation and natural habitat for several species of critical concern V - Increased heavy rain events drain street pollution directly into area, loss here would impact the entire Hockomock Swamp (largest vegetated freshwater wetland system in Massachusetts)	Green Infrastructure retrofits for existing development Nature-based solutions for storm water run-off from roadways during rain events Culvert improvements/study Bylaws on pollution, littering, and drain cleaning + natural filtration	M/L/H	9	O/L/O
Wetlands/marshes	Town Wide	Town	S - Many in protected open space areas, floodplains provide stormwater storage and downstream flood reduction, provides local and regional recreation and natural habitat for several species of critical concern V - Increased heavy rain events drain street pollution directly into areas, loss would impact local ecosystem	Clear debris, preventative maintenance Explore green infrastructure retrofits and nature-based solutions to address storm water run-off from roadways during rain events Increase public awareness	H		0
Aquifer	Underground	Town/Private	S - Sole source of drinking water for town V - loss would devastate community, recharge areas are susceptible to pollutants	Protect recharge areas and enforce bylaws. Evaluate Alternatives to current town well Develop plan (for drought management) to minimize impact on wells.	H		O/S
Conservation Areas	Town Wide	Town	S - Protected open space areas, floodplains provide stormwater storage and downstream flood reduction, provides local and regional recreation and natural habitat for several species of critical concern V - Increased heavy rain events drain street pollution directly into areas, loss would impact local ecosystem and area residents who support these areas	Clear debris, preventative maintenance Dredging/Drainage Improvements	H		O/L
Ecological Assets							
Ecological diversity/endangered species	Town Wide	Town/Private	S - Natural habitat for several species of critical concern as well as local wildlife V -Vulnerable to pollution, increased urban development, loss would impact the local ecosystem and area residents	Inventory project Bylaws on pollution, littering, and drain cleaning + natural filtration Land preservation Education on stormwater/ illicit drainage into swamp	M/H/M		0
Trees	Town Wide	Mixed	S - Provide natural cooling/shade areas, filter run-off, etc. V - Damaging winds and severe storms are a threat, loss would impact local ecosystem, health of watershed areas, and area residents	Implement forestry management, high risk tree inventory	M		S

ECONOMIC ASSETS						
Food/ Pharmacy/ Hardware / Fuel						
Market Basket Trucchi s	352 West Center St 53 East Center St	Private	S - Large employers, attracts regional customers and helps tax base, provides needed goods during natural disaster V - loss would impact community and their ability to remain sufficient during crisis	Collaborate for emergency preparedness including alternate power source Upkeep, code enforcement	M/H/H	L/O/L/O
Farms and Farm stands Anderson Farm Demolis Farm	Multiple Locations 223 River Street Manley Street	Private	S - Vital component of W.Bridgewater Economy and History V - loss would impact community, in flood prone area	Maintenance and code enforcement Drainage Improvements and flood mitigation efforts Community Outreach/Education	H	13 O/L
Hockomock Plaza	Route 106	Private	S - Plaza shopping, various stores, provides goods, and is well-known landmark V - located in a flood plain, loss would impact community identity	Maintain access, collaborate for emergency preparedness		
CVS	2 W Center St	Private	S - Medical supplies and vaccinations provided, provides needed goods during natural disaster V - loss would impact community and their ability to remain sufficient during crisis	Collaborate for emergency preparedness, establish an education process on natural hazard evacuation to private busines	M	3 L
Lowes	724 W. Center St.	Private	S - Large employers, attracts regional customers and helps tax base, provides needed goods during natural disaster V - loss would impact community and their ability to remain sufficient during crisis	Generator needs, collaborate for emergency preparedness, establish an education process on natural hazard evacuation to private businesses	H	L
Cumberland Farms (Gas Station)	8 N Main St	Private	S - Provides needed goods during natural disaster V - loss would impact community and their ability to remain sufficient during crisis	Collaborate for emergency preparedness, establish an education process on natural hazard evacuation to private businesses Improve reliability of power to center of town	M/H	2 L/S
Shell Gas Station	506 W Center St.	Private	S - provides needed goods/gasoline during natural disaster/Town relies on this station if Town Fuel is down V - loss would impact community and their ability to remain sufficient during crisis, no back-up power	Maintenance, code enforcement, install backup power/generators Emergency preparedness, establish an education process on natural hazard evacuation to private businesses	H/M	0 O/L
Industrial and Commercial Businesses						
Shawmut	208 Manley St.	Private	S - Economic Benefit to town V - Loss would impact community	Upkeep/code enforcement/preventative maintenance	M	O
United Drive Industrial Park	United Drive	Private	S - Economic Benefit to town V - Loss would impact community	Retrofit building & Parking lot drainage to green infrastructure	L	L
Commercial Properties	Multiple Locations	Private	S - Economic Benefit to town V - Loss would impact community	Upkeep/code enforcement/preventative maintenance	M	O
Noonan Trucking	415 West Street	Private	S - Economic Benefit to town V - Loss would impact community	Flood proofing of facility- private- collaboration	M	L
National Grid	750 W. Center St	Private	S - Economic Benefit to town V - Loss would impact community	Improve communication with town	H	1 O
ABF Freight	150 Manley St	Private	S - Vital to local economy & supply chains V - Location floods,	Better drainage, install drainage ditches, establish alternative routes	M	S
Critical Infrastructure						
Crown Atlantic Co.- Cell Tower Industrial Communication Tower	45 Turnpike Rd (Lat: 42.047222 , Lon: - 71.066111)	Private	S - FCC registered cell tower houses town hub for radio communications essential to law enforcement and safety officials (Type: 58.8, Overall height: 54.9 m, Registrant: Crown Atlantic Company, LLC) V - Loss would severely impact the ability of local first responders during an emergency	General maintenance, Keep roads and trees clear to maintain cell tower and access Research/create alternate plan in the event this tower is destroyed	H	13 O

