

APPENDIX A

Project Kickoff and Local Hazard Mitigation Committee (LHMC) Meeting Materials

Groton Hazard Mitigation Plan Update

Project Kickoff Meeting | December 18, 2025

Virtual Teams Meeting

Agenda Items

- Introductions
- Review project schedule
- Review Local Hazard Mitigation Committee (LHMC) role and anticipated members
- Coordination on informational materials/notifications
 - Project webpage
 - Interdepartmental email
- Review list of hazards to be profiled, including dams (new to this HMP update) and discuss hazard profiles data development process
 - Also confirm hazards that are not applicable to Groton
- Walkthrough of proposed plan layout
- Review of initial HMP tasks
 - Capability assessment (HW to develop)
 - 2020 Plan Report Card (Town to review/update)
- Data requests
 - GIS/spatial data needed for mapping/analysis
 - 2020 HMP (native/Word format)
 - NFIP Coordination
- Confirm approach for Quarterly Progress Reports (QPRs)



Memorandum

To: Rachael Mead, Town of Groton
From: Kellie King, Horsley Witten Group (HW)
Date: December 19, 2025
Re: Project Kickoff Meeting Summary – Groton, MA Hazard Mitigation Plan (HMP) Update
cc: Craig Pereira, HW

The project kickoff meeting for the Groton HMP Update was held on December 18, 2025. A meeting summary is as follows. Action items for Rachael/Town of Groton are highlighted in yellow, while action items for Kellie/HW are highlighted in green.

Overview of project schedule

- The HMP Update has an approximately one-year timeline. We are starting about a month later than anticipated, but Kellie believes we can identify some efficiencies during the planning process. HW will continue to check-in on project schedule with the Town.

Local Hazard Mitigation Committee (LHMC) role and anticipated members

- Rachael confirmed that the LHMC has not been officially assembled, but she would like the existing Public Safety Committee to act as the LHMC. Based on the makeup of the 2020 HMP LHMC, Kellie and Rachael identified additional individuals that should participate (Table 1).
- Local businesses, academia, and non-profit organizations should have the opportunity to participate in the planning process. Rachael confirmed that she would ask the Lawrence Academy and Groton School to participate in the LHMC again (**whether an individual accepts or not, we need to document who was solicited**). Rachael indicated that the Town would prefer to engage local businesses and non-profit organizations as part of broader public engagement.
- Rachael to confirm with Takashi Tada (Planning Department Director) if a Planning Board representative should participate in the LHMC and, if so, who the representative should be.**
- Rachael to confirm participation with anticipated LHMC members. Once the LHMC makeup has been confirmed, Rachael to send Kellie the final list of members and confirm email contact information and title/department/affiliation.**

Table 1. Anticipated LHMC Members

Name	Title	Department / Affiliation
Arthur Cheeks*	Chief	Fire Department
Brian Callahan*	Director	Department of Public Works
Bob Garside*	Building Commissioner	Building Department

Name	Title	Department / Affiliation
Charlotte Steeves	Conservation Administrator	Conservation Department
Dan Scheibe	Head of School	Lawrence Academy
David Black	Teaching Chair	Groton School
Jonathan Patterson	Manager	Groton Electric Light
Mark Haddad*	Town Manager	-
Michael Chiasson*	Director	IT Department
Michael Luth*	Chief	Police Department
Michelle Collette	Earth Removal Stormwater Inspector ADA Coordinator	Board of Health
Rachael Mead*	Deputy Chief	Police Department
Takashi Tada	Director	Planning Department
Thomas Orcutt*	Superintendent	Water Department
	Member	Planning Board

* Public Safety Committee (Local Emergency Planning Committee) member

Project Webpage

- Kellie requested that the Town coordinate to create a project webpage hosted on the Town's website. The project webpage will serve as the repository for all information related to project meetings, presentations, public surveys, and draft plan materials. **Kellie to provide draft content to be included (see attached 251219_DraftWebpageContent).**
- Rachael confirmed she will coordinate with the IT Department to set up the project webpage.**

Interdepartmental email

- Kellie requested that **Rachael** send an interdepartmental email to all town departments/Boards/Commissions to announce the kickoff of the HMP Update project (once LHMC members are confirmed and the project webpage is live). The email should direct everyone to the project webpage, and it should be conveyed that HW staff may be reaching out individually as part of the data collection process.
- Kellie to provide draft content that Rachael can use for the introductory email (see attached 251219_DraftIntroductorEmail).**

Hazards to be profiled

List of hazards to be profiled

- Kellie provided a review of the hazards profiled in the 2020 HMP against those profiled in the 2023 State HMP. Groton is required to profile all hazards that are included in the State Plan, unless otherwise noted as "not applicable" due to location/frequency/severity. See Table 2.
- Climate change considerations will be included in each hazard profile.

Table 2. Hazards to be Profiled (Yellow = New; Blue = Reorganized Compared to 2020 HMP)

General Hazard Type	Hazard Sub-Types
<i>Flood</i>	- Riverine and flash flooding - Heavy rain and inland/ urban (stormwater) flooding - Dam failure

General Hazard Type	Hazard Sub-Types
	Beaver activity
Wind	- Hurricanes and tropical storms - Tornadoes - Lightning and thunderstorms - High winds - Hail
Winter	- Blizzards, heavy snow, winter weather, and Nor'easters - Ice storms - Extreme cold
Geological	- Earthquakes - Landslides
Fire	Brush fires and wildfires
Extreme heat	Extreme heat
Drought	Drought
Invasive species	Invasive species (e.g., water chestnut, emerald ash borer)
Changes in groundwater	Changes in groundwater
**Hazards not addressed: Coastal flooding, coastal erosion, ice jams, avalanche, expansive soils, land subsidence, volcanoes, tsunamis.	

Hazard profiles data development process

- Kellie commented that HW will take the first look at collecting historical events from review of NOAA's National Centers for Environmental Information (<http://www.ncdc.noaa.gov/>) "Storm Events" database and develop tables based on hazard type, date, level/description and damages to develop a Hazard Index (January 1, 2019 – current).
- This database is becoming less robust as time passes, so the LHMC will have a discussion on those hazards where no data is available but general information based on their experiences working in the community is available.
- See 251218_GrotonHMP_ProposedPlanLayout for the scoring criteria to develop the hazard index (based on frequency, location/extent, and severity)—this reflects the approach used in the 2023 State HMP.
- Mapping will also be updated for all hazards:
 - Environmental justice areas, critical facilities/vulnerable populations, FEMA flood zones, repetitive flood loss areas, snowfall, tornado paths, wildland-urban interface, etc.

Dams

- New to this HMP update will be the incorporation of FEMA's High Hazard Potential Dams Rehabilitation Grant Program requirements (officially effective April 19, 2023, and carried forward into the April 11, 2025/June updated guidance). Plan guidance calls for coordination by the local community with dam owners and the state dam safety office to determine any issues/risks associated with dam structures. Information needed for jurisdictional dams as follows:
 - Phase I Inspection Reports:
 - High hazard structures (every two years): Lost Lake Dam (Town of Groton)

- Significant hazard structures (every five years): Squannacook River Dam (Town of Groton)
 - Emergency Action Plans (only for High and Significant Hazard Dams): Lost Lake Dam, Squannacook River Dam
 - Operation & Maintenance Plans: All dams
- **Rachael will coordinate with the Highway supervisor to collect what information is available.**
- **Kellie will also complete a Public Records Request with MA DCR Office of Dam Safety for requested documents (and will coordinate internally with the HW staff assisting the Town on its Squannacook Dam project).**

Walkthrough of Proposed Plan Layout

- Rachael confirmed that the current format of the 2020 HMP generally works well for the Town. Kellie noted that HW is proposing to use the same general organization for the HMP Update. The only major change that HW is proposing is to move the mitigation strategy “report card” into the introduction of the HMP Update to better celebrate what the Town has accomplished since 2020 and provide additional context for core plan content (e.g., community profile, hazard profile, capability assessment).
- **See 251218_GrotonHMP_ProposedPlanLayout. Rachael should review once more to confirm the proposed plan layout.**

Initial HMP Tasks

Capability Assessment

- **HW will begin development of the capability assessment**, which includes a review of existing plans, studies, reports, and all pages on the Groton municipal website. This will include any goals/actions that refer to natural hazards that should be carried over into this 2026 Update. This is important for ensuring consistency between different plans and their respective actions.
- Kellie will reach out as needed to coordinate on any documents and data needs.

Hazard Profiles

- See Hazard to be Profiled section above. **HW will begin gathering data to update the hazard profiles for the HMP Update.**

Community Profile

- **HW** will begin updating the community profile section, which reviews general environmental and socioeconomic characteristics of the Town. HW is aware that the Town recently adopted its updated Master Plan, so we anticipate using the Master Plan as a major reference.

2020 Plan Report Card

- HW developed the 2020 Plan Report Card (attached). This is required by FEMA and will be a focus of the first LHMC (as well as the first public workshop). It is intended to show the Town’s progress on achieving the actions identified in the existing plan. The 2020 Plan Report Card will document what has been accomplished, what should be carried forward into the HMP update, and what can be removed (identified as no longer relevant).

- **Rachael** will review and begin filling out the 2020 Plan Report Card in advance of our next check-in (email check-in the week of January 5). As time allows in an upcoming Public Safety Committee meeting, **Rachael** will also review the 2020 Plan Report Card with committee members. Outstanding questions and comments can be reviewed during the first LHMC meeting.

Data Requests

- Kellie reviewed the 251218_DataNeedsRequest_Memo, which includes an overview of all initial data requests that are necessary to begin working efficiently on the HMP Update.
- **Rachael** to begin addressing the data requests listed in the 251218_DataNeedsRequest_Memo:
 - GIS/spatial data, including critical facilities and vulnerable populations data
 - Dams (see Dams section above)
 - Native format of 2020 Groton Hazard Mitigation Plan
 - Summary of hazard mitigation related funding received since 2019
 - National Flood insurance Program (NFIP) information

Next Check-In

- **Kellie** will each out via email to Rachael the week of January 5 to update/confirm progress and coordinate on next steps, including scheduling the first LHMC meeting.

Groton Hazard Mitigation Plan Update

Local Hazard Mitigation Committee (LHMC) Meeting #1

Town Hall, 1st Floor Meeting Room (173 Main St., Groton, MA 01450)

February 11, 2026 | 10am – 12pm

Agenda Items

- Introductions
- Project Coordination
 - Scope of work
 - Schedule
 - LHMC role
 - General project outreach
 - Data collected to date
- Proposed Plan Layout
- 2020 Hazard Mitigation Plan (HMP) Report Card
- Hazard Index
 - Hazards to be profiled in the update
 - Ranking methodology
- Critical Facilities & Vulnerable Populations
- Public Outreach
 - Project webpage
 - Public workshop #1
 - Online survey kickoff
- Next Steps
 - HW action items
 - LHMC action items

Groton Hazard Mitigation Plan Update

LHMC Meeting #1

Groton Town Hall - 1st Floor Meeting Room

173 Main St., Groton, MA 01450

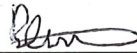
February 11, 2026 10:00 AM - 12:00 PM

Name

Email Address

Art Cheeks

Brian Callahan

 Bcallahan@grotonma.gov

Charlotte Steeves

 Csteeves@grotonma.gov

Frank Mastrangelo

 fmastrangelo@academy.edu

Jonathan Patterson

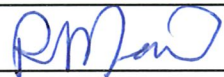
 jpatterson@grotonelectric.org

Mark Haddad

Michael Luth

Mike O'Donnell

Rachael Mead

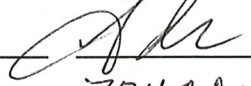
 RMEAD@grotonma.gov

Rob Maloney

Takashi Tada

 ttada@grotonma.gov

Terry Gardner

 TGardner@grotonma.gov

Veronica O'Donnell

 vodonnell@charter.net

Kellie King

 kking@horsleywitten.com

Craig Pereira

 cpereira@horsleywitten.com



Memorandum

To: Groton Local Hazard Mitigation Committee (LHMC)
From: Kellie King, Horsley Witten Group (HW)
Date: February 12, 2026
Re: LHMC Meeting #1 Summary – Groton, MA Hazard Mitigation Plan (HMP) Update
cc: Craig Pereira, HW

The first LHMC Meeting was held on February 11, 2026, from 10am – 12pm in the Groton Town Hall First Floor Meeting Room (173 Main Street, Groton, MA 01450). Attendance was as follows:

LHMC: Brian Callahan (DPW Director), Charlotte Steeves (Conservation Administrator), Frank Mastrangelo (Security Director, Lawrence Academy), Jon Patterson (Manager, Groton Electric Light Department), Rachael Mead (Deputy Police Chief/Emergency Management Director), Takashi Tada (Land Use Director/Town Planner), Terry Gardner (Deputy Fire Chief/Deputy Emergency Management Director), and Veronica O'Donnell (Sustainability Commission Member)

Consultant Team (HW): Kellie King (Project Manager) and Craig Pereira (Senior Planner)

The purpose of the LHMC Meeting was to initiate the HMP planning process with the committee and review project logistics. The meeting summary below is organized by the LHMC Meeting agenda. Action items for the LHMC are highlighted in **green**, while action items for HW are highlighted in **yellow**. Action items are also summarized under **Next Steps**. Meeting materials were distributed via email and are also uploaded to the shared Microsoft OneDrive folder "Groton MA 2026 HMP Update."

Introductions

- All attendees introduced themselves.
- Rachael and Kellie King provided brief introductions to the project. HMPs are communities' foundational strategies for guiding hazard risk reduction activities and investments. Communities must have FEMA-approved HMPs to access certain types of hazard mitigation funding. HMPs are updated on a five-year cycle.

Project Coordination

- Scope of work: Kellie reviewed the scope of work for the Town's 2026 HMP update.
 - The previous 2020 HMP was combined with the Massachusetts Municipal Vulnerability Preparedness (MVP) process/workshop. The 2026 update will be a standalone HMP and will conform to FEMA's guidelines/requirements for local mitigation planning.
 - The 2026 HMP update will reflect federal changes related to FEMA's [Rehabilitation of High Hazard Potential Dam Grant Program](#), which provides technical, planning, design,

- and construction assistance for the repair, replacement, reconstruction, or removal of a dam. The 2026 HMP will include a more comprehensive dam profile section.
- The scope includes four meetings with the LHMC and two public workshops.
- Schedule: Kellie reviewed the project schedule. The target end date is December 2026.
 - Kellie noted that the LHMC has already been extremely responsive to data collection and material review requests, which will help maintain this schedule.
 - Rachael Mead mentioned that the Town is scheduled to receive a FEMA grant in December 2026, with the understanding that the Town is finished updating its HMP.
- LHMC role: The LHMC will provide overall guidance and is a critical source of local knowledge. The LHMC should expect to be asked to review draft deliverables and help coordinate requests for information and data. There are four scheduled LHMC meetings. LHMC members are encouraged to participate in public workshops, as available.
- General project outreach:
- Data collected to date: The LHMC has already been extremely responsive to data requests. Data collected to date includes the 2020 HMP GIS data, dam reports, National Flood Insurance Program (NFIP) information, and past hazard mitigation funding records.
 - HW is waiting on property tax parcel information from the Assessor's Office. The Assessor's Office expects to be done updating this dataset in March. Property tax parcel information will be used as part of vulnerability assessment.

Proposed Plan Layout

- Kellie provided an overview of the proposed plan layout, which is intended to mirror the flow of FEMA's Plan Review Checklist (used to confirm HMPs meet all FEMA requirements) and the Town's 2020 HMP. The proposed plan layout is as follows, with brief descriptions:
 - Introduction: Overview of the purpose/importance of hazard mitigation planning, review of 2020 HMP Report Card to "set the stage" for remainder of HMP.
 - Mission & Goals: Articulate the Town's overall guiding principles to hazard mitigation planning and goals.
 - Community Profile: Provide a brief snapshot of conditions in the Town, with a focus on providing context on population, economic, environmental, and infrastructure characteristics discussed in subsequent plan sections.
 - Hazard Profiles and Risk Assessment: Review each natural hazard affecting the Town (history, location, probability of future occurrence, climate change impacts) and identify facilities, populations, and geographic areas vulnerable to each hazard.
 - Capability Assessment: Itemize the Town's current capabilities for hazard mitigation, preparedness, and response, including its planning, regulatory, and administrative capabilities.
 - Mitigation Strategies: List of mitigation actions to address natural hazards.
 - Plan Implementation and Maintenance: Description of how the Town will monitor/track progress on implementing the mitigation strategies, including how the Town will update strategies as needed within the five-year HMP planning timeline.

2020 HMP Report Card

- The 2020 HMP Report Card reviews the status of mitigation actions included in the 2020 HMP. The Town must report to MEMA/FEMA (and include in the 2026 HMP):
 - Which actions were accomplished,
 - Which actions were not accomplished, and why they were not,
 - Which actions should be included the 2026 update, and
 - Which actions are no longer relevant and should not be included in the 2026 update.
- Craig Pereira noted that mitigation actions that were completed but have ongoing activities associated with them would not necessarily be included as specific mitigation actions in the 2026 update. Instead, the 2026 HMP would note these ongoing activities as part of the capability assessment, which describes the Town's current capabilities related to hazard mitigation. Additionally, the Town will reexamine these mitigation strategies later in the planning process once it is ready to update/identify new strategies. There may be opportunities to condense or revise strategies to meet current conditions.
- The LHMC reviewed all mitigation actions and provided feedback/confirmation on status.
- The LHMC will review the updated 2020 HMP Report Card to ensure that all information is accurate and provide final feedback on outstanding mitigation actions (highlighted in yellow). Rachael will coordinate with additional Town entities to confirm status of assigned mitigation actions as needed.

Hazard Index

- Kellie reviewed the hazards to be profiled. The Town is required to profile all hazards included in the Massachusetts HMP, unless they do not have an impact on the Town and clear justification can be provided. As Groton is an inland community, coastal hazards will not be profiled.
 - **Flood related hazards:** (1) Riverine and flash flooding, (2) Heavy rain and stormwater (inland/urban) flooding, (3) Dam failure, and (4) Beaver activity*
 - **Wind related hazards:** (5) Hurricanes and tropical storms, (6) Tornadoes and microbursts*, (7) Lightning and thunderstorms, (8) High winds*, and (9) Hail
 - **Winter related hazards:** (10) Blizzards, heavy snow, and winter weather, (11) Nor'easters**, (12) Ice storms, (13) Extreme cold
 - **Geologic related hazards:** (14) Earthquakes and (15) Landslides
 - **All other hazards:** (16) Brush fire and wildfire, (17) Extreme heat**, (18) Drought, (19) Changes in groundwater*, (20) Invasive species (multiple plant/animal)*
 - Hazards with a single asterisk* are new to this plan (note that microbursts were added per LHMC guidance, to be combined with tornadoes, but tornadoes are not a new hazard).
 - Hazards with a double asterisk** have been rearranged within the overall hazard groupings (flood related vs winter related, etc.) but are not new to this plan.
- Kellie reviewed the purpose of the Hazard Index, which is intended to help the Town assess the relative risk of different hazards. It also serves as a reference when developing mitigation strategies later in the planning process, as the scope of mitigation strategies should reflect the level of risk/concern assigned to each hazard. Data/information from state and federal sources

([NOAA NCEI Severe Events Database](#), [ResilientMass Plan](#), [Massachusetts Climate Change Assessment](#), etc.) inform this process, as does the LHMC's local knowledge.

- The LHMC completed the Hazard Index, with scoring based on FEMA's Criteria Ranking guidance.
 - Hazard Index score = Frequency score + Severity score, with scores from 1 (lowest concern) to 7 (highest concern)
 - The 2020 HMP does not include a comprehensive Town-specific Hazard Index, so the scoring/ranking will not be a one-to-one comparison between 2020 and 2026 scores.
- The LHMC should review the list of hazards and confirm there are no edits needed to this list.
- The LHMC should review the draft Hazard Index and provide any additional feedback, with a special focus on the highest concern hazards and confirming that the scores reflect how hazard risk/impacts may have evolved since the 2020 HMP. Additionally, the LHMC should confirm whether HW's suggested changes to the Hazard Index are appropriate:
 - Instead of grouping [microbursts with tornadoes], group [microbursts with lightning and thunderstorms] (since microbursts are thunderstorm downdrafts).
 - Confirm whether HW's proposed reranking of tornadoes (by itself) is appropriate: Location = 1, Frequency = 1, Severity = 2.
 - Based on similarities, group **Nor'easters** and blizzards, heavy snow, and winter weather. These hazards were scored identically by the LHMC. In the 2020 HMP, Nor'easters had been separated because it was considered a wind related hazard.
- Access the Hazard Index draft here: [260211_GrotonHMP_HazardIndex_DRAFT.docx](#)

Critical Facilities and Vulnerable Populations

- HW has done an initial review of the list of critical facilities and vulnerable populations and received GIS data from the previous plan's consultant.
- Some communities are now creating two sets of maps for internal Town use vs external use. On the external map set, communities may remove certain critical facility information, such as groundwater well sites, for public safety reasons. While this information is publicly available, this makes it less immediately accessible. The LHMC agreed that there may be some facilities (certain water/electric infrastructure, etc.) that it would like to not include on the external map set.
 - The LHMC discussed whether certain vulnerable populations should also be removed from the external map set but agreed to keep them in given the benefit to communicating hazard risks to the public.
- The LHMC should review the list of critical facilities and vulnerable populations and provide feedback on any updates needed (e.g., facility no longer active, new facility added). The LHMC should also provide guidance on any critical facilities that should not be mapped on the external map set.
 - For updates related to site locations, the LHMC should provide clear street address, parcel ID number, and/or latitude/longitude information to facilitate mapping.
 - To help with the review, HW has prepared a reference web map: <https://arcg.is/OGWCSf0>. The web map is simply for visualization purposes only. At this point, the data has not been "cleaned" to remove duplicate data points or errors, and no special symbology is used.

Public Outreach

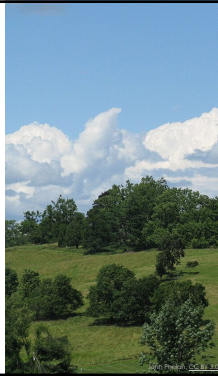
- The project webpage is here: <https://www.grotonma.gov/hazard-mitigation-plan/>. This will be updated with information and engagement opportunities throughout the planning process.
- Kellie said the 2020 HMP Report Card and Hazard Index should both be completed prior to public workshop #1—this will let us celebrate accomplishments, confirm mitigation actions that should be carried forward, and confirm the Hazard Index rankings with the public.
 - Based on the LHMC's progress at the meeting and assuming the LHMC can provide review and feedback on draft materials within the next two weeks, HW will target a mid-March public workshop.
- HW has drafted an online survey to pair with the public workshop to allow for an asynchronous opportunity to provide feedback. The draft survey includes several questions asked during the previous 2020 HMP process, as well as standard questions HW typically uses in its HMP projects.
- The LHMC noted that evening and day meetings have been attended by different demographics. HW to coordinate with Rachael/the LHMC to determine the best approach (hybrid?) for the first public workshop and confirm workshop logistics (e.g., space reservations, advertisements).
- The LHMC should review the draft online survey and provide feedback, including any additional questions.

Next Steps

- **HW Action Items:**
 - Finish drafting the community profile and hazard profiles plan sections.
 - Based on feedback from the LHMC, compile critical facilities and vulnerable populations inventory data and prepare draft hazard maps.
 - Begin the vulnerability analysis and capability assessment plan components/sections. As needed, coordinate with LHMC members on information requests (including on updated property tax parcel GIS data).
 - Pending completion and final review of the 2020 HMP Report Card and Hazard Index, HW to coordinate with Rachael/the LHMC on logistics for the first public workshop.
- **LHMC Action Items (complete by February 27):**
 - Review and provide any final feedback on the 2020 HMP Report Card.
 - Review and provide any feedback on the scoring/ranking for the Hazard Index.
 - Review the critical facilities and vulnerable populations list and provide updates as applicable (e.g., location, feature type).
 - Be prepared to provide information to HW to support the vulnerability analysis and capability assessment plan components/sections.
 - Review and provide feedback on the draft online public survey.
 - **Rachael:** Confirm wording of the expected FEMA grant terms to determine if the HMP schedule may be impacted.

Groton 2026 Hazard Mitigation Plan Update

Local Hazard Mitigation Committee Meeting #1
February 11, 2026

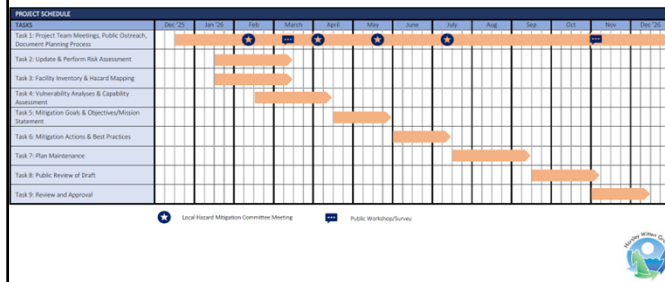


Agenda

- Introductions
- Project Coordination
- Proposed Plan Layout
- 2020 HMP Report Card
- Hazard Index
- Critical Facilities & Vulnerable Populations
- Public Outreach
- Next Steps



Schedule



Proposed Plan Layout

1. Introduction
 - Includes 2020 HMP Report Card
2. Mission & Goals
3. Community Profile
4. Hazard Profiles & Risk Assessment
 - Profiles: History, location, probability of future occurrence, climate change impacts
 - Vulnerability assessment
5. Capability Assessment
6. Mitigation Strategies
7. Plan Implementation & Maintenance

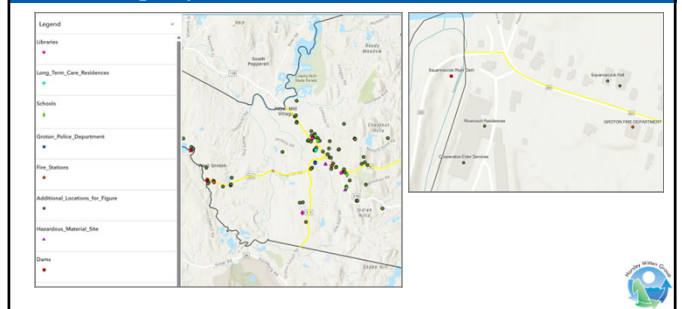


LOCATION / LAND AFFECTED SCORING		
Score	Category	Description
1	Small / Local	< 10% municipality affected
2	Medium / Regional	10 – 50% municipality affected
3	Large / Multiple Communities	> 50% municipality affected

FREQUENCY SCORING		
Score	Category	Description
1	Unlikely	Occurs less frequently than once in 100 years (less than 1% annual chance)
2	Possible	Occurs at least once in the next 100 years (1 – 10% annual chance)
3	Likely	Occurs at least once in the next 10 years (10 – 100% annual chance)
4	Highly Likely	Occurs at least once in the next year (near 100% annual chance)

SEVERITY SCORING		
Score	Category	Description
1	Negligible	Injuries/illnesses treatable with first aid, minor QOL life loss, impacts to critical facilities/services < 24hrs, <10% property severely damaged
2	Limited	Injuries/illnesses don't result in permanent disability, complete shutdown of critical facilities/services for >1 week, 10 – 25% property severely damaged
3	Critical	Injuries/illnesses result in permanent disability, complete shutdown of critical facilities/services for >2 weeks, 25 – 50% property severely damaged
4	Catastrophic	Likely loss of life, complete shutdown of critical facilities/services for >1 month, >50% property severely damaged

Critical Facilities & Vulnerable Populations Web Map Reference



Groton Hazard Mitigation Plan Update

Local Hazard Mitigation Committee (LHMC) Meeting #2

Town Hall, 1st Floor Meeting Room (173 Main St., Groton, MA 01450)

April 7, 2026 | 10am – 12pm

Agenda Items

- Project coordination
 - Schedule
- Public outreach update
 - Public workshop #1
 - Survey
- Review LHMC/Town feedback on previous materials
- Overview of draft hazard profiles information
- Information requests
 - Risk assessment
 - Vulnerability assessment
- Critical facilities & vulnerable populations dataset review
- Other items, as applicable
- Next Steps
 - HW action items
 - LHMC action items

Groton Hazard Mitigation Plan Update

LHMC Meeting #2

Groton Town Hall - 1st Floor Meeting Room

173 Main St., Groton, MA 01450

April 7, 2026 10:00 AM - 12:00 PM

Name

Email Address

Art Cheeks

Brian Callahan

Charlotte Steeves

Frank Mastrangelo

Jonathan Patterson

Mark Haddad

Michael Luth

Mike O'Donnell

Rachael Mead

Rob Maloney

Takashi Tada

Terry Gardner

Veronica O'Donnell

Kellie King

Craig Pereira

✓

CSteeves@grotonma.gov

RMEAD@grotonma.gov

ttada@grotonma.gov

TGardner@grotonma.gov

kking@horsleywitten.com

Craig Pereira





Memorandum

To: Groton Local Hazard Mitigation Committee (LHMC)
From: Kellie King, Horsley Witten Group (HW)
Date: April 10, 2026
Re: LHMC Meeting #2 Summary – Groton, MA Hazard Mitigation Plan (HMP) Update
cc: Craig Pereira, HW

The second LHMC Meeting was held on April 7, 2026, from 10am – 12pm in the Groton Town Hall First Floor Meeting Room (173 Main Street, Groton, MA 01450). Attendance was as follows:

LHMC: Brian Callahan (DPW Director), Charlotte Steeves (Conservation Administrator), Rachael Mead (Deputy Police Chief/Emergency Management Director), Takashi Tada (Land Use Director/Town Planner), and Terry Gardner (Deputy Fire Chief/Deputy Emergency Management Director)

Consultant Team (HW): Kellie King (Project Manager) and Craig Pereira (Senior Planner)

The purpose of the LHMC Meeting was to review project logistics, outstanding information requests, and the list of critical facilities and vulnerable populations identified for the HMP update. The meeting summary below is organized by the LHMC Meeting agenda. Action items for the LHMC are highlighted in green, while action items for HW are highlighted in yellow. Action items are also summarized under **Next Steps**. Meeting materials were distributed via email and are also uploaded to the shared Microsoft OneDrive folder “Groton MA 2026 HMP Update.”

