



**Municipal Vulnerability Preparedness Grant Program Application Form**  
**RFR ENV 20 MVP 02**

1. **Municipality:** Town of Holliston
2. **Project Title:** Sustainability & Resiliency Action Plan
3. **Type of Project (check all that apply):**
  - ☐ Detailed Vulnerability and Risk Assessment and Further Planning
  - ☐ Community Outreach and Education
  - ☐ Local Bylaws, Ordinances, Plans, and Other Management Measures
  - ☐ Nature-Based Flood Protection, Drought Mitigation, Water Quality, and Water Infiltration Techniques
4. **Local Project Manager and Point of Contact:**

Christopher Meo, Technology Director and  
Karen Sherman, Director of Planning & Economic Development

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5. **Proposed Funding Summary:**

Total Project Cost: \$247,649.62

Grant Request: \$171,695.00

Municipal Match (at least 25% of total project cost): \$75,954.62

6. **Project Summary** (1-2 short paragraphs describing the project):

Over the last several years, the Holliston community has placed a greater priority on addressing climate change and creating a more sustainable community. From promoting active transportation, the Rail Trail, the installation of solar on the landfill, and the ongoing commitment to protection of its natural resources as well as 28 acres of agricultural land, the Town has taken several tangible steps toward building a more sustainable future.

Collectively the decision was made that the best approach for Holliston is to take all these important, but individual, initiatives and put them under one broader sustainability and resiliency umbrella. Through this MVP Action Grant, Holliston seeks to develop a Sustainability & Resilience Action Plan, which takes our MVP work to the next level by developing detailed studies on the state of our resources, including the Town Forests (which is a primary resource in the community and instrumental to our long-term resiliency) and several dams throughout the town. Additionally, we intend to conduct a deep and equitable engagement process with all community members and municipal staff to understand our needs and priorities as it relates to preparing for and addressing climate change. This engagement will also allow us to build a common language on what a sustainable and resilient future looks like for Holliston. We will then together identify solutions that make sense for Holliston. The result will be a 3-5-year workplan for the Town and all its community partners.

**7. Project Narrative:**

Please provide your full project narrative. See **Section 3A** for more specifics on each criterion. Use the rating system as a guide for what information should be included in the narrative to ensure the maximum score possible for your project. Please limit responses to a reasonable length.

***7.1 Project Description, Rationale, and Public Benefits (25 points)***

- Up to **9 points** for rationale – why project was chosen, what its objectives are, how it will positively impact the site and community and address identified climate change impacts/problems—and the degree to which the proposal incorporates or reflects municipal priorities established in the community’s MVP report or subsequent climate resilience

report that built upon the MVP process

- Up to **5 points** for the degree to which the most up-to-date climate science and data on future conditions have informed prioritization and design of project, including specific reference to climate data utilized
- Up to **5 points** for the degree to which the project will improve resilience for Environmental Justice and/or vulnerable populations, including details around demographics and social impact
- Up to **5 points** for the degree to which the project has broader public or regional benefit(s)
- **1 point** for inclusion of MVP yearly progress report (**Attachment F**)

Over the last several years, the Holliston community has placed a greater priority on addressing climate change and creating a more sustainable community. From promoting active transportation, the Rail Trail, the installation of solar on the landfill, and the ongoing commitment to protection of its natural resources as well as 28 acres of agricultural land, the Town has taken several tangible steps toward building a more sustainable future.

The MVP process has been vital to helping us think about community resilience more broadly. Currently there are a number of identified climate and sustainability related priorities. As a small town, with limited staffing resources, it has been challenging to determine which priorities to focus on first, what the implementation steps are for each of the priority actions, and if we are missing something. Based on the climate data from resilientma.org, it became clear that, while the Town has not had too many extreme impacts yet from climate change, continued and enhanced protection and management of our natural resources would be essential to ensure our long-term resilience to the projected changes in both precipitation and temperature highlighted through the data sets on resilientma.org.

Collectively the decision was made that the best approach for Holliston is to take all these important, but individual, initiatives and put them under one broader sustainability and resiliency umbrella. Through this MVP Action Grant, Holliston seeks to develop a Sustainability & Resilience Action Plan, which takes our MVP work to the next level by developing detailed studies on the state of our resources, including the Town Forests (which is a primary resource in the community and instrumental to our long-term resiliency) and several dams throughout the town. Additionally, we intend to conduct a deep and equitable engagement process with all community members and municipal staff to understand our needs and priorities as it relates to preparing for and addressing climate change. This engagement will also allow us to build a common language on what a sustainable and resilient future looks like for Holliston. We will then together identify solutions that make sense for Holliston. The result will be a 3-5-year workplan for the Town and all its community partners.

Through the MVP workshops, the Holliston community stakeholders identified four key climate hazards- high heat, drought, intense storms, and flooding. The actions to address these hazards ranged from assessing and removing unnecessary dams, developing a community-wide preparedness program, and creating a forest management plan. These three actions, in particular, are all anticipated to be addressed through our Sustainability and Resilience Action Plan process as it is focused on confirming the vision for Holliston's future,

setting goals, and identifying and prioritizing actions to meet those goals and vision. Each prioritized action will be developed into an implementation blueprint that details the responsible parties and key partners, the key steps necessary for effective implementation, the costs for implementation and ongoing maintenance, the timeline for implementation and the metrics that will be tracked to determine success. These implementation blueprints are essential as they keep the town moving forward in a streamlined way. Additionally, with the deep engagement, branding and communication efforts proposed through this process, we anticipate a significant increase in the knowledge on and the personal actions to address climate change.

### ***7.2 Need for Assistance (10 points)***

- Up to **5 points** based on the equalized valuation per capita, to be completed by EEA
- Up to **5 points** for need as demonstrated through Applicant narrative

Holliston's need for assistance through the MVP Program stems from the fact that we are a small community that is relatively new to taking action on this issue. Some members of our community have been very vocal about the need to ensure that addressing climate change is a high priority. The Town government is doing its best to respond. However, we do not currently have all the technical expertise or the staffing resources to effectively drive this action and lead by example for the entire community. This grant will bring those resources to Holliston and allow us to drive a process for our community where we are bringing all voices to the table to create a shared vision and set of detailed priorities with implementation steps for the whole community. Additionally, the detailed assessment work we are launching with this process related to our dams and our Town Forests will be valuable for our neighboring communities as well as others throughout the Commonwealth.

Policy decisions across town departments, boards and committees will benefit from the vision and detailed priorities established with this Action Plan. When implementing those town-wide decisions and changes influenced by the need for climate resiliency and a focus on sustainability Holliston will use the Action Plan as a valuable guide. The proposed green house gas inventory, for example, will drive future decisions on capital equipment purchases, school transportation policy, additional infrastructure needs, Complete Streets policy, and Safe Routes to School efforts.

### ***7.3 Project Feasibility and Management (12 points)***

- Up to **5 points** for technical, financial, and management capacity
- Up to **5 points** for evidence of landowner, public, and/or partner support
- Up to **2 points** for lack of regulatory hurdles to complete project within timeframe

With the help of the MVP Action Grant, the Town can hire a qualified consultant to facilitate its Community Sustainability and Resilience Planning process. Holliston has very capable and committed staff with capacity to oversee a consultant team that can work with us to deliver an effective process. We have two municipal staffers that will co-lead the project. Karen Sherman and Chris Meo.

Karen has been Holliston's Town Planner for 20 years and Economic Development Director for 3 years. In addition to her duties staffing the Planning and Zoning Boards, she has worked with various boards and commissions on community planning efforts ranging from the Town's Open Space and Recreation Area Plan to the Stormwater Management Plan.

Chris Meo has been the Holliston IT Director for 4 years and Network Administrator for the Town the previous 14 years. Over the last four years, he has led the Green Community Team in planning, writing grants, and implementing all the Green Community Projects from start to finish. Chris also led a Team to evaluate and implement the Town's website replacement in 2018.

Chris and Karen have also partnered together to create both the Holliston Economic Development Committee (EDC) branding and worked with Holliston Cable Access in developing the "Doing Business in Holliston" EDC Video which can be found at <https://www.youtube.com/watch?v=eHKeJlXkhYc&feature=youtu.be>

Additionally, we have secured a number of key partners from our community that will be instrumental in the project's success. The Charles River Watershed Association is partnering with the Town to support the dam assessment component of the Sustainability & Resilience Action Plan. The Town Forest Committee, which manages the municipally owned Town Forests will be overseeing the forest inventory work and will be a key member of the Steering Committee and has also provided a letter of support.

Additional partners include: The Select board, Conservation Commission, Police Department, the Wellness Committee, the local Democratic Committee, the local chapter of 350.org, the Park and Recreational Department, Holliston Cable Access Committee, the St. Mary's Parish, and the Charles River Watershed Association.

At the present time, we do not anticipate any regulatory hurdles associated with implementing this project.



#### ***7.4 Project Transferability, Measurement of Success, and Maintenance (8 points)***

- Up to **3 points** for transferability, or a description of potential project lessons that might apply to and be shared with other MVP communities, including the proposed format for how these lessons will be shared (e.g. webinar, workshop, event, website, etc.)
- Up to **3 points** for clear description of how project success will be measured and monitored
- Up to **2 points** for clear description of plans for how any future maintenance needs of or updates to proposed project might be addressed

Like Holliston, over 200 municipalities in Massachusetts have under 15,000 residents. As a small town with a population that is increasingly concerned about community sustainability and addressing climate change, the Town is eager to lead by example for its constituents. While there has been a push to hire a Sustainability Coordinator, the Town understands that it is also important that this position be designed based on identified needs of the Town and be leveraged to maximize efficiencies to ensure climate change and sustainability are integrated into daily operations. Through Holliston's Sustainability & Resilience Action Plan process, we seek to pull our community together to embrace a shared vision for the future and to develop a community-wide workplan focused on building that future. A Sustainability Coordinator can then lead the charge to ensure implementation of this plan by the Town and all the community partners, as well as individuals. Given the popularity in the Commonwealth right now for small towns to hire sustainability coordinators with little to no idea what their role could be, we believe this is an important, replicable model that serves a greater purpose.

Key deliverables that we believe will be most beneficial to other small towns in Massachusetts include:

- Design and delivery of effective community engagement strategy, including our preparedness program, which will be developed as a template so other communities can easily use it in their own communities
- Approach to leveraging branding processes and communication tactics to engage a general audience in a technical topic, like climate change
- A video on community resilience
- Climate Resilience & Nature-Based Solutions Framework
- Communicating Climate Change Materials
- Climate Resilience Metrics Annual Reporting Template
- Process to engage volunteers in forest management
- Collaborative process and analysis on the health of dams

The Town will measure project success in a few ways. First, through our extensive community engagement we intend to track:

- Total reach through in-person events, online surveys, and social media
- Total reach broken out by age, ethnicity, and education level (as feasible)
- Priority actions by age, ethnicity, and education level
- Active members of the Community Resiliency Stakeholder Group
- Engaged volunteers supporting the forest inventory and management plan development

As we develop the community engagement strategy we will also set targets for the engagement level of our most vulnerable populations, particularly, seniors, youth, and those living at a lower income. Additionally, for the planning process itself, we have mapped out a very detailed project timeline and set of tasks, which we will report our progress to move this along on that timeline in our monthly reports to the State. Once the plan is completed and adopted, we intend to report progress on a regular basis through our online dashboard as well as through official annual reports to the community and to the State.

### ***7.5 Community Outreach, Education, and Engagement (10 points)***

- Up to **5 points** for the degree to which the project team will specifically engage Environmental Justice or other identified socially vulnerable communities
- Up to **3 points** for robust community engagement strategy and mechanisms– including number and details of engagement opportunities
- Up to **2 points** for clear description of and degree to which community feedback will be incorporated into project

Holliston intends to employ a creative, multi-faceted, equitable community engagement process for the development of the Sustainability & Resilience Action Plan. The equitable engagement process will engage all members of our community, with a particular focus on those community members that may be more vulnerable to the risk of climate change and to those that have not been part of discussions to date. Additionally, our engagement will also focus on the development of a community-wide preparedness program, including guidance on what to include in a preparedness kit.

The process includes the following tasks:

- **Develop overall brand and messaging**
  - We will launch the Sustainability & Resilience Action Plan initiative through a branding process to create an identity for the program that connects people throughout and beyond the plan development. Once the branding and messaging are established, the community engagement process will be launched.
- **Identify target audiences, effective tactics & metrics of engagement success**
  - The goal is an equitable engagement process, so we will identify and train partner organizations that work with some of our most vulnerable community members, such as seniors, youth, non-English speakers, and those that are living at a lower income. The key to equitable engagement is to engage existing organizations that have already developed the trust of these target populations and work with them to make the connection between their mission and the need for climate action. Once the existing organizations are on board, we will coordinate with them to identify the most effective

messaging and tactics for their population. Specific engagement metrics will be identified and incorporated into the Community Engagement Strategy.

- **Design pathways for engagement activities to feed into the Sustainability & Resilience Action Plan**
  - To ensure the results of community engagement activities find their way into the plan, we create a phased approach to engagement so that we are asking questions to the public that are relevant to the phase we are in with the plan development. For example, the initial engagement, which starts in the baseline assessment phase, involves understanding community priorities, concerns around climate change and what actions they are already taking. At this same time, we will be reviewing existing plans and policies to find opportunities for alignment.
- **Implement engagement tactics**
  - Working with our partners, we will apply the most appropriate tactic to each of the target audiences identified in the engagement strategy. The engagement activities are slated to occur between March 2020 and February 2021 and the primary call to action for each phase will be the completion of a survey or engagement in a deeper discussion on resilience. Engagement tactics could include
    - Community days
    - Focus groups
    - Business lunch and learns
    - Trainings
    - Workshops
    - Online, social media, and newsletters
    - Trivia nights
- **Evaluate results of engagement tactics against the identified metrics**
  - At the end of each month in which engagement activities occur, the engagement results will be reported to determine progress toward identified metrics for engaging the target populations. The Team will adjust strategy as needed to ensure that a concerted effort is made to meet all engagement metrics. Once an engagement phase is complete the report will also identify top responses for each target audience so that this can feed into the planning process appropriately.



### ***7.6 Incorporation of Nature-Based Solutions and Strategies (10 points)***

- If nature-based solutions are proposed, up to **10 points** for description of how low impact design, green infrastructure, natural flood protection, or other nature-based solutions will be used and why they have been chosen and deemed appropriate. Proposals that illustrate 1) opportunities for reducing short- or long-term maintenance costs and/or 2) co-benefits such as improving public safety, enhancing water quality, providing additional recreational opportunities, reducing liability, etc., will receive higher scores.
- If hard infrastructure solutions are proposed, the project may still receive a maximum of **4 points** in this category for a clear description of the assessment of options including nature-based solutions and why a nature-based solution was not chosen, how the project uses climate change projections to inform design, and the addition of green infrastructure techniques to further strengthen an add resiliency to hard infrastructure.

The Town of Holliston has several legacy dams that are vulnerable due to existing conditions, ongoing maintenance requirements and future climatic conditions. Holliston's dams, like most dams in the area, were designed based on historical and static precipitation patterns. Projected climate conditions for this region spell potential disaster for this outdated dam infrastructure which can pose significant vulnerability for downstream residents, business, and infrastructure. As most of these dams are no longer serving their intended purpose, and in many cases are contributing to environmental degradation, the Town is very interested in investigating potential remediation at these sites, including dam removal. The Town proposes partnering with Charles River Watershed Association (CRWA) to develop a priority action plan for the four primary dams identified through the MVP Planning Process. As other dams are identified through this continued process, they may be included in the study as is relevant and resources allow. CRWA will conduct a review of all available information such as dam inspections and safety reports, and previous statewide dam assessment studies. The review will include confirmation of the ownership of each dam, review of all previous assessments of the structures, site visits, documentation of flood control features or practices, and an initial determination of the restoration potential of the natural habitat surrounding the dam. This project will also serve as a model for other communities struggling with the challenge of multiple legacy dams within their community who do not have a clear idea of how to move forward and prioritize limited resources.

### ***7.7 Timeline, Scope, and Budget (15 points)***

- Up to **5 points** for clear project timeline
- Up to **5 points** for a clear scope and capability to be completed within the specified contract period
- Up to **5 points** for a clear budget delineated across fiscal years, using **Attachment B** (submitted in both Excel and PDF formats). Proposals with a majority of grant funding requested in FY20 will be given more points. If the project extends to FY21, more points will be given to proposals that allocate most *match* funds to tasks in FY21.

## **Holliston Sustainability & Resilience Action Plan Detailed Scope of Work**

### **Task 1: Baseline Assessment, Goal Setting, & Branding**

This task focuses on gaining familiarity with the existing resources, policies, and plans to understand what climate-related work has already been completed in Holliston. Additionally, through this task, the Town is inventorying its Town Forests to develop a forest management plan; assessing the many dams that exist in the community that have lived beyond their useful lives; and building a brand and communication materials that will be the foundation for a community preparedness program.

#### ***Task 1.1: Gather Background Information through Interviews and Review of Existing Policies, Ordinances, and Plans***

- Identify and review policies, bylaws, plans, and reports, like the MVP Summary of Findings Report, that have direct climate or sustainability value. Based on information gleaned from these policies and ordinances, create a matrix of existing priority climate-related activities, as well as other activities, that could be modestly modified to have more climate adaptation and/or mitigation value.
- Create matrix of all existing goals, actions, and reporting requirements, denoting what data/actions Holliston has already taken and which are still needed.
- Conduct 6-8 interviews with key stakeholders to more fully understand potential climate impacts, vulnerabilities, and strengths.

#### ***Task 1.2: Baseline Assessment of Contribution to Climate Change***

- An assessment at the community and municipal level of the sources of greenhouse gas emissions contributing to climate change that will exacerbate the hazards identified through the MVP Workshops.

#### ***Task 1.3: Dam Assessment and Identification for Removal***

- There are many dams throughout the Town that have outlived their value and in some cases are now exacerbating flooding issues. The number one action prioritized through the MVP Workshops was to partner with the Charles River Watershed Association to assess all dams in Holliston to determine the best candidates for removal to improve community resilience and ecological restoration. Given that dam removal in multiple locations is likely a multi-year process, the Town is eager to get this process started as part of the Sustainability & Resilience Action Plan baseline assessment as it has strong implications for the priorities and actions that will be identified through the planning process.
- The Town has allocated \$45,000 as a match for the dam assessment work. The first step will be to determine ownership of each dam. Then we will work with CRWA and additional specialized technical consultant(s) as needed to rate each of the dams to prioritize which are primary candidates to move forward with investigating removal for ecological restoration in the near term, and which dams may require longer timeframes to achieve removal or may require other interventions.