Community Resilience Building Risk Matrix				www.CommunityResilienceBuilding.org			
<div>H-M-L priority for action over the Short or Long term (and Ongoing) V = Vulnerability S = Strength</div>				<div>Actions to Address West Bridgewater's Top Hazards</div> <div>Severe Winter Storm: Blizzards, Nor'easters, Heavy Snow, Ice High Winds: Hurricanes/Tropical Storms/ Tornadoes Inland Flooding: Heavy Rain/ Snowmelt Drought</div>			
West Bridgewater's Priority Assets				Priority		Time	
Name (Priority Assets in Red)	Location	Ownership (Town, State, Federal,	Vulnerability (V) or Strength (S) Need to describe both V and S in detail	H - M - L	Workshop(s) Combined Score	Short Long Ongoing	
INFRASTRUCTURAL ASSETS							
Public Water Supply							
Norman Ave Well and Pump Station	Norman Ave	Town	S - Town public water supply/currently on preventative maintenance program/community supports remediation efforts and treatment options/approved for pilot study to determine treatment options V - treatment system needs upgrades/ water that does not meet state MCLs cannot be distributed/loss would greatly impact community/ only pump station not supported by a generator back up system	H	6	S	
Municipal Buildings							
Town Hall Department of Public Works	65 N Main St	Town	S - Center of Town government, record storage, leadership, education, central office for DPW operations V - old building, lacks air conditioning	M/L/H	17	O/S/S	
Fire Station and Police Stations	99 W Center St	Town	S - Emergency Response, Emergency Operations Center V - Roof leaks during nor'easter or high winds	M/H/H	7	O/S/L	
Transportation Corridors and Drainage							
State Route 24		State	S - major highway/ evacuation route V - blockage would impact community and impede evacuation route	L/M	Remove Score of 2	L/O	
Route 106	E/W Center St.	Town	S - access to homes and businesses, evacuation, emergency response, currently on preventative maintenance program V - flooding at Bridge	M	2	L/O	
Stormwater Drainage System	Town Wide	Town	S - decreases flooding on roadways during typical rainfall events, currently on preventative maintenance program V - old system, past useful life, not functional during extreme weather events	L	16	O	
Culverts, Bridges & Dams (check with HMP to list all here)							
Culverts (shouldn't this be combined with or be part of the stormwater drainage system?)	Town Wide	Town	S - part of stormwater drainage system previously identified, currently on preventative maintenance program V - pipes clogging, bank overtops, localized flooding	H	Core Team Priority	O	
Scotland St. Bridge	Scotland St	Town	S - evacuation route, bus route, provides access to other towns V - in flood zone, blockage would impede function	M	1	S	
West Meadow Dam- State	Spring Street	State	S - Allows West Meadow Pond, which provides space for health/recreation, to retain water V - Dam needs repairs, loss would impact surrounding area	H/M	3	S/O/S	
War Memorial Dam/Fish Ladder	River Street	Town	S - Historical location, fish ladder is popular attraction for town residents and neighboring Brockton (97% EJ population) and allows for the natural migration of herring to maintain local ecosystem V- Flooding from extreme rain events, dam in need of strengthening to handle increased volume, fish ladder in need of repair for yearly migrations	H/M/L	10	S	