Project Coordination

- Schedule: Kellie King provided an update on project scheduling, noting that progress is continuing smoothly. With feedback/information from the Town and LHMC members, HW anticipates being able to complete the risk, vulnerability, and capability assessment sections of the plan soon, depending on the timing of pending information requests to the Town.

Public Outreach Update

- The first public workshop was held on March 24. About 10-12 individuals were present, with attendance from LHMC members and other Town staff and board/commission members. The workshop was aired live on the Groton Channel and a recording is also available at <https://reflect-thegrotonchannel.cablecast.tv/internetchannel/show/12071>.
- The public survey is also live. As of April 6, 14 people have responded to the survey.
 - The survey is available at <https://www.surveymonkey.com/r/GrotonHMPSurvey>.
- Rachael Mead noted that she will do another push on social media platforms to publicize the public survey. LHMC members are asked to repost on their respective channels.

Review of LHMC/Town Feedback on Previous Materials

- Kellie said that comments about how expected future conditions are incorporated into the plan were provided by LHMC members. HW includes a discussion of climate change impacts on each hazard group to identify expected changes in the frequency, severity, and magnitude of natural hazards affected Groton within Section 4 (Hazard Profiles and Risk Assessment).
- Another comment related to where Nor'easters are grouped within the hazard profiles was received, noting that Nor'easters do not occur solely in the winter. HW recommends stressing this in the description of Nor'easters, noting that they may also occur in the spring and fall but are most common in the winter. Keeping Nor'easters as a winter hazard grouped with other winter hazard events is aligned with the State Hazard Mitigation Plan (ResilientMass).

Overview of Draft Hazard Profiles Information

- Kellie reviewed the format of the hazard profiles in Section 4 (Hazard Profiles and Risk Assessment). For each hazard group, the following information is discussed:
 - Overview of hazard group
 - Sub-hazards: Overview (description, measurement), history and location, and probability of future occurrence
 - Climate change impacts on hazard group
 - People and property at risk from hazard group
 - Summary of anticipated impacts from hazard group
- The LHMC confirmed locations at risk/potentially at risk from each hazard/hazard group, updating from the 2020 HMP as applicable:
 - Flood related hazards: LHMC provided beaver deceiver/activity locations and updated the Locally Identified Areas of Flooding Concern table below.

Locally Identified Areas of Flooding Concern

Location	2026 HMP Updates / Notes
Identified in 2020 HMP	
Martins Pond	Remove – flooding occurs, but this is primarily undeveloped and wooded; flooding is “okay” and doesn’t impact residents. Conservation Commission has been acquiring land for open space purposes.
Baddacook Pond	Remove – same as above. Water Department has been actively acquiring land for water supply protection purposes.
Whitney (Cow) Pond	Update to Route 40 (Lowell Road) culvert at Whitney Pond. Flooding occurs when culvert backs up. “Culvert” may be large enough to be considered a bridge.
Lost Lake/Knops Pond	Remove – no reported issues with flooding in this area by residents; none observed by Town staff.
Broadmeadow Road	Keep – floods during minor precipitation events. Road is at a low point crossing a wetland. Town is working on an application to the National River Watershed Association on a grant to place a culvert and address phragmites issues. Dredging/digging out of stream would help, but haven’t been successful in getting restoration/resilience funds with that project component included.

Location	2026 HMP Updates / Notes
Route 119	Keep – can cause flooding across golf course if beaver deceiver is not adequately maintained. Maintained by state, has been under control for the past few years. DPW contacts the state if there are issues.
Route 225 (W Main Street)	Nashua River can flood seasonally due to snowmelt in the spring; heavy precipitation events may also cause flooding at this location.
Townsend Rd	Update – remove mention of Park Drive (likely was referencing runoff from the Hollingsworth & Vose landfill; closing/capping that site will include stormwater controls. There is a culvert in the area, but it's in good shape and would be difficult to touch because it runs underneath a mill building). Switch to Townsend Road/Cherry Tree Lane – culvert has been upsized, but there is beaver activity/beaver deceiver that must be monitored and maintained. Flooding at this location has affected the Squannacook River Rail Trail in the past.
RiverCourt Residences	Remove – flooding does not occur at this location, but it was likely included in the 2020 HMP given potential impacts from a dam failure. This location/vulnerable population is discussed under the dam failure profile, so it can be removed as an identified flooding area.
Pepperell St/Rd (Groton)	Remove – no current issues; culverts are in good shape.
Shirley St (Pepperell)	Remove – no current issues.
Station Ave	Update – not an issue now that Town cleared out pipe; was previously flooding when swamp/wet areas backed up.
Hill Rd	Combine – add into Route 225 area; can flood if Nashua River overtops its banks.

- Geologic related hazards: townwide; erosion at construction sites is well managed and sites of concern (Village at Shepley Hill) have been mitigated
- Brushfire and wildfires: townwide; 2020 HMP mention of Town Center and Lost Lake neighborhood likely to do the density of development (update to townwide)
- Changes in groundwater: contamination can happen across town, but areas of known concern are the high school and landfill
- Invasive species: can occur/do occur across town, but aquatic resources are of high concern (bittersweet, knotwood, phragmites, etc.)
- Wind related hazards, winter related hazards, extreme heat, and drought: townwide
- LHMC should review draft hazard profiles section – okay for everyone to review hazards that they are most familiar with instead of the full document. See [260409_GrotonHMP_Sect4HazardProfiles_Draft.docx](#).

Information Requests

- Kellie reviewed pending information requests to LHMC members and others.
- Related to the hazard profiles and risk assessment:
 - Brush fire and wildfire incidents (Fire Department) – DONE
 - Flooding hotspots (DPW) – DONE
 - Beaver activity (Board of Health/DPW) – DONE
 - Updated tax assessment data/GIS parcels (Tax Assessor) – PENDING

- Dams outside of Groton that may still impact the community (Office of Dam Safety and Federal Energy Regulatory Commission) - PENDING
- Related to infrastructure information for the vulnerability assessment ([260309_Infrastructure-Utility Excerpts.docx](#)):
 - Transportation, stormwater (DPW) – PENDING
 - Electricity (GELD) – DONE
 - Drinking Water (Water Department and West Groton WSD) – PENDING
 - Wastewater (Sewer Commission) – DONE
 - Recent Development (Land Use Dept) – DONE
 - Emergency shelters, evacuation routes (Emergency Management) – DONE
- HW to continue coordinating with ODS and FERC on dam information requests.
- Rachael to continue coordinating on outstanding information requests; LHMC to provide outstanding information.

Critical Facilities and Vulnerable Populations

- The LHMC reviewed the draft inventory of critical facilities and vulnerable populations, which is an update of the previous 2020 HMP data. Fields within the inventory table are as follows:
 - WID (working ID number), Name, and Address
 - CF/VP = designates whether site is a critical facility, vulnerable population, or both. For example, a school (vulnerable population) that also serves as an emergency shelter (critical facility) is considered a critical facility and vulnerable population.
 - Site Type (Primary) = designates the site's primary purpose/category of use (e.g., drinking water infrastructure, communications infrastructure, schools).
 - Type Notes / Addt'l Type(s) = as necessary, additional notes on the site, including any secondary categories of use.
 - Emergency Response Role = notes whether site is used as an emergency operations center, emergency shelter, mass care facility, or emergency dispensing site during an emergency event.
- The LHMC confirmed the following updates to the draft inventory:
 - Reviewed/confirmed "hazardous materials site" status for various sites. For this inventory, HW suggests the "hazardous materials site" designation is limited to those with official designations under state regulations (e.g., AUL/Tier 21E sites).
 - Added a "chemical/fuel storage site" designation to identify sites where sensitive materials are stored where spills/incidents could cause contamination issues.
 - Added a "major employers" designation to identify sites that may have large numbers of people on site during an emergency event (≥100 employees).
 - Removed several sites included on the 2020 HMP inventory:
 - Proposed Shattuck Rd Brook Well #1 (not constructed, no plans)
 - Proposed Shattuck Rd Brook Well #2 (not constructed, no plans)
 - Insko Corp. (not designated by the state as a hazardous materials site)
 - Groton Board of Health (condensed with Town Hall)
 - Wastewater Treatment Plan, 600 Cow Pond Rd (does not exist)

- Legion Hall (not critical to emergency response)
 - Groton School, Pratt Rink #2 and New Rink #1(not critical to emergency response, no ammonia storage)
- Added several sites to the 2026 HMP inventory:
 - Groton Dunstable High School Cell Tower (as future location, plans submitted/expected)
 - Former Shooting Range (159 W Main St) (21E Tier 1D hazardous materials site)
 - Groton Dunstable Regional High School (703 Chicopee Row at track) (21E Tier 1 hazardous materials site)
 - Grant Rink (56 Powderhouse Rd) (chemical/fuel storage site, ammonia storage)
 - Hollingsworth & Vose Landfill (landfill)
 - Groton Dump (71 Nod Rd)
 - Groton Landfill (600 Cow Pond Brook Rd)
 - Barn at Gibbet Hill (61 Lowell Rd) (major employer)
- The LHMC also confirmed a preference for screening data related to communications, drinking water, and electric infrastructure and daycares.
- The draft inventory is available on the project OneDrive at [260408 Inventory DRAFT.xlsx](#).
- The LHMC should review the updated draft inventory and confirm any further edits.

Next Steps

- **HW Action Items:**
 - Finish drafting the risk, vulnerability, and capability assessment sections of the plan (timing dependent on pending information requests to the Town/others).
 - HW to continue coordinating with ODS and FERC on dam information requests.
- **LHMC Action Items (complete by April 24):**
 - Town to do another push on social media platforms to publicize the public survey. As able, LHMC members are asked to repost information about the public survey on their respective channels.
 - Town to continue coordinating on outstanding information requests related to the vulnerability assessment.
 - Transportation, stormwater (DPW) – PENDING
 - Drinking Water (Water Department and West Groton WSD) – PENDING
 - LHMC to review draft hazard profiles sections and provide comments. The draft is available at [260409 GrotonHMP Sect4HazardProfiles Draft.docx](#).
 - As interested, review the draft community profile (section 3) and provide comments. The draft is available at [260309 GrotonHMP Sec3ComProfile Draft.docx](#).

Groton 2026 Hazard Mitigation Plan Update

Local Hazard Mitigation Committee Meeting #2
April 7, 2026

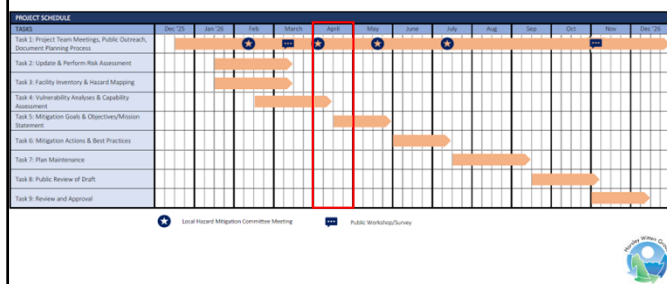


Agenda

- Project Coordination
- Public Outreach Update
- Review LHMC/Town Feedback on Previous Materials
- Draft Hazard Profiles Information
- Information Requests
- Critical Facilities & Vulnerable Populations
- Next Steps



Schedule



Hazard Profiles: Organization

Hazard Group

- Overview
 - Sub-Hazard #1 Overview (description, measurement)
 - History and Location
 - Probability of Future Occurrence
 - Sub-Hazard #2 Overview (description, measurement)
 - History and Location
 - Probability of Future Occurrence
- Climate Change Impacts on Hazard Group
- People and Property at Risk from Hazard Group
- Summary of Anticipated Impacts from Hazard Group



Flood Related Hazards

- Riverine and flash flooding
- Heavy rain and stormwater flooding (inland and urban flooding)
- Dam failure
- Beaver activity

2020 HMP → FEMA Flood Hazard Areas and locally identified areas of flooding



Location	Notes
Martins Pond	Along Lowell Road south of Martins Pond and the beaver dam northeast of Martins Pond.
Baddacook Pond	
Whitney (Cow) Pond	
Lost Lake/Knops Pond	
Broad Meadow Rd	Described as the "litmus test" for flooding, as it floods first and is centrally located
Route 119	Near the Cady Pond Brook culvert. Route 119 is one of the few access points to West Groton.
Route 225 (W Main St)	Floods near the Nashua River and Wrangling Brook. Route 225 is one of the few access points to West Groton.
Townsend Rd	Near Park Drive in West Groton.
RiverCourt Residences	
Pepperell St/Rd	In Groton
Shirley St	In Pepperell
Station Ave	
Hill Rd	

Wind Related Hazards

- High winds
- Hurricanes and tropical storms
- Thunderstorms, lightning, and downbursts
- Tornadoes
- Hail

2020 HMP → Townwide hazards



Winter Related Hazards

- Blizzards, heavy snow, winter weather, and Nor'easters
- Ice storms
- Extreme cold

2020 HMP → Townwide hazards



Geologic Related Hazards

- Earthquakes
- Landslides

2020 HMP → Townwide hazards; occasional localized issues with erosion at construction sites.



All Other Hazards

- Brush fire and wildfires
 - 2020 HMP → Townwide hazard; higher risk in Town Center and Lost Lake neighborhood
- Extreme heat
 - 2020 HMP → Townwide hazard
- Drought
 - 2020 HMP → Townwide hazard
- Changes in groundwater
 - 2025 Master Plan → High School area; former landfill sites (Cow Pond Brook Road and Nod Road)
- Invasive species
 - 2019 OSRP / 2025 Master Plan → invasive plant species @ Lost Lake/Knops Pond, Massapoag Pond, Nashua River, Baddacook Pond



Information Requests

Hazard profiles & risk assessment

- Brush fire and wildfire incidents – Fire Dept
- Flooding hotspots – DPW
- Beaver activity – Board of Health
- Updated tax assessment data/GIS parcels – Tax Assessor

Vulnerability assessment

- Transportation, stormwater – DPW
- Electricity – GELD
- Drinking water – Water Department & West Groton WSD
- Wastewater – Sewer Commission
- Recent development – Land Use Dept
- Emergency shelters, evacuation – Emergency Management



Hazard Profiles

Natural Hazards Assessed

Riverine & Flash Flooding	Blizzards, Heavy Snow, Winter Weather & Nor'easters
Heavy Rain & Stormwater (Inland/Urban) Flooding	Ice Storms
Dam Failure	Extreme Cold
Beaver Activity	Earthquakes
High Winds	Landslides
Hurricanes & Tropical Storms	Brush Fire & Wildfire
Thunderstorms, Microbursts & Lightning	Extreme Heat
Tornadoes	Drought
Hail	Changes in Groundwater
	Invasive Species



Hazard Profiles

Natural Hazard	
Riverine & Flash Flooding	Ice Storms
Heavy Rain & Stormwater (Inland/Urban) Flooding	Extreme Cold
Dam Failure	Earthquakes
Beaver Activity	Landslides
High Winds	Brush Fire & Wildfire
Hurricanes & Tropical Storms	Extreme Heat
Thunderstorms, Microbursts & Lightning	Drought
Tornadoes	Changes in Groundwater
Hail	Invasive Species
Blizzards, Heavy Snow, Winter Weather & Nor'easters	



Assess Risks:

Determine Relative Risk & Impacts

Natural Hazard	Frequency				Severity				Hazard Index
Blizzards, Heavy Snow, Winter Weather & Nor'easters	✓	✓	✓	✓	✓	✓			Higher Concern
Ice Storms	✓	✓	✓	✓	✓	✓			Medium Concern
Extreme Cold	✓	✓	✓	✓	✓				Medium Concern
Earthquakes	✓				✓				Lower Concern
Landslides	✓				✓				Lower Concern
Brush Fire & Wildfire	✓	✓	✓	✓	✓	✓			Higher Concern
Extreme Heat	✓	✓	✓	✓	✓				Medium Concern
Drought	✓	✓	✓	✓	✓	✓	✓		Higher Concern
Changes in Groundwater	✓	✓	✓	✓	✓				Medium Concern
Invasive Species	✓	✓	✓	✓	✓	✓	✓		Higher Concern



Information Requests

Flood Related

- Riverine & flash flooding
- Heavy rain & stormwater (inland/urban)

Vulnerability assessment

- Transportation, stormwater – DPW
- Electricity – GELD
- Drinking water – Water Department & West Groton WSD
- Wastewater – Sewer Commission
- Recent development – Land Use Dept
- Emergency shelters, evacuation – Emergency Management



Critical Facilities & Vulnerable Populations

Critical Facilities	Vulnerable Populations
Communications Infrastructure	Arts/Cultural Site
Dam	Camp
Drinking Water Infrastructure	Congregate Care Facility
Electrical Infrastructure	Daycare
Grocery, Pharmacy, or Supply Store	Housing Site
Hazardous Materials Site	Place of Worship
Medical Facility	School
Municipal Facility	
Public Safety Facility	
Transportation Infrastructure	
Wastewater Infrastructure	
And... Emergency response sites (e.g., EOC, shelters)	



Groton Hazard Mitigation Plan Update

Local Hazard Mitigation Committee (LHMC) Meeting #3

Town Hall, 1st Floor Meeting Room (173 Main St., Groton, MA 01450)

June 8, 2026 | 10am – 12pm

Agenda Items

- Project coordination
 - Schedule
- Public outreach update
 - Survey
- Review any remaining feedback and information requests related to draft materials
- Flood hazard overlay analysis
- Overview of draft capability assessment section
- Review (and update as needed) the HMP mission and goals
- Review preliminary mitigation actions for consideration
- Other items, as applicable
- Next Steps
 - HW action items
 - LHMC action items

Groton Hazard Mitigation Plan Update

LHMC Meeting #3

Groton Town Hall - 1st Floor Meeting Room

173 Main St., Groton, MA 01450

June 8, 2026 10:00 AM - 12:00 PM

Name

Email Address

Art Cheeks

Brian Callahan

Bcallahan@grotonma.gov

Charlotte Steeves

✓

Frank Mastrangelo

FMASTRANGELO@ACADEMY.EDU

Jonathan Patterson

Mark Haddad

Michael Luth

Mike O'Donnell

Rachael Mead

RMEAD@grotonma.gov

Rob Maloney

Takashi Tada

ttada@grotonma.gov

Terry Gardner

✓

Veronica O'Donnell

Vodonnell@charter.net

Kellie King

kking@horsleywitten.com

Craig Pereira

Cpereira@horsleywitten.com

Bruce H. Eason

bruce@easoncorp.com





Memorandum

To: Groton Local Hazard Mitigation Committee (LHMC)
From: Kellie King, Horsley Witten Group (HW)
Date: June 11, 2026
Re: LHMC Meeting #3 Summary – Groton, MA Hazard Mitigation Plan (HMP) Update
cc: Craig Pereira, HW

The third LHMC Meeting was held on June 8, 2026, from 10am – 12pm in the Groton Town Hall First Floor Meeting Room (173 Main Street, Groton, MA 01450). Attendance was as follows:

LHMC: Brian Callahan (DPW Director), Charlotte Steeves (Conservation Administrator), Frank Mastrangelo (Security Director, Lawrence Academy), Rachael Mead (Deputy Police Chief/Emergency Management Director), Takashi Tada (Land Use Director/Town Planner), Terry Gardner (Deputy Fire Chief/Deputy Emergency Management Director), and Veronica O'Donnell (Sustainability Commission Member)

Other Town Entities: Bruce Easom (Earth Removal Stormwater Advisory Committee, Conservation Commission Chair, Zoning Board of Appeals Member)

Consultant Team (HW): Kellie King (Project Manager) and Craig Pereira (Senior Planner)

The purpose of the LHMC Meeting was focused on reviewing the preliminary list of mitigation actions for inclusion within the HMP. The meeting summary below is organized by the LHMC Meeting agenda. Action items for the LHMC are highlighted in **green**, while action items for HW are highlighted in **yellow**. Action items are also summarized under **Next Steps**. Meeting materials were distributed via email and are also uploaded to the shared Microsoft OneDrive folder “Groton MA 2026 HMP Update.”

Project Coordination

- **Schedule:** Kellie King provided an update on project scheduling, noting that progress is continuing smoothly. The timing of the fourth LHMC Meeting, focusing on prioritizing mitigation actions, will be dependent on the Town's review and feedback on the draft preliminary mitigation actions list. The target date for the fourth LHMC Meeting is mid- to late July.

Public Outreach Update

- The public survey is also live. As of June 11, 18 people have responded to the survey.
- **Rachael Mead will coordinate on another outreach push to publicize the public survey. LHMC members are asked to share the public survey on their respective channels.** The survey is available at <https://www.surveymonkey.com/r/GrotonHMPSurvey>.

Draft Materials to Date

- Kellie reviewed the draft materials that the LHMC has reviewed to date:
 - Section 3: Community Profile
 - Section 4: Hazard Profiles & Risk Assessment, and Vulnerability Assessment excerpts
 - Critical Facilities & Vulnerable Populations Inventory
 - Map set
- Kellie noted that there may be minor changes to these sections, particularly on the risk and vulnerability assessments as there are updates on outstanding data requests.
- HW will coordinate with LHMC members on outstanding data requests related to transportation and stormwater infrastructure.

Flood Hazard Overlay Analysis

- Kellie reviewed the results of the flood hazard overlay analysis, which identified critical facilities and vulnerable populations in flood hazard areas and quantified potential economic impacts:

Critical Facility and Vulnerable Population Sites in the FEMA 100-Year Floodplain

Sites	Critical Facility	Vulnerable Population
Hollingsworth & Vose Company	✓	✓
Hollingsworth & Vose Company Dam	✓	
Hollingsworth & Vose Tower	✓	
Lost Lake Dam	✓	
Nashua River Bridge (at Route 225)	✓	
Nod Road Sewer Pump Station	✓	
RiverCourt Residences		✓
Squannacook River Dam	✓	
Townsend Road Wellfield #1	✓	
Townsend Road Wellfield #2	✓	
Townsend Road Wellfield #3	✓	
Townsend Road Wellfield #4	✓	
West Groton Pumping Station	✓	

Note: Based on intersection of the mapped point location with FEMA flood hazard areas. There are no sites that intersect with the FEMA 500-year floodplain.

Properties in FEMA Floodplains

Land Use Type	# Properties in 100-Yr Flood Zone	Property Value in 100-Yr Flood Zone	# Properties in 500-Yr Flood Zone	Property Value in 500-Yr Flood Zone
Residential	705	\$428.6M	55	\$35.6M
Commercial	9	\$8.7M	2	\$0.8M
Industrial	6	\$3.7M	-	-
Exempt	247	\$438.8M	5	\$4.4M
Other	19	\$0.4M	-	-
Totals	986	\$880.1M	62	\$40.8M

Note: Based on intersection with the tax parcel that an assessed property is located on. Exempt property includes those properties that are exempt from taxation per state law (e.g., Commonwealth lands, charitable lands).

- LHMC should review the mapped critical facility and vulnerable population locations to confirm whether any adjustments are needed. See [260608 CFVPIInventory FloodRiskMap.pdf](#) (map of sites) and [260408 CFVPIInventoryList.pdf](#) (corresponding list of numbered sites).

Overview of Draft Capability Assessment Section

- Kellie provided an overview of the draft Capability Assessment section. The section discusses existing mitigation capabilities/activities and identifies potential opportunities to strengthen the Town's efforts.
- Actions from the 2020 HMP that are now ongoing capabilities should be captured in the Capability Assessment. Ongoing planning activities and infrastructure projects should be captured in this section.
- The section is organized by FEMA's general categories of capabilities, noting there may be overlap across these categories:
 - Planning and Regulatory
 - Administrative and Technical
 - Education and Outreach
 - Financial
- LHMC to review the draft Capability Assessment and provide any edits and comments as necessary. See [260610 GrotonHMP_Sec5CapabilityAssess_Draft.docx](#).
 - This includes information provided during the meeting related to the Regional Energy Manager, stream crossing assessments, etc.
- HW to coordinate with Rachael and the Building Official to complete the "Actions for Continued Compliance with the NFIP" table.

Review (and update as needed) the HMP Mission and Goals

- The LHMC reviewed the mission and goals developed for the prior 2020 HMP. The LHMC suggested minor edits to make the goal statements sound more active and reference climate change and natural hazard impacts, but otherwise there were no major edits. See revised versions below:

Mission: The Town of Groton will protect public health, property, infrastructure, the environment, and cultural resources through a hazard mitigation and climate adaptation program that involves increased coordination, planning, education, and capital improvements.

Goals:

1. Shelters: Provide adequate shelter, water, food, and basic first aid to displaced residents in the event of a natural disaster.
2. Coordination: Increase coordination between departments, surrounding communities, regional efforts, and state agencies in pre-disaster planning and the implementation of hazard mitigation and climate adaptation projects.
3. Education: Increase awareness of hazard mitigation and climate adaptation among Town officials, private organizations, businesses, and the general public.
4. Notification: Provide adequate information to residents in the event of a natural disaster.