#### ***Task 1.4: Inventory of Town Forests Resources***

- An inventory of the Town Forests Resources will be conducted in order to feed into the development of a forest management plan, which will be a component of the Sustainability & Resilience Action Plan. This was another high priority action identified through the MVP process

***Task 1.5: Form a Community Resiliency Stakeholder Committee (CRSC)***

- Identify and invite individuals to serve on a CRSC that will guide the Sustainability & Resilience Action Plan process. Representatives could be from DPW, emergency preparedness, public health, natural resources, Charles River Watershed Association, 350.org, and others, many of whom were part of the MVP Workshops.

***Task 1.6: Develop and Confirm Brand for Holliston's Sustainability and Resilience work***

- Work with key stakeholders to develop and build a brand for Holliston's sustainability and resilience work to assist with ongoing engagement and implementation. This will involve reviewing existing brands and identities, identifying appropriate messaging, and possibly creating a new logo.

***Task 1.7: Develop Community Engagement Strategy***

- Develop an inclusive and sustainable community engagement strategy that seeks to involve all members of the community, leveraging existing efforts and organizations. Holliston's Community Engagement Strategy will include a process to track and report metrics to measure the effectiveness of the engagement techniques and the number and types of individuals reached through implementation of the strategy. It is anticipated that we will engage businesses separately from residents.

***Task 1.8: Prepare for and Facilitate CRSC Meeting #1***

- Host an in-person meeting with the CRSC to review role and expectations, walk through the planning process, identify draft goals, and finalize the vision for the planning process.

***Task 1.9: Launch Online Community Engagement on Priorities and Concerns***

- Utilizing an online engagement tool, Holliston will start initial conversations with the community by asking about their priorities and concerns related to the climate change hazards identified through the MVP process and understand what types of actions they would like to see the Town take and which they are taking personally.

***Task 1.10: Develop Sustainability & Resilience Framework***

- Based on the results of the baseline assessment work, the goal setting exercises, and the community input on priorities, we will develop a robust Sustainability & Resilience Framework. The framework will be specific to Holliston and will be utilized as an evaluation tool that assesses how well an identified action meets the community's overarching priorities. This deliverable serves both this planning process as well as future planning and capital improvement planning efforts to ensure constant alignment with the sustainability and resilience priorities.

***Task 1.11: Confirm Focus and Develop Script for Video***

- Because this project is focused on calls to action to create a more sustainable community, it will require some behavior change. Video is becoming an increasingly popular and effective way to educate and engage community members. Through this project, the Town seeks to develop a video that focuses on connecting everyone to a more sustainable future. The Town will coordinate with the Holliston Cable Access TV Station to develop a robust, educational video for the town.

***Major Deliverables for Task 1:***

- Matrix of existing relevant goals, actions, and policies as well as those that could be modified to have greater resilience value.
- Baseline Assessment of the community and municipal government's contribution to climate change
- Assessment and identification of dams for removal
- Inventory of Town Forests Resources
- Identify members for and host first meeting of the Community Resiliency Stakeholder Committee (CRSC).
- Brand for Holliston's resilience and sustainability work
- Draft goals
- Draft Community Engagement Strategy
- Sustainability & Resilience Video

**Task 2: Action Identification**

This task focuses on identifying actions specific to Holliston that effectively address the goals and will be assessed for inclusion in the Sustainability & Resilience Action Plan.

***Task 2.1: Best Practice Research and Creation of Sample List of Potential Actions***

Conduct research into the best practices, innovative practices, and emerging, promising climate action & resilience practices to address the climate impacts identified during the MVP process.

***Task 2.2: Prepare for and Facilitate CRSC Meeting #2***

- Organize and host a meeting of the CRSC to discuss the potential list of climate & resilience actions, identify additional actions, and begin structuring the format for a community workshop focused on selecting the best climate actions for Holliston.
- In partnership with the CRSC, host a community workshop or series of community workshops to discuss potential sustainability and resilience actions and identify new actions. We will determine the best approach to engaging the community- i.e. one large workshop vs. a series of neighborhood meetings over the course of 2-3 days.

***Task 2.3: Community Engagement on Actions & Solutions***

- Design and deliver community engagement activities that are focused on understanding what actions and solutions they would like to see for each area of the Plan.

***Task 2.4: Refinement of Actions for Prioritization***

- Based on ideas generated and feedback received in Tasks 2.2 and 2.3, refine the list of potential sustainability and resilience strategies. This list will then be used as the foundation for tasks in Task 3: Action Prioritization.

***Major Deliverables for Task 2:***

- List of best practices from around the country.
- Hosting of a CRSC meeting.
- Hosting of a Community workshop.
- Launch of in-person engagement activities.
- Refined list of climate actions based on CRSC and public input.

**Task 3: Action Prioritization**

This task focuses on prioritizing climate actions for inclusion in the final Sustainability & Resilience Action Plan.

***Task 3.1: Evaluation of Actions Based on the Sustainability & Resilience Framework***

- Create and implement a process to evaluate the refined list of actions per Task 2.4 based on the Sustainability & Resilience Framework.

***Task 3.2: Prepare for and Facilitate CRSC Meeting #3***

- Prepare for and host a meeting of the CRSC to discuss the results of the high-level action evaluation and to run through the prioritization exercise.

***Task 3.3: Community Engagement on Action Prioritization***

- Design and deliver community engagement activities that are focused on prioritizing the actions and solutions for the Plan.

***Task 3.4: Confirm the Final Actions for Inclusion in the Plan***

- Compile all input received in Tasks 3.2 and 3.3 and create a master list of all prioritized actions.

***Major Deliverables for Task 3:***

- Creation of Action Evaluation Process and Criteria
- Evaluation of proposed actions.
- Hosting of a CRSC meeting.
- Community-wide engagement to finalize the list of priority climate actions.
- Finalized list of actions for inclusion in the final plan.

**Task 4: Implementation Blueprint Development**

It is imperative to the Town that this process result in actionable measures the Town and its partners can begin to make progress on quickly. This task focuses on taking all of the prioritized actions and building them out into detailed blueprints that allow for quick and effective implementation of the actions.

***Task 4.1: Identify Implementation Criteria for Prioritized Actions***

- Identify all criteria to be used to build out the action blueprints, possible criteria include responsible parties, cost to implement and maintain, timeline, potential funding sources, and co-benefits.

***Task 4.2: Create and Finalize Implementation Blueprints***

- Based on input garnered in Task 4.1, create draft implementation blueprint template for all the prioritized actions.
- Each prioritized action will have its own detailed blueprint

***Task 4.3: Prepare for and Facilitate CRSC Meeting #4***

- Prepare for and host a meeting of the CRSC to dive into development of the implementation blueprints.

***Task 4.4: Develop Community Climate Action Toolkit***

- Incorporate promising practices, informed by the project, into a Community Climate Action Toolkit that residents and businesses can use to support their individual and collective climate and resilience action.

***Task 4.5: Develop Annual Reporting Protocol and Collect Data on Key Sustainability & Resilience Metrics***

- Identify and track a set of metrics to demonstrate progress over time toward the identified sustainability and resilience goals.
- Develop an online platform where these metrics can live to tell the story of Holliston's pathway to a more resilient future.
- Track progress toward action implementation through the online platform

***Major Deliverables for Task 4:***

- Master matrix of implementation details including responsible parties, co-benefits of identified actions.
- Implementation strategies for all prioritized climate actions.
- Community Climate Action Toolkit.
- Full design and set up of an online community dashboard online tool for monitoring and evaluating progress towards goals.

***Task 5: Final Plan Development***

This task of the project focuses on writing and finalizing Holliston' Sustainability & Resilience Action Plan.

***Task 5.1: Compile and Analyze Results of All Previous Tasks and Create Draft Plan***

- Compile and analyze data from all tasks of the project.
- Draft a full Sustainability & Resilience Action Plan, ensuring the plan:
- Details the community's climate challenges and opportunities;
- Establish a clear set of actions with implementation details and metrics to measure progress in increasing community resilience.

***Task 5.2: Prepare for and Facilitate CRSC Meeting #5***

- Organize and host a meeting of the CRSC to review the draft plan and confirm process to ensure implementation.



***Task 5.3: Public Comment Period***

- A one-month public comment period will be provided for one final opportunity for all community members to offer feedback.

***Task 5.4: Revise and Finalize Plan***

- Revise the Sustainability & Resilience Action Plan based on feedback received from Task 5.2.
- Share revised version with CRSC and DEC for one additional round of review.
- Finalize Sustainability & Resilience Action Plan based on feedback received.
- Design final Sustainability & Resilience Action Plan, ensuring it is well-organized graphically pleasing, and user-friendly.

***Task 5.5: Presentation of Final Plan***

- Organize and host a public event to unveil the Sustainability & Resilience Action Plan and discuss the community's role in implementation.
- Present the final plan for approval and adoption.

***Major Deliverables for Task 5:***

- Final Sustainability & Resilience Action Plan in electronic format.
- Hosting of a CRSC Meeting
- Community meeting to unveil the Sustainability & Resilience Action Plan & discuss the community's role in implementation.
- Presentation of final Sustainability & Resilience Action Plan

Attachment B: Budget

FY20 MVP Action Grant Budget Template																																				
	GRANT												Total Task (Grant)	IN-KIND / CASH MATCH																		Total Task (Match)	Total Project Cost			
	Project Team Hours													Project Team Hours																Direct Costs						
	Director	Manager	Specialist	Coordinator	Analyst	Support	Item/Unit	Quantity	Unit Cost	Total	Town Manager	Technology Director	Director of Planning & Economic Development	Director of Public Works	Conservation Agent	Fire Chief	Community Volunteers	Unit	Quantity	Unit Cost	Total															
Hourly Rate	\$200.00	\$175.00	\$125.00	\$50.00	\$95.00	\$85.00	X	X	X	X					\$62.50	\$43.98	\$42.00	\$51.00	\$25.63	\$58.44	\$50.00	X	X	X	X											
Tasks to be Completed by June 20, 2020																																				
Task 1: Baseline Assessment, Goal Setting, and Branding	Hours	Total	Hours	Total	Hours	Total	Hours	Total	Hours	Total	Hours	Total			Hours	Total	Hours	Total	Hours	Total	Hours	Total	Hours	Total	Hours	Total	Hours	Total								
Kick Off Meeting and Ongoing Project Management	12	\$2,400.00	36	\$6,300.00	12	\$1,500.00	0	\$0.00	4	\$380.00	4	\$340.00		0	\$ -	\$0	\$10,920.00	18	\$1,125.00	18	\$791.64	18	\$756.00	8	\$408.00	8	\$205.04	8	\$467.52	0	\$0.00	0	\$ -	\$0	\$3,753.20	\$14,673.20
Gather Background Information through Interviews and Review of Existing Policies, Ordinances, and Plans	2	\$400.00	4	\$700.00	0	\$0.00	4	\$200.00	4	\$380.00	8	\$680.00		0	\$ -	\$0	\$2,360.00	2	\$125.00	8	\$351.84	8	\$336.00	2	\$102.00	2	\$51.26	2	\$116.88	3	\$150.00	0	\$ -	\$0	\$1,232.98	\$3,592.98
Baseline Assessment of Contribution to Climate Change	0	\$0.00	25	\$4,375.00	50	\$6,250.00	0	\$0.00	25	\$2,375.00	30	\$2,550.00		0	\$ -	\$0	\$15,550.00	4	\$250.00	10	\$439.80	0	\$0.00	4	\$204.00	4	\$102.52	0	\$0.00	0	\$0.00	0	\$ -	\$0	\$996.32	\$16,546.32
Dam Assessment and Identification for Removal	4	\$800.00	20	\$3,500.00	0	\$0.00	0	\$0.00	10	\$950.00	0	\$0.00		0	\$ -	\$0	\$5,250.00	2	\$125.00	0	\$0.00	0	\$0.00	8	\$408.00	8	\$205.04	8	\$467.52	0	\$0.00	1	\$10,000.00	\$10,000	\$11,295.56	\$16,455.56
Inventory of Town Forest Resources	4	\$800.00	20	\$3,500.00	0	\$0.00	0	\$0.00	20	\$1,900.00	0	\$0.00		0	\$ -	\$0	\$6,200.00	2	\$125.00	10	\$439.80	0	\$0.00	8	\$408.00	8	\$205.04	0	\$0.00	60	\$3,000.00	0	\$ -	\$0	\$4,177.84	\$10,377.84
Form a Community Resiliency Stakeholder Committee (CRSC)	0	\$0.00	1	\$175.00	0	\$0.00	4	\$200.00	0	\$0.00	2	\$170.00		0	\$ -	\$0	\$545.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$ -	\$0	\$0.00	\$545.00	\$545.00	
Develop and Confirm Brand for Holliston's Climate Resilience work	2	\$400.00	2	\$350.00	8	\$1,000.00	6	\$300.00	12	\$1,140.00	0	\$0.00	Logo Competition, Design Work for Materials Templates	1	\$1,800.00	\$1,800	\$4,990.00	2	\$125.00	4	\$175.92	4	\$168.00	0	\$0.00	0	\$0.00	4	\$233.76	0	\$0.00	0	\$ -	\$0	\$702.68	\$5,692.68
Develop Community Engagement Strategy	2	\$400.00	3	\$525.00	0	\$0.00	4	\$200.00	4	\$380.00	4	\$340.00		0	\$ -	\$0	\$1,845.00	0	\$0.00	0	\$0.00	2	\$84.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$ -	\$0	\$84.00	\$1,929.00
Prepare for, Host, and Facilitate CRSC Meeting #1	3	\$600.00	5	\$875.00	0	\$0.00	8	\$400.00	0	\$0.00	5	\$425.00	Travel, Printing, Food	1	\$300.00	\$300	\$2,600.00	2	\$125.00	2	\$87.96	2	\$84.00	2	\$102.00	2	\$51.26	2	\$116.88	6	\$300.00	0	\$ -	\$0	\$867.10	\$3,467.10
Launch Online Community Engagement on Priorities and Concerns & Social Media Promotion	2	\$400.00	8	\$1,400.00	4	\$500.00	5	\$250.00	12	\$1,140.00	8	\$680.00	Online Engagement Platform	1	\$5,500.00	\$5,500	\$9,870.00	0	\$0.00	0	\$0.00	2	\$84.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$ -	\$0	\$84.00	\$9,954.00
Develop Sustainability & Resilience Framework	2	\$400.00	4	\$700.00	4	\$500.00	0	\$0.00	0	\$0.00	6	\$510.00		0	\$ -	\$0	\$2,110.00	0	\$0.00	2	\$87.96	2	\$84.00	0	\$0.00	0	\$0.00	3	\$150.00	0	\$ -	\$0	\$321.96	\$2,431.96		
Confirm Focus of and Develop Script for a Video	2	\$400.00	4	\$700.00	0	\$0.00	0	\$0.00	8	\$760.00	20	\$1,700.00	Video Editing, Graphics	1	\$2,000.00	\$2,000	\$5,560.00	2	\$125.00	6	\$263.88	2	\$84.00	0	\$0.00	0	\$0.00	2	\$116.88	40	\$2,000.00	0	\$ -	\$0	\$2,589.76	\$8,149.76
Total Task 1 Cost																\$67,800.00																	\$26,015.40	\$93,815.40		
Task 2: Action Identification																																				
Best Practice Research and Creation of Sample List of Potential Actions	0	\$0.00	2	\$350.00	4	\$500.00	0	\$0.00	4	\$380.00	0	\$0.00		0	\$ -	\$0	\$1,230.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$ -	\$0	\$0.00	\$1,230.00
Prepare for, Host, and Facilitate CRSC Meeting #2	3	\$600.00	5	\$875.00	0	\$0.00	8	\$400.00	0	\$0.00	5	\$425.00	Travel, Printing, Food	1	\$300.00	\$300	\$2,600.00	2	\$125.00	2	\$51.26	0	\$0.00	2	\$102.00	2	\$51.26	2	\$116.88	6	\$300.00	0	\$ -	\$0	\$746.40	\$3,346.40
Community Engagement on Actions & Solutions	2	\$400.00	8	\$1,400.00	4	\$500.00	20	\$1,000.00	12	\$1,140.00	8	\$680.00	Travel, Printing, Food, Incentives	1	\$450.00	\$450	\$5,570.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	6	\$300.00	0	\$ -	\$0	\$300.00	\$5,870.00
Total Task 2 Cost																\$9,400.00																	\$1,046.40	\$10,446.40		
Task 3: Action Prioritization																																				
Sub-task 3.1 Deliverable	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00		0	\$ -	\$0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$ -	\$0	\$0.00	\$0.00
Sub-task 3.2 Deliverable	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00		0	\$ -	\$0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$ -	\$0	\$0.00	\$0.00
Sub-task 3.3 Deliverable	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00		0	\$ -	\$0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$ -	\$0	\$0.00	\$0.00
Total Task 3 Cost																\$0.00																		\$0.00	\$0.00	
Task 4: Implementation Blueprint Development																																				
Identify Implementation Criteria for Prioritized Actions	2	\$400.00	4	\$700.00	0	\$0.00	0	\$0.00	4	\$380.00	0	\$0.00		0	\$ -	\$0	\$1,480.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$ -	\$0	\$0.00	\$1,480.00
Sub-task 4.2 Deliverable	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00		0	\$ -	\$0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$ -	\$0	\$0.00	\$0.00
Sub-task 4.3 Deliverable	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00		0	\$ -	\$0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$ -	\$0	\$0.00	\$0.00
Total Task 4 Cost																\$1,480.00																	\$0.00	\$1,480.00		
Task 5: Final Plan Development																																				
Sub-task 5.1 Deliverable	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00		0	\$ -	\$0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$ -	\$0	\$0.00	\$0.00
Sub-task 5.2 Deliverable	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00		0	\$ -	\$0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$ -	\$0	\$0.00	\$0.00
Sub-task 5.3 Deliverable	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00		0	\$ -	\$0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$ -	\$0	\$0.00	\$0.00
Total Task 5 Cost																\$0.00																		\$0.00	\$0.00	
TOTAL PROJECT COST FY20																\$78,680.00																		\$27,061.80	\$105,741.80	
Tasks to be Completed by June 20, 2021																																				
Task 1:	Hours	Total	Hours	Total	Hours	Total	Hours	Total	Hours	Total	Hours	Total			Hours	Total	Hours	Total			Hours	Total	Hours	Total	Hours	Total	Hours	Total	Hours	Total						
Kick Off Meeting and Ongoing Project Management	8	\$1,600.00	18	\$3,150.00	8	\$1,000.00	8	\$400.00	8	\$760.00	8	\$680.00		0	\$ -	\$0	\$7,590.00	4	\$250.00	18	\$461.34	18	\$756.00	4	\$204.00	4	\$102.52	4	\$233.76	0	\$0.00	0	\$ -	\$0	\$2,007.62	\$9,597.62
Baseline Assessment of Contribution to Climate Change	8	\$1,600.00	25	\$4,375.00	40	\$5,000.00	10	\$500.00	0	\$0.00	0	\$0.00		0	\$ -	\$0	\$11,475.00	0	\$0.00	4	\$102.52	2	\$84.00	4	\$204.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$ -	\$0	\$396.52	\$11,865.52
Dam Assessment and Identification for Removal	0</																																			