SOCIETAL ASSETS							
Senior Services							
Council on Aging	97 W Center St	Town	S - Primary Emergency Shelter, Backup Generators, Kitchens, Warming and Cooling Center V - Poor drainage in parking area	Increased public outreach on uses of center as emergency shelter Upkeep/Preventative Maintenance Create/implement evacuation plan for transportation Repair/ upgrade parking lot to improve access and drainage Pervious walkway from porch and around building / path to parking lot Backyard flooding/retaining wall needed to mitigate eroding slope	L/H/L/H/H	16	O/O/S/S/S
Esther Drive Senior Housing	Esther Drive	Town	S - Senior living V - lack of generator, area floods, lack of air contditioning for increasing number of degree temperature days	Install backup generators (solar batteries), evacuation plan, air conditioning in units or communal areas	H	6	S/L
Life Care Center	765 W Center S	Private	S - Nursing and rehabilitation V - power loss, minimal back up power, flooding	Collaborate for emergency preparedness Community education, centralize information on severe temperature days or severe weather alerts, maintain drainage Upkeep/preventative maintenance Improved communications Improve drainage, consider rain gardens Establish as a water priority	M/M/H/H	14	L/S/O/O
Schools							
West Bridgewater Middle/ Senior High School	155 W Center S	Town	S - Secondary Emergency Shelter, Generators V - flood zone, loss would impact community in emergency situations	Community wide evacuation planning/ education Make high school accessible for emergency use, supply inventory Improve drainage on all fields (athletic, etc.) Community outreach	M/H/L/M	1	0
Public Services							
Cultural Assets							
Keith House/Historical Society	199 River Stree	Private	S - educational and scenic point in town, essential to character of the Town and maintaining link to the past V - susceptible to damage during severe storms, located in flood plain	Stormproof the building Update building with new electrical, reinforce roof (building is from 1663) Additional drainage, community outreach, and flood protection	M/L/L	1	O/O/S

ENVIRONMENTAL ASSETS							
Parks & Recreation							
War Memorial/ Town River Park	River Street	Town	S - historic, open space, walking paths, attracts visitors from out of town V - flooding- overflows banks during extreme events, erosion	Evaluate flooding and drainage Porous/pervious walkway (ADA compliant) to improve drainage Tree management	M/M/H	9	0
Trails							
Trail System including: Rail Trail Bay Circuit Trail Haseotes Trail Cocheset Trail	Town Wide	Town	S- Regional attraction, Provides access to unique natural resource area, currently on preventative maintenance plan V-Second half of trail (East St.), is eroding from heavy rainfall and needs to be addressed- severe weather events will continue to impact accessibility, is a low priority when town staffing is short	Trail improvements Publish GIS Maps Online, public outreach kiosk, access, trail markings and public outreach to increase community support Drainage improvements Tree managment	M/ H/M/L/M/L	10	0/S/L/O/L/O
Protected Areas/ Waterways							
Town River	Town Wide	Federal	S - Floodplain drainage, provides local and regional recreation and natural habitat for several species of critical concern V - River floods, tree removal is ongoing issue	Encourage green infrastructure throughout river corridor Incorporate nature based systems to minimize pollutants in runoff, Clean river area to remove fallen debris and improve tree removal, Maintain existing culverts/dams Erosion control/improvements Study on flooding near Scotland St	M/M/H/M	15	L/O/L/O
Hocomock ACEC	Southwestern Area	State/ Private	S - Protected open space, Floodplain provides stormwater storage and downstream flood reduction, provides local and regional recreation and natural habitat for several species of critical concern V - Increased heavy rain events drain street pollution directly into area, loss here would impact the entire Hockomock Swamp (largest vegetated freshwater wetland system in Massachusetts)	Green Infrastructure retrofits for existing development Nature-based solutions for storm water run-off from roadways during rain events Culvert improvements/study Bylaws on pollution, littering, and drain cleaning + natural filtration	M/L/H	9	0/L/O

ECONOMIC ASSETS						
Food/ Pharmacy/ Hardware / Fuel						
Farms and Farm stands Anderson Farm Demolis Farm	Multiple Locations 223 River Street Manley Street	Private	S - Vital component of W.Bridgewater Economy and History V - loss would impact community, in flood prone area	Maintenance and code enforcement Drainage Improvements and flood mitigation efforts Community Outreach/Education	H	13 0/L
CVS	2 W Center St	Private	S - Medical supplies and vaccinations provided, provides needed goods during natural disaster V - loss would impact community and their ability to remain sufficient during crisis	Collaborate for emergency preparedness, establish an education process on natural hazard evacuation to private businesses Improve reliability of power to center of town	M	3 L
Cumberland Farms (Gas Station)	8 N Main St	Private	S - Provides needed goods during natural disaster V - loss would impact community and their ability to remain sufficient during crisis	Collaborate for emergency preparedness, establish an education process on natural hazard evacuation to private businesses Improve reliability of power to center of town	M/H	2 L/S
Shell Gas Station	506 W Center St.	Private	S - provides needed goods/gasoline during natural disaster/Town relies on this station if Town Fuel is down V - loss would impact community and their ability to remain sufficient during crisis, no back-up power	Maintenance, code enforcement, install backup power/generators Emergency preparedness, establish an education process on natural hazard evacuation to private businesses	H/M	0 ID'd as a priority but no votes 0/L
Industrial and Commercial Businesses						
Critical Infrastructure						
Crown Atlantic Co.- Cell Tower Industrial Communication Tower	45 Turnpike Rd (Lat: 42.047222 , Lon: - 71.066111)	Private	S - FCC registered cell tower houses town hub for radio communications essential to law enforcement and safety officials (Type: 58.8, Overall height: 54.9 m, Registrant: Crown Atlantic Company, LLC) V - Loss would severely impact the ability of local first responders during an emergency	General maintenance, Keep roads and trees clear to maintain cell tower and access Research/create alternate plan in the event this tower is destroyed	M/H	13 0