5. Infrastructure: Protect public infrastructure, buildings, and essential services such as electric power, drinking water, and the sewer system from climate change and hazard mitigation impacts.
6. Vulnerable Populations: Build community and individual resilience, with a special focus on vulnerable populations.
7. Natural Environment: Develop hazard mitigation and climate adaptation measures that employ nature-based solutions and protect the natural environment.
8. Development: Ensure that future development meets federal, state, and local standards for preventing and reducing the impacts of natural hazards under climate change projections.
9. Finance: Identify potential funding sources to support the implementation of climate adaptation and hazard mitigation strategies.

Review Preliminary Mitigation Actions for Consideration

- Kellie explained that HW has compiled the draft list of preliminary mitigation actions for consideration based on the LHMC's feedback on the 2020 HMP actions, general LHMC and public feedback, the updated risk assessment, and the Town's recent planning documents (e.g., 2025 Master Plan). HW also tried to condense actions where possible.
- The LHMC reviewed each action, providing feedback on the need for the action and its scope and likely supporting and leading entities for implementation.
- Kellie noted that HW would revise the preliminary mitigation actions list following the meeting and redistribute to the LHMC for further review and feedback. It is important that the LHMC provide feedback on the action list to enable the team to develop a final action list for prioritization at the fourth LHMC meeting.
- LHMC to review the updated draft list of mitigation actions and provide feedback, with a focus on the action's scope, implementation entities, and estimated timeframe and cost of completion. See [260611 GrotonHMP PrelimMitigationActions DRAFT.xlsx](#).
- LHMC to provide feedback on any additional actions that should be included for consideration.
- HW will update the draft list of mitigation actions as the LHMC provides feedback.

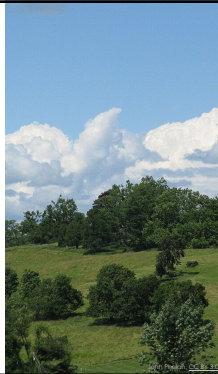
Next Steps

- **HW Action Items:**
 - HW will coordinate with LHMC members on outstanding data requests related to transportation and stormwater infrastructure.
 - Coordinate with Rachael and the Building Official to complete the "Actions for Continued Compliance with the NFIP" table.
 - Update the draft list of mitigation actions as the LHMC provides feedback.
- **LHMC Action Items (complete by June 26):**
 - Town to do another push to publicize the public survey. As able, LHMC members are asked to repost information about the public survey on their respective channels.

- Review the mapped critical facility and vulnerable population locations to confirm whether any adjustments are needed. See [260608 CFVPIInventory FloodRiskMap.pdf](#) (map of sites) and [260408 CFVPIInventoryList.pdf](#) (corresponding list of numbered sites).
- LHMC to review the draft Capability Assessment and provide any edits and comments as necessary. See [260610 GrotonHMP_Sec5CapabilityAssess Draft.docx](#).
- LHMC to review the updated draft list of mitigation actions and provide feedback, with a focus on the action's scope, implementation entities, and estimated timeframe and cost of completion. See [260611 GrotonHMP PrelimMitigationActions DRAFT.xlsx](#).
- LHMC to provide feedback on any additional mitigation actions that should be included for consideration.

Groton 2026 Hazard Mitigation Plan Update

Local Hazard Mitigation Committee Meeting #3
June 8, 2026

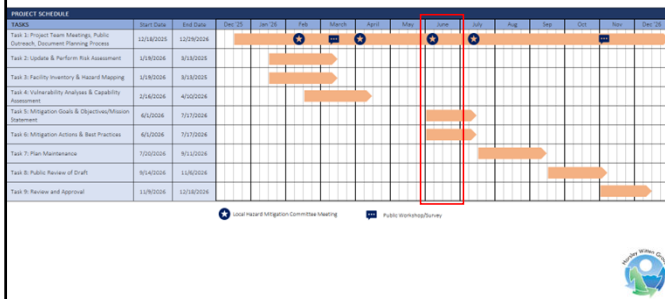


Agenda

- Project Coordination
- Public Outreach Update
- Past Draft Materials
- Flood Overlay Analysis
- Draft Capability Assessment Section
- HMP Mission & Goals
- Preliminary Mitigation Actions
- Next Steps



Schedule



Draft Materials To Date

Reviewed to date by LHMC:

- Section 3: Community Profile
- Section 4: Hazard Profiles & Risk Assessment
 - *Excerpts from Section 4.E: Vulnerability Assessments
 - *Outstanding information request on transportation & stormwater (DPW)*
- Critical Facilities & Vulnerable Populations Inventory
- Map set



Vulnerability Analysis: Flooding

Overlay analysis of flood hazard related to:

- Assessed properties (based on intersection with parcel)
- Critical facility & vulnerable populations (based on intersection with mapped point location)



CF/VP Sites in FEMA 100-Year Floodplain

Site	Critical Facility	Vulnerable Population
Hollingsworth & Vose Company	✓	✓
Hollingsworth & Vose Company Dam	✓	
Hollingsworth & Vose Tower	✓	
Lost Lake Dam	✓	
Nashua River Bridge (at Route 225)	✓	
Nod Road Sewer Pump Station	✓	
RiverCourt Residences		✓
Squannacook River Dam	✓	
Townsend Road Wellfield #1	✓	
Townsend Road Wellfield #2	✓	
Townsend Road Wellfield #3	✓	
Townsend Road Wellfield #4	✓	
West Groton Pumping Station	✓	
Woods Mill Pond Dam	✓	



Properties in FEMA Floodplains*

Land Use Type	# Properties in 100-Yr Flood Zone	Property Value in 100-Yr Flood Zone	# Properties in 500-Yr Flood Zone	Property Value in 500-Yr Flood Zone
Residential	705	\$428.6M	55	\$35.6M
Commercial	9	\$8.7M	2	\$0.8M
Industrial	6	\$3.7M	-	-
Exempt	247	\$438.8M	5	\$4.4M
Other	19	\$0.4M	-	-
Totals	986	\$880.1M	62	\$40.8M

*Based on intersection with tax parcel



Section 5: Capability Assessment

Discusses existing mitigation capabilities/activities and identifies potential opportunities to strengthen the Town's efforts.

Organized by FEMA's general categories of capabilities:

- Planning and Regulatory
- Administrative and Technical
- Education and Outreach
- Financial



Actions for Continued Compliance with the NFIP

Action	Complete / Ongoing	To be Completed
Join the NFIP		
Participate in NFIP training offered by the Commonwealth and/or FEMA.		
Establish mutual aid agreements with neighboring communities to address administering the NFIP following a major storm event.		
Revise or adopt subdivision regulations and erosion control regulations to improve floodplain management in the community.		
Participate in the CRS.		
Prepare, distribute, or make available NFIP, insurance, and building code explanatory pamphlets or booklets.		
Identify and become knowledgeable on non-compliant structures in the community.		
Identify cause of submit to rate structure and analyze how to prevent non-compliant structures in the future.		



Actions for Continued Compliance with the NFIP

Action	Complete / Ongoing	To be Completed
Inspect foundations at time of completion before framing to determine if lowest flood is at or above Base Flood Elevation (BFE). Require use of elevation certificates.		
Report any changes in the Special Flood Hazard Area (SFHA) to FEMA within 180 days of the change.		
Identify and keep track of Letters of Map Amendment and Letters of Map Revision in the community.		
Gain familiarity with the community's Flood Insurance Rate Maps (FIRMs).		
Address repetitive loss structures.		



2020 HMP Mission & Goals

Mission:

To protect public health, property, infrastructure, the environment, and cultural resources through a hazard mitigation and climate adaptation program that involves increased coordination, planning, education, and capital improvements.

Goals across nine categories:

- | | | |
|-----------------|---------------------------|------------------------|
| 1. Shelters | 4. Notification | 7. Natural Environment |
| 2. Coordination | 5. Infrastructure | 8. Development |
| 3. Education | 6. Vulnerable Populations | 9. Finance |



2020 HMP Goals (#1 - 3)

- 1. Shelters:** To provide adequate shelter, water, food, and basic first aid to displaced residents in the event of a natural disaster.
- 2. Coordination:** To increase coordination between departments, surrounding communities, regional efforts, and state agencies in pre-disaster planning and the implementation of hazard mitigation and climate adaptation projects.
- 3. Education:** To increase awareness of hazard mitigation and climate adaptation among town officials, private organizations, businesses, and the general public.



2020 HMP Goals (#4 - 6)

4. **Notification:** To provide adequate information to residents in the event of a natural disaster.
5. **Infrastructure:** To protect public infrastructure, buildings, and essential services such as electric power, drinking water, and the sewer system from climate change impacts.
6. **Vulnerable Populations:** To building community and individual resilience, specifically focusing on vulnerable populations.



2020 HMP Goals (#7 - 9)

7. **Natural Environment:** To develop hazard mitigation and climate adaptation measures that employ nature-based solutions and protect the natural environment.
8. **Development:** To ensure that future development meets federal, state, and local standards for preventing and reducing the impacts of natural hazards under climate change projections.
9. **Finance:** Identify potential funding sources to support the implementation of climate adaptation strategies.



Mitigation Actions

- Action type (e.g., planning, mitigation)
- Lead Implementation Entity
- Supporting Implementation Entity
- Timeframe
- Financing options
- Cost range
- Benefit & Vulnerable Area
- Source



Mitigation Actions: Next Steps

- HW revises based on LHMC feedback...
- LHMC reviews and provides comments/confirmation...
- Revise/review until no further comments

LHMC Meeting #4: Prioritize mitigation actions for implementation



Groton Hazard Mitigation Plan Update

Local Hazard Mitigation Committee (LHMC) Meeting #4

Virtual Zoom Meeting,

<https://us02web.zoom.us/j/84995197648?pwd=qphQ6s2B2gYOJBmVDWs8wZjXycbb9A.1>

August 18, 2026 | 10am – 1pm

Agenda Items

- Project coordination
 - Schedule
- Plan maintenance
- Mitigation actions for consideration
 - STAPLEE Review Score sheet
 - Prioritization of actions
- Other items, as applicable
- Next Steps
 - LHMC review of draft plan
 - Other municipal review of draft plan
 - Public comment period and notice to adjacent communities
 - Public meeting #2



Memorandum

To: Groton Local Hazard Mitigation Committee (LHMC)
From: Kellie King, Horsley Witten Group (HW)
Date: August 20, 2026
Re: LHMC Meeting #4 Summary – Groton, MA Hazard Mitigation Plan (HMP) Update
cc: Craig Pereira, HW

The fourth LHMC Meeting was held on August 18, 2026, from 10am – 1pm on the virtual Zoom platform. Attendance was as follows:

LHMC: Arthur Cheeks (Fire Chief) Brian Callahan (DPW Director), Charlotte Steeves (Conservation Administrator), Rachael Mead (Deputy Police Chief/Emergency Management Director), Takashi Tada (Land Use Director/Town Planner), Terry Gardner (Deputy Fire Chief/Deputy Emergency Management Director), and Veronica O'Donnell (Sustainability Commission Member)

Consultant Team (HW): Kellie King (Project Manager) and Craig Pereira (Senior Planner)

The purpose of the LHMC Meeting was to review project logistics and prioritize the draft mitigation actions. The meeting summary below is organized by the LHMC Meeting agenda. Action items for the LHMC are highlighted in **green**, while action items for HW are highlighted in **yellow**. Action items are also summarized under **Next Steps**. Meeting materials were distributed via email and are also uploaded to the shared Microsoft OneDrive folder “Groton MA 2026 HMP Update.”

Project Coordination

- Kellie King provided an update on project scheduling. The LHMC meeting is slightly later than preferred based on timing of feedback on the draft list of mitigation actions. Time can be made up as long as material review, including review of an assembled HMP draft occur on schedule.

Plan Maintenance

- The HMP must include a section detailing procedures for maintaining the plan. This includes information on how the public will be involved and how the Town will update the plan on a five-year planning cycle (as well as after natural disasters occur). The plan must also include information on how the Town will monitor implementation progress. The following items were identified as monitoring steps that the Town will use:
 - The Emergency Management Director will solicit feedback on the status of mitigation actions on an as needed basis during regularly scheduled Local Emergency Planning Committee meetings.

- The Emergency Management Director will coordinate and schedule an annual meeting in the fall (October/November) with the LHMC to monitor plan implementation. An annual “report card” of the HMP will be prepared as an outcome of that meeting.
- The Emergency Management Director will deliver the annual HMP report card to the Town Manager and Select Board within two months of the annual HMP review meeting.

HMP Review Timing

- Following the LHMC meeting, HW will work on assembling the full draft HMP and distribute it to the LHMC for review.
- We would like to allow for two weeks of review for each of the following:
 - LHMC (target complete by September 4)
 - Town department heads and boards/commission (target complete by 9/23)
 - General public and adjacent communities (target complete by 10/9)
 - The public meeting should also be held within the two-week general public review period.
- A public meeting should also be held within the two-week general public review period to allow for comments. The meeting is informational in nature, reviewing the process of developing the HMP and the mitigation actions list.
 - HW and Rachael will coordinate on scheduling the public meeting.

Prioritizing Mitigation Actions

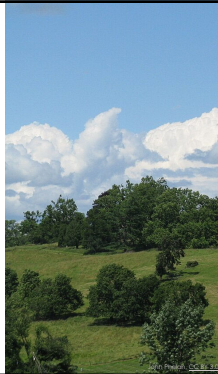
- HMPs must prioritize mitigation actions for implementation, per FEMA requirements. This can be a planning-level assessment of various pros and cons, including costs and benefits. However, the priority designations (e.g., low, medium, high) do not preclude a community from seeking funding at any point or in any order for its mitigation actions. The prioritization exercise can be helpful to better understand potential challenges with implementing actions, identify those that may be low-hanging fruit, etc.
- The FEMA STAPLEE prioritization method considers the following:
 - Social: Is the action socially acceptable within Groton?
 - Technical: Does Groton have the technical capacity to implement the action, and will the action help reduce losses in the long-term?
 - Administrative: Does Groton have the administrative capacity to implement the action?
 - Political: Is there local and state political support for the action?
 - Legal: Do local and state laws allow for the action?
 - Economic: Is the action cost-effective, and what level of funding is needed?
 - Environmental: What is the action’s impact on the environment?
- LHMC members reviewed each mitigation action and assigned STAPLEE criteria scores for each, except for actions led by DPW (to be completed independently by DPW).
 - A compiled spreadsheet of the STAPLEE criteria scores and priority rankings (0-10: low priority, 11-15: medium priority, 16+: high priority) is available on the project OneDrive here: [260818 GrotonHMP MitigationActionsPriority DRAFT.xlsx](#)

Next Steps

- **HW Action Items:**
 - Assemble the draft HMP and distribute it for review.
 - HW to coordinate with Rachael on scheduling the public meeting, targeting 9/28 – 10/2.
- **LHMC Action Items (complete by August 28):**
 - Rachael to coordinate with the Building Official to complete the “Actions for Continued Compliance with the NFIP” table.
 - LHMC to review the draft prioritization of mitigation actions and provide any final comments on prioritization scores.
 - See [260818 GrotonHMP MitigationActionsPriority DRAFT.xlsx](#).
 - LHMC to review the online public survey summary and provide any comments.
 - See [260818 GrotonHMP PublicSurveySummary.docx](#)
- **LHMC Action Items (target complete by September 4):**
 - Once distributed, review the draft HMP and provide any final edits or comments.

Groton 2026 Hazard Mitigation Plan Update

Local Hazard Mitigation Committee Meeting #4
August 18, 2026

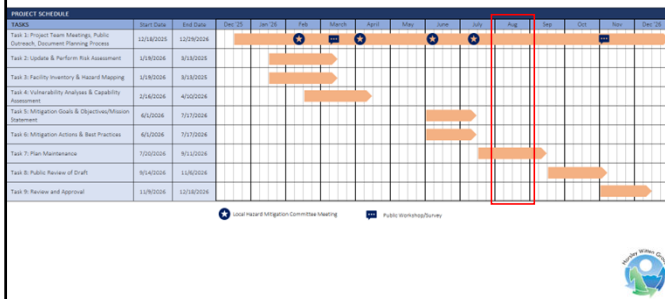


Agenda

- Project Coordination
- Plan Maintenance
- Prioritizing Mitigation Actions
- Next Steps



Schedule



HMP Review Timing

- HW to assemble plan draft following today's meeting.
- Review period:
 - LHMC reviews for 2 weeks (**target done by 9/4**).
 - Town department heads and boards/commissions review for 2 weeks (**target done by 9/23**).
 - Public reviews for 2 weeks & public meeting held (**target done by 10/9**).
- MEMA/FEMA review:
 - MEMA reviews; if no updates are needed, MEMA sends plan to FEMA.
 - Once FEMA approves the plan pending adoption, the Town must adopt the plan.



Plan Maintenance

Methods to evaluate implementation progress:

- On an as needed basis, EMD to solicit feedback during scheduled Local Emergency Planning Committee meetings.
- EMD to reconvene LHMC members during an annual HMP review meeting in the fall. Progress will be documented in an annual "report card."
- Following the annual HMP review meeting, EMD to deliver the annual "report card" to the Town Manager and Select Board.



Prioritizing Mitigation Actions

Element C: Mitigation Strategies Requirements

- C5-a. The plan must describe the criteria used for *prioritizing the implementation of the actions*. The criteria must include an emphasis on the extent to which benefits are maximized, in relation to the associated costs of the action.
 - Planning-level assessment of costs versus benefits is sufficient. Cost estimates can be based on professional judgement.
 - Other relevant criteria? Life and safety, administrative and technical capacity, economic factors, relation to other community objectives, etc.



FEMA STAPLEE Prioritization Method

Social: Is the action socially acceptable within Groton?

Technical: Does Groton have the technical capacity to implement the action, and will the action help reduce losses in the long-term?

Administrative: Does Groton have the administrative capacity to implement the action?

Political: Is there local and state political support for the action?

Legal: Do local and state laws allow for the action?

Economic: Is the action cost-effective, and what level of funding is needed?

Environmental: What is the action's impact on the environment?



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	
Administrative	Secondary Impacts: This action does not create more problems than it solves.	
	Staffing: Does the Town have staff to coordinate the action?	
Political	Funding Allocated: Does the Town have enough funding available to implement the action?	
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	
Legal	Political Support: Is there political support to implement and maintain this action?	
	Local Champion: Is there a local champion that can help see the action to completion?	
Economic	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	
	State Authority: If required, does the state have the authority to implement the action?	
Environmental	Local Authority: If required, does the Town have the authority to implement the action?	
	Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	
Economic	Benefit of Action: The benefits of the action do not exceed the costs.	
	Cost of Action: The costs of the action do not exceed the benefits.	
Environmental	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	
	Outside Funding Required: The action does not require outside funding to implement.	
Environmental	Effect on Land & Water: The action does not negatively affect local land and water resources.	
	Effect on Endangered Species: The action does not negatively affect endangered species.	
Environmental	Effect on HazMat & Waste Sites: The action does not negatively affect HazMat and waste sites.	
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	
Environmental	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	

Action #1

Improve drainage and address flooding at roads and culverts that are frequently flooded. Specific activities should include:

- Regular maintenance, including catch basin and drainage ditch cleaning
- Replace undersized drainage pipes and culverts, incorporating data collected using the North Atlantic Aquatic Connectivity Collaborative (NAAC) culvert assessment protocols to evaluate aquatic connectivity and structural vulnerability.
- Use pavement management plan to guide road repairs
- Coordinate with MassDOT on maintenance needs at state roads.

Roadways and culverts of concern due to vegetation overgrowth and undersized drainage pipes/culverts include:

- Route 40 (Lowell Road) crossing at Whitney (Cow) Pond, Broadmeadow Road
- Station Avenue
- Route 119 (Boston Road)/Main Street
- Route 225 (West Main Street) at Hill Road

Lead	Support	Timeframe	Cost Range
DPW	N/A	Maintenance, cleaning, and coordination activities - Immediate Road repaving and drainage infrastructure improvements - Medium Term	Maintenance, cleaning, and coordination activities - Staff time Road repaving and drainage infrastructure improvements - High



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	
Administrative	Secondary Impacts: This action does not create more problems than it solves.	
	Staffing: Does the Town have staff to coordinate the action?	
Political	Funding Allocated: Does the Town have enough funding available to implement the action?	
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	
Legal	Political Support: Is there political support to implement and maintain this action?	
	Local Champion: Is there a local champion that can help see the action to completion?	
Economic	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	
	State Authority: If required, does the state have the authority to implement the action?	
Environmental	Local Authority: If required, does the Town have the authority to implement the action?	
	Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	
Economic	Benefit of Action: The benefits of the action do not exceed the costs.	
	Cost of Action: The costs of the action do not exceed the benefits.	
Environmental	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	
	Outside Funding Required: The action does not require outside funding to implement.	
Environmental	Effect on Land & Water: The action does not negatively affect local land and water resources.	
	Effect on Endangered Species: The action does not negatively affect endangered species.	
Environmental	Effect on HazMat & Waste Sites: The action does not negatively affect HazMat and waste sites.	
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	
Environmental	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	

NEW Action

Mitigate the risk of flooding at roads and culverts due to beaver related activity in adjacent waterbodies. Specific activities should include:

- Regular cleaning of water level control devices ("beaver deceivers")
- Evaluation of water level control/flow device technologies for use in areas with known beaver activity.
- Monitoring of locations with known beaver activity for potential threats to people and property.
- Coordination with private property owners to mitigate the risk of flooding using methods authorized under Massachusetts General Laws c. 131 §80A

Roadways and culverts of concern due to beaver activity include ("**") indicates a water level control device is present at the time of this plan's writing):

- Townsend Road at Hurling Stream crossing (located from Rat Pond)
- Route 25 (West Main Street) at Wrangling Brook crossing
- Hill Road at Wrangling Brook crossing
- Broadmeadow Road at James Brook crossing
- Old Ayer Road at James Brook crossing
- Old Ayer Road/Worthing Drive at James Brook crossing
- Holbrook Road at Beady Meadow Brook
- Roadin Road at Unkely Brook
- Roadin Road at wetlands west of Dan Parker Road
- Hemlock Park Drive at wetlands west of Broadmeadow Pond
- Old Dunstable Road at Broadmeadow Brook crossing
- Hay's Wharf Road at Cow Pond Brook crossing
- Cow Pond Brook Road at wetlands north of Cow Pond Brook Park
- Lost Lake Drive at Cow Pond Brook crossing
- Hayden Road at eastern edge of Cambsial Swamp Conservation Area
- Route 119 (Boston Road) at wetlands around Cady Pond
- Indian Hill Road/Old Ayer Road at James Brook

Lead	Support	Timeframe	Cost Range
DPW, Private Property Owner	Can Com	Maintenance, monitoring, and coordination activities - Immediate Install of WLCDs - Medium Term	Maintenance, monitoring, and coordination activities - Staff time Install of WLCDs - Low



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	
Administrative	Secondary Impacts: This action does not create more problems than it solves.	
	Staffing: Does the Town have staff to coordinate the action?	
Political	Funding Allocated: Does the Town have enough funding available to implement the action?	
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	
Legal	Political Support: Is there political support to implement and maintain this action?	
	Local Champion: Is there a local champion that can help see the action to completion?	
Economic	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	
	State Authority: If required, does the state have the authority to implement the action?	
Environmental	Local Authority: If required, does the Town have the authority to implement the action?	
	Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	
Economic	Benefit of Action: The benefits of the action do not exceed the costs.	
	Cost of Action: The costs of the action do not exceed the benefits.	
Environmental	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	
	Outside Funding Required: The action does not require outside funding to implement.	
Environmental	Effect on Land & Water: The action does not negatively affect local land and water resources.	
	Effect on Endangered Species: The action does not negatively affect endangered species.	
Environmental	Effect on HazMat & Waste Sites: The action does not negatively affect HazMat and waste sites.	
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	
Environmental	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	

Action #2

Advocate for and coordinate/collaborate with MassDOT on resilience improvements on state roads (e.g., bridge design), particularly to mitigate impacts from riverine and stormwater flooding. This includes:

- Route 225 (West Main Street) at Nashua River

Lead	Support	Timeframe	Cost Range
DPW	N/A	Long Term	High



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	
Administrative	Secondary Impacts: This action does not create more problems than it solves.	
	Staffing: Does the Town have staff to coordinate the action?	
Political	Funding Allocated: Does the Town have enough funding available to implement the action?	
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	
Legal	Political Support: Is there political support to implement and maintain this action?	
	Local Champion: Is there a local champion that can help see the action to completion?	
Economic	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	
	State Authority: If required, does the state have the authority to implement the action?	
Environmental	Existing Local Authority: If required, does the Town have the authority to implement the action?	
	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	
Economic	Benefit of Action: The benefits of the action do not exceed the costs.	
	Cost of Action: The costs of the action do not exceed the benefits.	
Environmental	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	
	Outside Funding Required: The action does not require outside funding to implement.	
Environmental	Effect on Land & Water: The action does not negatively affect local land and water resources.	
	Effect on Endangered Species: The action does not negatively affect endangered species.	
Environmental	Effect on HazMat & Waste Sites: The action does not negatively affect HazMat and waste sites.	
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	
Environmental	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	

Action #3

Ensure that critical facilities are adequate protected against flood hazards. Facilities at risk:

- Hollingsworth & Vose Company
- Hollingsworth & Vose Company Dam
- Hollingsworth & Vose Tower
- Lost Lake Dam
- Nashua River Bridge (at Route 225)
- Nod Road Sewer Pump Station
- Squannacook River Dam
- Townsend Road Wellfields #1-4
- West Groton Pumping Station
- Woods Mill Pond Dam

Lead	Support	Timeframe	Cost Range
DPW, Land Use Dept	N/A	Long Term	High



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	
Administrative	Secondary Impacts: This action does not create more problems than it solves.	
	Staffing: Does the Town have staff to coordinate the action?	
Political	Funding Allocated: Does the Town have enough funding available to implement the action?	
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	
Legal	Political Support: Is there political support to implement and maintain this action?	
	Local Champion: Is there a local champion that can help see the action to completion?	
Economic	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	
	State Authority: If required, does the state have the authority to implement the action?	
Environmental	Existing Local Authority: If required, does the Town have the authority to implement the action?	
	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	
Economic	Benefit of Action: The benefits of the action do not exceed the costs.	
	Cost of Action: The costs of the action do not exceed the benefits.	
Environmental	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	
	Outside Funding Required: The action does not require outside funding to implement.	
Environmental	Effect on Land & Water: The action does not negatively affect local land and water resources.	
	Effect on Endangered Species: The action does not negatively affect endangered species.	
Environmental	Effect on HazMat & Waste Sites: The action does not negatively affect HazMat and waste sites.	
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	
Environmental	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	

Action #4

Ensure that vulnerable populations are adequate protected against flood hazards. Populations at risk:

- Hollingsworth & Vose Company
- RiverCourt Residences

Lead	Support	Timeframe	Cost Range
DPW, Land Use Dept	N/A	Long Term	High



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	
Administrative	Secondary Impacts: This action does not create more problems than it solves.	
	Staffing: Does the Town have staff to coordinate the action?	
Political	Funding Allocated: Does the Town have enough funding available to implement the action?	
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	
Legal	Political Support: Is there political support to implement and maintain this action?	
	Local Champion: Is there a local champion that can help see the action to completion?	
Economic	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	
	State Authority: If required, does the state have the authority to implement the action?	
Environmental	Existing Local Authority: If required, does the Town have the authority to implement the action?	
	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	
Economic	Benefit of Action: The benefits of the action do not exceed the costs.	
	Cost of Action: The costs of the action do not exceed the benefits.	
Environmental	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	
	Outside Funding Required: The action does not require outside funding to implement.	
Environmental	Effect on Land & Water: The action does not negatively affect local land and water resources.	
	Effect on Endangered Species: The action does not negatively affect endangered species.	
Environmental	Effect on HazMat & Waste Sites: The action does not negatively affect HazMat and waste sites.	
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	
Environmental	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	

Action #5

Ensure completion of an updated Phase I Inspection Evaluation Report for the Town-owned Lost Lake Dam (high hazard) and implement recommended actions for improvement. Update the Emergency Action Plan on an annual basis.