Prepare for and Facilitate CRSC Meeting #4	3	\$600.00	5	\$875.00	0	\$0.00	8	\$400.00	0	\$0.00	5	\$425.00	Travel, Printing, Food	1	\$ 300.00	\$300	\$2,600.00	2	\$125.00	2	\$51.26	2	\$84.00	2	\$102.00	2	\$51.26	2	\$116.88	6	\$300.00		0	\$ -	\$0	\$830.40	\$3,430.40
Develop Community Climate Action Toolkit	2	\$400.00	8	\$1,400.00	8	\$1,000.00	20	\$1,000.00	0	\$0.00	20	\$1,700.00	Design Services for final toolkit	1	\$ 1,200.00	\$1,200	\$6,700.00	0	\$0.00	0	\$0.00	2	\$84.00	0	\$0.00	0	\$0.00	0	\$0.00	6	\$300.00		0	\$ -	\$0	\$384.00	\$7,084.00
Develop Annual Reporting Protocol and Collect Data on Key Sustainability & Resilience Metrics	2	\$400.00	12	\$2,100.00	4	\$500.00	20	\$1,000.00	25	\$2,375.00	0	\$0.00	Online Platform Tool	1	\$ 9,500.00	\$9,500	\$15,875.00	2	\$125.00	8	\$205.04	2	\$84.00	4	\$204.00	4	\$102.52	0	\$0.00	0	\$0.00		0	\$ -	\$0	\$720.56	\$16,595.56
Total Task 4 Cost																	\$37,775.00																		\$2,995.76	\$40,770.76	
Task 5: Final Plan Development																																					
Compile and Analyze Results of All Previous Phases and Create Draft Plan	0	\$0.00	2	\$350.00	0	\$0.00	4	\$200.00	0	\$0.00	8	\$680.00		0	\$ -	\$0	\$1,230.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00		0	\$ -	\$0	\$0.00	\$1,230.00
Prepare for and Facilitate CRSC Meeting #5	3	\$600.00	5	\$875.00	0	\$0.00	8	\$400.00	0	\$0.00	5	\$425.00	Travel, Printing, Food	1	\$ 300.00	\$300	\$2,600.00	2	\$125.00	2	\$51.26	2	\$84.00	2	\$102.00	2	\$51.26	2	\$116.88	6	\$300.00		0	\$ -	\$0	\$830.40	\$3,430.40
Public Comment on Draft Plan	0	\$0.00	0	\$0.00	0	\$0.00	4	\$200.00	0	\$0.00	0	\$0.00		0	\$ -	\$0	\$200.00	2	\$125.00	4	\$102.52	0	\$0.00	2	\$102.00	2	\$51.26	2	\$116.88	0	\$0.00		0	\$ -	\$0	\$497.66	\$697.66
Revise and Finalize Plan	2	\$400.00	10	\$1,750.00	4	\$500.00	12	\$600.00	0	\$0.00	20	\$1,700.00	Design Services for Final Plan	1	\$ 4,000.00	\$4,000	\$8,950.00	0	\$0.00	2	\$51.26	2	\$84.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00		0	\$ -	\$0	\$135.26	\$9,085.26
Presentation of Final Plan	2	\$400.00	2	\$350.00	0	\$0.00	8	\$400.00	0	\$0.00	0	\$0.00		0	\$ -	\$0	\$1,150.00	2	\$125.00	2	\$51.26	2	\$84.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00		0	\$ -	\$0	\$260.26	\$1,410.26
Total Task 5 Cost																	\$14,130.00																		\$1,723.58	\$15,853.58	
TOTAL PROJECT COST FY21																	\$93,015.00																		\$48,892.82	\$141,907.82	
TOTAL PROJECT COST OVERALL	87		279		177		353		213		226				26250		\$171,695.00	62		140		92		66		62		44		220					\$75,954.62	\$247,649.62	

30.67%

Tasks	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
<b>Task 1: Baseline Assessment, Goal Setting, &amp; Branding</b>																		
<i>Ongoing Project Management</i>																		
<i>Gather Background Information through Interviews and Review of Existing Policies, Ordinances, and Plans</i>																		
<i>Baseline Assessment of Contribution to Climate Change</i>																		
<i>Dam Assessment and Identification for Removal</i>																		
<i>Inventory of Town Forest Resources</i>																		
<i>Form a Community Resiliency Stakeholder Committee (CRSC)</i>																		
<i>Develop and Confirm Brand for Holliston’s Climate Resilience work</i>																		
<i>Develop Community Engagement Strategy</i>																		
<i>Prepare for and Facilitate CRSC Meeting #1</i>				*														
<i>Launch Online Community Engagement on Priorities and Concerns</i>																		
<i>Develop Sustainability &amp; Resilience Framework</i>																		
<i>Confirm Focus of and Develop Script for a Video</i>																		
<b>Task 2: Action Identification</b>																		
<i>Best Practice Research and Creation of Sample List of Potential Actions</i>																		
<i>Prepare for and Facilitate CRSC Meeting #2</i>						*												
<i>Community Engagement on Actions &amp; Solutions</i>																		
<i>Refinement of Actions for Evaluation &amp; Prioritization</i>																		
<b>Task 3: Action Evaluation &amp; Prioritization</b>																		
<i>Evaluation of Actions Based on the Sustainability &amp; Resilience Framework</i>																		
<i>Prepare for and Facilitate CRSC Meeting #3</i>										*								
<i>Community Engagement on Action Prioritization</i>																		
<i>Confirm the Final Actions for Inclusion in the Plan</i>																		
<b>Task 4: Implementation Blueprint Development</b>																		
<i>Identify Implementation Criteria for Prioritized Actions</i>																		
<i>Create and Finalize Implementation Strategies</i>																		
<i>Prepare for and Facilitate CRSC Meeting #4</i>													*					
<i>Develop Community Climate Action Toolkit</i>																		
<i>Develop Annual Reporting Protocol and Collect Data on Key Sustainability &amp; Resilience Metrics</i>																		
<b>Task 5: Final Plan Development</b>																		
<i>Compile and Analyze Results of All Previous Phases and Create Draft Plan</i>																		
<i>Prepare for and Facilitate CRSC Meeting #5</i>															*			
<i>Public Comment on Draft Plan</i>																		
<i>Revise and Finalize Plan</i>																		
<i>Presentation of Final Plan</i>																		

\* = In-person CRSC Meetings  
# = Launch online engagement

### Statement of Match

The Town of Holliston is committed to match 25% of the total project cost using cash and in-kind contributions and acknowledges that the funding under this grant will be provided on a reimbursement basis.

All matching funds provided by Holliston have been approved and/or appropriated.

11/13/19

Date



Signature of Chief Municipal Officer

Mark Ahronian – Chairperson, Select Board

Name and Title (Typed)

May 2020

Duration of Term

Mailing Address: 703 Washington Street

Holliston, MA 01746

Telephone: (508) 429-0608



**TOWN OF HOLLISTON  
SELECT BOARD**

**703 Washington Street  
Holliston, MA 01746**

**508-429-0608**

November 4, 2019

Kara Runsten, Municipal Vulnerability Preparedness Manager  
Executive Office of Energy and Environmental Affairs  
100 Cambridge Street, Suite 900  
Boston, MA 02114  
[Kara.runsten@mass.gov](mailto:Kara.runsten@mass.gov)

**RE: Letter of Support for Holliston's MVP Action Grant Application**

Dear Ms. Runsten,

It is with great enthusiasm that we submit this letter of support on behalf of Holliston Select Board. for the MVP Action Grant for the development of a Sustainability & Resilience Action Plan. Recently, the Holliston community has been expressing a greater urgency to move forward to address climate change. We acknowledge that this is something we have to do together as a community, and we believe the development of an effective and implementable Sustainability & Resilience Action Plan will be the most effective way to help our small community identify priorities and needs and find solutions to address them.

As growth continues, going forward we want to introduce tools to assist the land use departments and all departments about the importance of sustainability and resiliency.

We look forward to playing an active role on the development and implementation of Holliston's Sustainability & Resilience Action Plan to ensure a more sustainable and resilient future for our residents and businesses.



Sincerely,

A handwritten signature in black ink, appearing to read 'Mark Ahronian', with a long, sweeping horizontal stroke extending to the right.

Mark Ahronian, Chair

A handwritten signature in black ink, appearing to read 'John Cronin', with a long, sweeping horizontal stroke extending to the right.

John Cronin, Vice Chair

*Christina Hein*  
Tina Hein, Clerk



**HOLLISTON PUBLIC SCHOOLS**  
**Office of the Superintendent**  
**370 Hollis Street • Holliston, Massachusetts 01746**  
**Telephone (508)429-0654 • FAX (508)429-0653**

*Bradford L. Jackson, Ed.D.*  
*Superintendent of Schools*

November 12, 2019

Kara Runsten, Municipal Vulnerability Preparedness Manager  
Executive Office of Energy and Environmental Affairs  
100 Cambridge Street, Suite 900  
Boston, MA 02114  
[Kara.runsten@mass.gov](mailto:Kara.runsten@mass.gov)

RE: Letter of Support for Holliston's MVP Action Grant Application

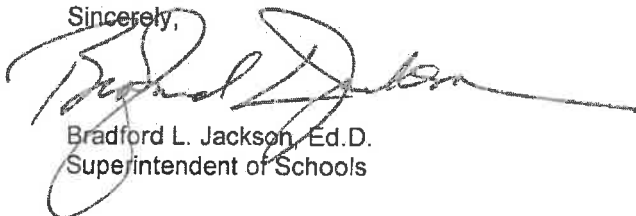
Dear Ms. Runsten:

On behalf of the Holliston Public Schools, I am pleased to submit this letter of support of Holliston's MVP Action Grant for the development of a Sustainability & Resilience Action Plan. Recently, many members of the Holliston community have been expressing a greater urgency to move forward to address the issue of climate change. We understand, as a community, that this is something we have to do together, and we believe the development of an effective and implementable Sustainability & Resilience Action Plan will be the most effective way to help our small community identify priorities and needs and then find solutions to address them.

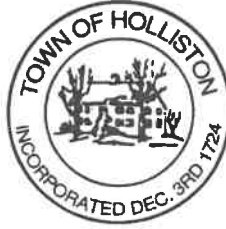
The issues of climate change are central themes in many of the Project-Based Learning units throughout our school system. The Adams Middle School, for example, uses the United Nation's Sustainable Development Goals as the cornerstone of many of the exploration-based learning opportunities they offer. As a result, our students leave our school system understanding the issues related to sustainability and interested in working to solve them. I expect to be able to link our ongoing efforts in classroom instruction to the work that will take place under this grant application, offering our students the opportunity to understand these issues further and how they can impact them locally.

I look forward to playing an active role in the development and implementation of Holliston's Sustainability & Resilience Action Plan to ensure a more sustainable and resilience for our students, residents and businesses. On behalf of the Holliston Public Schools, I would sincerely appreciate any support you can offer our Grant Application.

Sincerely,



Bradford L. Jackson, Ed.D.  
Superintendent of Schools



November 8, 2019

Kara Runsten, Municipal Vulnerability Preparedness Manager  
Executive Office of Energy and Environmental Affairs  
100 Cambridge Street, Suite 900  
Boston, MA 02114  
[Kara.runsten@mass.gov](mailto:Kara.runsten@mass.gov)

Re: Letter of Support for Holliston's MVP Action Grant Application

Dear Ms Runsten,

It is with great enthusiasm that I submit this letter of support on behalf of XXXXX for the MVP Action Grant submitted by the Town of Holliston to develop a Sustainability & Resilience Action Plan. Recently the Holliston community has expressed greater urgency to move forward to address climate change. We acknowledge that this is something we have to do together as a community, and we believe the development of an effective and implementable Sustainability & Resilience Plan will be the best way to help our community identify priorities and needs and find solutions to address them.

The Board of Assessors notes that Holliston is running out of buildable land. The residents' appetite for maintaining open space may change when we stop receiving chunks of new growth each year from new construction. New growth eases the tax burden by increasing the levy and reducing need for overrides. If the land deteriorates beyond its current condition, that could accelerate an anti-open space sentiment. Additional high-end, upscale single-family residences would not improve our long-term sustainability, and the destruction of the woodlands would hurt water management, our defense against rising heat and our environmental footprint.

We look forward to playing an active role on the development and implementation of Holliston's Sustainability & Resilience Action Plan to ensure a sound future for our residents and businesses.

Sincerely,

Mary Greendale, Chair  
Board of Assessors

## Holliston Wellness Council

<https://www.facebook.com/hollistonwellness/>

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November 4, 2019

Kara Runsten, Municipal Vulnerability Preparedness Manager  
Executive Office of Energy and Environmental Affairs  
100 Cambridge Street, Suite 900  
Boston, MA 02114  
[Kara.runsten@mass.gov](mailto:Kara.runsten@mass.gov)

### **RE: Letter of Support for Holliston's MVP Action Grant Application**

Dear Ms. Runsten,

It is with great enthusiasm that we submit this letter of support on behalf of the Holliston Wellness Council for the MVP Action Grant for the development of a Sustainability & Resilience Action Plan.

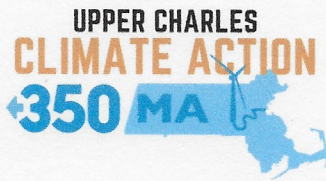
Recently, the Holliston community has been expressing a greater urgency to move forward in addressing climate change. We acknowledge that this is something we have to do together as a community, and we believe the development of an effective and implementable Sustainability & Resilience Action Plan will be the best way to help our small community identify priorities and needs and find solutions to address them. A healthy planet is, of course, fundamental to any wellness effort and we welcome the opportunity to collaborate with our community partners.

We look forward to the development and implementation of Holliston's Sustainability & Resilience Action Plan to ensure a more sustainable and resilient future for our residents and businesses.

Sincerely,

Handwritten signatures of Alex Businger and Lisa Kocian. The signature on the left is "Alex Businger" and the signature on the right is "LK".

Lisa Kocian and Alex Businger, co-chairs, Holliston Wellness Council



November 6, 2019

Kara Runsten, Municipal Vulnerability Preparedness Manager  
Executive Office of Energy and Environmental Affairs  
100 Cambridge Street, Suite 900  
Boston, MA 02114  
[Kara.runsten@mass.gov](mailto:Kara.runsten@mass.gov)

RE: Letter of Support for Holliston's MVP Action Grant

Dear Ms. Runsten:

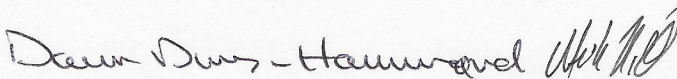
The Upper Charles Climate Action node of 350 Mass strongly supports the application by the Town of Holliston for a Municipal Vulnerability Preparedness Planning Grant.

We are a citizen group dedicated to state and local action to promote climate legislation, to increase the use of clean energy, and to educate the public. We believe that there are no tasks more important for any municipality than to reduce carbon emissions in order to limit climate disruption, and to adapt to the warming that is already inevitable.

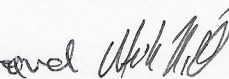
We are eager to support and work with our town administrators to develop a Sustainability and Resiliency Action Plan. We have confidence in the ability of our residents, businesses and town government to collaboratively identify specific climate action goals and take coordinated action to meet them.

Thank you for your consideration.

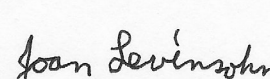
**Upper Charles Climate Action Node of 350 MA**

  
Dawn Durning-Hammond

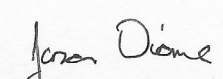
Co-Coordinator

  
Utah Nickel

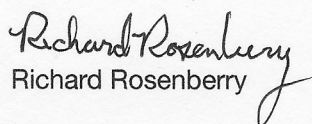
Co-Coordinator

  
Joan Levinsohn

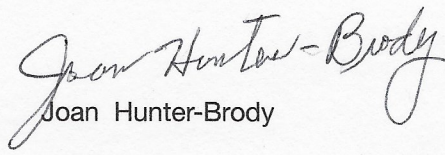
Member

  
Jason Dionne

Member

  
Richard Rosenberry

Member

  
Joan Hunter-Brody

Member



**TOWN OF HOLLISTON**  
**COMMONWEALTH OF MASSACHUSETTS**

Christopher Bajdek, Chair  
Rebecca Weissman, Vice Chair  
Jennifer Buttarò  
Shaw Lively



Utah Nickel  
Ann Marie Pilch  
Allen Rutberg

Ryan Clapp, Conservation Agent

**CONSERVATION COMMISSION**

November 7, 2019

Kara Runsten, Municipal Vulnerability Preparedness Manager  
Executive Office of Energy and Environmental Affairs  
100 Cambridge Street, Suite 900  
Boston, MA 02114  
kara.runsten@mass.gov

**RE: Letter of Support for Holliston's MVP Action Grant Application**

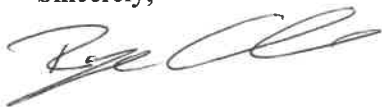
Dear Ms. Runsten,

On behalf of the Holliston Conservation Commission, I am pleased to provide this letter of support for the MVP Action Grant submitted by the Town of Holliston for the development of a Sustainability & Resilience Action Plan. The Holliston community has been expressing their need to address climate change and prepare for and mitigate the effects it will have on our community. We acknowledge that this is something we must do together as a community, and we believe that the development of an effective and implementable Sustainability & Resilience Action Plan will be the most effective way to help our community identify priorities and needs and find solutions to address them.

As the local municipal department primarily concerned with environmental protection, the Conservation Commission has a vested interest in addressing the impacts of climate change. Wetlands are one of the largest sinks of carbon dioxide, the greenhouse gas primarily responsible for climate change. Therefore, such a Sustainability & Resilience Action Plan is profoundly entwined with our mission in protecting wetland resources. Additionally, as the single largest landowner in Town, with over 1,400 acres under the ownership of the Conservation Commission, protecting these lands from the impacts of climate change is important for their continued health and conservation values.

We look forward to playing an active role in the development and implementation of Holliston's Sustainability & Resilience Action Plan to ensure a more sustainable and resilient future for our residents and businesses.