APPENDIX E

MVP Listening Session Materials

YOU'RE INVITED TO A PUBLIC LISTENING SESSION

West Bridgewater Municipal Vulnerability Preparedness Program

The Municipal Vulnerability Preparedness grant program (MVP) provides support for cities and towns in Massachusetts to begin the process of planning for climate resiliency.

•Communities who complete the MVP program become designated as an MVP Community by the Commonwealth and are eligible for follow-up grant funding and other opportunities.

The listening session is an opportunity for members of the public to learn about the MVP planning process, ask questions and provide additional input on concerns related to climate change resiliency and natural hazards.

WEDNESDAY MAY 4TH 5:30PM @ TOWN HALL

West Bridgewater
MVP Listening Session
May 4th 2022

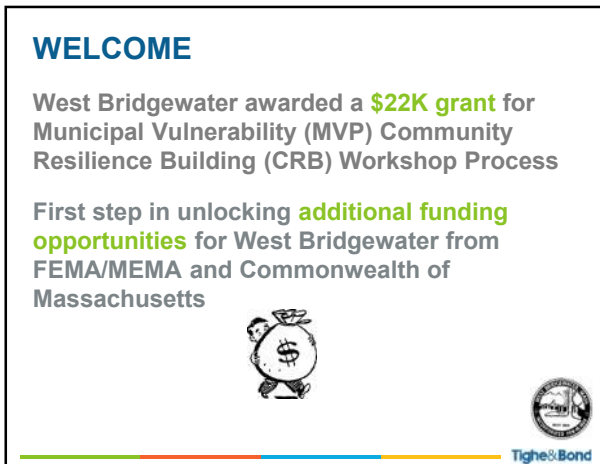
Name

Affiliation

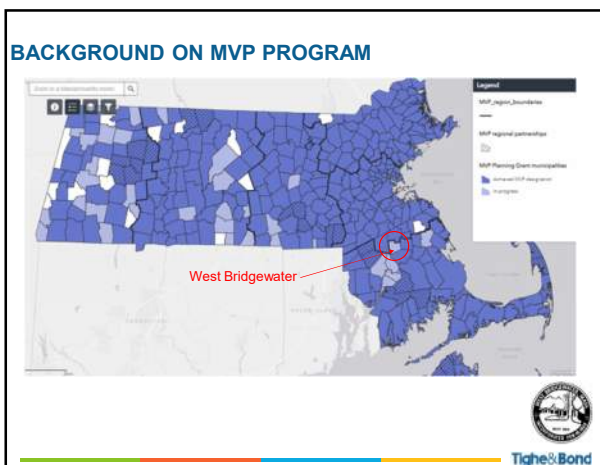
Linda Torres	ASST. Town Administrator
Chris Iannitelli	DPW
Lincoln Thibeault	WBFD
Deborah Taylor	GIS Administrator
Elijah Romulus	Old Colony Planning Council
John W. DeLano	CONSERVATION COMMISSION
Janelle Blot	Tighe & Bond



1



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MVP GRANT AND CRB PROCESS

1. Establish Core Team
2. Complete Evaluation/Assessment
3. Hold Workshops
4. Draft MVP Report
5. **Hold Listening Session**
6. Final MVP Report



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A brief thanks to West Bridgewater Hazard Mitigation Plan and MVP Core Team



Chris Iannitelli
Linda Torres
John L. Delano
Lincoln Thibeault
Victor Flaherty
Shawn Anderson
Wayne Parks
Marilyn Mather
Hugh Hurley
Deborah Taylor
Courtney Rocha