In addition to implementing the recommended actions from an updated Phase I Inspection Evaluation Report, the Town will also evaluate opportunities to:

- Rehabilitate/remove the dam.
- Adopt and enforce land use ordinances in the inundation zone.
- Elevate structures in the inundation zone.
- Add flood protection, such as berms, floodwalls, or floodproofing, in the inundation zone.

Lead	Support	Timeframe	Cost Range
DPW	N/A	Medium Term	High



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	
Administrative	Secondary Impacts: This action does not create more problems than it solves.	
	Staffing: Does the Town have staff to coordinate the action?	
Political	Funding Allocated: Does the Town have enough funding available to implement the action?	
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	
Legal	Political Support: Is there political support to implement and maintain this action?	
	Local Champion: Is there a local champion that can help see the action to completion?	
Economic	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	
	State Authority: If required, does the state have the authority to implement the action?	
Environmental	Existing Local Authority: If required, does the Town have the authority to implement the action?	
	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	
Economic	Benefit of Action: The benefits of the action do not exceed the costs.	
	Cost of Action: The costs of the action do not exceed the benefits.	
Environmental	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	
	Outside Funding Required: The action does not require outside funding to implement.	
Environmental	Effect on Land & Water: The action does not negatively affect local land and water resources.	
	Effect on Endangered Species: The action does not negatively affect endangered species.	
Environmental	Effect on HazMat & Waste Sites: The action does not negatively affect HazMat and waste sites.	
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	
Environmental	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	

Action #6

Pursue removal of the Squannacook River Dam (significant hazard), inclusive of pursuing funding and coordinating with the private property co-owner and the Town of Shirley. Until the dam is removed:

- Update the Emergency Action Plan on an annual basis
- Implement applicable recommended improvements identified in the Phase I Inspection Evaluation Report:
 - Monitor the condition of the spillway and dam several times per year.
 - Exercise the low level outlet gate several times per year.
 - Remove debris on the spillway.

Lead	Support	Timeframe	Cost Range
DPW, Private Property Owner	Town of Shirley	Short Term	High



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	
Administrative	Secondary Impacts: This action does not create more problems than it solves.	
	Staffing: Does the Town have staff to coordinate the action?	
Political	Funding Allocated: Does the Town have enough funding available to implement the action?	
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	
Legal	Political Support: Is there political support to implement and maintain this action?	
	Local Champion: Is there a local champion that can help see the action to completion?	
Economic	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	
	State Authority: If required, does the state have the authority to implement the action?	
Environmental	Existing Local Authority: If required, does the Town have the authority to implement the action?	
	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	
Economic	Benefit of Action: The benefits of the action do not exceed the costs.	
	Cost of Action: The costs of the action do not exceed the benefits.	
Environmental	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	
	Outside Funding Required: The action does not require outside funding to implement.	
Environmental	Effect on Land & Water: The action does not negatively affect local land and water resources.	
	Effect on Endangered Species: The action does not negatively affect endangered species.	
Environmental	Effect on HazMat & Waste Sites: The action does not negatively affect HazMat and waste sites.	
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	
Environmental	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	

Action #7

Coordinate with the private property owner of the Hollingsworth & Vose Company Dam (low hazard) to ensure the completion of recommended improvements identified in the 2024 Phase I Inspection Report:

- Complete an underwater inspection of the dam system to evaluate the condition of the steel sheet piles, the outlet intakes, and other underwater areas of the dam.
- Complete a pipe inspection of the mill intake overflow pipe and low-level outlet conduit.
- Develop a monitoring program to continue to assess deterioration of the structure.
- Undertake repair activities including:
 - Clearing the embankment right of the spillway of trees, brush, and other vegetation.
 - Clearing the downstream channel walls of trees, brush, and other vegetation.
 - Fill in depressions.
 - Regrade the embankment to the right of the spillway.
 - Loosen and seed exposed portions of the embankment.
 - Complete concrete repairs (seal cracks, remove loose/deteriorated concrete, overlay/fill areas of scour and spalls) throughout the dam system.
 - Replace missing stones within the downstream right channel wall.

Lead	Support	Timeframe	Cost Range
Private Property Owner	DPW	Immediate	Staff Time



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	
Administrative	Secondary Impacts: This action does not create more problems than it solves.	
	Staffing: Does the Town have staff to coordinate the action?	
Political	Funding Allocated: Does the Town have enough funding available to implement the action?	
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	
Legal	Political Support: Is there political support to implement and maintain this action?	
	Local Champion: Is there a local champion that can help see the action to completion?	
Economic	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	
	State Authority: If required, does the state have the authority to implement the action?	
Environmental	Existing Local Authority: If required, does the Town have the authority to implement the action?	
	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	
Economic	Benefit of Action: The benefits of the action do not exceed the costs.	
	Cost of Action: The costs of the action do not exceed the benefits.	
Environmental	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	
	Outside Funding Required: The action does not require outside funding to implement.	
Environmental	Effect on Land & Water: The action does not negatively affect local land and water resources.	
	Effect on Endangered Species: The action does not negatively affect endangered species.	
Environmental	Effect on HazMat & Waste Sites: The action does not negatively affect HazMat and waste sites.	
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	
Environmental	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	

Action #8

Coordinate with the private property owner of the Woods Mill Pond Dam to ensure a Phase I Inspection is completed. Once a new Phase I Inspection is completed, ensure completion of recommended improvements.

Lead	Support	Timeframe	Cost Range
Private property owner	DPW	Immediate	Staff Time



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	
Administrative	Secondary Impacts: This action does not create more problems than it solves.	
	Staffing: Does the Town have staff to coordinate the action?	
Political	Funding Allocated: Does the Town have enough funding available to implement the action?	
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	
Legal	Political Support: Is there political support to implement and maintain this action?	
	Local Champion: Is there a local champion that can help see the action to completion?	
Economic	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	
	State Authority: If required, does the state have the authority to implement the action?	
Environmental	Existing Local Authority: If required, does the Town have the authority to implement the action?	
	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	
	Benefit of Action: The benefits of the action do not exceed the costs.	
	Cost of Action: The costs of the action do not exceed the benefits.	
	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	
	Outside Funding Required: The action does not require outside funding to implement.	
	Effect on Land & Water: The action does not negatively affect local land and water resources.	
	Effect on Endangered Species: The action does not negatively affect endangered species.	
	Effect on Hazardous & Waste Sites: The action does not negatively affect Hazardous and waste sites.	
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	
	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	

Action #9

Extend water mains and evaluate need for additional water cisterns in the Lost Lake neighborhood, which currently relies on private drinking water wells, for water supply, fire response, public safety, and property protection.

Lead	Support	Timeframe	Cost Range
GWD	Fire	Medium Term	High



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	+
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	-
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	+
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	N
Administrative	Secondary Impacts: This action does not create more problems than it solves.	-
	Staffing: Does the Town have staff to coordinate the action?	-
Political	Funding Allocated: Does the Town have enough funding available to implement the action?	-
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	N
Legal	Political Support: Is there political support to implement and maintain this action?	+
	Local Champion: Is there a local champion that can help see the action to completion?	+
Economic	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	+
	State Authority: If required, does the state have the authority to implement the action?	N
Environmental	Existing Local Authority: If required, does the Town have the authority to implement the action?	N
	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	N
	Benefit of Action: The benefits of the action do not exceed the costs.	+
	Cost of Action: The costs of the action do not exceed the benefits.	+
	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	+
	Outside Funding Required: The action does not require outside funding to implement.	-
	Effect on Land & Water: The action does not negatively affect local land and water resources.	N
	Effect on Endangered Species: The action does not negatively affect endangered species.	N
	Effect on Hazardous & Waste Sites: The action does not negatively affect Hazardous and waste sites.	N
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	N
	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	N

Action #10

Implement and regularly update the Groton Water Department Drought Management Plan (2025) and related supply strategies. Recommendations/improvements/actions include:

- Continue system-wide leak detection and repair efforts, building on recent work that has already saved approximately 15.7 million gallons annually.
- Evaluate and pursue updates to the Water Use Restrictions bylaw.
- Pursue development of additional water sources (e.g., alternative well sites) to address projected future supply shortfalls.
- Update drought status based on the state's Drought Management Task Force determination.
- Enhance public outreach and information campaigns during declared drought stages to improve customer compliance and conservation.

Lead	Support	Timeframe	Cost Range
GWD	N/A	Leak detection and repair, drought status, and public outreach - Immediate Bylaw - Short Term Development of additional water sources - Medium Term	Bylaw, drought status, and public outreach - Staff time Leak detection and repair and development of additional water sources - High



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	+
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	+
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	+
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	+
Administrative	Secondary Impacts: This action does not create more problems than it solves.	+
	Staffing: Does the Town have staff to coordinate the action?	N
Political	Funding Allocated: Does the Town have enough funding available to implement the action?	+
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	N
Legal	Political Support: Is there political support to implement and maintain this action?	+
	Local Champion: Is there a local champion that can help see the action to completion?	+
Economic	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	+
	State Authority: If required, does the state have the authority to implement the action?	N
Environmental	Existing Local Authority: If required, does the Town have the authority to implement the action?	+
	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	+
	Benefit of Action: The benefits of the action do not exceed the costs.	+
	Cost of Action: The costs of the action do not exceed the benefits.	+
	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	+
	Outside Funding Required: The action does not require outside funding to implement.	?
	Effect on Land & Water: The action does not negatively affect local land and water resources.	+
	Effect on Endangered Species: The action does not negatively affect endangered species.	+
	Effect on Hazardous & Waste Sites: The action does not negatively affect Hazardous and waste sites.	N
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	+
	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	+

Action #11

Monitor groundwater quality for PFAS and other contaminants and coordinate with MassDEP to ensure standards are met.

Lead	Support	Timeframe	Cost Range
GWD	N/A	Immediate	Low



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	+
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	-
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	+
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	+
	Secondary Impacts: This action does not create more problems than it solves.	+
Administrative	Staffing: Does the Town have staff to coordinate the action?	N
	Funding Allocated: Does the Town have enough funding available to implement the action?	-
Political	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	+
	Political Support: Is there political support to implement and maintain this action?	+
	Local Champion: Is there a local champion that can help see the action to completion?	+
Legal	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	+
	State Authority: If required, does the state have the authority to implement the action?	N
	Existing Local Authority: If required, does the Town have the authority to implement the action?	+
Economic	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	+
	Benefit of Action: The benefits of the action do not exceed the costs.	+
	Cost of Action: The costs of the action do not exceed the benefits.	+
Environmental	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	+
	Outside Funding Required: The action does not require outside funding to implement.	-
	Effect on Land & Water: The action does not negatively affect local land and water resources.	+
	Effect on Endangered Species: The action does not negatively affect endangered species.	+
	Effect on Hazardous & Waste Sites: The action does not negatively affect Hazardous and waste sites.	+
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	+
	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	+

Action #12

Support upgrades to the West Groton Water Supply District's drinking water distribution system, including:

- Replacement of emergency power generator
- Replacement of the Kemp Street Tank

Lead	Support	Timeframe	Cost Range
WGWD	N/A	Short Term	High



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	+
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	-
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	+
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	+
	Secondary Impacts: This action does not create more problems than it solves.	+
Administrative	Staffing: Does the Town have staff to coordinate the action?	+
	Funding Allocated: Does the Town have enough funding available to implement the action?	-
Political	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	+
	Political Support: Is there political support to implement and maintain this action?	+
	Local Champion: Is there a local champion that can help see the action to completion?	+
Legal	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	+
	State Authority: If required, does the state have the authority to implement the action?	N
	Existing Local Authority: If required, does the Town have the authority to implement the action?	N
Economic	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	+
	Benefit of Action: The benefits of the action do not exceed the costs.	+
	Cost of Action: The costs of the action do not exceed the benefits.	+
Environmental	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	+
	Outside Funding Required: The action does not require outside funding to implement.	-
	Effect on Land & Water: The action does not negatively affect local land and water resources.	+
	Effect on Endangered Species: The action does not negatively affect endangered species.	+
	Effect on Hazardous & Waste Sites: The action does not negatively affect Hazardous and waste sites.	+
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	+
	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	+

Action #13

Consider intermunicipal purchase of additional capacity for future wastewater flows from the Town of Pepperell to expand sewer service in the Nod Road area and reduce the need for onsite wastewater treatment systems.

Lead	Support	Timeframe	Cost Range
Sewer Com	N/A	Long Term	High



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	+
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	-
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	+
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	+
	Secondary Impacts: This action does not create more problems than it solves.	+
Administrative	Staffing: Does the Town have staff to coordinate the action?	N
	Funding Allocated: Does the Town have enough funding available to implement the action?	-
Political	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	N
	Political Support: Is there political support to implement and maintain this action?	+
	Local Champion: Is there a local champion that can help see the action to completion?	+
Legal	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	+
	State Authority: If required, does the state have the authority to implement the action?	N
	Existing Local Authority: If required, does the Town have the authority to implement the action?	+
Economic	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	N
	Benefit of Action: The benefits of the action do not exceed the costs.	+
	Cost of Action: The costs of the action do not exceed the benefits.	+
Environmental	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	+
	Outside Funding Required: The action does not require outside funding to implement.	-
	Effect on Land & Water: The action does not negatively affect local land and water resources.	+
	Effect on Endangered Species: The action does not negatively affect endangered species.	+
	Effect on Hazardous & Waste Sites: The action does not negatively affect Hazardous and waste sites.	N
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	+
	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	+

Action #14

Conduct an inventory of properties with private grinder pumps and develop a standard operating protocol (SOP) to support proactive notifications to property owners of non-function during power outages and mitigate risks of raw sewage backups.

Lead	Support	Timeframe	Cost Range
Sewer Comm	N/A	Immediate	Staff Time



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	+
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	+
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	+
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	+
Administrative	Secondary Impacts: This action does not create more problems than it solves.	+
	Staffing: Does the Town have staff to coordinate the action?	+
Political	Funding Allocated: Does the Town have enough funding available to implement the action?	+
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	+
Legal	Political Support: Is there political support to implement and maintain this action?	+
	Local Champion: Is there a local champion that can help see the action to completion?	+
Economic	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	+
	State Authority: If required, does the state have the authority to implement the action?	N
Environmental	Existing Local Authority: If required, does the Town have the authority to implement the action?	+
	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	+
Economic	Benefit of Action: The benefits of the action do not exceed the costs.	+
	Cost of Action: The costs of the action do not exceed the benefits.	+
Environmental	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	N
	Outside Funding Required: The action does not require outside funding to implement.	+
Environmental	Effect on Land & Water: The action does not negatively affect local land and water resources.	+
	Effect on Endangered Species: The action does not negatively affect endangered species.	+
Environmental	Effect on Hazard & Waste Sites: The action does not negatively affect Hazard and waste sites.	N
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	+
Environmental	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	+

Action #15

Conduct an Infiltration and Inflow (I/I) Analysis to identify I/I points to Groton's sewer system and implement remedial actions to reduce flows into the sanitary sewer system and mitigate risks of raw sewer overflows, including at:

- Conductorlab site
- Route 119

Lead	Support	Timeframe	Cost Range
Sewer Comm	N/A	Long Term	High



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	+
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	+
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	+
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	+
Administrative	Secondary Impacts: This action does not create more problems than it solves.	+
	Staffing: Does the Town have staff to coordinate the action?	+
Political	Funding Allocated: Does the Town have enough funding available to implement the action?	+
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	+
Legal	Political Support: Is there political support to implement and maintain this action?	+
	Local Champion: Is there a local champion that can help see the action to completion?	+
Economic	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	+
	State Authority: If required, does the state have the authority to implement the action?	N
Environmental	Existing Local Authority: If required, does the Town have the authority to implement the action?	+
	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	+
Economic	Benefit of Action: The benefits of the action do not exceed the costs.	+
	Cost of Action: The costs of the action do not exceed the benefits.	+
Environmental	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	N
	Outside Funding Required: The action does not require outside funding to implement.	+
Environmental	Effect on Land & Water: The action does not negatively affect local land and water resources.	+
	Effect on Endangered Species: The action does not negatively affect endangered species.	+
Environmental	Effect on Hazard & Waste Sites: The action does not negatively affect Hazard and waste sites.	+
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	+
Environmental	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	+

Action #16

Conduct a feasibility study of critical facilities and Town properties for opportunities for battery energy storage to reduce peak demand, increase resilience against power outages during wind- and winter-related hazard events, and reduce strain on power grids as energy demand rises during extreme cold and heat events.

Lead	Support	Timeframe	Cost Range
GELD	Sustain Com	Medium Term	Assessment - Moderate Construction - High



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	+
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	+
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	+
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	+
Administrative	Secondary Impacts: This action does not create more problems than it solves.	+
	Staffing: Does the Town have staff to coordinate the action?	N
Political	Funding Allocated: Does the Town have enough funding available to implement the action?	-
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	N
Legal	Political Support: Is there political support to implement and maintain this action?	N
	Local Champion: Is there a local champion that can help see the action to completion?	N
Economic	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	N
	State Authority: If required, does the state have the authority to implement the action?	N
Environmental	Existing Local Authority: If required, does the Town have the authority to implement the action?	+
	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	N
Economic	Benefit of Action: The benefits of the action do not exceed the costs.	-
	Cost of Action: The costs of the action do not exceed the benefits.	+
Environmental	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	+
	Outside Funding Required: The action does not require outside funding to implement.	-
Environmental	Effect on Land & Water: The action does not negatively affect local land and water resources.	-
	Effect on Endangered Species: The action does not negatively affect endangered species.	N
Environmental	Effect on Hazard & Waste Sites: The action does not negatively affect Hazard and waste sites.	N
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	+
Environmental	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	+

Action #17

Pending completion of the Town's feasibility assessment of a shared heat pump system for Town Hall and the Groton-Dunstable Regional Middle School complex to improve heating and cooling capabilities, support efforts to fund and implement identified improvements.

Lead	Support	Timeframe	Cost Range
Town Manager, GDRSD	N/A	Medium Term	High



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	+
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	+
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	+
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	+
	Secondary Impacts: This action does not create more problems than it solves.	+
Administrative	Staffing: Does the Town have staff to coordinate the action?	+
	Funding Allocated: Does the Town have enough funding available to implement the action?	-
Political	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	+
	Political Support: Is there political support to implement and maintain this action?	+
	Local Champion: Is there a local champion that can help see the action to completion?	+
Legal	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	+
	State Authority: If required, does the state have the authority to implement the action?	N
	Existing Local Authority: If required, does the Town have the authority to implement the action?	+
Economic	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	+
	Benefit of Action: The benefits of the action do not exceed the costs.	+
	Cost of Action: The costs of the action do not exceed the benefits.	+
Environmental	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	+
	Outside Funding Required: The action does not require outside funding to implement.	-
	Effect on Land & Water: The action does not negatively affect local land and water resources.	N
	Effect on Endangered Species: The action does not negatively affect endangered species.	N
	Effect on Hazard & Waste Sites: The action does not negatively affect Hazard and waste sites.	N
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	+
	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	+

Action #19

Assess opportunities for green infrastructure on municipal properties. Consider implementing demonstration projects that can educate private property owners on the multiple benefits of green infrastructure (e.g., water quality, groundwater infiltration, urban heat mitigation, wildlife habitat).

Lead	Support	Timeframe	Cost Range
Town Manager	Sustain Com, DPW, Con Com	Short Term	Moderate



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	+
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	+
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	+
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	+
	Secondary Impacts: This action does not create more problems than it solves.	+
Administrative	Staffing: Does the Town have staff to coordinate the action?	-
	Funding Allocated: Does the Town have enough funding available to implement the action?	-
Political	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	-
	Political Support: Is there political support to implement and maintain this action?	+
	Local Champion: Is there a local champion that can help see the action to completion?	+
Legal	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	+
	State Authority: If required, does the state have the authority to implement the action?	N
	Existing Local Authority: If required, does the Town have the authority to implement the action?	+
Economic	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	+
	Benefit of Action: The benefits of the action do not exceed the costs.	+
	Cost of Action: The costs of the action do not exceed the benefits.	+
Environmental	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	N
	Outside Funding Required: The action does not require outside funding to implement.	-
	Effect on Land & Water: The action does not negatively affect local land and water resources.	+
	Effect on Endangered Species: The action does not negatively affect endangered species.	+
	Effect on Hazard & Waste Sites: The action does not negatively affect Hazard and waste sites.	N
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	+
	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	+

Action #20

Reassess need for action to mitigate potential groundwater contamination at the Conductorlab site pending further water quality sampling by the property owner for PFAS as required by MassDEP. As needed, collaborate with and provide support to the private property owner to ensure implementation of necessary remediation actions.

Lead	Support	Timeframe	Cost Range
Land Use Dept, Con Com	Private Property Owner	Immediate	Staff Time



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	+
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	+
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	+
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	+
	Secondary Impacts: This action does not create more problems than it solves.	+
Administrative	Staffing: Does the Town have staff to coordinate the action?	+
	Funding Allocated: Does the Town have enough funding available to implement the action?	+
Political	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	+
	Political Support: Is there political support to implement and maintain this action?	+
	Local Champion: Is there a local champion that can help see the action to completion?	+
Legal	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	+
	State Authority: If required, does the state have the authority to implement the action?	N
	Existing Local Authority: If required, does the Town have the authority to implement the action?	+
Economic	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	+
	Benefit of Action: The benefits of the action do not exceed the costs.	+
	Cost of Action: The costs of the action do not exceed the benefits.	+
Environmental	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	+
	Outside Funding Required: The action does not require outside funding to implement.	+
	Effect on Land & Water: The action does not negatively affect local land and water resources.	+
	Effect on Endangered Species: The action does not negatively affect endangered species.	+
	Effect on Hazard & Waste Sites: The action does not negatively affect Hazard and waste sites.	+
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	+
	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	+

Action #21

Create a prioritization plan to bolster multi-hazard resilience and advance adaptation strategies at key municipal facilities. The prioritization plan should incorporate a needs assessment of building retrofits for facilities that predate modern building codes to improve resilience to earthquakes and other hazards.

Lead	Support	Timeframe	Cost Range
Town Manager, Land Use Dept	Sustain Com, DPW	Medium Term	Low



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	+
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	+
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	+
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	+
Administrative	Secondary Impacts: This action does not create more problems than it solves.	+
	Staffing: Does the Town have staff to coordinate the action?	N
Political	Funding Allocated: Does the Town have enough funding available to implement the action?	-
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	N
Legal	Political Support: Is there political support to implement and maintain this action?	+
	Local Champion: Is there a local champion that can help see the action to completion?	+
Economic	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	+
	State Authority: If required, does the state have the authority to implement the action?	N
Environmental	Existing Local Authority: If required, does the Town have the authority to implement the action?	+
	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	+
Economic	Benefit of Action: The benefits of the action do not exceed the costs.	+
	Cost of Action: The costs of the action do not exceed the benefits.	+
Environmental	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	N
	Outside Funding Required: The action does not require outside funding to implement.	-
Environmental	Effect on Land & Water: The action does not negatively affect local land and water resources.	N
	Effect on Endangered Species: The action does not negatively affect endangered species.	N
Environmental	Effect on Hazard & Waste Sites: The action does not negatively affect Hazard and waste sites.	N
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	N
Environmental	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	+

Action #23

Address the impact of invasive species in Groton and implement management and eradication strategies. This may include:

- Developing and implementing an Invasive Species Inventory and Management Plan.
- Developing outreach strategies and materials to private landowners about invasive species management and best practices for management and removal.
- Conducting training and organizing volunteer opportunities for invasive species management.
- Developing resources on native and/or adapted plant species that are suitable to Groton's climate and support local ecosystem health.
- Exploring regional cost-sharing opportunities for invasive species management or eradication efforts.
- Integrating invasive species management and removal protocols into land management plans for the Town's open space resources.
- Address aquatic invasive plant species at Lost Lake. This could include a treatment with the herbicide Fluridone (Sonar).
- Conduct a municipal tree inventory and identify resource areas most at risk of impacts from invasive species.

Lead	Support	Timeframe	Cost Range
Con Com, Invasive Species Com	Land Use Dept	Immediate	Moderate



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	+
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	+
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	+
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	+
Administrative	Secondary Impacts: This action does not create more problems than it solves.	+
	Staffing: Does the Town have staff to coordinate the action?	N
Political	Funding Allocated: Does the Town have enough funding available to implement the action?	-
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	N
Legal	Political Support: Is there political support to implement and maintain this action?	+
	Local Champion: Is there a local champion that can help see the action to completion?	+
Economic	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	+
	State Authority: If required, does the state have the authority to implement the action?	N
Environmental	Existing Local Authority: If required, does the Town have the authority to implement the action?	N
	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	+
Economic	Benefit of Action: The benefits of the action do not exceed the costs.	+
	Cost of Action: The costs of the action do not exceed the benefits.	+
Environmental	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	+
	Outside Funding Required: The action does not require outside funding to implement.	-
Environmental	Effect on Land & Water: The action does not negatively affect local land and water resources.	+
	Effect on Endangered Species: The action does not negatively affect endangered species.	+
Environmental	Effect on Hazard & Waste Sites: The action does not negatively affect Hazard and waste sites.	N
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	+
Environmental	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	+

Action #24

Develop a Forest and Vegetation Management Plan. The plan should guide the management of Town resources, with the goal of protecting forested areas from threats, increasing their resilience to hazard events, and enhancing their beneficial ecosystem services. The plan should include:

- Protocols and schedules for controlled burns at Town owned/managed resources.
- Protocols and best practices for cleaning debris and creating a wood bank of recently downed trees.
- Informational resources for private property owners about fire safety, including strategies to mitigate fire risk.
- In alignment with invasive species management strategies, monitoring protocols for surveying for native and non-native invasive species and disease threats.
- Protocols for coordination with GELD on its vegetative management and tree trimming program.