Sincerely,



Ryan Clapp  
Conservation Agent



HOLLISTON  
Democratic  
Town Committee

[hollistondems@verizon.net](mailto:hollistondems@verizon.net)



November 7, 2019

Kara Runsten, Municipal Vulnerability Preparedness Manager  
Executive Office of Energy and Environmental Affairs  
100 Cambridge Street, Suite 900  
Boston, MA 02114  
[Kara.runsten@mass.gov](mailto:Kara.runsten@mass.gov)

RE: Letter of Support for Holliston's MVP Action Grant Application

Dear Ms. Runsten:

We are writing in strong support of the Town of Holliston's application for the Municipal Vulnerability Preparedness (MVP) Planning Grant.

The Holliston Democratic Town Committee is a vibrant, action-oriented organization that has demonstrated a firm commitment to environmental advocacy. We are thrilled that the Town of Holliston is demonstrating a similar commitment to address climate change at the local level. We pledge our support in the development of a Sustainability & Resilience Action Plan that lays out a clear path to address our town's priorities, needs and solutions.

We look forward to working with town administrators and other local organizations to ensure a more sustainable and resilient future for our residents and businesses.

Sincerely,

Lisa Kaplan  
Committee Chair

Patrick Bolger  
Co-Vice Chair

Richard Rosenberry  
Co-Vice Chair



Holliston Cable Access, Inc.  
Post Office Box 6623  
Holliston, Massachusetts 01746  
508-429-8979

November 5, 2019

Kara Runsten, Municipal Vulnerability Preparedness Manager  
Executive Office of Energy and Environmental Affairs  
100 Cambridge Street, Suite 900  
Boston, MA 02114  
[Kara.runsten@mass.gov](mailto:Kara.runsten@mass.gov)

**RE: Letter of Support for Holliston's MVP Action Grant Application**

Dear Ms. Runsten,

It is with great enthusiasm that we submit this letter of support on behalf of the Holliston Cable Access for the MVP Action Grant for the development of a Sustainability & Resilience Action Plan.

Recently, the Holliston community has been expressing a greater urgency to move forward to address climate change. We acknowledge that this is something we have to do together with the community, and we believe Holliston Cable Access can help the Town in developing an effective Sustainability & Resilience Action Plan.

We look forward to working with the Town in developing a Public Outreach Video on Sustainability & Resiliency to ensure a more sustainable and resilient future for our residents and businesses.

Sincerely,

Bruce Gilfoy  
Station Manager

**TOWN OF HOLLISTON**  
**Recreation Department**

---

**1750 Washington Street Holliston, MA 01746**  
(508) 429-2149 – Fax (508) 429- 0696

Kara Runsten, Municipal Vulnerability Preparedness Manager  
Executive Office of Energy and Environmental Affairs  
100 Cambridge Street, Suite 900  
Boston, MA 02114  
[Kara.runsten@mass.gov](mailto:Kara.runsten@mass.gov)

Dear Ms. Runsten,

It is with great enthusiasm that I submit this letter of support on behalf of Holliston Parks and Recreation for the MVP action grant submitted by the Town of Holliston for the development of a Sustainability & Resilience Action Plan. Recently the Town of Holliston community has been expressing a greater urgency to move forward to address climate change. We acknowledge that this is something we have to do together as a community, and we believe the development of an effective and implementable Sustainability & Resilience Action Plan will be the most effective way to help our small community identify priorities and needs and find solutions to address them.

The Parks and Recreation Department relies heavily on our town's natural resources for our programming. Protecting these resources from increasing environmental threats is extremely important to us. Reducing the vulnerability of our parks, fields and waterfront areas is something that will help us bring more consistent and reliable recreational programming to the residents of this community and we believe it is very important.

We look forward to playing an active role on the development and implementation of Holliston's Sustainability and Resilience Action Plan to ensure a more sustainable and resilient future for our residents and businesses.

Sincerely



Mark Frank



# Holliston Police Department

550 Washington Street  
Holliston, Massachusetts 01746  
Tel 508-429-1212  
Fax 508-429-0611  
[www.hollistonpolice.com](http://www.hollistonpolice.com)

Chad E. Thompson  
Lieutenant

Matthew J. Stone  
Chief of Police

George A. Leurini  
Lieutenant

November 5, 2019

Kara Runsten, Municipal Vulnerability Preparedness Manager  
Executive Office of Energy and Environmental Affairs  
100 Cambridge Street, Suite 900  
Boston, MA 02114  
[Kara.Runsten@mass.gov](mailto:Kara.Runsten@mass.gov)

## **RE: Letter of Support for Holliston's MVP Action Grant Application**

Dear Ms. Runsten,

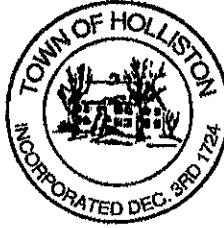
Please accept this letter of support on behalf of the Holliston Police Department for the Municipal Vulnerability Preparedness (MVP) Action grant for the development of a Sustainability and Resilience Action Plan. We understand that the MVP grant program provides support for cities and towns in Massachusetts to begin the process of planning for climate change resiliency and implementing priority projects.

The Holliston Police Department acknowledges that addressing climate change is a collaborative effort with the community, and we believe the men and women of the Holliston Police Department can help the Town in developing an effective Sustainability and Resilience Action Plan.

We are excited to join the MVP program and to be able to use our local knowledge and community strengths to partner with the Commonwealth to prepare for the impacts of climate change. We look forward to working with the Town to ensure a more sustainable and resilient future for our residents and businesses.

Sincerely,

Matthew J. Stone  
Chief of Police



**TOWN OF HOLLISTON  
SELECT BOARD**

**703 Washington Street  
Holliston, MA 01746**

**508-429-0608**

November 4, 2019

Kara Runsten, Municipal Vulnerability Preparedness Manager  
Executive Office of Energy and Environmental Affairs  
100 Cambridge Street, Suite 900  
Boston, MA 02114  
[Kara.runsten@mass.gov](mailto:Kara.runsten@mass.gov)

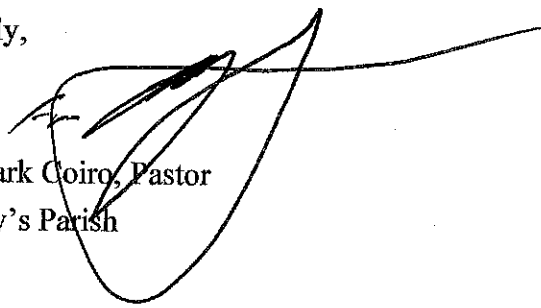
**RE: Letter of Support for Holliston's MVP Action Grant Application**


Dear Ms. Runsten,

It is with great enthusiasm that we submit this letter of support on behalf of the Holliston Select Board for the MVP Action Grant for the development of a Sustainability & Resilience Action Plan. Recently, the Holliston community has been expressing a greater urgency to move forward to address climate change. We acknowledge that this is something we have to do together as a community, and we believe the development of an effective and implementable Sustainability & Resilience Action Plan will be the most effective way to help our small community identify priorities and needs and find solutions to address them.

We look forward to the development and implementation of Holliston's Sustainability & Resilience Action Plan to ensure a more sustainable and resilient future for our residents and businesses.

Sincerely,

  
Rev. Mark Coiro, Pastor  
St. Mary's Parish

  
Leo Racine  
for the Creation Care Team

November 13, 2019

Kara Runsten, Municipal Vulnerability Preparedness Manager  
Executive Office of Energy and Environmental Affairs  
100 Cambridge Street, Suite 900  
Boston, MA 02114  
[Kara.runsten@mass.gov](mailto:Kara.runsten@mass.gov)

**RE: Letter of Support for Holliston's MVP Action Grant Application**

Dear Ms. Runsten,

It is with great enthusiasm that I submit this letter of support on behalf of Charles River Watershed Association (CRWA) for the MVP Action Grant submitted by the Town of Holliston for the development of a Sustainability & Resilience Action Plan. Like many communities in our watershed, Holliston has been expressing a greater urgency to move forward with addressing climate change. We fully support this effort and acknowledge that addressing the challenges of climate change require support and active participation from a broad community of stakeholders. We support the Town's proposal to develop an effective and implementable Sustainability & Resilience Action Plan. This is a critical first step for this community, where time and resources are limited, to identify priorities and needs and find appropriate solutions to address them.

CRWA is particularly excited to be partnering with the Town on this project to conduct a review and prioritization of the Town's dams for possible removal. Dam removal can be an expensive and timely process and by reviewing various dam removal opportunities as part of the Sustainability & Resilience Action Plan the Town will begin to understand the various benefits and challenges of removing each individual dam to set near- and long-term priorities. CRWA has experience working on dam removal with multiple watershed communities. Dam removal is a straightforward step communities can take to reduce expenses and vulnerabilities while building nature based flood storage solutions into their landscape.

We look forward to playing an active role in this project and supporting Holliston's Sustainability & Resilience Action Plan to ensure a more sustainable and resilient future for watershed residents and natural ecosystems.

Sincerely,



Emily Norton  
Executive Director



## **Attachment F: MVP Yearly Progress Report Template**

### **MUNICIPAL VULNERABILITY PREPAREDNESS PROGRAM FY 20**

#### **MVP ACTION GRANT**

#### **RFR ENV 20 MVP 02**

## **Executive Office of Energy and Environmental Affairs**

Municipal Vulnerability Preparedness Program Yearly Progress Report

**July 1, 2018-June 30, 2019 Reporting Period**



Date: November 12, 2019

Municipality: Town of Holliston

Local MVP Contact Name: Jeff Ritter

1. Please list your municipalities' top priority actions, in order of priority, identified through the MVP planning process.

Through this process, MVP Workshop stakeholders identified over 70 possible actions. The following are the top four actions that were collectively identified as priorities for Holliston:

- Partner with the Charles River Watershed Association to assess all dams in Holliston to determine the best candidates for removal and ecological restoration (12 votes)
- Pursue funding to accelerate the water distribution system replacement program (9 votes)
- Install more air conditioning in schools (8 votes)
- Create a forest management plan (8 votes)

2. Has your Core Team reconvened since your Listening Session? If so, describe the process and any revisions or updates your team made to the original MVP Report? Please list your MVP Core Team members and note any new members.

The MVP Core Team did reconvene to discuss and develop the MVP grant application. No changes were made to the original MVP Report.

MVP Core Team Members:

Jeff Ritter- Town Manager  
Michael Cassidy Fire Chief  
Ryan Clapp Conservation Agent  
Joan Hunter-Brody Member 350.org  
Joan Levinsohn Member 350.org

Chris Meo Technology Director Town of Holliston  
Scott Moles Health Director/Agent Holliston Board of Health  
Sean Reese Director Department of Public Works  
Rich Rosenberry Member 350.org

3. Discuss any other work related to the MVP process or climate change resiliency in the municipality. In what ways has your municipality used the outcomes of your workshop in other planning efforts (e.g., updating existing local plans)?

The Town has been looking to set aside funding to address some of the top actions specifically those around the dams assessment and removal and the forest management plan for our Town Forests.

4. Please list any grants that your municipality has applied for, or received, to implement actions from your MVP report. Please note grant awards or applications that advanced priority actions.

The Town received some state funding to hire a consultant to drive sustainability related activities in Holliston. This person will be involved with the MVP Action Grant, but not as a match.

5. Please list any other steps that your municipality has taken towards implementing your priority actions.

Tina Hein, a member of the Select Board and the Boards designee to work on the MVP Action Team has worked diligently with Kim Lundgren Associates to prepare the MVP Action Plan and more recently, the two of them have brought on two Holliston Staff, Karen Sherman and Chris Meo as the Application mention to start working with other stakeholders to implement the 3 actions.

6. Please list any potential next steps to advance priority actions during FY2020 (July 1, 2019 to June 30, 2020)?

The Town is committed to hiring a Sustainability Coordinator to help lead all these stated priorities. The position should be advertised in early January 2020 with a start date of February 1, 2020. In addition, the Town has applied for a Matching MVP Grant to start the planning process for the 3 top priority actions identified during the MVP Workshops held in July 2019

7. Please note any difficulties or challenges the community has identified through the MVP planning process or while seeking to implement priority actions and any steps the community has identified to address these challenges.

We have identified that many Town owned parcels, including the Adams Street Town Forest have not been surveyed or actively managed. In particular, the Adams Street Forest is landlocked and is situated between several parcels owned by the Conservation Commission which are subject to conservation restrictions which do not allow active silviculture.

8. Please identify any data needs or information gaps that the state could help fill.



*The Commonwealth of Massachusetts*  
*Executive Office of Energy and Environmental Affairs*  
*100 Cambridge Street, Suite 900*  
*Boston, MA 02114*

CHARLES D. BAKER  
GOVERNOR

KARYN E. POLITO  
LIEUTENANT GOVERNOR

MATTHEW A. BEATON  
SECRETARY

Tel: (617) 626-1000

Fax: (617) 626-1181

<http://www.mass.gov/eea>

Jeff Ritter  
703 Washington St.  
Holliston, MA 01746

September 9, 2019

Dear Jeff,

Congratulations! On behalf of Governor Baker and Lieutenant Governor Polito, I am excited to notify you that the Town of Holliston has been designated by the Executive Office of Energy and Environmental Affairs (EEA) as a Municipal Vulnerability Preparedness (MVP) Community for its completion of the Community Resiliency Building planning process. This MVP Community designation indicates the Town's commitment to preparing for climate change. As an MVP Community, the Town of Holliston is eligible to apply for MVP Action Grants as administered by EEA and may receive increased standing in future state funding opportunities, allowing you to pursue implementation of priority actions.

In order to maintain MVP designation, the Town of Holliston must submit yearly progress reports to EEA by June 30. In addition, progress reports must also be submitted with MVP Action Grant applications. EEA will provide a progress report template to summarize steps taken to build on the MVP planning process. Such steps may include:

- Applying for grants, such as the MVP Action Grant, that support implementation of resiliency measures;
- Reconvening your Core Team to make revisions/updates to the MVP report/plan, or discuss progress related to resiliency and MVP;
- Using the outcomes of your workshop to inform other planning efforts or updating existing documents (e.g., updating existing local plans); and/or
- Taking additional steps towards implementing your priority actions.

I want to commend your community's dedication to climate change resiliency and I look forward to watching as the Town of Holliston continues its efforts to plan and implement priority climate adaptation strategies. Going forward, should you have any questions, please contact Kara Runsten, MVP Program Manager ([kara.runsten@mass.gov](mailto:kara.runsten@mass.gov)).

Again, congratulations, and best wishes.

*K. Theoharides*

Secretary Kathleen Theoharides



Printed on Recycled Stock



# **Town of Holliston Municipal Vulnerability Preparedness Program**



## **Community Resilience Building Workshop Summary of Findings Report**

**July 2019**

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Prepared for the Town of Holliston, MA

Prepared by Kim Lundgren Associates, Inc.

With a grant from the Massachusetts Executive Office of Energy & Environmental Affairs





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# Town of Holliston

## Community Resilience Building Workshop

### Summary of Findings

#### I. Overview

This Summary of Findings Report presents the results from a two-month effort by the Town of Holliston to start the conversation about climate change within the community. In the spring of 2019, Holliston received funds from the Massachusetts Municipal Vulnerability Preparedness (MVP) Program to begin the conversation. The MVP program provides funding for cities and towns in Massachusetts to plan for climate change resilience and implement priority projects. The state awards communities with funding to complete vulnerability assessments and develop action-oriented resilience plans. Communities who complete the MVP program become certified as an MVP community and are eligible for action grant funding. In June 2019, the Town of Holliston convened two workshops where local and regional stakeholders assessed current and future strengths and vulnerabilities and identified potential actions to create a more resilient community. This report summarizes the results of the two workshops and the priority actions developed by the Town's stakeholders.

Changes in climate are becoming more apparent in Holliston in the form of several hazards:

- **Heat:** the Northeastern United States has experienced just over a 1.4°F increase in average annual temperature since the early- to mid-1900s,<sup>1</sup> and the number of hot days in Holliston has been on the rise.
- **Drought:** Holliston (along with the rest of Massachusetts) also experienced the impacts of drought during the latter half of 2016.<sup>2</sup> In October 2016, 52% of the land area in Massachusetts was considered to be in “Exceptional Drought,”<sup>3</sup>
- **Intense Storms:** Another notable change is the increase in the intensity and frequency of rain events. The northeast has already seen a 70% increase in the intensity of rain events from 1958 to 2010.<sup>4</sup>
- **Flooding:** Holliston has experienced 13 flooding events since 1978, and the threat is growing due to projected increases in the number of storm events that could lead to dam and/or stormwater infrastructure failure.

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<sup>1</sup> U.S. Global Change Research Program. 2017. Climate Science Special Report: Fourth National Climate Assessment. Chapter 6. U.S. Global Change Research Program. Retrieved from <https://science2017.globalchange.gov/chapter/6/>

<sup>2</sup> National Oceanic and Atmospheric Administration. Massachusetts. Retrieved from <https://www.drought.gov/drought/states/massachusetts>

<sup>3</sup> National Oceanic and Atmospheric Administration. Massachusetts. Retrieved from <https://www.drought.gov/drought/states/massachusetts>

<sup>4</sup> City of Boston. 2016. Climate Ready Boston. Retrieved from [https://www.boston.gov/sites/default/files/02\\_20161206\\_executivesummary\\_digital.pdf](https://www.boston.gov/sites/default/files/02_20161206_executivesummary_digital.pdf)

Combined, these hazards have sparked a desire within the Town to begin identifying and implementing actions that will enhance local resilience to these existing conditions and projected changes.

Holliston has already taken several steps to combat climate change and protect its natural resources. Over the last several years, the Town has been addressing greenhouse gas emissions and energy use through the Massachusetts Green Communities program. Additionally, Holliston has protected a large amount of open space, with over 1,400 acres currently managed by the Conservation Commission and an associated group of volunteers. The MVP program allows the Town to expand the climate change conversation to resilience and preparing for future impacts.

In May 2019, the Town of Holliston partnered with Kim Lundgren Associates, Inc. (KLA) to design a process that would allow the Town to become an MVP Community. The work described in this report is a crucial step in Holliston's journey to a more resilient future. To complete the work outlined in this report, the Town of Holliston worked with KLA to:

- Create a Core Team comprised of key internal stakeholders;
- Establish goals for the MVP process;
- Conduct research on historic and projected changes and impacts from climate change;
- Determine an initial set of high-priority hazards;
- Collaboratively design two MVP workshops using the Community Resilience Building process;
- Identify and invite key stakeholders to participate in the MVP workshops;
- Host two MVP workshops where:
  - a) the highest priority hazards were confirmed;
  - b) the impacts, strengths, and vulnerabilities to infrastructure, socio-economic systems, and environmental systems were identified;
  - c) a number of adaptation actions were created; and
  - d) a final set of high priority action items were collectively defined and agreed upon by workshop participants; and
- Prepare for and host a listening session to discuss the results from the workshop and solicit feedback from the community.