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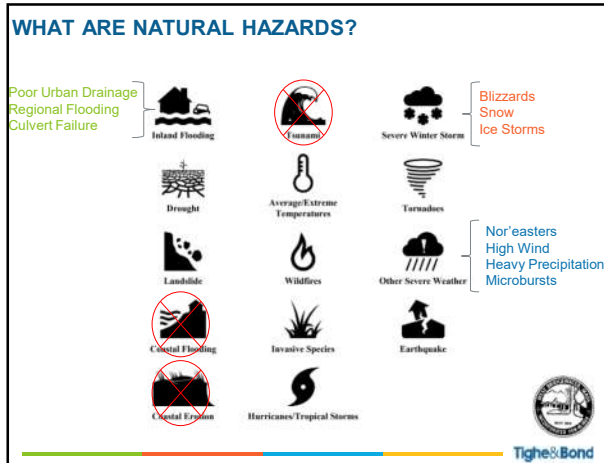


NATURAL HAZARDS AND CLIMATE CHANGE

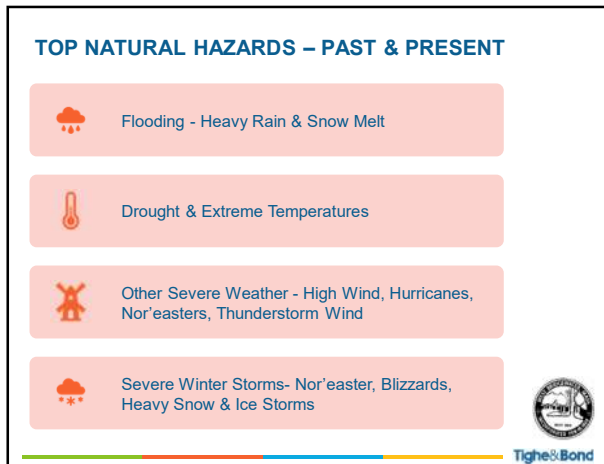


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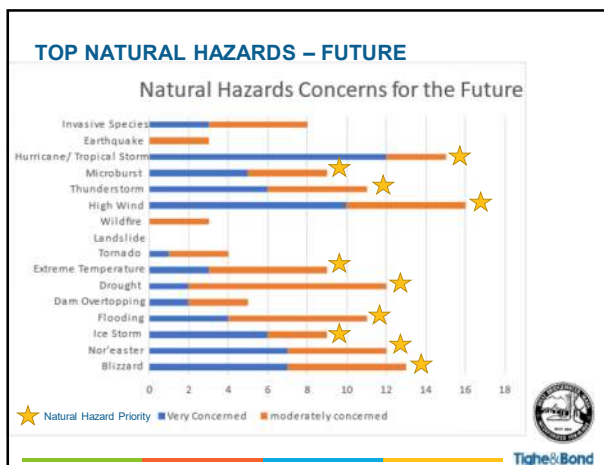
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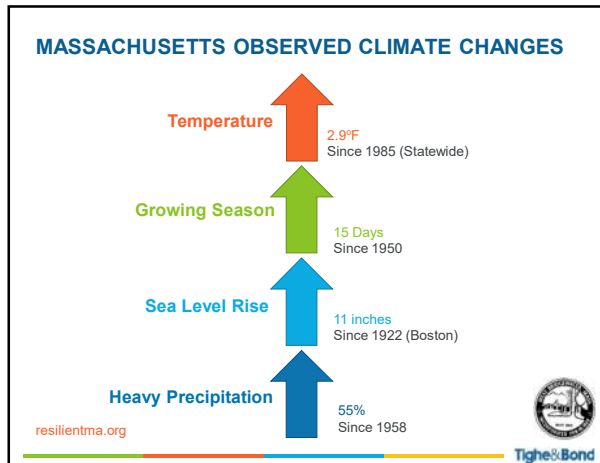
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CHANGES IN PRECIPITATION