Lead	Support	Timeframe	Cost Range
Fire, Con Com, DPW, Town Forest Com	GELD	Short Term	Low



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	+
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	+
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	+
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	+
Administrative	Secondary Impacts: This action does not create more problems than it solves.	+
	Staffing: Does the Town have staff to coordinate the action?	N
Political	Funding Allocated: Does the Town have enough funding available to implement the action?	N
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	N
Legal	Political Support: Is there political support to implement and maintain this action?	+
	Local Champion: Is there a local champion that can help see the action to completion?	+
Economic	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	+
	State Authority: If required, does the state have the authority to implement the action?	N
Environmental	Existing Local Authority: If required, does the Town have the authority to implement the action?	+
	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	+
Economic	Benefit of Action: The benefits of the action do not exceed the costs.	+
	Cost of Action: The costs of the action do not exceed the benefits.	+
Environmental	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	+
	Outside Funding Required: The action does not require outside funding to implement.	N
Environmental	Effect on Land & Water: The action does not negatively affect local land and water resources.	+
	Effect on Endangered Species: The action does not negatively affect endangered species.	+
Environmental	Effect on Hazard & Waste Sites: The action does not negatively affect Hazard and waste sites.	N
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	+
Environmental	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	+

Action #25

Develop a Fertilizer Management Plan to minimize contaminants that could be spread via runoff, flooding, and/or improper use. Consider use by and at:

- Town properties
- Agriculture sites
- Private property owners
- Commercial applicators

Lead	Support	Timeframe	Cost Range
Agricultural Com. Parks	N/A	Medium Term	Low



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	+
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	+
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	+
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	+
	Secondary Impacts: This action does not create more problems than it solves.	+
Administrative	Staffing: Does the Town have staff to coordinate the action?	N
	Funding Allocated: Does the Town have enough funding available to implement the action?	N
Political	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	N
	Political Support: Is there political support to implement and maintain this action?	+
	Local Champion: Is there a local champion that can help see the action to completion?	+
Legal	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	+
	State Authority: If required, does the state have the authority to implement the action?	N
	Existing Local Authority: If required, does the Town have the authority to implement the action?	+
Economic	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	+
	Benefit of Action: The benefits of the action do not exceed the costs.	+
	Cost of Action: The costs of the action do not exceed the benefits.	+
Environmental	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	N
	Outside Funding Required: The action does not require outside funding to implement.	N
	Effect on Land & Water: The action does not negatively affect local land and water resources.	+
	Effect on Endangered Species: The action does not negatively affect endangered species.	+
	Effect on Hazardous & Waste Sites: The action does not negatively affect Hazardous and waste sites.	N
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	+
	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	+

Action #27

Assess the impacts of interbasin transfers of sewer effluent on groundwater levels and the need for any mitigation actions during future updates to the Town's water withdrawal permit for drinking water supply.

Lead	Support	Timeframe	Cost Range
Select Board	Sewer Com., GWD	Medium Term	Moderate



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	+
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	+
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	+
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	+
	Secondary Impacts: This action does not create more problems than it solves.	+
Administrative	Staffing: Does the Town have staff to coordinate the action?	-
	Funding Allocated: Does the Town have enough funding available to implement the action?	-
Political	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	-
	Political Support: Is there political support to implement and maintain this action?	+
	Local Champion: Is there a local champion that can help see the action to completion?	+
Legal	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	+
	State Authority: If required, does the state have the authority to implement the action?	N
	Existing Local Authority: If required, does the Town have the authority to implement the action?	+
Economic	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	+
	Benefit of Action: The benefits of the action do not exceed the costs.	+
	Cost of Action: The costs of the action do not exceed the benefits.	+
Environmental	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	+
	Outside Funding Required: The action does not require outside funding to implement.	-
	Effect on Land & Water: The action does not negatively affect local land and water resources.	+
	Effect on Endangered Species: The action does not negatively affect endangered species.	+
	Effect on Hazardous & Waste Sites: The action does not negatively affect Hazardous and waste sites.	N
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	+
	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	+

Action #28

Implement recommendations from the 2024 Report on Third-Party Inspection of Nod Road Landfill to ensure the landfill cap is maintained and potential impacts on human health, safety, and the environment are mitigated:

- Mow and remove bushy vegetation from within the limits of the existing soil final cap. Inspect mowed areas to identify if additional corrective actions are required.
- Pending submission to and approval by MassDEP of an Initial Site Assessment (ISA)/Comprehensive Site Assessment (CSA) Scope of Work Permit Application to MassDEP, implement further corrective actions. The ISA/CSA Scope of Work is expected to include installation of groundwater monitoring wells, water quality sampling, landfill gas migration sampling, development of a site base plan, test pits to confirm the extent of landfilled waste and the existing final cap, and a qualitative risk assessment.

Lead	Support	Timeframe	Cost Range
DPW, Con Com.	N/A	Medium Term	Moderate



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	
	Secondary Impacts: This action does not create more problems than it solves.	
Administrative	Staffing: Does the Town have staff to coordinate the action?	
	Funding Allocated: Does the Town have enough funding available to implement the action?	
Political	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	
	Political Support: Is there political support to implement and maintain this action?	
	Local Champion: Is there a local champion that can help see the action to completion?	
Legal	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	
	State Authority: If required, does the state have the authority to implement the action?	
	Existing Local Authority: If required, does the Town have the authority to implement the action?	
Economic	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	
	Benefit of Action: The benefits of the action do not exceed the costs.	
	Cost of Action: The costs of the action do not exceed the benefits.	
Environmental	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	
	Outside Funding Required: The action does not require outside funding to implement.	
	Effect on Land & Water: The action does not negatively affect local land and water resources.	
	Effect on Endangered Species: The action does not negatively affect endangered species.	
	Effect on Hazardous & Waste Sites: The action does not negatively affect Hazardous and waste sites.	
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	
	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	

Action #29

Revise stormwater management regulations to integrate best practices that consider climate change and natural resource protection, which may include:

- Requiring or recommending the use of climate data using a 50-year planning horizon to ensure that infrastructure will operate effectively given potential impacts of climate change.
- Requiring drainage analyses and design calculations to use precipitation depths based on 90% of the Atlas 14 upper confidence interval, also known as "NOAA Plus" values, for project locations.

Lead	Support	Timeframe	Cost Range
Land Use Dept	DPW, ERSAC, Sustain Com, Planning Board	Immediate	Low



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	+
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	+
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	+
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	+
	Secondary Impacts: This action does not create more problems than it solves.	N
Administrative	Staffing: Does the Town have staff to coordinate the action?	+
	Funding Allocated: Does the Town have enough funding available to implement the action?	+
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	+
Political	Political Support: Is there political support to implement and maintain this action?	+
	Local Champion: Is there a local champion that can help see the action to completion?	+
	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	+
Legal	State Authority: If required, does the state have the authority to implement the action?	N
	Existing Local Authority: If required, does the Town have the authority to implement the action?	+
	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	+
Economic	Benefit of Action: The benefits of the action do not exceed the costs.	+
	Cost of Action: The costs of the action do not exceed the benefits.	+
	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	N
Environmental	Outside Funding Required: The action does not require outside funding to implement.	+
	Effect on Land & Water: The action does not negatively affect local land and water resources.	+
	Effect on Endangered Species: The action does not negatively affect endangered species.	N
Environmental	Effect on Hazard & Waste Sites: The action does not negatively affect Hazard and waste sites.	N
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	+
	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	+

Action #30

Revise wetland regulations to integrate current best practices that consider climate change and strengthen natural resource protection, including for protection of vernal pools and other sensitive water resources.

Lead	Support	Timeframe	Cost Range
Land Use Dept	Com Com	Short Term	Low



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	N
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	+
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	+
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	+
	Secondary Impacts: This action does not create more problems than it solves.	+
Administrative	Staffing: Does the Town have staff to coordinate the action?	+
	Funding Allocated: Does the Town have enough funding available to implement the action?	+
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	+
Political	Political Support: Is there political support to implement and maintain this action?	N
	Local Champion: Is there a local champion that can help see the action to completion?	+
	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	+
Legal	State Authority: If required, does the state have the authority to implement the action?	N
	Existing Local Authority: If required, does the Town have the authority to implement the action?	+
	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	N
Economic	Benefit of Action: The benefits of the action do not exceed the costs.	+
	Cost of Action: The costs of the action do not exceed the benefits.	+
	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	N
Environmental	Outside Funding Required: The action does not require outside funding to implement.	+
	Effect on Land & Water: The action does not negatively affect local land and water resources.	+
	Effect on Endangered Species: The action does not negatively affect endangered species.	+
Environmental	Effect on Hazard & Waste Sites: The action does not negatively affect Hazard and waste sites.	N
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	+
	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	+

Action #31

Update zoning and development regulations to encourage sustainable land use patterns and protect natural resources that promote growth in existing developed areas and away from high hazard areas (e.g., flood hazard areas, steep slopes). This may include:

- Exploring zoning alternatives, such as form-based codes, to the existing Town Center Overlay District zoning ordinance to preserve physical town characteristics and resources while encouraging growth.
- Considering amending zoning to increase density bonuses for Flexible Developments.
- Encouraging and promoting infill housing development in mixed-use districts over expanding and encroaching into natural areas.
- Reevaluating the existing Water Resource Protection Districts and consider complementing the existing overlay zoning with additional water protections, such as limiting land use where water consumptions exceeds natural recharge or requiring water-use minimization measures for new developments.

Lead	Support	Timeframe	Cost Range
Land Use Dept	Com on Accessibility, Fire, Council on Aging, DPW, GELD, Housing Coordinator, Affordable Housing Trust, Housing Partnership	Varies (Immediate to Long Term)	Varies (Low to Moderate)



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	+
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	+
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	+
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	+
	Secondary Impacts: This action does not create more problems than it solves.	+
Administrative	Staffing: Does the Town have staff to coordinate the action?	+
	Funding Allocated: Does the Town have enough funding available to implement the action?	N
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	+
Political	Political Support: Is there political support to implement and maintain this action?	+
	Local Champion: Is there a local champion that can help see the action to completion?	+
	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	+
Legal	State Authority: If required, does the state have the authority to implement the action?	N
	Existing Local Authority: If required, does the Town have the authority to implement the action?	+
	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	+
Economic	Benefit of Action: The benefits of the action do not exceed the costs.	+
	Cost of Action: The costs of the action do not exceed the benefits.	+
	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	+
Environmental	Outside Funding Required: The action does not require outside funding to implement.	N
	Effect on Land & Water: The action does not negatively affect local land and water resources.	+
	Effect on Endangered Species: The action does not negatively affect endangered species.	+
Environmental	Effect on Hazard & Waste Sites: The action does not negatively affect Hazard and waste sites.	N
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	+
	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	+

Action #32

Incorporate climate considerations into Town design standards. This may include:

- Requiring reflective surfaces to mitigate the heat island effect
- Limiting lawn sizes
- Utilizing dark sky compliant lighting
- Updating landscaping and site design regulations with best practices, such as requiring the planting of native or adapted species, and requiring the use of low impact development techniques and stormwater best management practices (BMPs).

Lead	Support	Timeframe	Cost Range
Land Use Dept, Planning Board	Sustain Com	Medium Term	Low



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	+
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	+
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	N
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	N
Administrative	Secondary Impacts: This action does not create more problems than it solves.	N
	Staffing: Does the Town have staff to coordinate the action?	+
Political	Funding Allocated: Does the Town have enough funding available to implement the action?	N
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	+
Legal	Political Support: Is there political support to implement and maintain this action?	+
	Local Champion: Is there a local champion that can help see the action to completion?	+
Economic	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	N
	State Authority: If required, does the state have the authority to implement the action?	N
Environmental	Existing Local Authority: If required, does the Town have the authority to implement the action?	+
	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	N
	Benefit of Action: The benefits of the action do not exceed the costs.	+
	Cost of Action: The costs of the action do not exceed the benefits.	+
	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	N
	Outside Funding Required: The action does not require outside funding to implement.	N
	Effect on Land & Water: The action does not negatively affect local land and water resources.	+
	Effect on Endangered Species: The action does not negatively affect endangered species.	+
	Effect on Hazard & Waste Sites: The action does not negatively affect Hazard and waste sites.	N
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	+
	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	+

Action #33

Adopt a Tree Preservation Ordinance to encourage the protection of trees during significant construction activity and maintain the Town's canopy, mitigating the impacts of the heat island effect and protecting ecologically valuable trees.

Lead	Support	Timeframe	Cost Range
DPW, Com Com	Sustain Com, Town Forest Com, Friends of the Tree Warden	Medium Term	Low



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	+
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	+
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	+
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	+
Administrative	Secondary Impacts: This action does not create more problems than it solves.	+
	Staffing: Does the Town have staff to coordinate the action?	N
Political	Funding Allocated: Does the Town have enough funding available to implement the action?	-
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	N
Legal	Political Support: Is there political support to implement and maintain this action?	+
	Local Champion: Is there a local champion that can help see the action to completion?	+
Economic	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	+
	State Authority: If required, does the state have the authority to implement the action?	N
Environmental	Existing Local Authority: If required, does the Town have the authority to implement the action?	+
	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	+
	Benefit of Action: The benefits of the action do not exceed the costs.	+
	Cost of Action: The costs of the action do not exceed the benefits.	+
	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	+
	Outside Funding Required: The action does not require outside funding to implement.	-
	Effect on Land & Water: The action does not negatively affect local land and water resources.	+
	Effect on Endangered Species: The action does not negatively affect endangered species.	+
	Effect on Hazard & Waste Sites: The action does not negatively affect Hazard and waste sites.	N
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	+
	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	+

Action #34

Update the Town's Comprehensive Emergency Management Plan (CEMP). As part of the CEMP update:

- Identify evacuation protocols (including assembly points) and verify available transportation resources and capabilities to support evacuation of impacted populations with access and functional needs.
- Include an agriculture annex/emergency response plan to evaluate needs of local farms and livestock.
- Include emergency response plans for medical and long-term care facilities (e.g., hospitals), schools, and large housing complexes.

Lead	Support	Timeframe	Cost Range
Police / EMD	Agricultural Com, DPW	Immediate	Low



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	+
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	+
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	+
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	+
Administrative	Secondary Impacts: This action does not create more problems than it solves.	+
	Staffing: Does the Town have staff to coordinate the action?	+
Political	Funding Allocated: Does the Town have enough funding available to implement the action?	-
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	N
Legal	Political Support: Is there political support to implement and maintain this action?	+
	Local Champion: Is there a local champion that can help see the action to completion?	+
Economic	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	+
	State Authority: If required, does the state have the authority to implement the action?	N
Environmental	Existing Local Authority: If required, does the Town have the authority to implement the action?	+
	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	+
	Benefit of Action: The benefits of the action do not exceed the costs.	+
	Cost of Action: The costs of the action do not exceed the benefits.	+
	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	+
	Outside Funding Required: The action does not require outside funding to implement.	-
	Effect on Land & Water: The action does not negatively affect local land and water resources.	+
	Effect on Endangered Species: The action does not negatively affect endangered species.	N
	Effect on Hazard & Waste Sites: The action does not negatively affect Hazard and waste sites.	N
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	N
	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	N

Action #35

Improve emergency communications with community members to ensure public safety and efficient dissemination of information before, during, and after hazard events. This should include:

- Public outreach to encourage community members to sign up for Smart 911, Groton's emergency notification system.
- Facilitating the addition of more cell towers in Groton to improve cell coverage.

Lead	Support	Timeframe	Cost Range
Police / EMD	Town Manager, Select Board	Short Term	Low



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	+
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	+
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	+
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	+
Administrative	Secondary Impacts: This action does not create more problems than it solves.	+
	Staffing: Does the Town have staff to coordinate the action?	N
Political	Funding Allocated: Does the Town have enough funding available to implement the action?	+
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	N
Legal	Political Support: Is there political support to implement and maintain this action?	+
	Local Champion: Is there a local champion that can help see the action to completion?	+
Economic	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	+
	State Authority: If required, does the state have the authority to implement the action?	N
Environmental	Existing Local Authority: If required, does the Town have the authority to implement the action?	+
	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	+
	Benefit of Action: The benefits of the action do not exceed the costs.	+
	Cost of Action: The costs of the action do not exceed the benefits.	+
	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	+
	Outside Funding Required: The action does not require outside funding to implement.	N
	Effect on Land & Water: The action does not negatively affect local land and water resources.	N
	Effect on Endangered Species: The action does not negatively affect endangered species.	N
	Effect on Hazard & Waste Sites: The action does not negatively affect Hazard and waste sites.	N
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	N
	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	N

Action #36

Ensure emergency shelters meet the needs of Groton's population:

- Increase shelter space.
- Assess emergency shelters for necessary facility upgrades, including for storage of supplies.
- Inventory shelter supplies and compile a needs list. Pursue funding for supplies.
- Increase availability of shelter equipment for residents evacuating with pets, including pet cages and carriers.

Lead	Support	Timeframe	Cost Range
Police / EMD	Health Dept, Land Use Dept	Short Term	Moderate



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	+
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	+
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	+
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	+
Administrative	Secondary Impacts: This action does not create more problems than it solves.	+
	Staffing: Does the Town have staff to coordinate the action?	-
Political	Funding Allocated: Does the Town have enough funding available to implement the action?	-
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	+
Legal	Political Support: Is there political support to implement and maintain this action?	+
	Local Champion: Is there a local champion that can help see the action to completion?	+
Economic	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	+
	State Authority: If required, does the state have the authority to implement the action?	N
Environmental	Existing Local Authority: If required, does the Town have the authority to implement the action?	+
	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	+
	Benefit of Action: The benefits of the action do not exceed the costs.	+
	Cost of Action: The costs of the action do not exceed the benefits.	+
	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	+
	Outside Funding Required: The action does not require outside funding to implement.	-
	Effect on Land & Water: The action does not negatively affect local land and water resources.	N
	Effect on Endangered Species: The action does not negatively affect endangered species.	N
	Effect on Hazard & Waste Sites: The action does not negatively affect Hazard and waste sites.	N
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	N
	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	N

Action #37

Enhance volunteer capacity through recruitment and training efforts. This could include specific recruitment and training for:

- Fire Department,
- Emergency shelter staffing, and/or
- A local Community Emergency Response Team program, if established.

Lead	Support	Timeframe	Cost Range
Fire	Police / EMD	Short Term	Low



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	+
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	+
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	+
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	+
Administrative	Secondary Impacts: This action does not create more problems than it solves.	+
	Staffing: Does the Town have staff to coordinate the action?	-
Political	Funding Allocated: Does the Town have enough funding available to implement the action?	-
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	+
Legal	Political Support: Is there political support to implement and maintain this action?	+
	Local Champion: Is there a local champion that can help see the action to completion?	+
Economic	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	+
	State Authority: If required, does the state have the authority to implement the action?	N
Environmental	Existing Local Authority: If required, does the Town have the authority to implement the action?	+
	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	+
	Benefit of Action: The benefits of the action do not exceed the costs.	+
	Cost of Action: The costs of the action do not exceed the benefits.	+
	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	+
	Outside Funding Required: The action does not require outside funding to implement.	-
	Effect on Land & Water: The action does not negatively affect local land and water resources.	N
	Effect on Endangered Species: The action does not negatively affect endangered species.	N
	Effect on Hazard & Waste Sites: The action does not negatively affect Hazard and waste sites.	N
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	N
	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	N

Action #38

An on annual basis or after a significant hazard event, assess the need and feasibility of upscaling or downscaling relevant municipal services based on changes in population.

Lead	Support	Timeframe	Cost Range
Police / EMD	Fire	Long Term	Low



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	+
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	+
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	+
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	+
Administrative	Secondary Impacts: This action does not create more problems than it solves.	+
	Staffing: Does the Town have staff to coordinate the action?	+
Political	Funding Allocated: Does the Town have enough funding available to implement the action?	+
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	+
Legal	Political Support: Is there political support to implement and maintain this action?	+
	Local Champion: Is there a local champion that can help see the action to completion?	+
Economic	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	+
	State Authority: If required, does the state have the authority to implement the action?	N
Environmental	Existing Local Authority: If required, does the Town have the authority to implement the action?	+
	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	+
	Benefit of Action: The benefits of the action do not exceed the costs.	+
	Cost of Action: The costs of the action do not exceed the benefits.	+
	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	+
	Outside Funding Required: The action does not require outside funding to implement.	+
	Effect on Land & Water: The action does not negatively affect local land and water resources.	N
	Effect on Endangered Species: The action does not negatively affect endangered species.	N
	Effect on Hazard & Waste Sites: The action does not negatively affect Hazard and waste sites.	N
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	N
	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	N

Action #40

Educate Groton residents and private property owners on fire safety. This could include targeted education to K-12 students.

Lead	Support	Timeframe	Cost Range
Fire	N/A	Medium Term	Staff Time



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	+
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	+
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	+
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	+
Administrative	Secondary Impacts: This action does not create more problems than it solves.	+
	Staffing: Does the Town have staff to coordinate the action?	+
Political	Funding Allocated: Does the Town have enough funding available to implement the action?	+
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	+
Legal	Political Support: Is there political support to implement and maintain this action?	+
	Local Champion: Is there a local champion that can help see the action to completion?	+
Economic	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	+
	State Authority: If required, does the state have the authority to implement the action?	N
Environmental	Existing Local Authority: If required, does the Town have the authority to implement the action?	+
	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	+
	Benefit of Action: The benefits of the action do not exceed the costs.	+
	Cost of Action: The costs of the action do not exceed the benefits.	+
	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	+
	Outside Funding Required: The action does not require outside funding to implement.	+
	Effect on Land & Water: The action does not negatively affect local land and water resources.	N
	Effect on Endangered Species: The action does not negatively affect endangered species.	N
	Effect on Hazard & Waste Sites: The action does not negatively affect Hazard and waste sites.	N
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	N
	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	N

Action #41

Conduct outreach and provide resources to private property owners in the FEMA Special Flood Hazard Area about flood risk and mitigation. This could include:

- Develop and post online resources about flood mitigation (e.g., floodproofing, flood insurance) and provide hard copy versions at the Building Department.

Lead	Support	Timeframe	Cost Range
Land Use Dept	Police / EMD	Immediate	Staff Time



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	+
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	N
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	+
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	+
Administrative	Secondary Impacts: This action does not create more problems than it solves.	+
	Staffing: Does the Town have staff to coordinate the action?	+
Political	Funding Allocated: Does the Town have enough funding available to implement the action?	+
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	+
Legal	Political Support: Is there political support to implement and maintain this action?	+
	Local Champion: Is there a local champion that can help see the action to completion?	+
Economic	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	+
	State Authority: If required, does the state have the authority to implement the action?	N
Environmental	Existing Local Authority: If required, does the Town have the authority to implement the action?	+
	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	+
	Benefit of Action: The benefits of the action do not exceed the costs.	+
	Cost of Action: The costs of the action do not exceed the benefits.	+
	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	+
	Outside Funding Required: The action does not require outside funding to implement.	+
	Effect on Land & Water: The action does not negatively affect local land and water resources.	+
	Effect on Endangered Species: The action does not negatively affect endangered species.	+
	Effect on Hazard & Waste Sites: The action does not negatively affect Hazard and waste sites.	N
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	N
	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	+

Action #42

Collaborate with the Groton-Dunstable Regional School District, Groton School, Lawrence Academy, educators, and parents to bring climate and natural hazard related education into Groton's public and private schools and student activities.

Lead	Support	Timeframe	Cost Range
GORS, Groton School, Lawrence Academy	Sustain Com	Medium Term	Low



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	+
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	+
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	+
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	+
Administrative	Secondary Impacts: This action does not create more problems than it solves.	+
	Staffing: Does the Town have staff to coordinate the action?	N
Political	Funding Allocated: Does the Town have enough funding available to implement the action?	-
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	N
Legal	Political Support: Is there political support to implement and maintain this action?	N
	Local Champion: Is there a local champion that can help see the action to completion?	N
Economic	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	N
	State Authority: If required, does the state have the authority to implement the action?	N
Environmental	Existing Local Authority: If required, does the Town have the authority to implement the action?	+
	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	+
Benefit of Action: The benefits of the action do not exceed the costs.		+
	Cost of Action: The costs of the action do not exceed the benefits.	+
Contributes to Economic Goals: Does the action contribute positively to local economic development goals?		N
	Outside Funding Required: The action does not require outside funding to implement.	-
Effect on Land & Water: The action does not negatively affect local land and water resources.		+
	Effect on Endangered Species: The action does not negatively affect endangered species.	+
Effect on Hazard & Waste Sites: The action does not negatively affect Hazard and waste sites.		N
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	+
Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.		N

Action #43

Collaborate with the Towns of Ayer, Harvard, and Shirley to identify long-term funding options to make the Regional Energy Manager a permanent position and support Groton's energy efficiency and energy security efforts.

Lead	Support	Timeframe	Cost Range
Town Manager	Sustain Com, GELD, Town of Ayer, Town of Harvard, Town of Shirley	Medium Term	Staff Time



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	+
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	+
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	+
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	N
Administrative	Secondary Impacts: This action does not create more problems than it solves.	+
	Staffing: Does the Town have staff to coordinate the action?	+
Political	Funding Allocated: Does the Town have enough funding available to implement the action?	N
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	+
Legal	Political Support: Is there political support to implement and maintain this action?	+
	Local Champion: Is there a local champion that can help see the action to completion?	+
Economic	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	+
	State Authority: If required, does the state have the authority to implement the action?	N
Environmental	Existing Local Authority: If required, does the Town have the authority to implement the action?	+
	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	+
Benefit of Action: The benefits of the action do not exceed the costs.		+
	Cost of Action: The costs of the action do not exceed the benefits.	+
Contributes to Economic Goals: Does the action contribute positively to local economic development goals?		+
	Outside Funding Required: The action does not require outside funding to implement.	N
Effect on Land & Water: The action does not negatively affect local land and water resources.		N
	Effect on Endangered Species: The action does not negatively affect endangered species.	N
Effect on Hazard & Waste Sites: The action does not negatively affect Hazard and waste sites.		N
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	+
Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.		+

Action #44

Pursue grant opportunities to develop a comprehensive Climate Action Plan and establish town-wide sustainability goals and metrics, including related to climate resilience.

Lead	Support	Timeframe	Cost Range
Town Manager	Sustain Com, Land Use Dept	Short Term	Staff Time



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	N
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	+
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	+
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	+
Administrative	Secondary Impacts: This action does not create more problems than it solves.	+
	Staffing: Does the Town have staff to coordinate the action?	+
Political	Funding Allocated: Does the Town have enough funding available to implement the action?	+
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	+
Legal	Political Support: Is there political support to implement and maintain this action?	N
	Local Champion: Is there a local champion that can help see the action to completion?	+
Economic	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	+
	State Authority: If required, does the state have the authority to implement the action?	N
Environmental	Existing Local Authority: If required, does the Town have the authority to implement the action?	+
	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	+
Benefit of Action: The benefits of the action do not exceed the costs.		+
	Cost of Action: The costs of the action do not exceed the benefits.	+
Contributes to Economic Goals: Does the action contribute positively to local economic development goals?		N
	Outside Funding Required: The action does not require outside funding to implement.	+
Effect on Land & Water: The action does not negatively affect local land and water resources.		+
	Effect on Endangered Species: The action does not negatively affect endangered species.	+
Effect on Hazard & Waste Sites: The action does not negatively affect Hazard and waste sites.		N
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	+
Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.		N

Action #45

Invest in education and training for municipal staff, Boards, and Commissions to communicate the impacts of climate change and Groton's sustainability goals.

Lead	Support	Timeframe	Cost Range
Town Manager	Sustain Com	Short Term	Low



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	+
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	+
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	+
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	+
	Secondary Impacts: This action does not create more problems than it solves.	+
Administrative	Staffing: Does the Town have staff to coordinate the action?	N
	Funding Allocated: Does the Town have enough funding available to implement the action?	N
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	N
Political	Political Support: Is there political support to implement and maintain this action?	N
	Local Champion: Is there a local champion that can help see the action to completion?	+
	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	N
Legal	State Authority: If required, does the state have the authority to implement the action?	N
	Existing Local Authority: If required, does the Town have the authority to implement the action?	+
	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	+
Economic	Benefit of Action: The benefits of the action do not exceed the costs.	+
	Cost of Action: The costs of the action do not exceed the benefits.	+
	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	N
Environmental	Outside Funding Required: The action does not require outside funding to implement.	N
	Effect on Land & Water: The action does not negatively affect local land and water resources.	+
	Effect on Endangered Species: The action does not negatively affect endangered species.	+
	Effect on Hazard & Waste Sites: The action does not negatively affect Hazard and waste sites.	+
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	+
	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	N

Action #46

Strengthen regional connections by collaborating with the Montachusett Regional Planning Commission (MRPC) and other communities in the commission to address cross-town challenges, such as invasive species and water quality.