The cornerstones of this work were the MVP workshops hosted by the Town. The central objectives of these workshops were to:

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

The remainder of this report provides greater detail about the MVP process that the Town of Holliston undertook, and the actions identified as high priorities to enhance local and regional resilience. The Town would like to thank the Massachusetts Executive Office of Energy and Environmental Affairs for their financial and technical support for this effort.



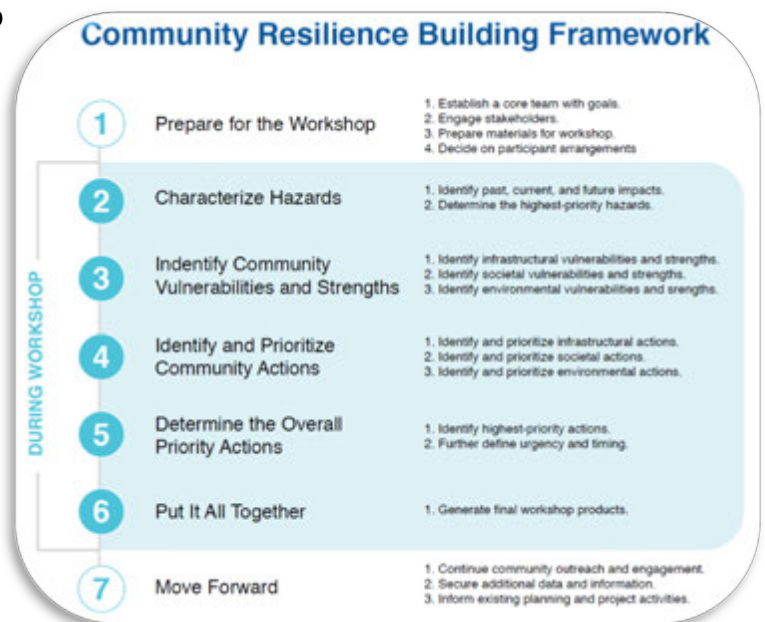


## MVP Planning Process

In May 2019, Holliston's Town Administrator worked with KLA to identify individuals to serve on the MVP Core Team. In a meeting on May 16, 2019, eight Core Team members learned about the MVP process and their role, confirmed materials and logistics for the MVP Workshops, brainstormed the top hazards to be discussed at the workshops, and reviewed how Holliston plans to leverage the results of MVP to spur greater community action on climate change. The Core Team also discussed maps generated for the MVP process. The Metropolitan Area Planning Commission generated two new maps showing socio-economic and infrastructural features of the Town, and a previous map generated through the Town's Open Space planning process was used to discuss environmental features. These maps are available in Appendices One, Two, and Three.

The Core Team identified individuals to participate in the two MVP workshops. The Core Team was careful to ensure that invitees represented the diversity of the community, including key Town departments, schools, conservation groups, the Library, the Housing Authority, the Senior Center/Council on Aging, the business association, Veterans' Services, regional organizations, and neighboring MVP communities.

The Board of Selectmen sent invitations to the stakeholders for the MVP workshops for the two, 4-hour workshops, scheduled for June 5, 2019 from 12:00pm to 4:00pm and June 7, 2019 from 9:00am to 1:00pm. In total, approximately 30 individuals were invited to participate in the MVP workshops.





Sixteen individuals attended the workshops (see list in Appendix Four). At the workshops, participants were split into two teams to walk through the MVP recommended process, which consisted of:

- Confirming climate hazards;
- Identifying community vulnerabilities and strengths;
- Identifying and prioritize community actions; and
- Determining overall priority actions for implementation.

Each team identified their top actions in three categories (infrastructure, socio-economic, and environmental) and presented them to the full group on the second day. One team had a tie between two actions for the top slot in the environmental and socio-economic categories, so eight actions were presented to the full group. Each participant was provided three dot stickers to vote for their top three actions. The highest priority actions from that exercise were:

1. Partner with the Charles River Watershed Association to assess all dams in Holliston to determine the best candidates for removal and ecological restoration (12 votes)
2. Pursue funding to accelerate the water distribution system replacement program (9 votes)
3. Install more air conditioning in schools (8 votes)
4. Create a forest management plan (8 votes)



To engage the larger community in the conversation, the Town hosted a public MVP Listening Session on June 26, 2019. Town staff cast a large net to promote the event, advertising through the Town's webpage and Facebook account, Police and Fire Department social media accounts, and the *Holliston Reporter* website. Holliston Cable Access also posted an announcement on their three TV channels and filmed the event to air to an even wider audience. *The Holliston Reporter* also covered the event. Approximately 26 community members attended the Listening Session. Discussion at the listening session centered around the four hazards identified by the Core Team and MVP stakeholders and what actions to take to be better prepared for these hazards. A number of residents were particularly interested in the potential to identify solutions that supply co-benefits for both adaptation and mitigation. Four custom posters were developed for the listening session, one for each of the top hazards (described in more detail below). Outcomes

and materials from the Listening Session can be found in Appendix Seven.

## II. Top Hazards and Vulnerable Areas

Through the MVP workshops, as well as pre-workshop preparation, the Town and the Core Team identified four main hazards that have historically impacted the community and are projected to have notable impacts going forward. The four hazards are:

- Heat waves
- Drought
- Intense storms
- Flooding

Appendix Six provides a summary of the historic trends and projected changes in weather and climate experienced in Holliston. This information was foundational to the MVP process as it helped to establish common ground for the stakeholders and discuss what types of changes and associated impacts to expect going forward.

At the MVP Workshops, participants discussed the impacts of the four hazards and articulated features they saw as community strengths and vulnerabilities related to these hazards in three categories: environmental, socio-economic, and infrastructural. Each group worked through all three categories, one at a time. Below are all of the features that were identified by the two teams:



### ***Infrastructural Features:***

- Dams (identified by both teams)
- Water distribution system (identified by both teams)
- Roads and drainage (identified by both teams)
- Critical and municipal buildings (identified by both teams)
- Septic system
- Power and utilities
- Communications systems

### ***Socio-Economic Features***

- Children (identified by both teams)
- Seniors (identified by both teams)
- Medically vulnerable (identified by both teams)
- Small businesses (identified by both teams)
- Affordable housing/low-income residents
- Pets

### ***Environmental Features***

- Parks, recreational facilities, and athletic fields (identified by both teams)
- Open Space/Conservation Land (including Town Forest) (identified by both teams)



- Water supply/aquifer
- Farms
- Wetlands
- Tree canopy
- Stormwater management
- Lake Winthrop
- Beavers

Appendix Five includes a matrix with all the information from both teams.

The majority of these features were flagged as being both strengths and vulnerabilities. As such, workshop participants unpacked what makes each of these features strong as well as what makes them vulnerable before identifying actions that enhanced strengths and mitigated vulnerabilities.

### III. Current Concerns and Challenges Presented by Hazards

More details on each of the four identified hazards is provided below, along with a discussion of what concerned MVP Workshop participants about these hazards and their potential impacts on Holliston.

#### ***Intense Storms***

Over the last several decades, the number and intensity of storms has been on the rise. This includes hurricanes, nor'easters, ice storms, and rainstorms. Research shows that these types of storms are likely to become more frequent, intense, and possibly longer in duration in the future.<sup>5</sup> Intense storms can lead to flooding, property damage, and downed trees and power outages, as well as significant economic disruption.

While nearly every feature of the Town could be affected by intense storms, MVP Workshop participants and the Core Team were particularly concerned with impacts to critical facilities; power and utilities; communications systems; small businesses; and populations like seniors, children, and the medically vulnerable. Participants discussed how intense storms could lead to school and business closures and make it harder for seniors and those with health challenges to access medication and other basic necessities. The vulnerability of the utility grid is of particular concern to some stakeholders, with 57 power outage incidents affecting




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<sup>5</sup> MA Climate Change Clearinghouse. 2019. "Changes in Precipitation." Retrieved from <http://resilientma.org/changes/changes-in-precipitation>

six Town buildings since January 2018.<sup>6</sup> Stormwater runoff polluting Holliston's natural features is also a concern related to intense storms.

Notably, workshop participants acknowledged that many community members that are traditionally identified as "vulnerable" have resilience traits and should be leveraged as a resource when tackling climate change issues. For example, seniors have historic knowledge of past emergencies and ways they were addressed that should be discussed so the Town can learn from the past to inform the future. Additionally, the Town's young people may also be able to implement many of the actions identified through the MVP process (e.g., volunteering to aid seniors and others after extreme events).

### ***Flooding***

While Holliston has fared well to date, flooding, driven by increased precipitation, is a serious threat to the Town. Holliston is home to major tributaries of the Charles River, including Beaver Brook, Hopping Brook, Chicken Brook, and Bogastow Brook, along with Lake Winthrop. There are several dams located along these various waterways that could lead to major flooding if a failure were to occur from a storm or other event. Additionally, as indicated in the 2016 Hazard Mitigation Plan (HMP), "many of the Town's flooding problems are related to insufficient or inoperable stormwater and drainage infrastructure, such as culverts and drain pipes that are not large enough to quickly transport flood waters away from Town streets and neighborhoods and toward the nearby wetlands."<sup>7</sup> These combined issues led stakeholders in the MVP workshop to identify flooding as their top concern for the future.



Much like the HMP, MVP Workshop participants brought up the aging water distribution system and dams as top features of concern related to flooding. Currently the Town is replacing one mile of the water distribution system a year, but participants noted that the rate of replacement is too slow to adequately prepare for future impacts of climate change. Additionally, there are several dams (man-made and beaver built) in critical need of improvements or controlled removal to avoid serious flooding that could damage properties or flood critical facilities. The image shows a beaver dam near Mission Springs elderly housing.

Workshop participants also discussed the potential impacts of flooding on vulnerable populations, indicating that it could lead to school closures and inaccessibility to medicine and services for the elderly and those with medical conditions. Officials noted the presence of a number of cesspools in Town that could be impacted by flooding, leading to public health problems. Participants also felt a need for more emergency preparedness planning; they felt that there are not enough adequate emergency shelters in town and that residents' preparedness knowledge is lacking.

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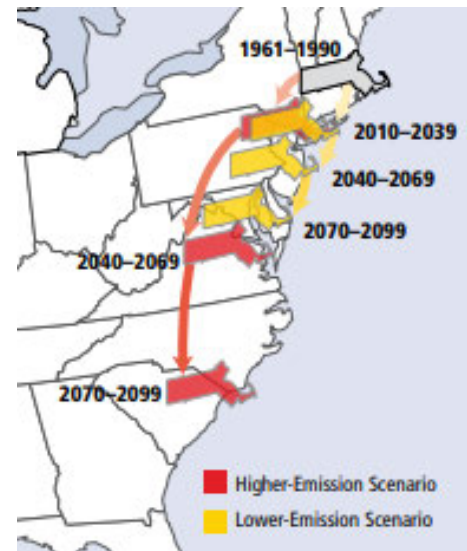
<sup>6</sup> Town of Holliston. 2019. Personal Communication with Chris Meo.

<sup>7</sup> Town of Holliston. 2016. Hazard Mitigation Plan.

Finally, participants, noted that the Town's culverts are aging, undersized, and vulnerable to beaver-induced blockage, leaving them inadequately prepared to deal with an increased amount of precipitation.

### **Heat Waves**

Extreme heat and rising average temperatures are also of concern to the Town and its residents, particularly in regard to vulnerable populations. By mid-century Holliston could see a 4.2° Fahrenheit increase in average annual temperature as compared to the 1971-2000 baseline.<sup>8</sup> We are also projected to see more 'heat waves' defined as three or more days in a row above 90° Fahrenheit. The figure to the right demonstrates this point by showing how Massachusetts' climate may seem more like South Carolina's by the end of the century if greenhouse gas emissions are not significantly reduced.<sup>9</sup> The average number of days per year over 90°F was just 8 from 1971-2000, but by mid-century it could be closer to 30 days. By the end of the century it could reach 46 days.<sup>10</sup> This information led the MVP Core Team and stakeholders to prioritize heat waves as one of the four primary hazards to include in this process.



MVP Workshop stakeholders identified the following groups as being particularly vulnerable to extreme heat: the elderly, youth, those with medical conditions, and low-income individuals who may struggle to pay for cooling needs. Participants noted that air conditioning is only available in certain administrative offices in the schools, creating hot conditions for students and teachers that can lead to unproductive school days. Participants also noted that changing climate conditions are favorable for some invasive species that impact ash and oak trees and other environmental features.

### **Drought**

Even though more annual precipitation is projected overall, it is anticipated to fall in more intense events in the winter and spring rather than in smaller more sporadic events throughout the year. Therefore, there will be longer periods of time that experience no rainfall, especially in the summer and fall, increasing the potential for drought. In October 2016, 52% of the land area in Massachusetts was considered to be in "Exceptional Drought,"<sup>11</sup> and Core Team members and MVP Workshop stakeholders indicated that Holliston felt major impacts from that event. More of these types of events can be expected in the future.

<sup>8</sup> Northeast Climate Adaptation Science Center. 2019. "Annual Average Temperature for Middlesex County." Resilient MA Datagrapher. MA Climate Change Clearinghouse. Retrieved from <http://resilientma.org/datagrapher/?c=Temp/county/avgt/ANN/25017/>

<sup>9</sup> Confronting Climate Change in the Northeast. 2007. Union of Concerned Scientists. Retrieved from [https://www.ucsusa.org/sites/default/files/legacy/assets/documents/global\\_warming/pdf/confronting-climate-change-in-the-u-s-northeast.pdf](https://www.ucsusa.org/sites/default/files/legacy/assets/documents/global_warming/pdf/confronting-climate-change-in-the-u-s-northeast.pdf)

<sup>10</sup> Northeast Climate Adaptation Science Center. 2019. "Days with Maximum Temperature Above 90°F." Resilient MA Datagrapher. MA Climate Change Clearinghouse. Retrieved from <http://resilientma.org/datagrapher/?c=Temp/county/tx90/ANN/25017/>

<sup>11</sup> National Oceanic and Atmospheric Administration. Massachusetts. Retrieved from <https://www.drought.gov/drought/states/massachusetts>

As a town that relies on groundwater for its drinking water supply, Holliston is vulnerable to drought. MVP stakeholders shared concerns that residents in Holliston with wells on their property may have a more significant impact on water supply during times of drought. Finding ways to incentivize hookup to the municipal system (or disincentivize individual wells) was a common theme. Participants also felt that residents need more education on water conservation, as demand has increased over the years. Additionally, many stakeholders are concerned about drier conditions increasing the risk of brush fire in Holliston's extensive amount of conserved land and impacting the health of the Town's wetlands.

#### **IV. Current Strengths and Assets**

When asked what Holliston's greatest strength is, MVP Workshop participants indicated that its people were its greatest asset. Holliston's extensive amount of conserved land and natural features make it no surprise that local natural resources were also identified as a top strength. Participants also identified Holliston's schools and small businesses as features that make the community strong. Leveraging these strengths in adapting to climate change will be key to increasing the overall resilience of the Town into the future.

Other strengths that came up in the MVP Workshops included:

- Seniors
- School age children
- Pets
- Farms
- Recreational facilities
- Municipal buildings
- Critical infrastructure
- Power and utilities
- Communications systems



#### **V. Top Recommendations to Improve Resilience**

The last two steps for the MVP Workshops were to brainstorm possible adaptation actions to address existing or projected vulnerabilities for the features discussed or enhance the aspects that make the feature a strength in the community. This was then followed by a group prioritization of actions to identify which ones the community should take first.

Through this process, MVP Workshop stakeholders identified over 70 possible actions. The following are the top four actions that were collectively identified as priorities for Holliston:

- Partner with the Charles River Watershed Association to assess all dams in Holliston to determine the best candidates for removal and ecological restoration (12 votes)
- Pursue funding to accelerate the water distribution system replacement program (9 votes)
- Install more air conditioning in schools (8 votes)



- Create a forest management plan (8 votes)

Below is the list of top actions presented by each team to the larger group for prioritization, as well as the number of votes cast for each.

#### **Top Infrastructure Actions from Teams**

- Pursue funding to accelerate the water distribution system replacement program (9 votes)
- Partner with the Charles River Watershed Association to assess all dams in Holliston to determine the best candidates for removal and ecological restoration (12 votes)

#### **Top Socio/Economic Actions from Teams**

- Install more air conditioning in schools (8 votes)
- Expand or update current emergency centers (1 vote)
- Develop a community-wide preparedness program, including guidance on what to include in a preparedness kit (3 votes)

#### **Top Environmental Actions from Teams**

- Protect the water supply through zoning, incentivizing hook-up to the municipal system (2 votes)
- Create a forest management plan (8 votes)
- Partner with the State to develop a sustainable beaver eradication program (2 votes)

## **VI. Conclusion and Next Steps**

Holliston is ready to take the next steps to implement these actions and others to make it a model for resilience in Massachusetts. The Town is motivated to seek funding to begin implementing the actions identified in the previous section and expand its portfolio of sustainability and climate action work by developing a Climate Action Plan. The Climate Action Plan would address both adaptation and mitigation actions that the Town can take. Both will be necessary to preserving and enhancing Holliston's way of life in the future. The Town will continue reaching out to diverse community stakeholders to develop and refine this plan of action. It will fold in knowledge gleaned through the MVP process into existing and future planning processes— making it an integral part of each decision, as opposed to an additional component. The Town recognizes that this is necessary to move forward and establish itself as a resilience leader.

## **VII. Acknowledgements**

The Town of Holliston would like to thank all of the following Core Team members that made this project a success:

<b>Name</b>	<b>Title/Affiliation</b>
Michael Cassidy	Fire Chief
Joan Hunter-Brody	350.org
Joan Levinsohn	350.org
Chris Meo	Technology Director
Scott Moles	Health Director/Agent
Sean Reese	Department of Public Works Director



Jeff Ritter  
Rich Rosenberry  
Ryan Clapp

Town Administrator  
350.org  
Conservation Agent

In addition, the Town would like to thank the Massachusetts Executive Office of Energy & Environmental Affairs for the financial support to execute this project.