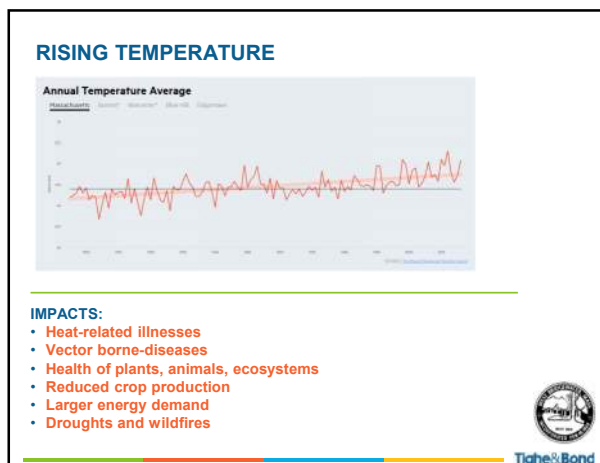
Climate Indicator		Observed Value 1971-2000 Average	Mid-Century Projected Change in 2050s	End of Century Projected Change in 2090s
Days with Precipitation > 1"	Annual	7 days	Increase by 10-45% 8-10 more days per year	Increase by 15-55% 8-11 more days per year
	Winter	2 days	Increase by 10-60% 2-3 more days per year	Increase by 25-100% 2-3 more days per year
	Spring	2 days	Increase by 2-46% 2 more days per year	Increase by 11-82% 2-3 more days per year
Total Precipitation	Annual	47 inches	Increase by 2-13% Increase of 1 - 6 inches	Increase by 3-16% Increase of 1.2 - 7.3 inches
	Winter	11.2 inches	Increase by 1-21% Increase of 0.1 - 2.4 inches	Increase by 4-35% Increase of 0.4 - 3.9 inches
Consecutive Dry Days	Summer	12 days	Variable (-1 - +2 days)	Variable (-1 - +3 days)
	Fall	12 days	Increase by 0 - 3 days	Increase by 0 - 3 days

IMPACTS:

- Episodic droughts
- Concerns over food production and drinking water supply
- Stress on ecosystems
- Flooding

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EXTREME STORMS

Blizzards

- More than 6 in MA since 2011
- Blizzard of 2022

Nor'easters and Hurricanes

- Upward trend since the 1970s



IMPACTS:

- Public safety concerns, including increased injuries and mortality
- Economic damages and business disruption
- Property and infrastructure damage
- Impacts on natural resources



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CLIMATE CHANGES	RELATED NATURAL HAZARDS	PROJECTIONS BY THE 2050s (2021-2050)
Changes in precipitation <ul style="list-style-type: none"> - Inland flooding - Drought - Landslide 		<ul style="list-style-type: none"> - Annual precipitation: Increase up to 18% (+7.3 inches) - Days with rainfall accumulation 1+ inch: Increase up to 57% (+4 days) - Consecutive dry days: Increase 18% (+3 days) - Summer precipitation: Decrease
Sea level rise <ul style="list-style-type: none"> - Coastal flooding - Coastal erosion - Tsunami 		<ul style="list-style-type: none"> - Sea level: Increase 4.0 to 10.5 feet along the Massachusetts coast
Rising temperatures <ul style="list-style-type: none"> - Average/extreme temperatures - Wildfires - Invasive species 		<ul style="list-style-type: none"> - Average annual temperature: Increase up to 23% (+10.8 degrees Fahrenheit) - Days/year with daily minimum temperatures below freezing: Decrease up to 42% (-62 days) - Winter temperatures: Increase at a greater rate than spring, summer, or fall - Long-term average minimum winter temperature: Increase up to 66% (+11.4 degrees Fahrenheit) - Days/year with daily maximum temperatures over 90 degrees Fahrenheit: Increase by up to 1,260% (+64 days) - Growing degree days: Increase by 23% to 52%
Extreme weather <ul style="list-style-type: none"> - Hurricanes/tropical storms - Severe winter storms/nor'easters - Tornadoes - Other severe weather 		<ul style="list-style-type: none"> - Frequency and magnitude increase

Note: This plan also addresses earthquakes, but there is no established connection between climate change and earthquakes.
Source: Climate Change Projections, Northeast Climate Adaptation Science Center at the University of Massachusetts, Amherst.

CLIMATE CHANGE + NATURAL HAZARDS = AMPLIFIED RISK

<https://www.mass.gov/service-details/massachusetts-integrated-state-hazard-mitigation-and-climate-adaptation-plan>

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COMMUNITY ASSET INVENTORY



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WHAT ARE COMMUNITY ASSETS?



Societal



Infrastructure



Natural Resources



Economy



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WHAT ARE COMMUNITY ASSETS?

Built Environment: Critical facilities necessary for a community's response to and recovery from emergencies, infrastructure critical for public health and safety, economic viability, or for critical facilities to operate.

Economy: Major employers, primary economic sectors and commercial centers where loss or inoperability would have severe impact on the community and ability to recover from a disaster.

People: Areas of greater population density, or population with unique vulnerabilities or less able to respond and recover during a disaster.

Natural Environment: Areas that provide protective function to reduce magnitude of hazard impact and increase resiliency. Areas of sensitive habitat that are vulnerable to hazard events, protection of areas that are important to community objectives, such as the protection of sensitive habitat, provide socio-economic benefits, etc.