Lead	Support	Timeframe	Cost Range
Land Use Dept	Sustain Com, MRPC	Short Term	Staff Time



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	+
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	+
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	+
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	+
	Secondary Impacts: This action does not create more problems than it solves.	+
Administrative	Staffing: Does the Town have staff to coordinate the action?	+
	Funding Allocated: Does the Town have enough funding available to implement the action?	+
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	+
Political	Political Support: Is there political support to implement and maintain this action?	+
	Local Champion: Is there a local champion that can help see the action to completion?	+
	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	+
Legal	State Authority: If required, does the state have the authority to implement the action?	N
	Existing Local Authority: If required, does the Town have the authority to implement the action?	+
	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	+
Economic	Benefit of Action: The benefits of the action do not exceed the costs.	+
	Cost of Action: The costs of the action do not exceed the benefits.	+
	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	+
Environmental	Outside Funding Required: The action does not require outside funding to implement.	+
	Effect on Land & Water: The action does not negatively affect local land and water resources.	+
	Effect on Endangered Species: The action does not negatively affect endangered species.	+
	Effect on Hazard & Waste Sites: The action does not negatively affect Hazard and waste sites.	+
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	+
	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	N

Action #47

Integrate sustainability and climate resilience considerations into administrative policies and decision-making, including purchasing, procurement, and the Capital Improvement Planning process, i.e. creating a sustainability checklist for all new Town projects.

Lead	Support	Timeframe	Cost Range
Land Use Dept, Inter-departmental	Sustain Com	Short Term	Low



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	+
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	+
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	+
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	+
	Secondary Impacts: This action does not create more problems than it solves.	+
Administrative	Staffing: Does the Town have staff to coordinate the action?	+
	Funding Allocated: Does the Town have enough funding available to implement the action?	+
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	+
Political	Political Support: Is there political support to implement and maintain this action?	+
	Local Champion: Is there a local champion that can help see the action to completion?	+
	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	N
Legal	State Authority: If required, does the state have the authority to implement the action?	N
	Existing Local Authority: If required, does the Town have the authority to implement the action?	+
	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	+
Economic	Benefit of Action: The benefits of the action do not exceed the costs.	+
	Cost of Action: The costs of the action do not exceed the benefits.	+
	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	+
Environmental	Outside Funding Required: The action does not require outside funding to implement.	+
	Effect on Land & Water: The action does not negatively affect local land and water resources.	+
	Effect on Endangered Species: The action does not negatively affect endangered species.	+
	Effect on Hazard & Waste Sites: The action does not negatively affect Hazard and waste sites.	+
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	+
	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	N

Action #49

Add information on earthquake hazard to Groton's Emergency Management Agency webpage. Include measures that property owners can take to secure moveable items and utilities to prevent injuries and damage.

Lead	Support	Timeframe	Cost Range
Police / EMD	N/A	Immediate	Staff Time



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	+
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	+
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	+
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	+
Administrative	Secondary Impacts: This action does not create more problems than it solves.	+
	Staffing: Does the Town have staff to coordinate the action?	+
Political	Funding Allocated: Does the Town have enough funding available to implement the action?	+
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	+
Legal	Political Support: Is there political support to implement and maintain this action?	+
	Local Champion: Is there a local champion that can help see the action to completion?	+
Economic	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	+
	State Authority: If required, does the state have the authority to implement the action?	N
Environmental	Existing Local Authority: If required, does the Town have the authority to implement the action?	+
	Political/Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	+
Benefit of Action:	The benefits of the action do not exceed the costs.	+
	Cost of Action: The costs of the action do not exceed the benefits.	+
Contributes to Economic Goals:	Does the action contribute positively to local economic development goals?	+
	Outside Funding Required: The action does not require outside funding to implement.	+
Effect on Land & Water:	The action does not negatively affect local land and water resources.	N
	Effect on Endangered Species: The action does not negatively affect endangered species.	N
Effect on Hazard & Waste Sites:	The action does not negatively affect HazMat and waste sites.	N
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	N
Consistent with Applicable Laws and Regulations:	The action does not conflict with applicable environmental laws and regulations.	N

Action #50

Add information on earthquake hazard to Groton's Emergency Management Agency webpage. Include measures that property owners can take to secure moveable items and utilities to prevent injuries and damage.

Lead	Support	Timeframe	Cost Range
Police / EMD	N/A	Immediate	Staff Time



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	
Administrative	Secondary Impacts: This action does not create more problems than it solves.	
	Staffing: Does the Town have staff to coordinate the action?	
Political	Funding Allocated: Does the Town have enough funding available to implement the action?	
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	
Legal	Political Support: Is there political support to implement and maintain this action?	
	Local Champion: Is there a local champion that can help see the action to completion?	
Economic	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	
	State Authority: If required, does the state have the authority to implement the action?	
Environmental	Existing Local Authority: If required, does the Town have the authority to implement the action?	
	Political/Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	
Benefit of Action:	The benefits of the action do not exceed the costs.	
	Cost of Action: The costs of the action do not exceed the benefits.	
Contributes to Economic Goals:	Does the action contribute positively to local economic development goals?	
	Outside Funding Required: The action does not require outside funding to implement.	
Effect on Land & Water:	The action does not negatively affect local land and water resources.	
	Effect on Endangered Species: The action does not negatively affect endangered species.	
Effect on Hazard & Waste Sites:	The action does not negatively affect HazMat and waste sites.	
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	
Consistent with Applicable Laws and Regulations:	The action does not conflict with applicable environmental laws and regulations.	

Action #50

Consider enrolling in the NFIP Community Rating System program and identify necessary changes to Groton's floodplain management program to enable participation. Then, decide whether to pursue participation in the Community Rating System.

Lead	Support	Timeframe	Cost Range
Land Use Dept	Town Manager, Select Board	Short Term	Staff Time



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	N
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	-
Technical	Technical Feasibility: Will the action work to avoid or reduce future losses?	+
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	+
Administrative	Secondary Impacts: This action does not create more problems than it solves.	+
	Staffing: Does the Town have staff to coordinate the action?	+
Political	Funding Allocated: Does the Town have enough funding available to implement the action?	+
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	+
Legal	Political Support: Is there political support to implement and maintain this action?	N
	Local Champion: Is there a local champion that can help see the action to completion?	N
Economic	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	N
	State Authority: If required, does the state have the authority to implement the action?	N
Environmental	Existing Local Authority: If required, does the Town have the authority to implement the action?	+
	Political/Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	+
Benefit of Action:	The benefits of the action do not exceed the costs.	-
	Cost of Action: The costs of the action do not exceed the benefits.	-
Contributes to Economic Goals:	Does the action contribute positively to local economic development goals?	N
	Outside Funding Required: The action does not require outside funding to implement.	+
Effect on Land & Water:	The action does not negatively affect local land and water resources.	N
	Effect on Endangered Species: The action does not negatively affect endangered species.	N
Effect on Hazard & Waste Sites:	The action does not negatively affect HazMat and waste sites.	N
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	N
Consistent with Applicable Laws and Regulations:	The action does not conflict with applicable environmental laws and regulations.	+

Action #51

Participate in the MA MVP 2.0 program to expand community involvement and social resilience in climate adaptation and resilience planning and implementation projects.

Lead	Support	Timeframe	Cost Range
Land Use Dept	Town Manager, Select Board	Short Term	Staff Time



Category	Criterion	Score (+, NA, -)
Social	Community Acceptance: Is the action socially acceptable?	+
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.	+
	Technical Feasibility: Will the action work to avoid or reduce future losses?	+
Technical	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?	+
	Secondary Impacts: This action does not create more problems than it solves.	+
	Staffing: Does the Town have staff to coordinate the action?	+
Administrative	Funding Allocated: Does the Town have enough funding available to implement the action?	+
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?	+
	Political Support: Is there political support to implement and maintain this action?	+
Political	Local Champion: Is there a local champion that can help see the action to completion?	+
	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?	+
	State Authority: If required, does the state have the authority to implement the action?	N
Legal	Existing Local Authority: If required, does the Town have the authority to implement the action?	+
	Political/Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.	+
	Benefit of Action: The benefits of the action do not exceed the costs.	+
Economic	Cost of Action: The costs of the action do not exceed the benefits.	+
	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?	N
	Outside Funding Required: The action does not require outside funding to implement.	+
Environmental	Effect on Land & Water: The action does not negatively affect local land and water resources.	+
	Effect on Endangered Species: The action does not negatively affect endangered species.	+
	Effect on HazMat & Waste Sites: The action does not negatively affect HazMat and waste sites.	N
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?	+
	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.	N

Next Steps

HW to:

- Distribute prioritized mitigation actions list to LHMC.
- Distribute summary of public survey to LHMC.
- Finalize draft of HMP and distribute to LHMC.
- Coordinate with Town on scheduling public meeting.

LHMC to:

- Review and confirm prioritized mitigation actions list by 8/28.
- Review and provide comments on draft public survey summary by 8/28.
- Review and provide comments on draft HMP (target: 9/4).



APPENDIX B

Online Public Survey Summary

Groton HMP Online Public Survey Summary

The online public survey was available via SurveyMonkey from March to August 2026. A total of 18 respondents took part in the online public survey.

Question 1. How concerned are you about the following natural hazard events affecting the Town of Groton? (18 responses)

	<i>Not at all concerned</i>	<i>Slightly concerned</i>	<i>Somewhat concerned</i>	<i>Moderately concerned</i>	<i>Extremely concerned</i>
<i>Riverine & flash flooding</i>	5.56%	27.78%	27.78%	16.67%	22.22%
<i>Inland/urban (stormwater) flooding & heavy rain</i>	11.11%	16.67%	16.67%	27.78%	27.78%
<i>Dam failure</i>	27.78%	16.67%	33.33%	16.67%	5.56%
<i>Beaver activity (that results in flooding)</i>	27.78%	44.44%	16.67%	5.56%	5.56%
<i>Hurricanes/tropical storms</i>	0.00%	38.89%	16.67%	38.89%	5.56%
<i>Tornadoes</i>	16.67%	27.78%	33.33%	22.22%	0.00%
<i>Lightning/thunderstorms</i>	16.67%	27.78%	27.78%	22.22%	5.56%
<i>High winds</i>	5.56%	16.67%	22.22%	33.33%	22.22%
<i>Hail</i>	33.33%	33.33%	16.67%	11.11%	5.56%
<i>Blizzards, heavy snow, winter weather & Nor'easters</i>	5.56%	22.22%	22.22%	22.22%	27.78%
<i>Ice storms</i>	0.00%	22.22%	27.78%	27.78%	22.22%
<i>Extreme cold</i>	16.67%	27.78%	33.33%	5.56%	16.67%
<i>Earthquakes</i>	61.11%	27.78%	11.11%	0.00%	0.00%
<i>Landslides</i>	72.22%	22.22%	5.56%	0.00%	0.00%
<i>Brush fire & wildfire</i>	0.00%	27.78%	50.00%	16.67%	5.56%
<i>Extreme heat</i>	5.88%	35.29%	23.53%	17.65%	17.65%
<i>Drought</i>	5.56%	22.22%	22.22%	27.78%	22.22%
<i>Changes in groundwater (to water quality & quantity)</i>	0.00%	11.11%	16.67%	33.33%	38.89%

Question 2. Which Town assets do you consider to be most vulnerable to natural hazard impacts? Check all that apply. (18 responses)

- Electrical utility infrastructure, including powerlines (88.89%)
- Drinking water utility infrastructure, including groundwater wells (66.67%)
- Transportation infrastructure, including roads and bridges (61.11%)
- Groundwater resources (55.56%)
- Stormwater infrastructure, including culverts (55.56%)
- Wastewater utility infrastructure (16.67%)
- Historic and cultural resources/buildings (11.11%)
- Surface water resources, such as ponds and rivers (11.11%)
- Recreation and open space lands, such as forested and wetland areas (5.56%)
- Other (please specify) (5.56%):
 - Specifically the main st bridge at the Pepperell line

Question 3. Which Town assets do you consider to be critical strengths related to natural hazard mitigation and climate resilience? Check all that apply. (18 responses)

- Municipal buildings, including the Police Department, Fire Department, DPW, and Groton Center (83.33%)
- Shelters, including the Groton Center and local schools (72.22%)
- Waterbodies, including wetlands and rivers (61.11%)
- Health care resources, such as Emerson Health Groton (55.56%)
- Open space, including forests, trails, and outdoor recreational space (50.00%)
- Commercial centers, including West Groton, the Town Center, and Four Corners Village (11.11%)
- Other (please specify) (0.00%)

Question 4. Have you noticed any environmental and/or climate changes in Groton since you first started living, working and/or visiting here? Check all that apply. (18 responses)

- Changes in how warm/hot the temperature is (extreme heat) (66.67%)
- Changes in how dry it is (drought) (50.00%)
- Changes in when seasonal shifts (e.g., winter to spring, spring to summer) (50.00%)
- Changes in the frequency and/or severity of rain events (44.44%)
- Changes in how often flooding occurs, and/or how severe flood events are (38.89%)
- Changes in how cold the temperature is (extreme cold) (33.33%)
- Changes in the types of vegetation or animal species present (27.78%)
- Not sure (0.00%)
- Other (please specify) (5.56%):
 - NA

Question 5. In your opinion, what types of projects do you believe local, county, state or federal government agencies could be doing to reduce the damage and disruption of natural hazard events/disasters in Groton? Please select up to three choices. (18 responses)

- Work to improve utilities resiliency (electric, communications, water/wastewater facilities) (61.11%)
- Retrofit public infrastructure, such as elevating roadways and improving drainage systems (50.00%)
- Strengthen codes/ordinances to require higher hazard risk management standards and/or provide greater control over development in high hazard areas (38.89%)
- Inform property owners of ways they can reduce the damage caused by natural hazard events (33.33%)
- Replace inadequate/vulnerable bridges (27.78%)
- Assist vulnerable property owners with securing funding to make their properties more resilient (22.22%)

- Buy out flood prone properties and maintain as open space (22.22%)
- Retrofit/Strengthen essential public facilities such as police, fire/emergency, schools (16.67%)
- Provide better information about hazard risks and high hazard areas (5.56%)
- Install/improve protective structures (floodwalls) (0.00%)
- Other (please specify) (22.22%):
 - No mention of PFAS, the old Nod Road Dump, or ConductorLab
 - Assist in invasive species control
 - None
 - More proactive fuel load management in our forests

Question 6. In your opinion, how prepared is your household and/or business to deal with a natural hazard event? (17 responses)

- Not at all prepared (5.88%)
- Slightly prepared (17.65%)
- Somewhat prepared (41.18%)
- Moderately prepared (23.53%)
- Extremely prepared (11.76%)

Question 7. In your opinion, which of the following methods do you think are most effective for providing natural hazard/disaster information? Check all that apply. (17 responses)

- Social media (70.59%)
- Town mass notification systems (e.g., Smart911) (70.59%)
- Internet (58.82%)
- Town website (47.06%)
- Public meetings/workshops (41.18%)
- Town emails (35.29%)
- Outdoor message boards (29.41%)
- Informational brochures or handouts (23.53%)
- Television news (17.65%)
- Newspaper (11.76%)
- Radio (5.88%)
- Other (please specify) (5.88%):
 - Use Prescott, Senior Center, schools as well as town adjacent groups like the Garden Club and Friends of the Tree Warden to support town initiatives

Question 8. During a natural hazard event (e.g., a winter storm), what Town communication methods do you find most helpful for obtaining up-to-date information? Check all that apply. (17 responses)

- Town mass notification systems (e.g., Smart911) (76.47%)
- Town social media (58.82%)
- Town website (35.29%)
- Town emails (35.29%)
- Other (please specify) (5.88%):
 - If power goes out, need an additional method that does not need power (all above require electricity), especially if extended outage.

Question 9. What steps have you and/or your business taken to prepare for a natural hazard event? Check all that apply. (17 responses)

- Installed smoke detectors on each level of the house/building (100.00%)
- Identified utility shut-offs (82.35%)
- Signed up for the Smart911 notification system (76.47%)
- Became trained in CPR/first aid (58.82%)
- Made an emergency kit (which may include food, water, flashlights, batteries, and other supplies) (47.06%)
- Coordinated with family members and/or employees on what to do in case of a natural hazard event (35.29%)
- Identified the nearest emergency shelter (35.29%)
- Made a fire escape plan and/or evacuation plan (35.29%)
- Purchased/learned how to program a NOAA weather radio (23.53%)
- Purchase natural hazard insurance (e.g., flood insurance) (11.76%)
- Attended emergency preparedness related meetings or received hazard-related information (5.88%)
- Attended a Citizen Emergency Response Team (CERT) training (0.00%)
- Stored sand bags (0.00%)
- Other (please specify) (11.76%):
 - trimmed or removed hazard trees along power lines or were leaning toward and at major risk of falling on the house
 - Installed generator interface to home

Question 10. What information do you need to feel more prepared for a natural hazard event? Check all that apply. (16 responses)

- Information on areas and infrastructure in Groton that are vulnerable to natural hazards (75.00%)
- Information on evacuation routes and shelters (75.00%)
- Information on what types of natural hazards are likely to affect Groton, and how (68.75%)
- Information on how to receive news updates during an extreme event (56.25%)
- Information on preparing an emergency kit (31.25%)
- Other (please specify) (0.00%)

Question 11. Would you be interested in attending Community Emergency Response Team (CERT) trainings and/or becoming a CERT member, if available? See <https://www.mass.gov/info-details/community-emergency-response-team-cert-in-massachusetts> for more information (link opens in new window). (16 responses)

- Yes (50.00%)
- No (12.50%)
- Not sure (37.50%)

Question 12. Is your property located in or near a FEMA-designated flood zone/floodplain? (17 responses)

- Yes (11.76%)
- No (64.71%)
- Not sure (23.53%)

Question 13. Do you have flood insurance? (17 responses)

- Yes (0.00%)
- No (94.12%)
- Not sure (5.88%)

Question 14. Has your home and/or business been damaged by a natural hazard event? For example, by floodwaters entering your home, pipes freezing during extreme cold, or downed trees. (17 responses)

- Yes (29.41%):
 - downed trees on power lines (I removed others since then that could cause risk, and keep monitoring). Flooding of access shared drives by Gratuity Brook flooding.
 - Sump pump usually controls water level, but in the past (before my ownership), my basement was somewhat flooded.
 - Tree fell on deck and dishwasher drain froze this winter
 - We lost dozens and dozens of trees and damage to our roof and property due to a straight-line microburst in May 2021. Also an intense, deep-freeze after a very warm period in January 2023 completely eliminated our stone fruit crops for that year and reduced apple, pear, blueberry, and currant yields.

- Our property lost >100 trees in the Derecho (high straight-line winds and thunderstorm) that struck our house in May 2020. We had damage to our roof, some fences and gardens. And the intensive cleanup (including hiring a crane to lift out huge leaning trees) cost 1000s.
- No (70.59%)
- Not sure (0.00%)

Question 15. In the last five years, has your quality of life or ability to conduct your daily activities been negatively impacted by a natural hazard event? For example, extreme heat limiting your ability to go outside or decrease in water yield from your private drinking water well. (17 responses)

- Yes (41.18%)
 - Can't access the river from main st towards Ayer due to the bridge being blocked by debris. This also puts stress on the bridge itself and causes flooding in that area.
 - Extreme heat has limited outside activity. Becomes a problem especially if heat continues over many days.
 - Well has become contaminated with sodium. High heat has limited outdoor activities. Ultrafine particulate pollution from wildfires limiting outdoor activity.
 - Extreme heat forces increase in electricity usage- inability to go outside. Drought impacting water table/well (negatively impacting native plants in yard)
 - Reduced irrigation for our fruit and vegetable gardens due to drought.
 - Extreme summer droughts have made vegetable and fruit gardening more challenging (and for some varieties, impossible). The extreme warmth followed by the extreme cold in early 2023 wiped out virtually an entire year's worth of peach, pear and apple harvest from our gardens due to premature budding.
- No (47.06%)
- Not sure (11.76%)

Question 16. Do you have any additional comments related to hazard mitigation and natural hazards in the Town of Groton? (4 responses)

- Yeah no mention of PFAS, ConductorLab, Old Dump on Nod Road
- The Town needs to better control and prevent new homes from being built in flood-prone areas, including updating bylaws to prevent building in lands subject to flooding. Planning Board and Conservation Commission need to more scientifically address lands subject to flooding to prevent homes from being built in flood-prone areas.
- Historically, Native Americans made use of controlled burns in parts of the forest here before the colonists had ever arrived. This helped enrich the soils for their maize, bean and squash crops and reduced the threat of widespread wildfires. We should be investigating the use of the same thing today.
- My biggest fear is that one of the principal shelters the Town is relying upon for disaster events- the Groton Center- could itself be cutoff in a flooding event, making it unreachable for a large % of the Town's residents.

Question 17. Please indicate which Groton precinct you live in. You can view a precinct map here (this will open in a new window): https://portal.grotonma.gov/storage/Election_Information/Groton_2023.pdf. (16 responses)

- Precinct 1 (37.50%)
- Precinct 2 (31.25%)
- Precinct 3 (31.25%)
- I do not live in Groton (0.00%)

Question 18. How long have you lived in Groton? (17 responses)

- Less than 2 years (0.00%)
- 2-5 years (11.76%)
- 6-10 years (11.76%)
- More than 10 years (76.47%)
- I do not live in Groton (0.00%)

Question 19. How old are you? (17 responses)

- 18 years or younger (0.00%)
- 18-24 years (0.00%)
- 25-34 years (5.88%)
- 35-44 years (11.76%)
- 45-54 years (23.53%)
- 55-64 years (5.88%)
- 65 years and older (52.94%)

Question 20. What race/ethnicity do you identify with? Check all that apply. (17 responses)

- White (88.24%)
- Black or African American (0.00%)
- Asian or Asian American (0.00%)
- American Indian or Alaska Native (0.00%)
- Native Hawaiian or Other Pacific Islander (0.00%)
- Another Race (0.00%)
- Hispanic or Latino (11.76%)
- Prefer not to answer (11.76%)
- Prefer to self-identify (0.00%)

Question 21. Do you or any members of your household match the following descriptions? Check all that apply. (17 responses)

- 18 years or younger (41.78%)
- 65 years or older (41.78%)
- With a disability (5.88%)
- None of the above (11.76%)
- Prefer not to answer (0.00%)

Question 22. Do you or anyone in your household and/or business have any special access or functional needs that would require early warning or specialized response during a natural disaster? (16 responses)

- Yes (6.25%)
- No (87.50%)
- Not sure (6.25%)

APPENDIX C
Public Workshop Materials

HAZARD MITIGATION PLAN UPDATE



Public Workshop #1

Tuesday, March 24, 2026 at 6:00 PM

Groton Town Hall - First Floor Meeting Room
173 Main St., Groton, MA 01450

About the Groton Hazard Mitigation Plan Update

The Town of Groton is currently updating its 2020 Hazard Mitigation Plan (HMP). The HMP is important because it helps the Town plan for and pursue funding for projects and activities that can reduce the risk of injury or property damage from natural hazards, including flooding and extreme storms. Communities must update their HMPs every five years to remain eligible for certain non-emergency federal disaster assistance.

What's the Workshop About?

Learn more about hazard mitigation planning!

- **Presentation:** Review the HMP planning process and the Town's progression hazard mitigation since the 2020 HMP.
- **Q&A and Discussion:** Ask questions and tell us more about how you have experienced natural hazards.

How Else Can I Participate?

Please take the online HMP public survey! We want to understand how natural hazards have affected you and how the Town can help residents be more prepared. The survey takes approximately 10 minutes to complete. Access the survey at <https://www.surveymonkey.com/r/GrotonHMPSurvey> or scan the QR code on the right:



Groton Hazard Mitigation Plan Update

Public Workshop #1

Groton Town Hall - 1st Floor Meeting Room

173 Main St., Groton, MA 01450

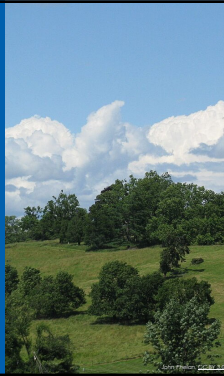
March 24, 2026 6:00 - 7:30 PM

<u>Name</u>	<u>Email Address</u>
Rachael Mead	rmead@grotonma.gov
Cathy Penning	cpenning@harsleywitten.com
Brian Callahan	Bcallahan@grotonma.gov
Paul Funch	pgfunch@verizon.net
Judy Anderson	judyandersongroton@me.com
Anna Eliot	
Michelle Collette	mcollette@grotonma.gov
Jon Patterson	GFLD
Takashi Tada	ttada@grotonma.gov
Charlotte Steeves	csteeves@grotonma.gov
Jim Grier	jimg-brothersnow@hotmail.com
Terence Gardner	TGardner@grotonMA.gov
V. O'Donnell	vodonnell@charter.net
Adam Burnett	adam.w.burnett@gmail.com
Kellie King	kking@harsleywitten.com



Hazard Mitigation Plan Update

Groton, MA
Public Workshop #1 – March 24, 2026, 6:00 PM
Town Hall – First Floor Meeting Room



Agenda

- What is Hazard Mitigation Planning?
- 2020 Plan Report Card
- Local Hazard Mitigation Committee
- Connection to Local & State Planning
- Developing the Hazard Mitigation Plan
- Community Survey



What is Hazard Mitigation Planning?

Hazard Mitigation: Any sustained action taken to reduce or eliminate the long-term risk to human life and property from hazards.

Natural Hazard: Any event or physical condition that has the potential to cause fatalities, injuries, property damage, infrastructure damage, and agricultural loss, damage to the environment, interruption of business, or other types of harm and/or loss.

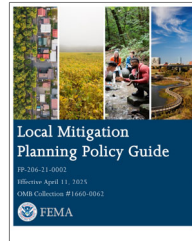
Mitigation planning helps communities plan for hazard risk and facilitates actions to reduce or eliminate long-term risk from hazards.



What is Hazard Mitigation Planning?

Hazard Mitigation Plans (HMPs)

- Established through the Disaster Mitigation Act of 2000
- Communities must have an approved HMP to qualify for certain disaster mitigation grants.
- Five-year update cycle.



2020 HMP Report Card

72 Actions

- Completed: 28
- Partially Completed: 27
- Incomplete: 16
- Status to be Confirmed: 1

*The Town has reviewed each partially completed and incomplete action and given initial thoughts on whether the action is still relevant and should be carried forward into the 2026 HMP Update. Some ongoing activities that the Town conducts may be better discussed as **capabilities** rather than carried forward as actions.*



2020 HMP Report Card - Highlights

WATER SUPPLY AND INFRASTRUCTURE

Build a resilient water treatment facility outside of the floodplain with green infrastructure stormwater controls. *Whitney Pond Wells Water Treatment Facility completed/operational in early 2024.*

SCHOOLS

Develop or coordinate emergency response plans with public and private schools. *Town develops/coordinates plans as an ongoing best practice.*

OPEN SPACE AND FORESTED LAND

Identify critical land around reserves and assess options for easements or land acquisition. *The Conservation Commission proactively looks for opportunities to acquire priority parcels and seeks CPA funds annually for acquisitions/easements.*



2020 HMP Report Card - Highlights

ELECTRIC GRID/ENERGY

Incentivize energy efficiency and explore peak demand pricing. GELD implemented time of use rates with peak pricing. The Town is also pursuing energy efficiency and conservation grant funding for the South and North Regional Middle School buildings and the Police Station.

Expand GELD's renewable energy portfolio. Purchase eight-megawatt storage batteries for power, two batteries have been installed so far, with a third battery acquisition/installation in progress.