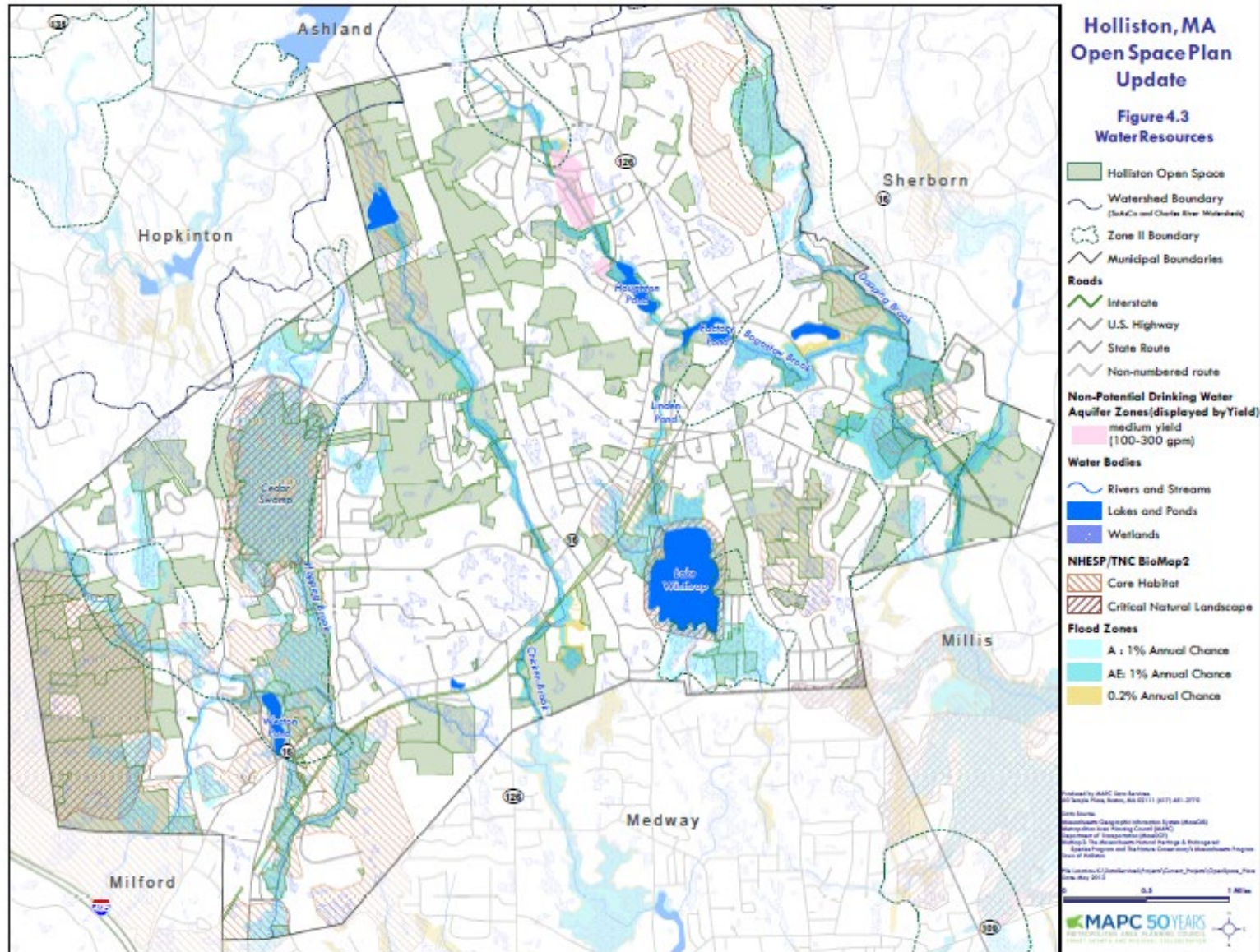
### **Report Citation**

Town of Holliston (2019). Community Resilience Building Workshop Summary of Findings. Holliston, Massachusetts.

### **Community Resilience Building Workshop Project Team**

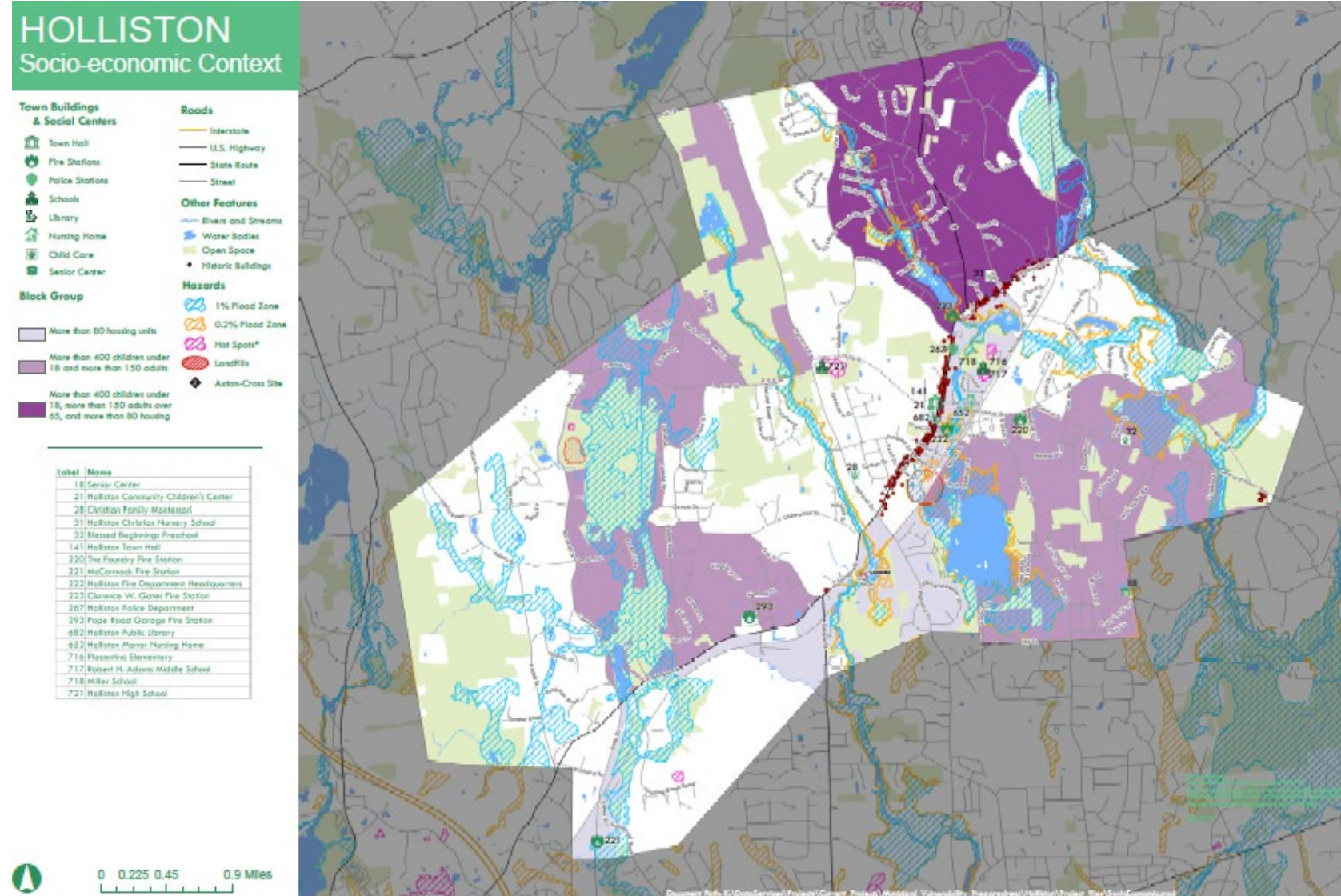
Name	Title	Affiliation
Jeff Ritter	Town Administrator	Town of Holliston
Chris Meo	Technology Director	Town of Holliston
Kim Lundgren	Lead Facilitator	KLA
Kara Runsten	Facilitator	KLA
Angela Cleveland	Listening Session Facilitator	KLA
Maggie Peard	Listening Session Facilitator	KLA

## Appendix One: Environmental Map for MVP Workshop



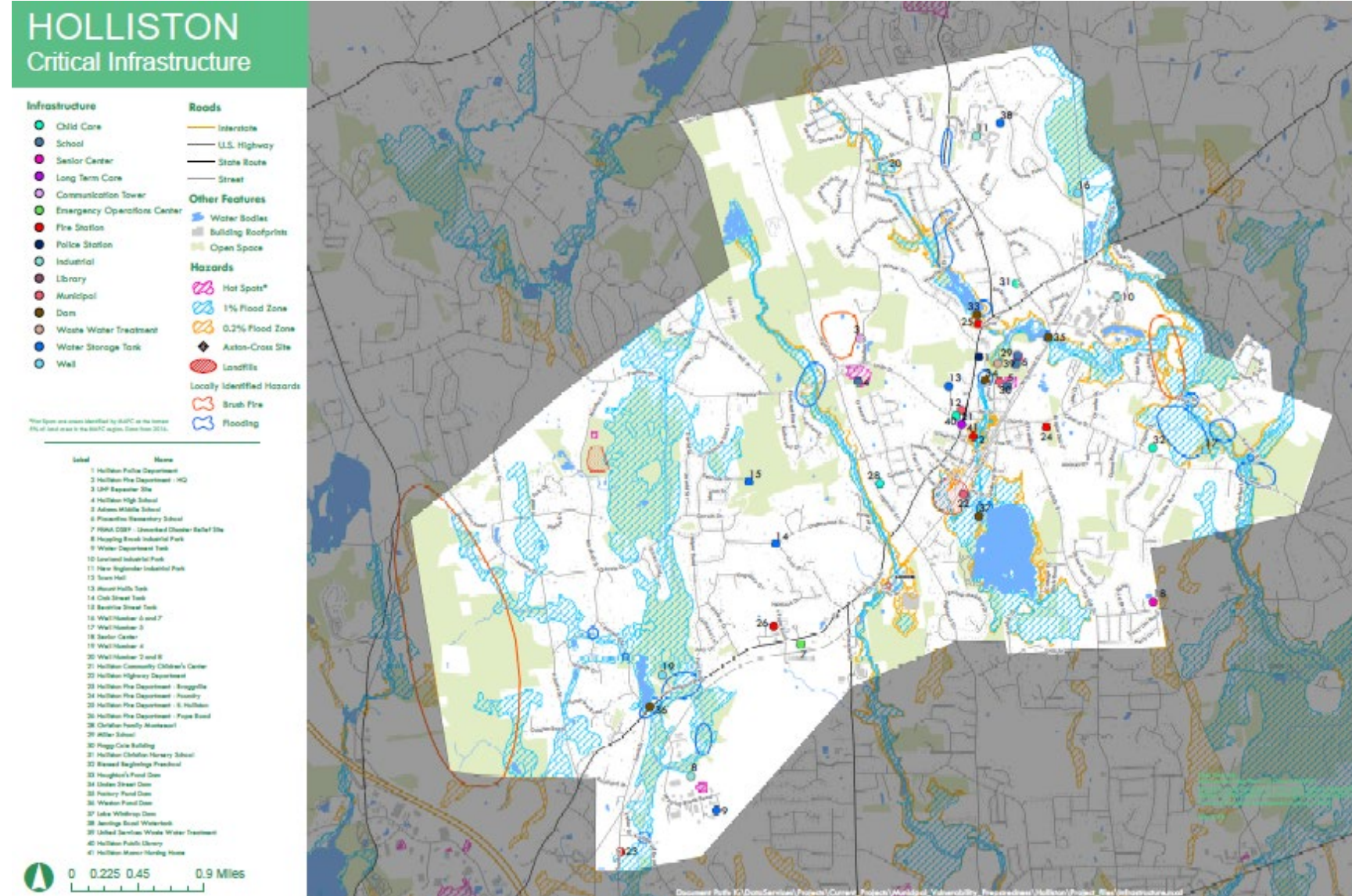


## Appendix Two: Socio-Economic Map for MVP Workshop





## Appendix Three: Infrastructure Map for MVP Workshop



## Appendix Four: MVP Workshop Attendees

Name	Title	Affiliation
<b>Town Lead</b>		
Jeff Ritter	Town Administrator	Town of Holliston
<b>Consulting Team</b>		
Kim Lundgren	Lead Facilitator	KLA
Kara Runsten	Facilitator	KLA
<b>Core Team and Workshop Attendees</b>		
Delilah Bethel	Rita Barron Fellow	Charles River Watershed Association
Keith Buday	Business Manager	Holliston Public Schools
Michael Cassidy	Fire Chief	Town of Holliston Fire/Emergency Management
Ryan Clapp	Conservation Agent	Conservation Commission
Mark Frank	Director of Recreation	Holliston Parks & Recreation
Tina Hein	Board of Selectmen	Town of Holliston
Keegan Hersey	Resident Services Manager	Holliston Housing Authority
Joan Hunter-Brody	Member	350.org
Joan Levinsohn	Member	350.org
Bob Malone	Council on Aging Chair, Library Trustees Chair, Housing Authority State Appointee	Council on Aging, Library Trustees, Housing Authority
Chris Meo	Technology Director	Town of Holliston
Scott Moles	Health Director/Agent	Holliston Board of Health
Sean Reese	Director	Department of Public Works
Rich Rosenberry	Member	350.org
Robert Weidknecht	Chair	Holliston Trails Committee
<b>Workshop Invitees (Did Not Attend)</b>		
Sarah Bateman	Director	Town of Holliston Veteran Services
Chris Canney	Building Inspector	Town of Holliston
Andrew Carini	Co-President	Holliston Business Association
Michael Guzinski	Town Administrator	Town of Millis
Paul Landers	Director	Holliston Housing Authority
Linda Marshall	Director	Holliston Senior Center
Leslie McDonnell	Director	Holliston Public Library
Emily Norton	Executive Director	Charles River Watershed Association
Martin Pillsbury	Environmental Director	Metropolitan Area Planning Council
Karen Sherman	Town Planner	Town of Holliston
Matthew Stone	Police Chief	Town of Holliston
Richard Villani	Town Administrator	Town of Milford
David Williams	Town Administrator	Town of Sherborn
Jaclyn Winer	Program Director	Town of Holliston Youth and Family Services

## Appendix Five: Combined Matrix with Actions from Both Small Teams (Actions labeled “B” came from the blue small team, “G” from the green small team)

### Community Resilience Building Risk Matrix



www.CommunityResilienceBuilding.org

**Top Priority Hazards** (tornado, floods, wildfire, hurricanes, earthquake, drought, sea level rise, heat wave, etc.)

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

H-M-L priority for action over the Short or Long term (and Ongoing)				Intense Storms		Flooding	Heat Waves	Drought	Priority	Time
V = Vulnerability S = Strength									H - M - L	Short Long Ongoing
Features	Location	Ownership	V or S							
Infrastructural										
Water Distribution System	Town-wide	Town	V	B1. Pursue funding to accelerate replacement program B2. Charge infrastructure fee for those not on the distribution system but who will benefit from improvements				B3. Water conservation education campaign	B1. H B2. H B3. H	B1. O B2. S B3. O
Dams	Multiple	Town	V	B1. Pursue funding to address dam hazard status (e.g., upgrade or remove) B2. Create emergency action plan for all dams					B1. H B2. H	B1. S B2. S
Roads	Town-wide	Town, Private	V	B1. Convene working group on zoning and planning changes to mitigate conflicts (e.g., emergency access v. wanting to restrict paving) B2. Include stormwater and runoff					B1. M B2. M	B1. L/O B2. S
Culverts	Town-wide	Town, Private	V	B1. Create a culvert/beaver management plan B2. Pursue funding to proactively fix culverts B3. Conduct inventory of culverts and prioritize them for improvements by risk					B1. H B2. M B3. M	B1. O B2. O B3. S
Septic System	Town-wide	Private	V	B1. Eliminate cess pools B2. Create a municipal treatment plant					B1. H B2. L	B1. S B2. L
Municipal Buildings	Multiple	Town	V/S	B1. Upgrade municipal buildings for emergency preparedness B2. Require LEED certification for all municipal buildings B3. Change zoning to require solar in new development					B1. H B2. H B3. H	B1. O B2. O B3. O
Power & Utilities	Town-wide	Private	V/S	G1. Work with Eversource to improve tree trimming efforts	G2. Follow up with Eversource on reliability and gas leaks reports, improve communications				G1. H G2. H	G1. O G2. S
Water Supply System	Town-wide	Public, Private	V/S	G1. Need more funding for upgrades				G2. Education program on water conservation	G1. H G2. H	G1. L G2. O
Critical Infrastructure	Town-wide	Public	V/S	G1. Develop a transition plan for Fire Chief and consider FT hires G2. Hire and fund a Facilities Coordinator to be responsible for asset management					G1. L G2. H	G1. L G2. S
Dams	Specific location	Public	V	G1. Partner with CWRRA to assess all dams in Holliston to determine best candidates for removal and ecosystem restoration					G1. H	G1. S
Roads & Drainage	Town-wide	Public, Private	S							
Communications Systems	Town-wide	Public, Private	V/S	G1. Assess opportunities to put all communications systems underground			G2. Improve cellular/wireless infrastructure to improve access		G1. L G2. H	G1. L G2. O

Societal							
School Age Children	Town-wide	Parents & Sch	WS	B1. Supply take home kits for kids needing food assistance during school closures B2. Programming during school closures for working parents	B3. More air conditioning in schools	B1. L B2. M B3. H	B1. O B2. O B3. O
Seniors	Town-wide	N/A	VS	B1. Expansion or updating of current emergency centers to make them prepared and have adequate staffing B2. Create a volunteer team to help seniors and other vulnerable populations during emergencies B3. Educational campaign to make aware of resources and preparation tips (whole community, not just seniors)		B1. H B2. M B3. H B4. M	B1. O B2. S B3. O B4. L
Affordable Housing/Low-Income Residents	Various Locati	N/A	V	B1. Zoning changes to allow for in-law apartments and other housing configurations to meet needs of seniors and vulnerable populations B2. Volunteer team to help distribute food during emergency (from Town's food pantry), perhaps expanding meals on wheels to serve this purpose		B1. H B2. M	B1. S B2. S
Medically Vulnerable	Town-wide	N/A	V	B1. Revisit partnerships and MOUs around lists of vulnerable persons during emergencies (information sharing) B2. Increase inventory of preparedness equipment that can be loaned (e.g., portable generators to run medical devices)		B1. L B2. M	B1. O B2. S
Small Businesses	Town-wide	Private	VS	B1. Outreach to business association on preparedness education and programs B2. Foster relationships between businesses to help each other out in case of emergency		B1. L B2. L	B1. O B2. O
Seniors	Town-wide	N/A	VS	G1. Develop a community-wide preparedness program (guidance on what to include in a preparedness kit, possibly expand the "handy man" safety program) G2. Assess large facilities (e.g., Senior Center, Senior Housing, houses of worship) in town and identify priority locations to play role as longer term shelter (including generators) (Resilience hubs)		G1. H G2. H	G1. S G2. S
Children/Youth/Schools	Town-wide	N/A		G1. Enhance existing communications systems and protocols - maybe add a hotline and neighborhood leaders G2. Enhance wellness programs for youth to reduce vulnerability (e.g., nature-based, cooking)		G1. M G2. M	G1. L G2. O
Disabled & Medically Challenged	Town-wide	N/A	V	G1. Create a program to allow existing or retired medical professionals to help out in an emergency G2. Create a network of solar powered charging stations throughout town G3. Identify private residences with generators		G1. H G2. L G3. L	G1. S G2. L G3. O
Businesses	Town-wide	N/A	VS	G1. Establish a public/private partnership to share equipment and resources		G1. M	G2. O
Pets	Town-wide	N/A	VS	G1. Establish a program to support sheltering of pets-- needed volunteers, equipment, locations		G1. H	G1. O