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PEOPLE – SOCIETAL ASSETS

- Public Education Facilities and Resources
- Buildings that Support Community Needs
- Vulnerable Populations
- Senior Support Services
- Historic Sites



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INFRASTRUCTURAL ASSETS

- Public Water Supply
- Transportation Corridors & Drainage
- Critical Facilities
- Culverts, Bridges & Dams



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ECONOMIC ASSETS

- Essential Goods – Food, Pharmacy, Hardware & Fuel
- Essential Service – Small Businesses
- Farms & Farms Stands
- Large Employers
- Communications Private Cell Tower



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ENVIRONMENTAL ASSETS

- Hydrologic Resources
- Open Space and Conservation Lands
- Parks and Recreation Areas
- Forestry and Agriculture



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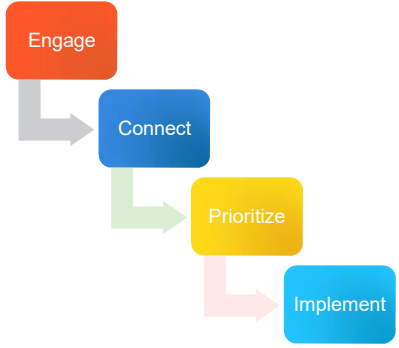

MVP WORKSHOPS

February 8th and 15th, 2022



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WORKSHOP OBJECTIVES


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CRB MATRIX

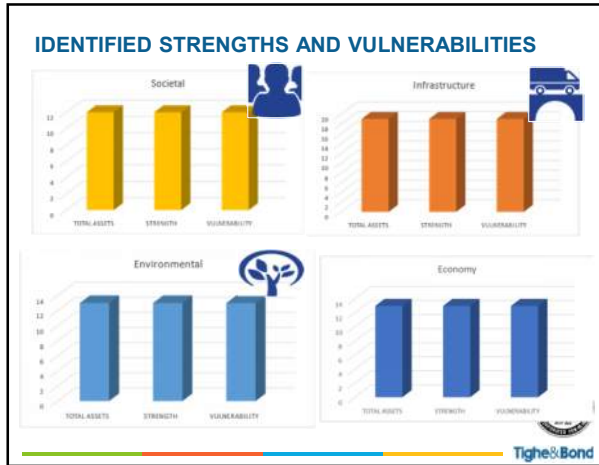
Community Resilience Building Matrix

www.CommunityResilienceBuilding.org

Issue	Location	Priority	Resilience (1) or Strength (2)	Resilience (1) or Strength (2)	Resilience (1) or Strength (2)	Resilience (1) or Strength (2)	Resilience (1) or Strength (2)
Issue 1: [Issue Name]	[Location]	[Priority]	[Resilience (1) or Strength (2)]	[Resilience (1) or Strength (2)]	[Resilience (1) or Strength (2)]	[Resilience (1) or Strength (2)]	[Resilience (1) or Strength (2)]
Issue 2: [Issue Name]	[Location]	[Priority]	[Resilience (1) or Strength (2)]	[Resilience (1) or Strength (2)]	[Resilience (1) or Strength (2)]	[Resilience (1) or Strength (2)]	[Resilience (1) or Strength (2)]
Issue 3: [Issue Name]	[Location]	[Priority]	[Resilience (1) or Strength (2)]	[Resilience (1) or Strength (2)]	[Resilience (1) or Strength (2)]	[Resilience (1) or Strength (2)]	[Resilience (1) or Strength (2)]
Issue 4: [Issue Name]	[Location]	[Priority]	[Resilience (1) or Strength (2)]	[Resilience (1) or Strength (2)]	[Resilience (1) or Strength (2)]	[Resilience (1) or Strength (2)]	[Resilience (1) or Strength (2)]
Issue 5: [Issue Name]	[Location]	[Priority]	[Resilience (1) or Strength (2)]	[Resilience (1) or Strength (2)]	[Resilience (1) or Strength (2)]	[Resilience (1) or Strength (2)]	[Resilience (1) or Strength (2)]
Issue 6: [Issue Name]	[Location]	[Priority]	[Resilience (1) or Strength (2)]	[Resilience (1) or Strength (2)]	[Resilience (1) or Strength (2)]	[Resilience (1) or Strength (2)]	[Resilience (1) or Strength (2)]
Issue 7: [Issue Name]	[Location]	[Priority]	[Resilience (1) or Strength (2)]	[Resilience (1) or Strength (2)]	[Resilience (1) or Strength (2)]	[Resilience (1) or Strength (2)]	[Resilience (1) or Strength (2)]
Issue 8: [Issue Name]	[Location]	[Priority]	[Resilience (1) or Strength (2)]	[Resilience (1) or Strength (2)]	[Resilience (1) or Strength (2)]	[Resilience (1) or Strength (2)]	[Resilience (1) or Strength (2)]
Issue 9: [Issue Name]	[Location]	[Priority]	[Resilience (1) or Strength (2)]	[Resilience (1) or Strength (2)]	[Resilience (1) or Strength (2)]	[Resilience (1) or Strength (2)]	[Resilience (1) or Strength (2)]
Issue 10: [Issue Name]	[Location]	[Priority]	[Resilience (1) or Strength (2)]	[Resilience (1) or Strength (2)]	[Resilience (1) or Strength (2)]	[Resilience (1) or Strength (2)]	[Resilience (1) or Strength (2)]