Install electric charging stations and prepare regulations for electric vehicles. The Town has installed 4 electric charging stations (Lawrence Academy also has two publicly accessible charging stations).

ROADWAYS, BRIDGES, CULVERTS, & STORMWATER DRAINAGE

Continue to install beaver deceivers as needed to mitigate flooding caused by beaver dams. DPW has installed beaver deceivers and actively maintains them.



Local Hazard Mitigation Committee

- **Art Cheeks** – Fire Chief
- **Brian Callahan** – Dept. of Public Works Director
- **Charlotte Steeves** – Conservation Administrator
- **Frank Mastrangelo** – Lawrence Academy, Security Director
- **Jon Patterson** – Groton Electric Light Department, Manager
- **Mark Haddad** – Town Manager
- **Michael Luth** – Police Chief

- **Mike O'Donnell** – Groton School, Asst. Head of Residential Life
- **Rachael Mead** – Deputy Police Chief & Emergency Management Director (Project Manager)
- **Rob Maloney** – Water Dept., Interim Water Superintendent
- **Takashi Tada** – Land Use Dept. Director & Town Planner
- **Terry Gardner** – Deputy Fire Chief & Deputy Emergency Management Director
- **Veronica O'Donnell** – Sustainability Commission

Horsley Witten Group

- **Kellie King** – Environmental Planner (Project Manager)
- **Craig Pereira** – Sr. Environmental Planner, HMP Team Lead



Connection to Local & State Planning



Groton Master Plan (2025)



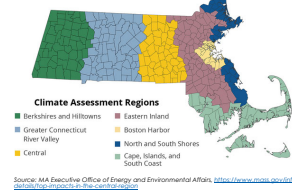
Groton is a town that...

- Promotes sustainable and strategic land use policies that balance growth and change with preserving Groton's charming New England village character along with the expansive rural and natural areas.
- Protects and conserves Groton's natural resources, historic, and cultural sites for future generations.
- Maintains and expands accessible open spaces and recreational facilities that promote community well-being and outdoor enjoyment.
- Improves transportation infrastructure and promotes alternative modes of transportation, enhancing connectivity within Groton.
- Facilitates the development of diverse, affordable housing options that meet the needs of all residents.
- Cultivates a business-friendly environment that attracts new enterprises, supports existing businesses, and increases economic opportunities.
- Works to continually enhance municipal services and facilities to better serve all residents and provides support for our public schools.
- Works to be more resilient to climate change through shared responsibility by government, residents, and businesses.



MA Climate Change Assessment (2022) & MA State Hazard Mitigation & Climate Change Adaptation Plan (2023)

- Reviews current science and assesses climate change impacts.
- Identifies highest urgency climate impacts by region and by sectors:
 - Human
 - Governance
 - Infrastructure
 - Natural Environment
 - Economy



MA Climate Change Assessment (2022) & MA State Hazard Mitigation & Climate Change Adaptation Plan (2023)

Human	Infrastructure	Natural Environment	Governance	Economy
Reduction in Food Safety and Security due to production and supply chain issues, as well as spoilage during power outages. Health and Cognitive Effects from Extreme Heat , including premature death and learning loss.	Damage to Electric Transmission and Utility Distribution Infrastructure associated with heat stress and extreme storms. Loss of Urban Tree Cover due to heat, drought, and increased pests.	Freshwater Ecosystem Degradation due to warming waters, drought, and increased runoff. Forest Health Degradation from warming temperatures, changing precipitation, extreme storms, and increasing pest occurrence.	Increase in Costs of Responding to Climate Migration , including planning for abrupt increases in local populations. Increase in Demand for State and Municipal Government Services , including emergency response, food assistance, and state-sponsored health care.	Reduced Ability to Work , particularly for outdoor workers during extreme heat, as well as commute delays due to damaged road infrastructure. Decrease in Agricultural Productivity as crop yields are impacted by precipitation patterns, extreme weather, pests, and other climate factors.

Source: MA Executive Office of Energy and Environmental Affairs, MA Climate Change Assessment, Volume II – Regional Report (2022)



Developing the HMP



1. Assess Risks
2. Establish Goals
3. Identify Mitigation Actions
4. Confirm Procedures to Update & Maintain Plan



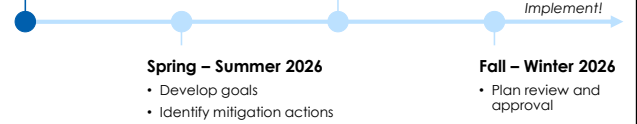
Project Schedule

Dec 2025 – Spring 2026

- Kickoff
- Assess hazard risks and vulnerabilities
- Public meeting and survey

Summer – Fall 2026

- Public meeting
- Confirm mitigation actions
- Confirm plan update and maintenance procedures



Spring – Summer 2026

- Develop goals
- Identify mitigation actions

Fall – Winter 2026

- Plan review and approval



Assess Risks: Natural Hazards Affecting Groton

Flood Related

- Riverine & Flash Flooding
- Heavy Rain & Stormwater (Inland/Urban) Flooding
- Dam Failure
- Beaver Activity



Wind Related

- High Winds
- Hurricanes & Tropical Storms
- Thunderstorms, Microbursts & Lightning
- Tornadoes
- Hail



Winter Related

- Blizzards, Heavy Snow, Winter Weather & Nor'easters
- Ice Storms
- Extreme Cold



Assess Risks: Natural Hazards Affecting Groton

Geologic Related

- Earthquakes
- Landslides



All Other Hazards

- Brush Fire & Wildfire
- Extreme Heat
- Drought
- Changes in Groundwater
- Invasive Species



Climate Change

How does climate change affect the frequency, severity, and extent of natural hazards?



Assess Risks: Determine Relative Risk & Impacts

Natural Hazard	Frequency				Severity				Hazard Index
Riverine & Flash Flooding	✓	✓	✓	✓	✓	✓			Higher Concern
Heavy Rain & Stormwater (Inland/Urban) Flooding	✓	✓	✓	✓	✓	✓			Higher Concern
Dam Failure	✓				✓	✓	✓	✓	Medium Concern
Beaver Activity	✓	✓	✓	✓	✓	✓	✓	✓	Higher Concern
High Winds	✓	✓	✓	✓	✓	✓	✓	✓	Higher Concern
Hurricanes & Tropical Storms	✓	✓	✓	✓	✓	✓	✓	✓	Higher Concern
Thunderstorms, Microbursts & Lightning	✓	✓	✓	✓	✓	✓	✓	✓	Higher Concern
Tornadoes	✓				✓	✓	✓	✓	Lower Concern
Hail	✓	✓	✓	✓	✓				Medium Concern



Assess Risks: Determine Relative Risk & Impacts

Natural Hazard	Frequency				Severity				Hazard Index
Blizzards, Heavy Snow, Winter Weather & Nor'easters	✓	✓	✓	✓	✓	✓			Higher Concern
Ice Storms	✓	✓	✓	✓	✓	✓			Medium Concern
Extreme Cold	✓	✓	✓	✓	✓				Medium Concern
Earthquakes	✓				✓				Lower Concern
Landslides	✓				✓				Lower Concern
Brush Fire & Wildfire	✓	✓	✓	✓	✓	✓			Higher Concern
Extreme Heat	✓	✓	✓	✓	✓				Medium Concern
Drought	✓	✓	✓	✓	✓	✓	✓		Higher Concern
Changes in Groundwater	✓	✓	✓	✓	✓				Medium Concern
Invasive Species	✓	✓	✓	✓	✓	✓	✓		Higher Concern



Assess Risks: *Identify Vulnerabilities of Assets*

Social Assets

- Vulnerable Populations
- Cultural Locations

Natural Resources

- Wetlands
- Conservation/Recreation Sites

Economic Assets

- Businesses/Large Employers
- Historic assets

Essential Buildings & Critical Facilities

- Municipal Buildings
- Hazardous Facilities
- Roadways/Bridges



Developing the HMP: Future Steps



1. Assess Risks
2. Establish Goals
3. Identify Mitigation Actions
4. Confirm Procedures to Update & Maintain Plan



Establish Goals: *Revisit 2020 HMP Goals & Update As Appropriate*

To protect public health, property, infrastructure, the environment, and cultural resources through a hazard mitigation and climate adaptation program that involves increased coordination, planning, education, and capital improvements.

Topic-specific goals on:

- Shelters
- Coordination
- Education
- Notification
- Infrastructure
- Vulnerable Populations
- Natural Environment
- Development
- Finance



Identify Mitigation Actions

Developed based on:

- Review of existing plans, studies, and reports
- The Town's identified risks and vulnerabilities
- Public input
- Municipal coordination

Mitigation actions will include:

- Brief description of the intended action
- Responsible entity/entities for implementation
- Proposed time frame for completion
- Potential funding mechanism



Identify Mitigation Actions

Prioritizing actions based on FEMA's STAPLEE Method:

S ocial	• Is the action socially acceptable?
T echnical	• Is the action technically feasible and provide an appropriate level of protection?
A dministrative	• Does the Town have the capacity to complete the action?
P olitical	• Will the community support or oppose the action?
L egal	• Does the Town have the legal authority to complete the action?
E conomic	• Is the action cost-effective?
E nvironmental	• How will the action affect the natural environment?



Setting the Stage: *Implementing, Updating and Maintaining the Plan*

Developing the HMP includes:

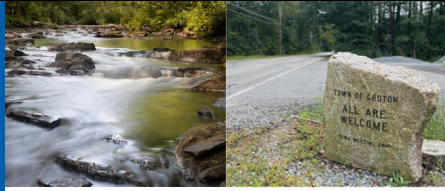
- Assessing the Town's existing capabilities
- Confirming and/or establishing procedures for periodic review of the HMP and updates as appropriate

The HMP should be:

- Updated after a natural disaster and/or every five years
- Incorporated into other municipal documents



Public Input



Community Survey

Tell us more about how natural hazards have affected you and what your hazard mitigation concerns and priorities are!

Access via link or QR code:

<https://www.surveymonkey.com/r/GrotonHMPSurvey>



Thank You!

Rachael Mead
Town of Groton
Deputy Chief, Police Department
rmead@grotonma.gov

Kellie King
Horsley Witten Group, Inc.
Project Manager / Environmental Planner
kking@horsleywitten.com

Community survey: <https://www.surveymonkey.com/r/GrotonHMPSurvey>
Project website: <https://www.grotonma.gov/hazard-mitigation-plan/>



APPENDIX D

Critical Facilities, Vulnerable Populations, and Hazard Profile Maps

Table A-1. Critical Facilities

ID #	Facility Name	Facility Type
11	Squannacook River Dam	Dam
12	Hollingsworth & Vose Company Dam	Dam
13	Lost Lake Dam	Dam
14	Woods Mill Pond Dam	Dam
39	CVS	Grocery, Pharmacy, and Supply Store
63	Shaw's	Grocery, Pharmacy, and Supply Store
40	Conductor Labs Kytron Circuits	Hazardous Material and/or 21E Site
41	Peterborough Oil Company	Hazardous Material and/or 21E Site
42	Joy Ave Fmr	Hazardous Material and/or 21E Site
43	Former Shooting Range	Hazardous Material and/or 21E Site
44	Groton Dunstable Regional High School (Athletic Track)	Hazardous Material and/or 21E Site
64	Hollingsworth & Vose Company	Hazardous Material and/or 21E Site
65	Grotonwood Baptist Camp and Conference Center	Hazardous Material and/or 21E Site
45	UMass Memorial Medical Center at Nashoba Valley (future location)	Medical Facility
46	Groton Transfer Station	Municipal Facility
47	Groton Highway Department	Municipal Facility
48	Groton Electric Light Department	Municipal Facility
49	Groton Country Club	Municipal Facility
50	Groton Public Library	Municipal Facility
51	Groton Town Hall	Municipal Facility
65	Groton Center	Municipal Facility
52	Groton Public Safety Building Primary	Public Safety Facility (Primary Emergency Operations Center)
53	Groton Center Fire Station	Public Safety Facility (Secondary Emergency Operations Center)
54	Groton Fire Station 2	Public Safety Facility
55	Lost Lake Fire Station	Public Safety Facility
65	Groton Center	Public Safety Facility (Secondary Emergency Shelter)
67	Groton Dunstable Regional High School	Public Safety Facility (Mass Care Facility)
68	Groton Dunstable Regional Middle School	Public Safety Facility (Primary Emergency Shelter and Emergency Dispensing Site)
70	Stone Athletic Center	Public Safety Facility (Mass Care Facility)
56	Route 225 at Nashua River Bridge	Transportation Infrastructure
57	Partridgeberry Woods Sewer Pump Station	Wastewater Infrastructure
58	Nod Road Sewer Pump Station	Wastewater Infrastructure
64	Hollingsworth & Vose Company (wastewater treatment plant)	Wastewater Infrastructure
59	Nod Road Landfill (Groton Dump)	Landfill
60	Groton Landfill	Landfill
61	Hollingsworth & Vose Landfill	Landfill

Source: Groton LPMC

Table A-2. Vulnerable Populations

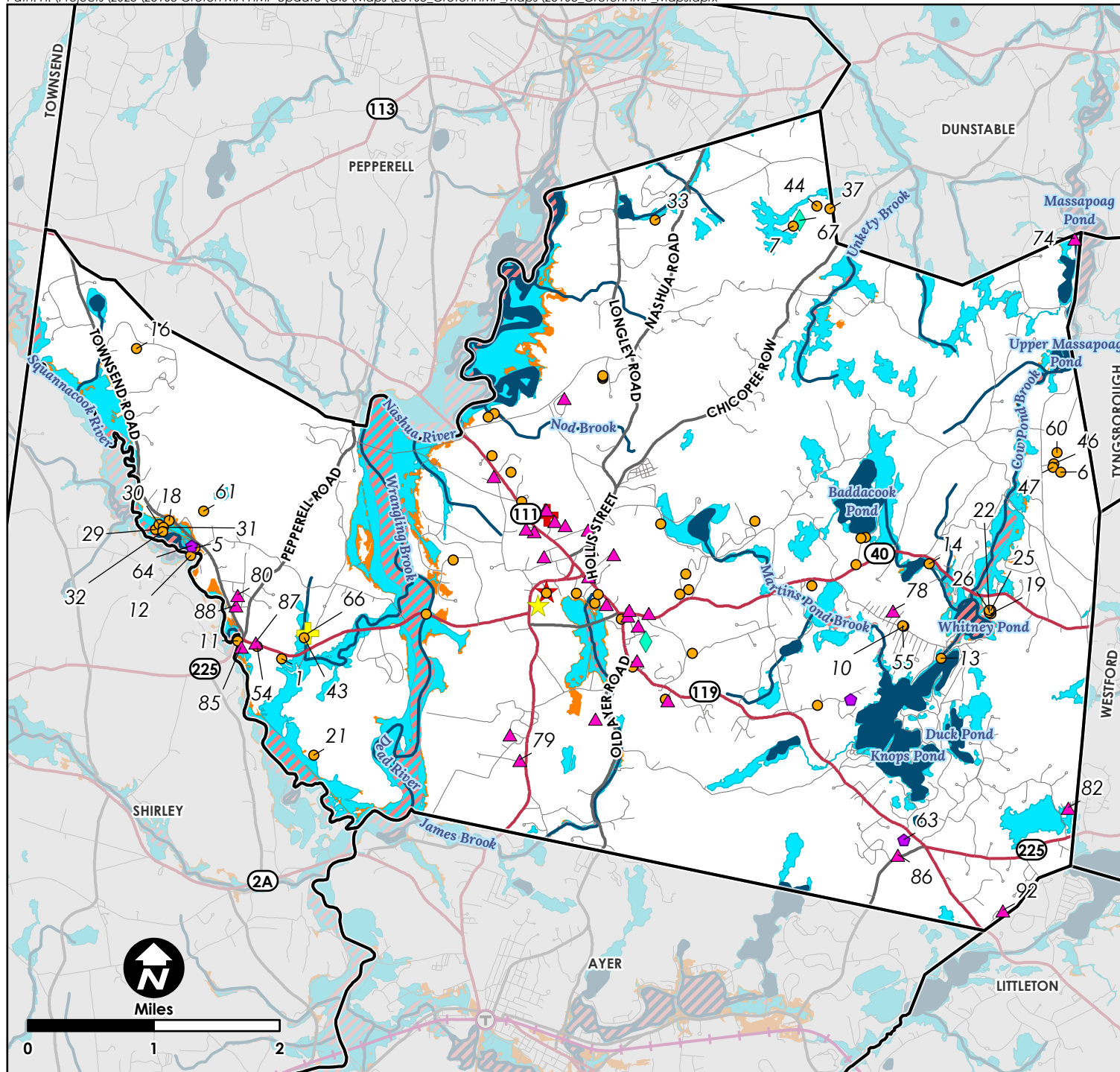
ID #	Facility Name	Facility Address / Location
39	CVS	Grocery, Pharmacy, and Supply Store
63	Shaw's	Grocery, Pharmacy, and Supply Store
65	Grotonwood Baptist Camp and Conference Center	Camp
74	YMCA Camp Massapoag	Camp
65	Groton Center	Municipal Facility
67	Groton Dunstable Regional High School	School
68	Groton Dunstable Regional Middle School	School
69	Florence Roche School	School
94	Groton Dunstable Regional School District Central Office	School
95	Peter Twomey Youth Center	School
96	Groton Community School	School
97	Boutwell School	School
98	Groton School	School
99	Lawrence Academy	School
100	Lawrence Academy South	School
71	Prescott Community Center	Arts and Cultural Site
72	Groton Dunstable Performing Arts Center	Arts and Cultural Site
73	Groton Hill Music Center	Arts and Cultural Site
75	Seven Hills Pediatric Center Long-Term Care	Congregate Care Facility
76	Seven Hills Group Home	Congregate Care Facility
85	RiverCourt Residences	Congregate Care Facility
81	Winthrop Place	Housing Facility
82	Brookfield Commons	Housing Facility
83	Groton Commons	Housing Facility
84	Petapawag Place	Housing Facility
85	RiverCourt Residences	Housing Facility
86	Sandy Pond Apartments	Housing Facility
87	Christrian Union Church	Place of Worship
88	St. James Church	Place of Worship
89	First Parish Church of Groton	Place of Worship
90	First Baptist Church of Groton	Place of Worship
91	Union Congregational Church	Place of Worship
92	New England Shirdi Sai Temple	Place of Worship
93	Shepherd of the Valley Lutheran Church	Place of Worship
63	Shaw's	Major Employer
67	Groton Dunstable Regional High School	Major Employer
75	Seven Hills Pediatric Center Long-Term Care	Major Employer
99	Lawrence Academy	Major Employer
100	Lawrence Academy South	Major Employer
101	Barn at Gibbet Hill	Major Employer

Source: Groton LHMC

Date: 8/23/2026

Data Sources: Bureau of Geographic Information (MassGIS), ESRI

This map is for informational purposes and may not be suitable for legal, engineering, or surveying purposes.



Surface Water

- Rivers and Streams
- Lakes and Ponds

Transportation

- Interstate
- Highway
- State route
- Major Road
- Local Road
- Ⓣ MBTA Commuter Rail Station
- MBTA Commuter Rail Line

FEMA Flood Hazard Areas

- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- 0.2% Annual Chance Flood Hazard

Critical Facilities & Vulnerable Populations Inventory

- ★ Primary Emergency Operations Center
- ★ Secondary Emergency Operations Center
- ✚ Primary Emergency Shelter & Emergency Dispensing Site
- ✚ Secondary Emergency Shelter
- ◆ Mass Care Facility
- Critical Facility
- ▲ Vulnerable Population
- ◆ Critical Facility & Vulnerable Population

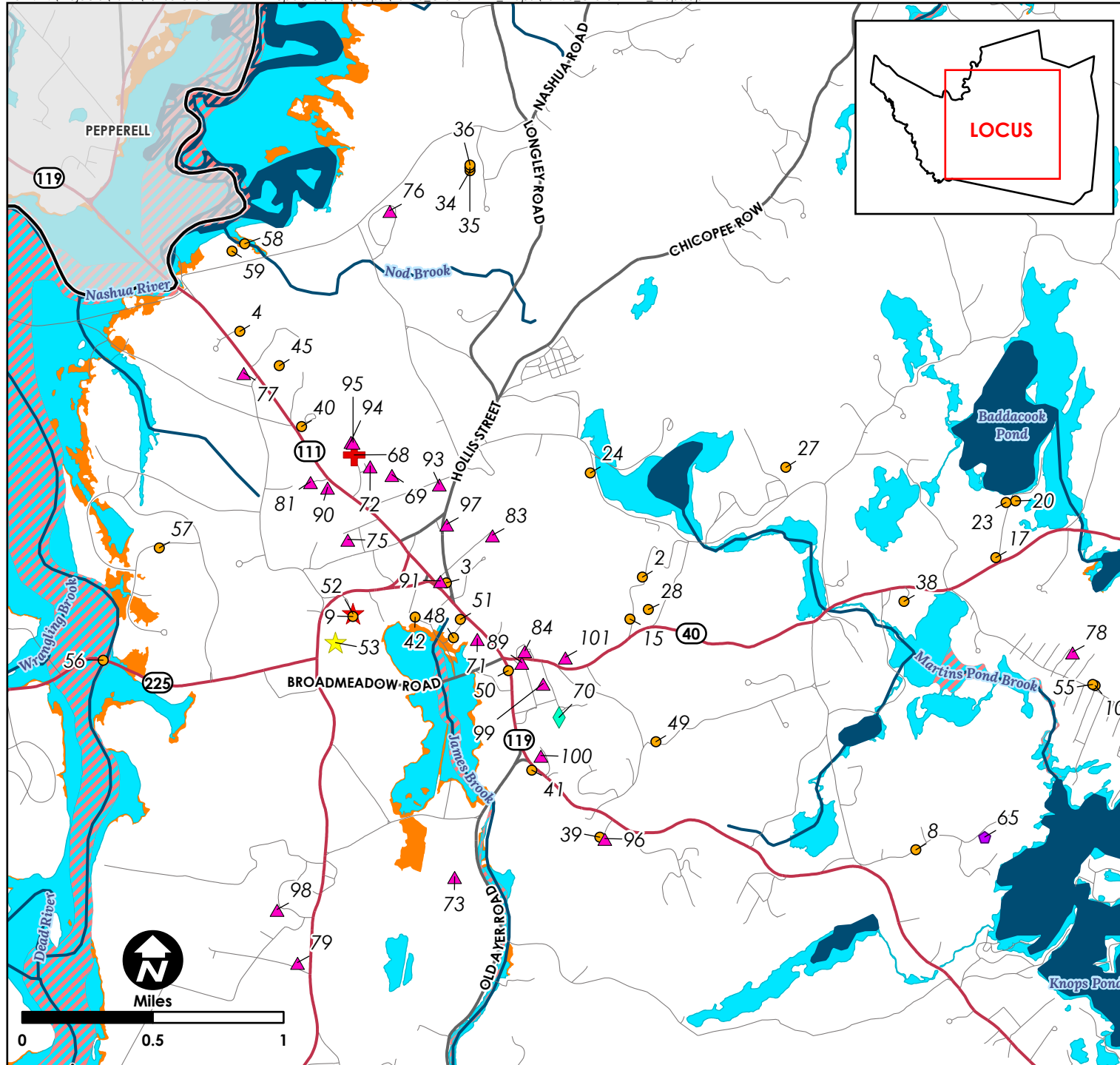
Map 1A

Flood Risks (FEMA Flood Hazard Areas)
(Groton)

Date: 8/23/2026

Data Sources: Bureau of Geographic Information (MassGIS), ESRI, Town of Groton Local Hazard Mitigation Committee

This map is for informational purposes and may not be suitable for legal, engineering, or surveying purposes.



Surface Water

- Rivers and Streams
- Lakes and Ponds

Transportation

- State route
- Major Road
- Local Road

FEMA Flood Hazard Areas

- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- 0.2% Annual Chance Flood Hazard

Critical Facilities & Vulnerable Populations Inventory

- Primary Emergency Operations Center
- Secondary Emergency Operations Center
- Primary Emergency Shelter & Emergency Dispensing Site
- Mass Care Facility
- Critical Facility
- Vulnerable Population
- Critical Facility & Vulnerable Population

Map 1B

Flood Risks (FEMA Flood Hazard Areas) (Groton Center Area)

Date: 4/9/2026

Data Sources: Bureau of Geographic Information (MassGIS), ESRI, NOAA National Centers for Environmental Information

This map is for informational purposes and may not be suitable for legal, engineering, or surveying purposes.

Surface Water

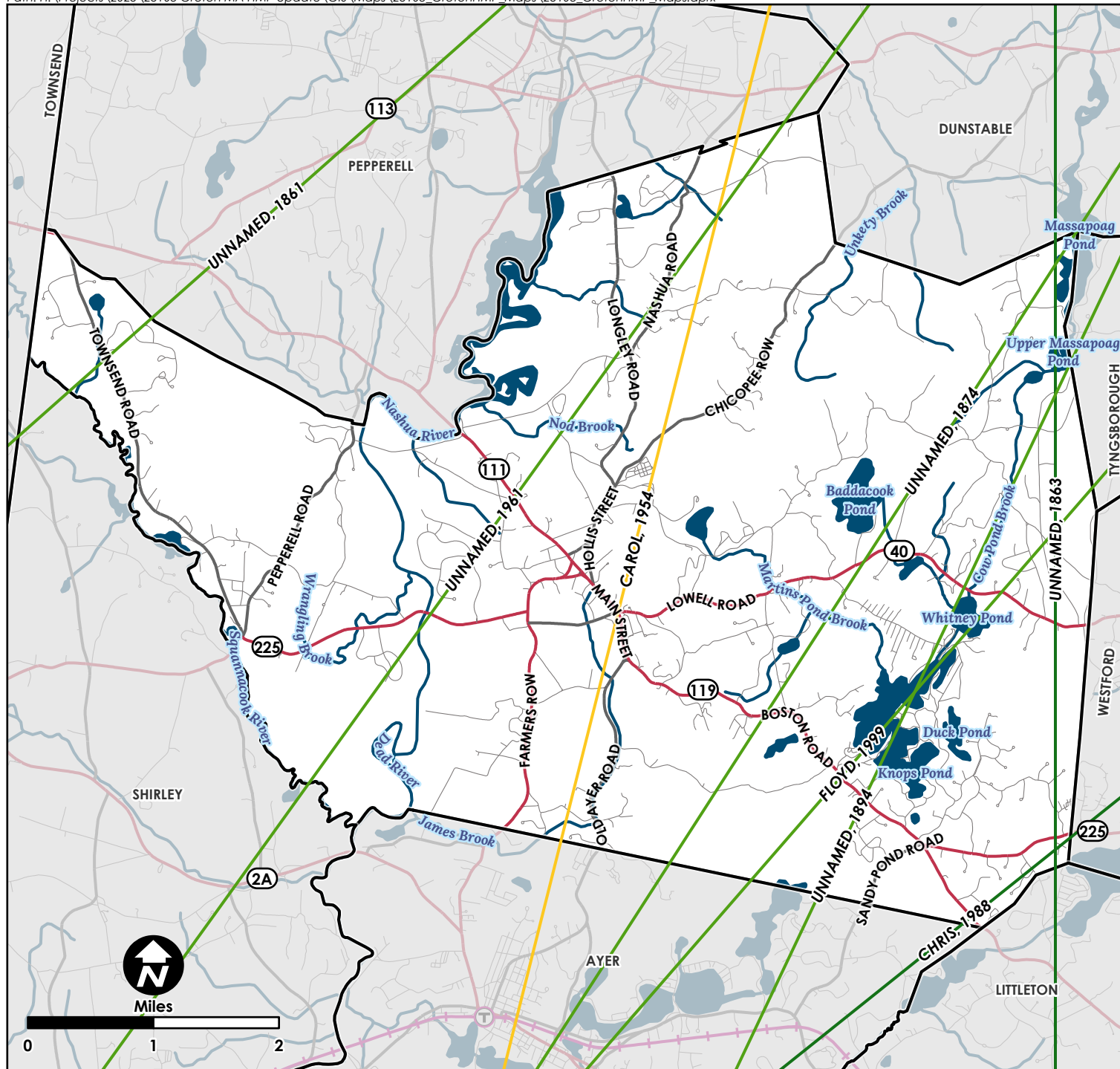
- Rivers and Streams
- Lakes and Ponds

Transportation

- State route
- Major Road
- Local Road
- Ⓣ MBTA Commuter Rail Station
- + MBTA Commuter Rail Line

Hurricane Tracks (1824-2024)

- Tropical Depression
- Tropical Storm
- Category 3



Map 2
Hurricane Incidence

Date: 4/9/2026

Data Sources: Bureau of Geographic Information (MassGIS), ESRI, NOAA Storm Prediction Center

This map is for informational purposes and may not be suitable for legal, engineering, or surveying purposes.