Environmental							
Water Supply/Aquifer	Multiple	Public, Private	V		B1. Educational campaign about water conservation, anti-pollution, and combatting desire for green lawns B2. Protect water supply through zoning changes-- incentivize connection to municipal system, not wells B3. Controlled growth by charging MWRRA prices	B1. H B2. H B3. L	B1. O B2. S B3. L
Farms	Multiple	Private	VS	B1. Money to protect farmland from selling to developers B2. Educational outreach on resources in case of declared disaster		B1. M B2. H	B1. O B2. O
Open Space/Conservation Land	Multiple	Public	VS	B1. Evaluate which areas might be ripe for expansion of conservation land B2. Create forest management plan with DCR B3. Inventory/mapping of conservation land B4. Hire a sustainability coordinator B5. Proactive cutting of fire lanes in sites at risk of brush fire		B1. M B2. H B3. M B4. M B5. M	B1. O B2. O B3. S/O B4. S B5. O
Wetlands	Multiple	Private	VS	B1. Education to homeowners on need for protection B2. Standing order of conditions for DPW		B1. H B2. H	B1. O B2. S
Recreational Facilities	Multiple	Public, Private	VS	B1. Education about littering		B1. H	B1. O
Tree Canopy	Town-wide	Public, Private	VS	G1. Create policy to require replanting/replacement of cut trees for new development or contribute to a tree fund G2. Conduct a study to understand best species to replace Ash and increase species diversity		G1. M G2. H	G1. S G2. O
Stormwater Management	Town-wide	Town	S	G1. Conduct a tree canopy inventory/assessment G2. Establish a stormwater management fee G3. Create a town-wide rain barrel/garden program G4. Develop and implement an education and PR campaign related to the values of our natural resources and our individual role to protect G5. Become a Tree City USA		G1. L G2. H G3. H G4. H G5. H	G1. L G2. L G3. O G4. S/O G5. S
Parks & Athletic Fields	Specific locati	Private, Rest F	VS	G1. Reassess use, type, and location of athletic fields to take advantage of hydrologic realities	G2. Add more shade features and trees to playground areas	G1. M G2. L	G1. L G2. L
Town Forest & Conservation Land		Public	VS	G1. Develop a management plan for the Town Forest and Conservation Land to address brush fires, invasives, and general maintenance		G1. M	G1. S
Lake Winthrop	Specific locati	Public	VS	G1. Identify and implement best practices to remove phosphorus and invasives from Lake Winthrop and address erosion issues		G1. H	G1. O
Beavers	Specific locati	N/A	V	G1. Partner with the State to develop a sustainable beaver eradication program, including education and new policies		G1. H	G1. L



Community Resilience Building Risk Matrix				www.CommunityResilienceBuilding.org					
H M L priority for action over the short or long term (and ongoing)				Top Priority Hazards (hazard, flood, wildfire, hurricanes, earthquake, drought, sea level rise, heat wave, etc.)					
V = Vulnerability S = Strength				INTENSE STORMS	FLOODING	HEAT WAVES	DROUGHT	PRIORITY H M L	TIME Short Long Ongoing
Features	Location	Ownership	V or S						
<b>Infrastructure</b>									
Power & Utilities	Townwide	Private	V	1. Upgrade infrastructure to withstand power outages	2. Follow-up on power outages	3. Upgrade on reliability	4. Upgrade on reliability	H	10
Water Supply System	Townwide	Public/Private	S/V	1. Upgrade infrastructure to withstand power outages	2. Follow-up on power outages	3. Upgrade on reliability	4. Upgrade on reliability	H	10
Critical Infrastructure	Townwide	Public	S	1. Upgrade infrastructure to withstand power outages	2. Follow-up on power outages	3. Upgrade on reliability	4. Upgrade on reliability	H	10
Public Safety	Townwide	Public	V	1. Upgrade infrastructure to withstand power outages	2. Follow-up on power outages	3. Upgrade on reliability	4. Upgrade on reliability	H	10
Public Transportation	Townwide	Public/Private	S	1. Upgrade infrastructure to withstand power outages	2. Follow-up on power outages	3. Upgrade on reliability	4. Upgrade on reliability	H	10
Communication Systems	Townwide	Public/Private	S/V	1. Upgrade infrastructure to withstand power outages	2. Follow-up on power outages	3. Upgrade on reliability	4. Upgrade on reliability	H	10
<b>Societal</b>									
Seniors	Townwide	Public/Private	V	1. Upgrade infrastructure to withstand power outages	2. Follow-up on power outages	3. Upgrade on reliability	4. Upgrade on reliability	H	10
Children/Youth	Townwide	Public/Private	V	1. Upgrade infrastructure to withstand power outages	2. Follow-up on power outages	3. Upgrade on reliability	4. Upgrade on reliability	H	10
Disability & Homeless	Townwide	Public/Private	V	1. Upgrade infrastructure to withstand power outages	2. Follow-up on power outages	3. Upgrade on reliability	4. Upgrade on reliability	H	10
Businesses	Townwide	Public/Private	S/V	1. Upgrade infrastructure to withstand power outages	2. Follow-up on power outages	3. Upgrade on reliability	4. Upgrade on reliability	H	10
People	Townwide	Public/Private	S/V	1. Upgrade infrastructure to withstand power outages	2. Follow-up on power outages	3. Upgrade on reliability	4. Upgrade on reliability	H	10
<b>Environmental</b>									
Tree Canopy	Townwide	Public/Private	S/V	1. Upgrade infrastructure to withstand power outages	2. Follow-up on power outages	3. Upgrade on reliability	4. Upgrade on reliability	H	10
Stormwater Mgmt	Townwide	Public/Private	S	1. Upgrade infrastructure to withstand power outages	2. Follow-up on power outages	3. Upgrade on reliability	4. Upgrade on reliability	H	10
Parks & Athletic Fields	Townwide	Public/Private	S/V	1. Upgrade infrastructure to withstand power outages	2. Follow-up on power outages	3. Upgrade on reliability	4. Upgrade on reliability	H	10
Town Forest & Conservation Land	Townwide	Public/Private	S/V	1. Upgrade infrastructure to withstand power outages	2. Follow-up on power outages	3. Upgrade on reliability	4. Upgrade on reliability	H	10
Lake/Wetland	Townwide	Public/Private	S/V	1. Upgrade infrastructure to withstand power outages	2. Follow-up on power outages	3. Upgrade on reliability	4. Upgrade on reliability	H	10
Beaches	Townwide	Public/Private	V	1. Upgrade infrastructure to withstand power outages	2. Follow-up on power outages	3. Upgrade on reliability	4. Upgrade on reliability	H	10

Community Resilience Building Risk Matrix				www.CommunityResilienceBuilding.org					
H M L priority for action over the short or long term (and ongoing)				Top Priority Hazards (hazard, flood, wildfire, hurricanes, earthquake, drought, sea level rise, heat wave, etc.)					
V = Vulnerability S = Strength				INTENSE STORMS	FLOODING	HEAT WAVES	DROUGHT	PRIORITY H M L	TIME Short Long Ongoing
Features	Location	Ownership	V or S						
<b>Infrastructure</b>									
Water distribution system	Townwide	Town	V	1. Upgrade infrastructure to withstand power outages	2. Follow-up on power outages	3. Upgrade on reliability	4. Upgrade on reliability	H	10
Dams	Townwide	Town	V	1. Upgrade infrastructure to withstand power outages	2. Follow-up on power outages	3. Upgrade on reliability	4. Upgrade on reliability	H	10
Roads	Townwide	Town/Private	V	1. Upgrade infrastructure to withstand power outages	2. Follow-up on power outages	3. Upgrade on reliability	4. Upgrade on reliability	H	10
Culverts	Townwide	Town/Private	V	1. Upgrade infrastructure to withstand power outages	2. Follow-up on power outages	3. Upgrade on reliability	4. Upgrade on reliability	H	10
Septic system	Townwide	Town/Private	V	1. Upgrade infrastructure to withstand power outages	2. Follow-up on power outages	3. Upgrade on reliability	4. Upgrade on reliability	H	10
Municipal Buildings	Townwide	Town	V/S	1. Upgrade infrastructure to withstand power outages	2. Follow-up on power outages	3. Upgrade on reliability	4. Upgrade on reliability	H	10
<b>Societal</b>									
School age children	Townwide	Public/Private	V/S	1. Upgrade infrastructure to withstand power outages	2. Follow-up on power outages	3. Upgrade on reliability	4. Upgrade on reliability	H	10
Seniors	Townwide	Public/Private	V/S	1. Upgrade infrastructure to withstand power outages	2. Follow-up on power outages	3. Upgrade on reliability	4. Upgrade on reliability	H	10
Affordable housing/low-income residents	Townwide	Public/Private	V	1. Upgrade infrastructure to withstand power outages	2. Follow-up on power outages	3. Upgrade on reliability	4. Upgrade on reliability	H	10
Medically Vulnerable	Townwide	Public/Private	V	1. Upgrade infrastructure to withstand power outages	2. Follow-up on power outages	3. Upgrade on reliability	4. Upgrade on reliability	H	10
Small businesses	Townwide	Public/Private	V/S	1. Upgrade infrastructure to withstand power outages	2. Follow-up on power outages	3. Upgrade on reliability	4. Upgrade on reliability	H	10
<b>Environmental</b>									
Water supply/aquifer	Townwide	Public/Private	V	1. Upgrade infrastructure to withstand power outages	2. Follow-up on power outages	3. Upgrade on reliability	4. Upgrade on reliability	H	10
Farms	Townwide	Public/Private	V/S	1. Upgrade infrastructure to withstand power outages	2. Follow-up on power outages	3. Upgrade on reliability	4. Upgrade on reliability	H	10
Open Space/Conservation Land	Townwide	Public/Private	V/S	1. Upgrade infrastructure to withstand power outages	2. Follow-up on power outages	3. Upgrade on reliability	4. Upgrade on reliability	H	10
Wetlands	Townwide	Public/Private	V/S	1. Upgrade infrastructure to withstand power outages	2. Follow-up on power outages	3. Upgrade on reliability	4. Upgrade on reliability	H	10
Recreational Facilities	Townwide	Public/Private	V/S	1. Upgrade infrastructure to withstand power outages	2. Follow-up on power outages	3. Upgrade on reliability	4. Upgrade on reliability	H	10



## Appendix Six: Climate Science Summary



### TOWN OF HOLLISTON *Climate Change Summary*



#### What does climate change look like in Holliston?

While Holliston has fared well to date, our changing climate will increase the chances of flood events driven by hurricanes, Nor'easters, and other storms. Climate change also means hotter summers, more intense heat waves, and potential droughts, threatening our youth, older adults, and the medically vulnerable.



#### INTENSE STORMS

Change in rainfall patterns leading to heavier more frequent storm events and stronger winds

##### IMPACTS:

- Downed trees and utilities
- Infrastructure damage

2



#### HEAT WAVES

Increase in the number of days with high temperatures, particularly days over 90° F

##### IMPACTS:

- Heat-related illness
- Higher energy demand during the summer

1

#### WHAT ARE THE

### *Hazards?*

3



#### DROUGHT

Prolonged periods of low or no rainfall, leading to water shortages

##### IMPACTS:

- Diminished drinking water supply
- Damage to ecosystems and crop production

4



#### FLOODING

Water submerging land quickly and over prolonged periods due to increased precipitation and intense storms

##### IMPACTS

- Flooding of roads, critical facilities, and basements
- Higher chance of dam failure

## WHAT ARE THE

# Trends and Projected Changes?



## Intense Storms

**70%**

Increase in the intensity of rain events from 1958 to 2010<sup>1</sup>

### Middlesex County Precipitation Projections<sup>2</sup>

Average Annual Total Precipitation	45.2"	47.5" (+2.3")	48.6" (+3.4")
	Observed Baseline 1971-2000	Mid-Century Projection	End of Century Projection



## Heat Waves

### Middlesex County Heat Projections<sup>3</sup>

Avg # Days > 90° F	8	30	46
Avg # Days < 32° F	145	116	101



Observed Baseline 1971-2000    Mid-Century Projection    End of Century Projection

MA could have the climate of South Carolina by the end of the century without emissions reductions<sup>4</sup>



## Drought

**52%**

Of the land area in Massachusetts was considered to be in "Exceptional Drought" in Oct '16<sup>5</sup>

Holliston relies on **groundwater** as its source of drinking water. Drought could limit available water supply.



## Flooding

**13**

Historic flood events in Holliston since 1978<sup>6</sup>

**\$35.2 million**

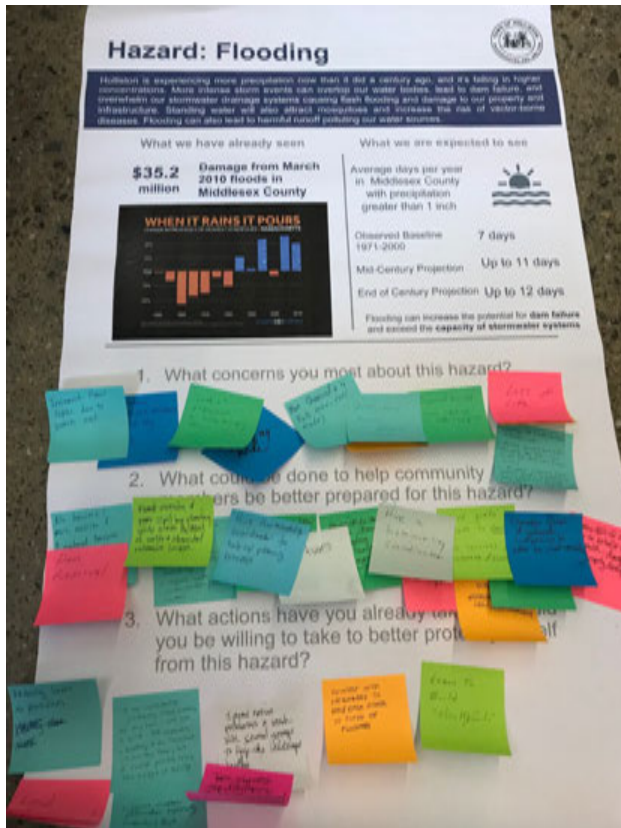
Damage from March 2010 floods in Middlesex County<sup>7</sup>

Flooding can increase the potential for **dam failure** and exceed the **capacity of stormwater systems**

1) City of Boston. 2016. Climate Ready Boston; 2) Northeast Climate Adaptation Science Center. Resilient MA Datagrapher. MA Climate Change Clearinghouse; 3) Ibid 4) Confronting Climate Change in the Northeast. 2007. Union of Concerned Scientists 5) NOAA. Massachusetts. Drought.gov; 6) Metropolitan Area Planning Council. 2016. Town of Holliston Hazard Mitigation Plan 7) Ibid

## Appendix Seven: Listening Session Key Outcomes, Poster Images, & Poster Responses

### Key Outcomes



#### Flooding

##### Top concerns:

- Harmful runoff polluting lakes, rivers, and water supply
- Damage to homes, schools, and other town infrastructure
- Lack of preparedness of residents, both in the moment and financially after the fact, especially for vulnerable populations

##### Actions to take as a community:

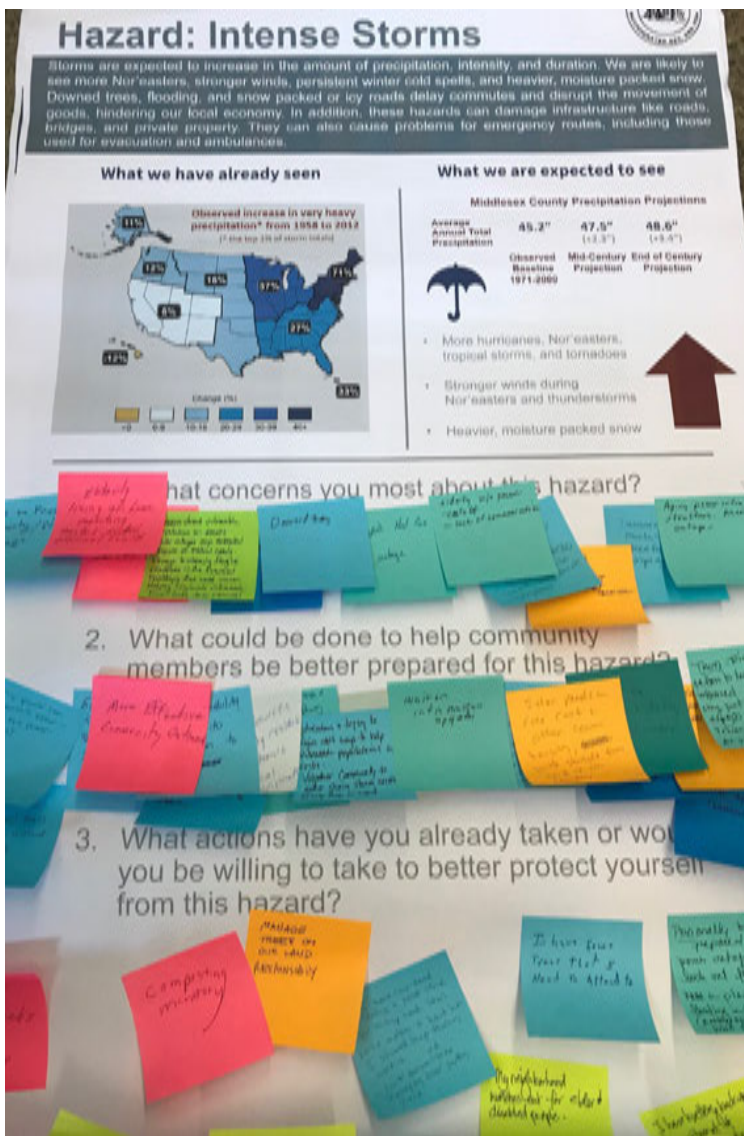
- Plant more trees and native species, and reduce impermeable surfaces and development
- Update aging stormwater infrastructure
- Help for homeowners to retrofit homes to be better prepared for floods and extra support for those living in floodplains
- Education campaign about the connection between flooding and drought and best practices after a flood

##### Personal actions:

- Practice healthy land management: reducing lawns, not using pesticides, promoting healthy soil, supporting native pollinators
- Prepare homes by keeping belongings off the floor in the basement and purchasing flood insurance
- Connect with neighbors to help each other in times of flooding

*Note: An action suggested for each hazard area was to hire a sustainability coordinator to lead climate change planning efforts*





## Intense Storms

### Top concerns:

- Falling trees damaging homes, businesses, cars, other infrastructure, and people
- Increased power outages, and effects on vulnerable populations, such as the elderly and low-income populations

### Actions to take as a community:

- Create a town-wide communication system to send alerts during emergencies
- Prioritize back-up power and shelter for vulnerable populations, especially those with electronic medical devices
- Strengthen energy supply with microgrids, solar, and back-up power
- Create a program to help residents remove/trim trees and replace with hardy, resilient trees and plants

### Personal actions:

- Look out for elderly and disabled residents either informally or through organized volunteer house checks
- Take care of trees on property
- Install back-up generators

### Hazard: Drought

Even though more annual precipitation is projected overall, it is anticipated to fall in more intense events in the winter and spring rather than in smaller, more regular events throughout the year. Therefore, there will be longer periods of time that experience no rainfall, especially in the northeast and fall, increasing the potential for drought. Drought can stress our water supply and impact ecosystems and crop production. The potential for brush fires also increases during drought.