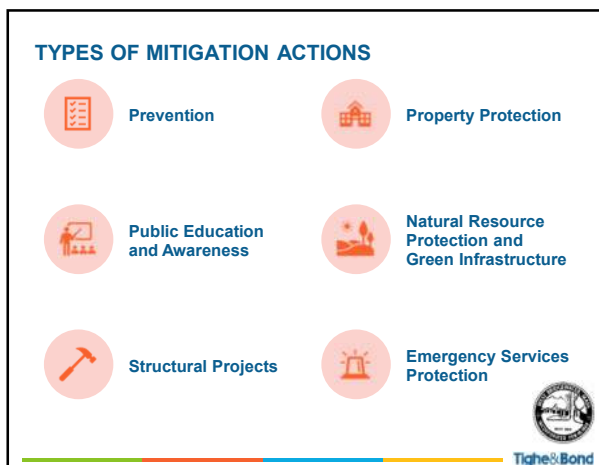
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EXAMPLE MITIGATION ACTIONS IN WEST BRIDGEWATER

- **Prevention**
 - Perform assessments to understand capacity and improvements for low lying roadways, bridges, and culverts
 - Collaborate with Life Care Center for emergency preparedness
- **Public Education and Awareness**
 - Increase public outreach on uses of Council on Aging as emergency shelter
 - Community wide evacuation planning & education
- **Natural Resource Protection**
 - Land acquisition for flood mitigation
 - Implement a tree inventory and planting program
 - Evaluate beaver control for culverts & bridges
- **Structural Projects**
 - Upgrade drainage system and retrofits with green infrastructure where feasible
 - Complete Water Treatment Plan for upgrades to meet water quality standards
 - Consider rain gardens to improve drainage at the Life Care Center
- **Emergency Services Protection**
 - Emergency equipment upgrades, implement Emergency Alert System (IPAWS)

Full list available in draft MVP Report



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WHAT'S NEXT?



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NEXT STEPS BEFORE JUNE 30, 2020

- **DRAFT** MVP Summary of Findings Report online for public review
- Submit comments to Chris Iannitelli by **May 25th**
- **Final** MVP Summary of Findings Report
- Submit documents to EEA



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MVP ACTION GRANT OPPORTUNITIES



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MVP ACTION GRANTS

- Detailed Vulnerability and Risk Assessment*
- Community Outreach and Education
- Local Bylaws, Ordinances, Plans, and Other Management Measures**
- Redesigns and Retrofits***
- Nature-Based Flood Protection, Drought Mitigation, Water Quality, and Water Infiltration Techniques
- Nature-Based, Infrastructure and Technology Solutions to Reduce Vulnerability to Extreme Heat and Poor Air Quality



* Most common project type
** Second-most common project type
***Third-most common project type

FY23: Maximum grant funding increased to \$3M for individual projects
Regional projects capped at \$5M



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MVP ACTION GRANTS (CONT)



- Nature-Based Solutions to Reduce Vulnerability to other Climate Change Impacts
- Ecological Restoration and Habitat Management to Increase Resiliency

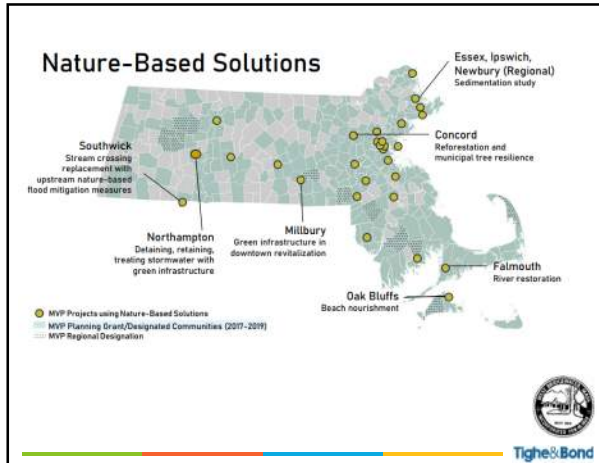
NEW IN 2019

- Energy Resilience
- Chemical Safety
- Land Acquisition for Resilience
- Subsidized Low-Income Housing Resilience Strategies
- + Expanded eligibility of project location



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FOR MORE INFORMATION


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AND NOW FOR QUESTIONS AND ANSWERS

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