**What we have already seen**

52% Of the land area in Massachusetts was considered to be in "Exceptional Drought" in Oct '16

**48 weeks**  
the longest duration of drought in MA since 2000 (Jun '16-May '17)

**What we are expected to see**

Earlier high spring flows  
Longer growing seasons  
Shorter periods of snow accumulation  
Longer periods of low flows in summer and fall

Habitat relies on groundwater as its source of drinking water. Drought could limit available water supply.

1. What concerns you most about this hazard?

2. What could be done to help community members be better prepared for this hazard?

3. What actions have you already taken or would you be willing to take to better protect yourself from this hazard?

### Hazard: Heat Waves

Average temperatures and the number of heat waves are rising, which changes how we live and experience every season. The number's melting threshold type of weather is not sustainable or comfortable for heat, and this risk is only expected to grow. Additionally, new temperature patterns have the potential to impact our ecosystems and biodiversity and spread invasive species. We may also see changes in our energy demand required to maintain livable and comfortable temperatures in our homes.

**What we have already seen**

+1.43° F  
Change in temperature in the Northeast comparing the average annual temperature in 1980-2010 to 1961-1990

**What we are expected to see**

Middlesex County	Observed Baseline 1971-2000	Mid-Century Projected Change	End of Century Projection
Average Number Days Below 32° F	145	116	101
Average Number Days Above 90° F	8	30	46

**48° F**  
Average annual temp 1971-2000

**+4.2° F**  
Projected change in average annual temp 2020-2049

ns you most about this ha

2. What could be done to help community members be better prepared for this hazard?

What actions have you already taken or would you be willing to take to better protect yourself from this hazard?

## Drought

### Top concerns:

- Limited drinking water supply
- Degradation of the town's wetlands
- Increased fire risk

### Actions to take as a community:

- Promote low water landscaping
- Create a forest management plan
- Establish a greywater for non-drinking uses
- Regulate water use through pricing

### Personal actions:

- Use limited/no water on lawns/yards
- Plant native and drought-resistant species
- Use limited/no fertilizers on lawns

## Heat Waves

### Top concerns:

- Increased temperatures impacting health, especially of the elderly, children, medically vulnerable, and low-income residents
- Knowledge that air conditioning has the potential to make climate change worse

### Actions to take as a community:

- Install alternatives to fossil fuel powered air conditioning (e.g., renewable-powered A/C, passive cooling, fans)
- Enhance nature's ability to mitigate heat through more trees and less pavement
- Prepare cooling centers and launch an awareness campaign

### Personal actions:

- Use alternatives to fossil-fuel powered air conditioning for cooling needs and educate others
- Stay indoors during the hottest parts of the day and encourage others to do so
- Design outdoor space in ways that better absorb/handle heat



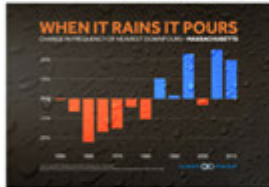
# Poster Images

## Hazard: Flooding

Holliston is experiencing more precipitation now than it did a century ago, and it's falling in higher concentrations. More intense storm events can overtop our water bodies, lead to dam failure, and overwhelm our stormwater drainage systems causing flash flooding and damage to our property and infrastructure. Standing water will also attract mosquitoes and increase the risk of vector-borne diseases. Flooding can also lead to harmful runoff polluting our water sources.

### What we have already seen

**\$35.2 million** Damage from March 2010 floods in Middlesex County



### What we are expected to see

Average days per year in Middlesex County with precipitation greater than 1 inch



Observed Baseline 1971-2000

7 days

Mid-Century Projection

Up to 11 days

End of Century Projection

Up to 12 days

Flooding can increase the potential for dam failure and exceed the capacity of stormwater systems

1. What concerns you most about this hazard?
2. What could be done to help community members be better prepared for this hazard?
3. What actions have you already taken or would you be willing to take to better protect yourself from this hazard?

## Hazard: Intense Storms

Storms are expected to increase in the amount of precipitation, intensity, and duration. We are likely to see more Nor'easters, stronger winds, persistent winter cold spells, and heavier, moisture packed snow. Downed trees, flooding, and snow packed or icy roads delay commutes and disrupt the movement of goods, hindering our local economy. In addition, these hazards can damage infrastructure like roads, bridges, and private property. They can also cause problems for emergency routes, including those used for evacuation and ambulances.

### What we have already seen



### What we are expected to see

#### Middlesex County Precipitation Projections

Average Annual Total Precipitation: 45.2" (Observed Baseline 1971-2000), 47.5" (Mid-Century Projection), 48.6" (End of Century Projection)



- More hurricanes, Nor'easters, tropical storms, and tornadoes
- Stronger winds during Nor'easters and thunderstorms
- Heavier, moisture packed snow



1. What concerns you most about this hazard?
2. What could be done to help community members be better prepared for this hazard?
3. What actions have you already taken or would you be willing to take to better protect yourself from this hazard?

## Hazard: Drought

Even though more annual precipitation is projected overall, it is anticipated to fall in more intense events in the winter and spring rather than in smaller more sporadic events throughout the year. Therefore, there will be longer periods of time that experience no rainfall, especially in the summer and fall, increasing the potential for drought. Drought can stress our water supply and impact ecosystems and crop production. The potential for brush fires also increases during drought.

### What we have already seen

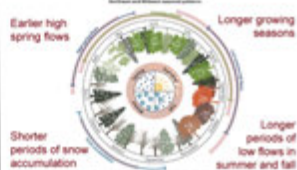
**52%** Of the land area in Massachusetts was considered to be in "Exceptional Drought" in Oct '16



**48 weeks**

the longest duration of drought in MA since 2000 (Jun '16-May '17)

### What we are expected to see



Holliston relies on groundwater as its source of drinking water. Drought could limit available water supply.

1. What concerns you most about this hazard?
2. What could be done to help community members be better prepared for this hazard?
3. What actions have you already taken or would you be willing to take to better protect yourself from this hazard?

## Hazard: Heat Waves

Annual temperatures and the number of heat waves are rising, which changes how we will experience every season. The nation's leading deadliest type of weather is not hurricanes or tornadoes, but heat, and this risk is only expected to grow. Additionally, new temperature patterns have the potential to impact our ecosystems and biodiversity and spread invasive species. We may also see changes in our energy demand required to maintain livable and comfortable temperatures in our homes.

### What we have already seen

**+1.43° F** Change in temperature in the Northeast comparing the average annual temperature in 1996-2016 to 1951-1980

### What we are expected to see

Middlesex County	Observed Baseline 1971-2000	Mid-Century Projection	End of Century Projection
Average Number Days Below 32° F	145	116	101
Average Number Days Above 90° F	6	30	46

**48° F**

Average annual temp 1971-2000

**+4.2° F**

Projected change in average annual temp 2020-2049

Middlesex County



1. What concerns you most about this hazard?
2. What could be done to help community members be better prepared for this hazard?
3. What actions have you already taken or would you be willing to take to better protect yourself from this hazard?

## List of Poster Answers by Hazard

### Flooding

#### What concerns you most about this hazard?

- Increased road repair due to wash out
- Damage to roads, homes, schools
- Repairs require more fossil fuels and greenhouse gas emissions, toxins released, runoff
- Hazardous substance release caused by flooding
- More chemicals in water areas (off roads)
- Untreated storm runoff into our lakes and streams (fertilizer/nitrogen)
- Chemical runoff--toxin pollution in water supply/river
- Stormwater runoff into Lake Winthrop increasing phosphorus levels and feeding invasive species in the lake
- Lack of preparedness for a truly damaging flood
- Evacuation of residents with no transportation
- Safety of my home
- Most people are not insured for this--can wipe out families financially
- Vector-borne diseases from mosquitoes and ticks
- Loss of life

#### What could be done to help community members be better prepared for this hazard?

- Dam removal
- No lawns, more natives and more natural barrier planting
- Plant trees
- More green space to absorb, less concrete/pavement/development
- Limit paved surfaces, especially in new development
- Permeable street and sidewalk surfaces to let water be shed naturally
- Avoid erosion and poor soil by planting white clover instead of water- and chemical-intensive lawns
- Zoning to minimize hard topping and maximize/preserve wetlands and green spaces which buffer flooding
- Opportunities for older homes to retrofit wet basements to avoid danger of mold and property damage
- Improve water infrastructure/storm sewers
- Hire sustainability coordinator with help with planning process
- Help for people in floodplain with very high insurance required by FEMA
- Education about how to manage after a flood: don't drive into water, don't walk into flooded basements, watch out for drowned wires
- Education about runoff ease in French drains
- Recognize the connection between drought and flooding: dry land and heavy rain leads to damage. Mitigate drought in balance
- Town planners stop developing these poorly designed, tree-killing, non-environmentally sound buildings that also drain the tax base

What actions have you already taken or would you be willing to take to better protect yourself from this hazard?

- Reducing lawn, no pesticides
- I grow native pollinators and work with several groups to keep the landscape healthy
- Land management, volunteer work
- Learn to build “Healthy Soils”
- Support native pollinators, especially bees and bats
- Purchasing flood insurance for home
- Shelving in basement to keep everything off the floor in case of flooding
- Connect with neighbors to help each other in times of flooding

## **Intense Storms**

What concerns you most about this hazard?

- Downed trees
- Trees falling on cars, houses, people
- Wind damage to homes, businesses, etc.
- Losing trees
- Increased tree mortality
- Falling trees damaging housing/infrastructure
- Storm damage from trees on private property
- Hazards to power, gas, water, drainage system
- Power failure
- Damaged natural gas lines
- Aging power infrastructure, more outages
- Power outage
- Power outages
- Power loss
- Losing heat in winter (especially for elderly)
- Mental and physical health of the elderly living at home
- Elderly without power: cutoff, lack of communication
- Concern about vulnerable populations (i.e. seniors) during extended power outages because of medical needs
- Damage to already fragile residents and the financial hardships that would incur
- Economic impact of lost work/school

What could be done to help community members be better prepared for this hazard?

- Bury power lines
- Replace downed/damaged trees with hardy, resilient with trees/plants
- Establish a fund to help homeowners to trim trees
- Community program to assist homeowners with removal of trees that could cause problems if knocked over by storms
- Temporary power sources for elderly residents with elderly medical equipment
- Shelter for vulnerable people with backup heat/power systems
- Register cell numbers for texting in an emergency



- Town-wide alerts through apps (i.e. Nextdoor)
- Town-wide communication to keep residents informed
- Preparedness education: be ready with water and medication
- Education and trying to figure out ways to help vulnerable populations in crisis
- Volunteer community to gather during storm crises to help those in need
- More effective community outreach
- Hire sustainability coordinator to help with plan
- Hire a sustainability coordinator
- Insist on infrastructure upgrades
- Decentralized energy
- Micro-grids/dispersed grids
- Battery storage during outage for own home
- Help residents/business electrify heat/AC
- Solar panels on Cole court and other senior housing with shutoff from grid in an emergency
- Change laws/regulations to allow solar businesses/homes to separate from power grid in an emergency, allowing continuity of solar power when grid is disrupted
- We should all reduce our carbon footprint

What actions have you already taken or would you be willing to take to better protect yourself from this hazard?

- Volunteer home checks/wellness checks
- Mandating composting
- Manage trees on my land responsibly
- Considering installing a pellet stove
- Cut down old trees hovering over parking spot
- Attend to old trees
- Neighborhood watches out for elderly and disabled residents
- Personally prepared for power outages, look out for others, have a plan for flooding in the house
- Battery backups for internet and battery generator for basement pump

## **Drought**

What concerns you most about this hazard?

- Available drinking water
- Shortage of drinking water if we encounter severe drought
- Wetlands get destroyed and compromised
- Shortage of fresh, clean drinking water
- Risk to agriculture
- Risk to pollinators
- Risk to human health
- Fire risk
- Forest fire
- Preservation of wetlands
- Water scarcity, increased water cost

- Wetland habitat being degraded

What could be done to help community members be better prepared for this hazard?

- Start limited water use now
- Forest management
- Educate the public about how invasive plants are carried into the woods and spread by birds and kill the healthy natives that keep the forests healthy
- Low water gardens, use oyas
- Decrease lawns, increase yard meadows
- Encourage the farms in our town. They can provide local food supplies when national monoculture is threatened
- Outlaw installed sprinkler systems
- Promote low water landscaping
- Educate/incentivize/encourage dry scaping rather than lawns
- Raise prices on town water after some reasonable level of use
- Forest land management
- Reduce fire hazard
- Improve aquifers
- Encourage/educate on rain barrels (provide them?)
- Two-pipe water system with pure (drinkable) and less pure (for flushing, laundry) water
- Regulate/educate to keep toxins out of our wells
- Water filtration systems
- Public education/training re: water conservation, pricing to encourage this
- Native tree planting program in heat islands
- Grey water program so we are not flushing our drinking water down the toilet
- Hire a sustainability coordinator
- Zoning/new building regulations requiring water efficiency
- Plan for delivering drinking water to residents with no transportation

What actions have you already taken or would you be willing to take to better protect yourself from this hazard?

- Assist in forest land management
- Highway department-- plant white clover lawns, not thirsty, maintenance heavy grass
- Allow people to separate grey and brown water. Change this in the Board of Health.
- Learn to build "healthy soils"
- Don't waste pristine water on lawns, gardens, and car washes. Use greywater for those areas (dish water, laundry water). Use sparingly in the heat of the day.
- No Poland Spring water in public buildings. They are draining aquifers around the country
- Hire a sustainability coordinator to help with planning process
- Enforce water rationing in the summer and dry spells
- No water lawn
- Limited watering
- Plant natives- less water
- Use oyas for gardening

- Open space preservation- with grants from CPC
- Public education about all these issues
- Lawns to be naturalized with wildflowers
- Educate the public about how nitrogen heavy lawn fertilizers wash into the water table and cause damaging weeds in the lake
- Our lawn is never watered
- I use zero toxins on my lawn and garden
- Get a rain barrel or cistern
- I water by handheld hose only, flowers but never the lawn
- Stop using weed killers on town properties
- Keeping wells clean
- Plants for drought should be part of the landscape and provide shade too
- Expand MWRTA and make places for bikes and pedestrians
- Do not design for single occupancy vehicles
- Composting

## **Heat Waves**

### What concerns you most about this hazard?

- Elderly who live alone
- Longer heat waves and families without A/C- health hazard
- Health impacts and economic loss due to closed schools from heat
- Adding more A/C and making things worse
- Elderly residents' health in heat is a concern
- Tropical diseases spreading northward
- Hazards to elderly/small children/sick people
- The fact that the most obvious mitigation (A/C) actually makes it worse (Devil's bargain)
- Health risk for elderly, especially those without access to A/C
- Worsening the crisis via more A/C and flights to cooler climates
- People who still water even with water ban
- Concerns about safety and well-being of vulnerable citizens especially the elderly who continue to age in place. Many have limited funds for things like A/C and are somewhat isolated
- Increased risk of heat-related health risks to children at recreational programming
- Stress on native plants
- Impact on low-income
- Elderly will have problems
- Increased energy use from A/C powered by natural gas
- Increased health issues
- Health concerns
- Education
- Elderly, heat strokes, workers outside and in physical labor
- Heat illnesses for young and old
- Increased need for water for hydration
- Sufficient cool areas

What could be done to help community members be better prepared for this hazard?

- Hire sustainability coordinator to be part of town planning
- Long breaks at peak heat, think siesta
- Cooling stations/shelters for vulnerable people
- A/C powered by renewables (only)
- Fans
- Green building codes
- Trees/shade
- Building code requirements re: renewable-powered A/C
- Education about xeriscaping
- Hire a sustainability coordinator
- Do not cool buildings- municipal/residential when no one is home
- A/C alternates
- Swamp coolers?
- Passive cooling
- Solar, wind power
- Permeable street and sidewalk surfaces, not asphalt/concrete
- Public communication about shelters and/or other alternatives
- Solar A/C units
- Electric heat pumps
- Stronger building codes- require solar/wind options
- Micro grids- local solar- rooftop
- Parking lot solar to reduce heat islands
- Handouts to make residents accountable for being prepared
- Store water
- Cool houses by drawing shades, fans
- No fossil fuel air conditioning
- Windows that open
- Mini splits with solar power
- Solar batteries
- Differential electricity pricing to encourage off-hours use for non-critical functions (e.g., laundry)
- Consider closing school on hottest days (better option than fossil-fuel powered A/C)
- Solar on all buildings

What actions have you already taken or would you be willing to take to better protect yourself from this hazard?

- Keep buildings warm in summer not freezing cold to minimize the body's response to heat
- Education on zero scaping and ways to cool naturally
- Education regarding water use and more severe regulations around that
- Prepare more of our municipal buildings to be "cooling stations"
- Windows open at night, closed with shades drawn in the daytime
- I use solar powered fans rather than A/C
- 100% renewable electricity

- Plant trees for shade
- I start early on hot days and rest at midday, like my southern friends
- Less lawn that needs water
- 100% clean energy offsets
- No A/C
- Off peak energy uses
- Holliston should hire a sustainability coordinator sooner rather than later
- Limited A/C use
- Closing up the house during the day and shutting blinds to keep heat out but opening at night to allow cooling
- Have installed cooling efforts in our house shades, fans, passive
- Store water for an unexpected power failure
- Stay out of heat in the middle of the day, encourage others to do so too
- Plant trees
- Compost
- Turn up the thermostat
- Minimal A/C use