Surface Water

- Rivers and Streams
- Lakes and Ponds

Transportation

- State route
- Major Road
- Local Road
- Ⓣ MBTA Commuter Rail Station
- + MBTA Commuter Rail Line

Historical Tornadoes (1950-2024)*

Origin Point

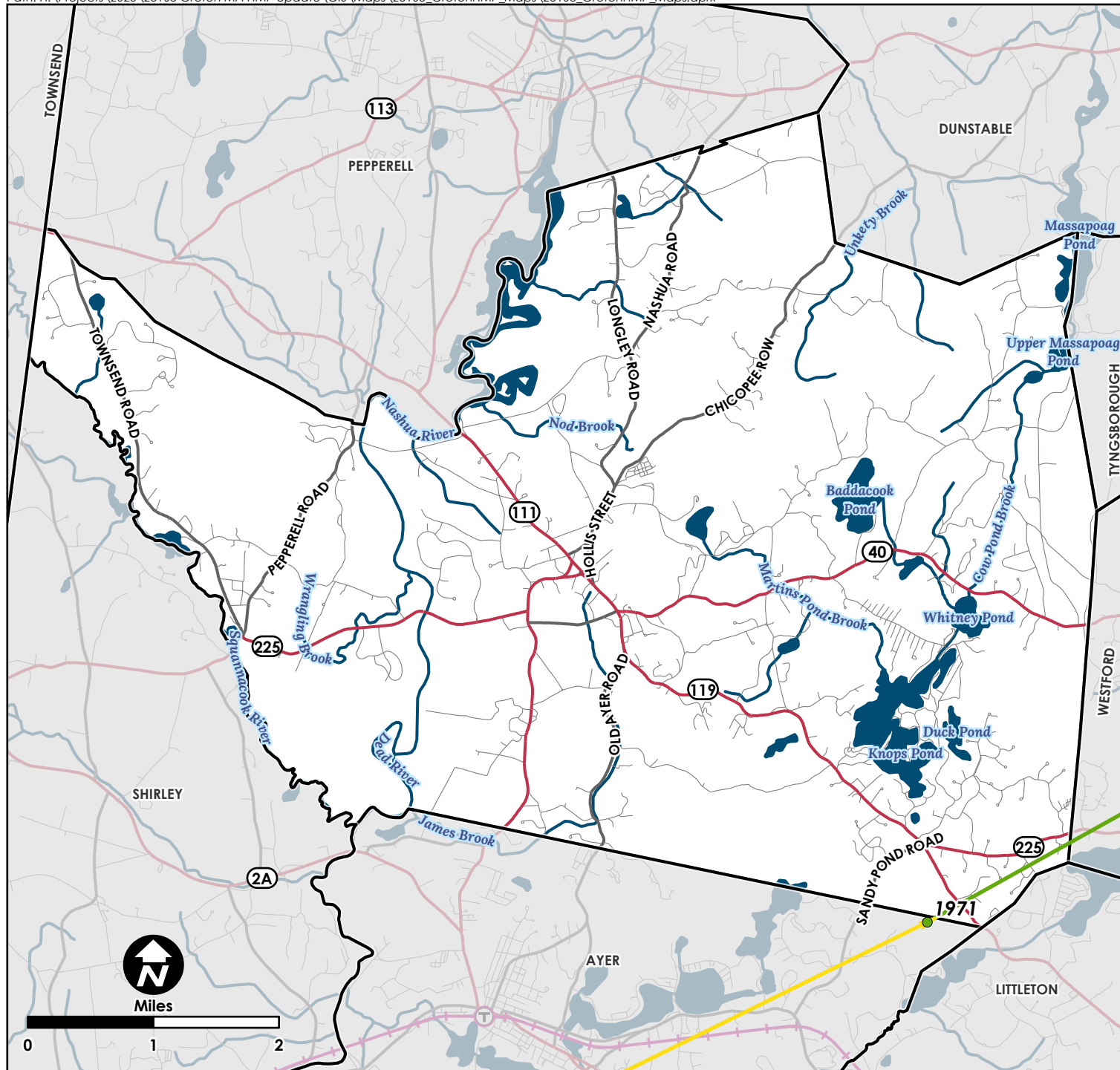
- F/EF 1

Path

- F/EF 1
- F/EF 3

*Tornado magnitudes are based on the Fujita Scale (F) for events occurring before January 2007. The Enhanced Fujita Scale (EF) is the current rating scale, implemented in January 2007.

Map 3 Tornado Incidence





Date: 4/9/2026

Data Sources: Bureau of Geographic Information (MassGIS), ESRI, U.S. Geological Survey

This map is for informational purposes and may not be suitable for legal, engineering, or surveying purposes.

Surface Water

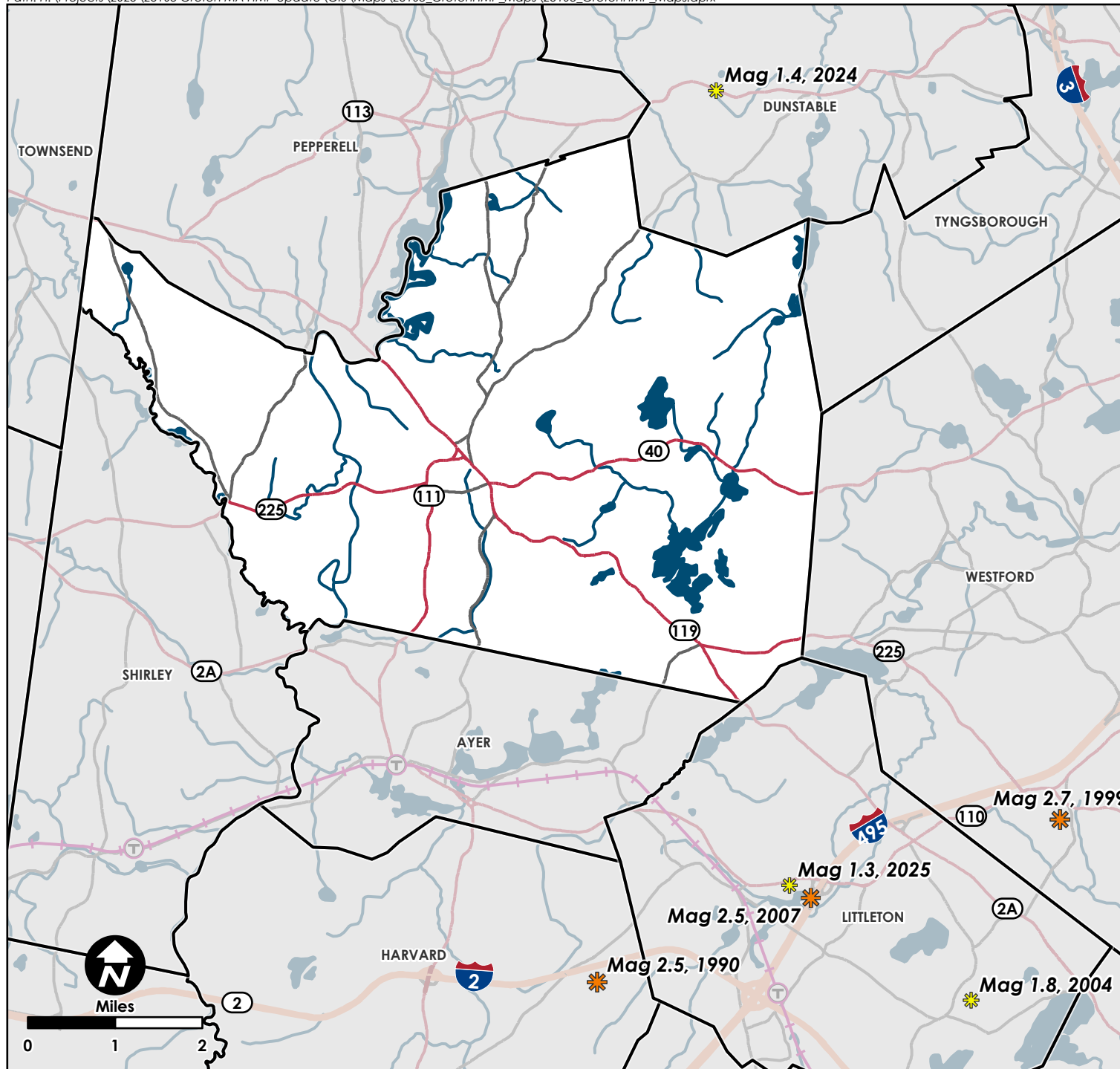
- Rivers and Streams
- Lakes and Ponds

Transportation

- Interstate
- Highway
- State route
- Major Road
- ⊙ MBTA Commuter Rail Station
- MBTA Commuter Rail Line

Historical Earthquakes (USGS)

- ✱ Micro (Magnitude 1.0-1.9)
- ✱ Minor (Magnitude 2.0-2.9)



Map 4
Earthquake Incidence

Date: 4/9/2026

Data Sources: Bureau of Geographic Information (MassGIS), ESRI, U.S. Forest Service

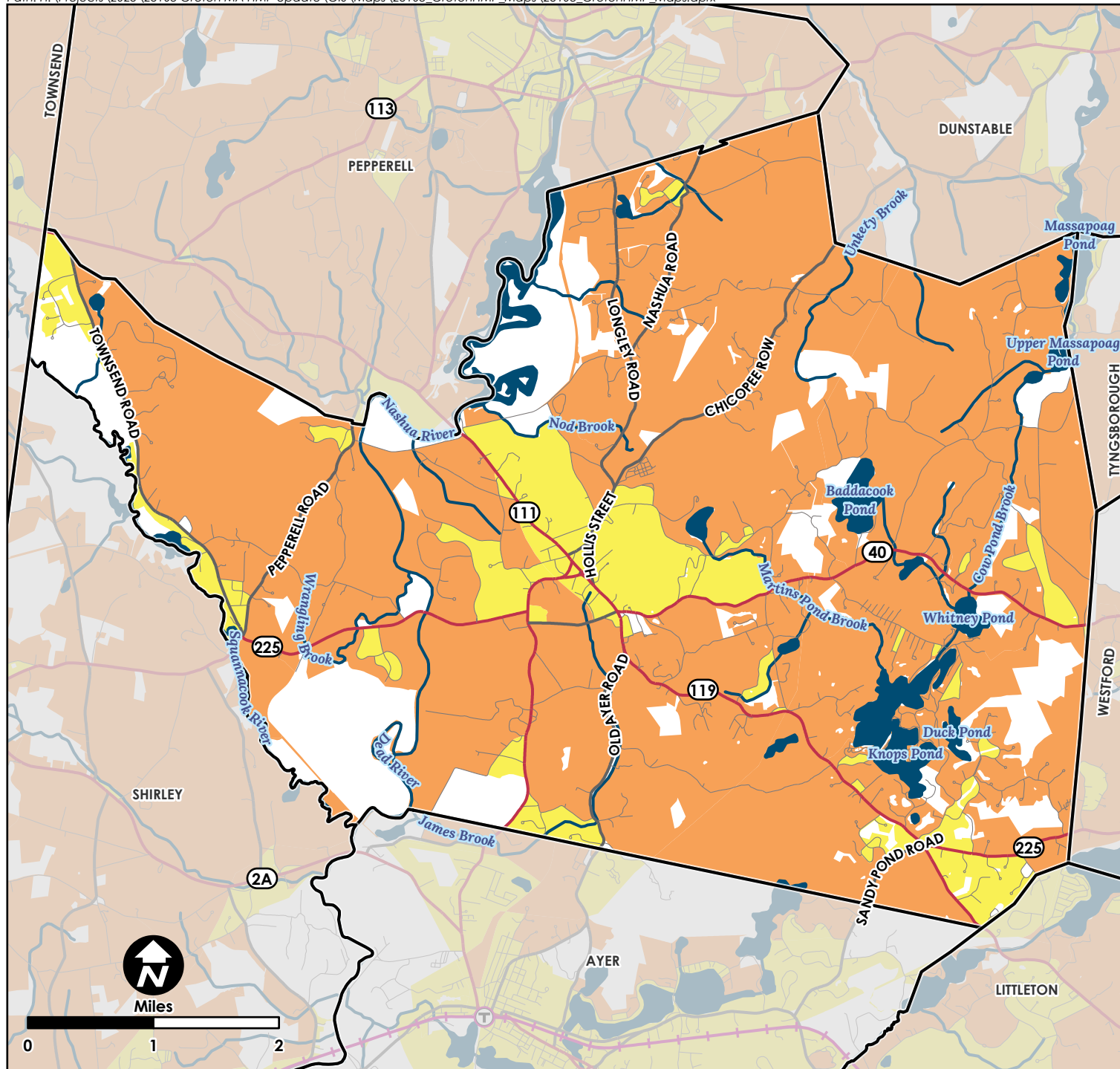
This map is for informational purposes and may not be suitable for legal, engineering, or surveying purposes.

Surface Water

-  Rivers and Streams
-  Lakes and Ponds
-  State route
-  Major Road
-  Local Road
-  MBTA Commuter Rail Station
-  MBTA Commuter Rail Line

Wildland Urban Interface (WUI)

-  Interface
-  Intermix



Map 5
Wildland Urban Interface

Date: 4/9/2026

Data Sources: Bureau of Geographic Information (MassGIS), ESRI, Town of Groton Local Hazard Mitigation Committee

This map is for informational purposes and may not be suitable for legal, engineering, or surveying purposes.

Surface Water

-  Rivers and Streams
-  Lakes and Ponds

Transportation

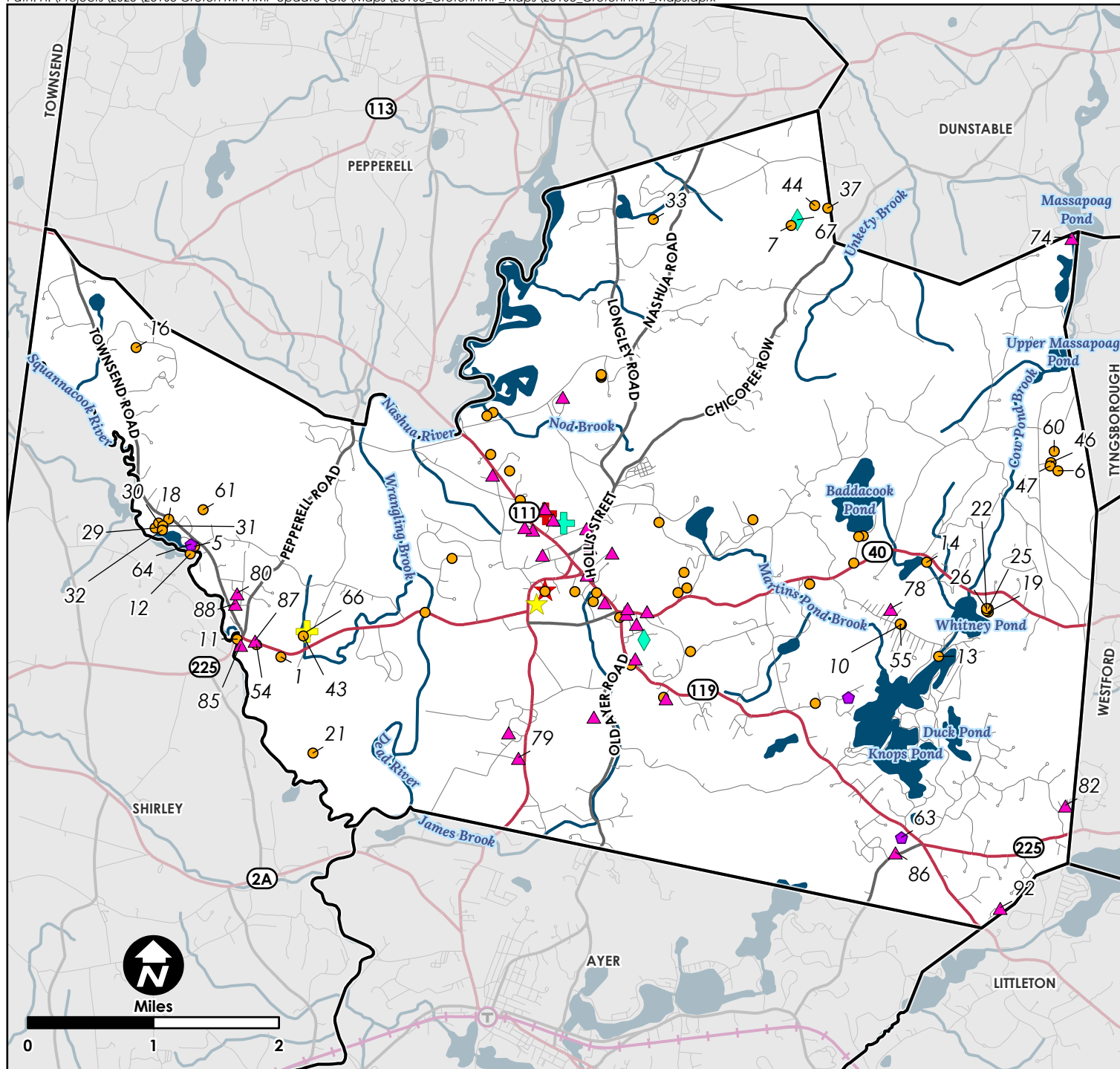
-  State route
-  Major Road
-  Local Road
-  MBTA Commuter Rail Station
-  MBTA Commuter Rail Line

Critical Facilities & Vulnerable Populations Inventory

-  Primary Emergency Operations Center
-  Secondary Emergency Operations Center
-  Primary Emergency Shelter & Emergency Dispensing Site
-  Secondary Emergency Shelter
-  Tertiary Emergency Shelter
-  Mass Care Facility
-  Critical Facility
-  Vulnerable Population
-  Critical Facility & Vulnerable Population

Map 6A

Critical Facilities & Vulnerable Populations Inventory (Groton)



APPENDIX E

High Hazard Potential Dams

**Lost Lake Dam Emergency Action Plan
Downstream Residents Requiring Emergency Notification**

A. Likely affected Properties

<u>Property ID No.</u>	<u>Address</u>
129-40	4 Valley Road
129-39	8 Valley Road
129-38	Valley Road
128-8	49 Valley Road
128-12	50 Valley Road
128-10	60 Valley Road

B. Potential affected Properties

<u>Property ID No.</u>	<u>Address</u>
129-44	315 Lost Lake Drive
129-32	9 Valley Road
129-33	13 Valley Road
129-34	21 Valley Road
129-29	36 Georgia Road
129-27	Off Tamarack Road
128-14	End Valley Road
128-13	Tamarack Road
129-53	23 Whitney Pond Road
129-54	25 Whitney Pond Road
129-56	27 Whitney Pond Road
129-58	35 Whitney Pond Road
250-97	41 Whitney Pond Road
250-96	864 Lowell Road
128-3	836 Lowell Road
128-2	841 Lowell Road
128-1	819 Lowell Road

**EMERGENCY ACTION PLAN
LOST LAKE DAM
GROTON, MASSACHUSETTS**

2.0 Statement of Purpose

This plan defines responsibilities and provides procedures to identify conditions which may endanger the Lost Lake Dam in order to take mitigative action and to notify the appropriate emergency management officials and potentially affected parties of possible, impending, or actual failure of the dam. The plan is also intended to provide notification when flood releases will create major flooding.

3.0 Description of Dam and Appurtenances

Official Name: Lost Lake Dam

State Dam ID#: 4-9-115-4

NID ID#: MA 00808

Location: 500 feet southwest of Lost Lake Drive; about 100' northwest of Baby Beach Road

Access: Footpath from Baby Beach Road; no vehicular access

Owner/Operator: Town of Groton/Tom Delaney, DPW Director

The Lost Lake Dam is an earthen structure with a concrete wall on its upstream face located about 500 feet southwest of Lost Lake Drive at 42°36'02" north latitude and 71°31'06" west longitude as indicated on Figure 1 – Locus Map. The crest of the dam is approximately 10.5' above the streambed at the toe of the dam, and it is about 100' long. The downstream face of the dam is protected from erosion by a rip rap slope paving. A 3' wide concrete operating spillway is located southwest of the centerline of the dam. The pool level of Lost Lake is controlled by stoplogs placed on the upstream face of the concrete spillway. The dam is classified as a "large" sized dam as defined by Massachusetts Dam Safety Regulations, 302 CMR 10.00, and it is classified as a "high hazard" (Class I) structure.

4.0 Downstream Flood Path and Flow Capacities

4.1 Downstream Flood Path

Lost Lake discharges over the Lost Lake dam to an unnamed stream that passes through a 5' diameter corrugated metal culvert under Lost Lake Drive and then enters Whitney Pond about 1,000' to the northeast. Whitney Pond is a 35-acre pond that in turn discharges to Cow Pond Brook about 250' south of Lowell Road. Cow Pond Brook passes through a stone or concrete box culvert under Lowell Road with an upstream opening of about 2' x 8'. North of Lowell Road, Cow Pond Brook passes through an extensive wetland area before it enters an elliptical arch corrugated metal culver under Hoyt's Wharf Road about 0.8 miles to the northeast. The stream continues to flow northward about 1.2 miles through largely

**EMERGENCY ACTION PLAN
LOST LAKE DAM
GROTON, MASSACHUSETTS**

undeveloped land where it joins an unnamed stream and bends eastward, passing through a railroad culvert and discharging to a small impoundment spanning the Groton/Tyngsborough town line just south of Massapoag Pond.

In the 2.5 miles of watercourses and waterbodies immediately downstream from the Lost Lake Dam, there are about 15 dwellings that might be threatened by flooding that would result from a failure of the dam or a large operational release. Several of these dwellings are located on waterfront properties on Whitney Pond; only two dwellings considered to be threatened by inundation are located north of Lowell Road. Three dwellings on the east side of Valley Road have been built within 50 feet of the unnamed stream receiving flow from the dam. These properties are the most likely to be damaged by flooding resulting from a dambreak or massive release, and, because of the very short time of travel from the dam, the time available to warn and evacuate the occupants of these dwellings would be very short.

Because the downstream flood path includes a significant natural pond, large areas of low-lying wetlands adjacent to Cow Pond Brook and flood-condition impoundments created by roadway culverts, the flood wave resulting from a dambreak or large operational release would be dampened considerably as it traveled downstream. These flood mitigating characteristics of the flood path would be effective during both a "fair weather" breach or and "inflow design flood" (IDF) breach. The topography of the land adjacent to the downstream watercourses is also beneficial in that the land bordering the low-lying wetlands generally rises abruptly, and development has occurred predominantly on the higher ground.

4.2 Downstream Flood Potential

The flood potential for the downstream flood path will be similar for both the "fair weather" and IDF breach conditions because of the previously mentioned characteristics of the of the flood path and the surrounding land. A significant difference, however, would be the depth of inundation in the areas of Whitney Pond and the impoundments created by roadways crossing Cow Pond Brook. In either case, the dwellings identified herein as being subject to this inundation are likely to be impacted. For purposes of this plan, the 500-year flood as reported in the Flood Insurance Study prepared for the Town of Groton by the Federal Emergency Management Agency in January 1982 was utilized to represent the areas of inundation in the downstream flood path.

A breach of the Lost Lake Dam would likely fill the impoundment between Lost Lake Drive and the downstream face of the dam to some degree without overtopping Lost Lake Drive. The available headwater depth (14') at the inlet to the 5-foot diameter roadway culvert provides the culvert with a capacity that would in excess of the dam's reported spillway capacity. A sudden catastrophic type failure of the dam, however, might fill the impoundment to the point of overtopping Lost Lake Drive. With or without the overtopping of Lost Lake Drive, the flow in the unnamed stream between Lost Lake Drive and the shoreline of Whitney Pond would cause the stream to overtop its banks and threaten the dwellings on the east side of Valley Road (nos. 4, 8 and 12). The dwellings on the west side

**EMERGENCY ACTION PLAN
LOST LAKE DAM
GROTON, MASSACHUSETTS**

of Valley Road (Nos. 9, 13 and 21) sit on somewhat higher ground and would not appear to be subject to inundation as a result of the overbank flow of the stream.

As the Lost Lake water continues to flow through the breached dam and into Whitney Pond, the level of the pond will rise. The FEMA flood study indicates that the 500-year flood level of the pond would be at about elevation 201.7' – about 6.5' above its normal pool elevation. This stage of the pond would inundate dwellings at 50 and 60 Valley Road and possibly the dwelling at 23 Whitney Pond Road and 836 Lowell Road. Portions of other properties would also be inundated; however, available mapping and visual observations indicate that the dwellings on these properties may be at elevations above the flood level.

North of Lowell Road the elevation of the pool created by Hoyts Wharf Road would be about 198.7'. Portions of the properties at 819 and 841 Lowell Road would be inundated by this flooding; however, the dwellings on these properties appear to be above the flood level. Below this point along Cow Pond Brook, there are no dwellings within the area of inundation. About 1,100 feet west of the Groton corporate boundary the brook passes through a culvert under an abandoned railroad bed. At a point about 500 west of the corporate boundary, it enters a small man-made impoundment referred to as Upper Massapoag Pond. The dam for this impoundment lies in Tyngsborough, and it is not anticipated that a breach of the Lost Lake Dam will impact this impoundment to the extent that special operational measures will be necessary; nonetheless, the owner of this dam is listed on the Notification Flowchart as a necessary contact upon the detection of a dam breach or the implementation of a large operational release.

5.0 Emergency Detection, Evaluation, and Classification

5.1 Emergency Detection

Dam conditions that may be regarded as, or develop into, emergency conditions may be detected by the owner/operator of the dam, public safety officials of the Town of Groton, owners or occupants of properties near the dam, or members of the general public. In any case, the observation of unusual conditions at the dam should effect the immediate implementation of the Notification Flowchart of this Emergency Action Plan. It is understood that members of the general public will not normally be aware of the Notification Flowchart, but it is expected that an observer of obviously abnormal conditions at the dam would contact a local public safety official (most likely the Groton Police Department) who would then initiate or continue the notification process.

It is the responsibility of the dam operator or his designated representative to periodically visit the dam to inspect it for the presence of unusual conditions or the need for routine maintenance. These inspections should include observation of the downstream slope of the dam for points of excessive seepage, observation of the concrete wall at the upstream face for evidence of cracking or deterioration, observation of the spillway for obstructions that would impede the normal flow of water, observation of the spillway and its stoplogs for evidence of deterioration. Other conditions that should be noted during periodic inspections by the

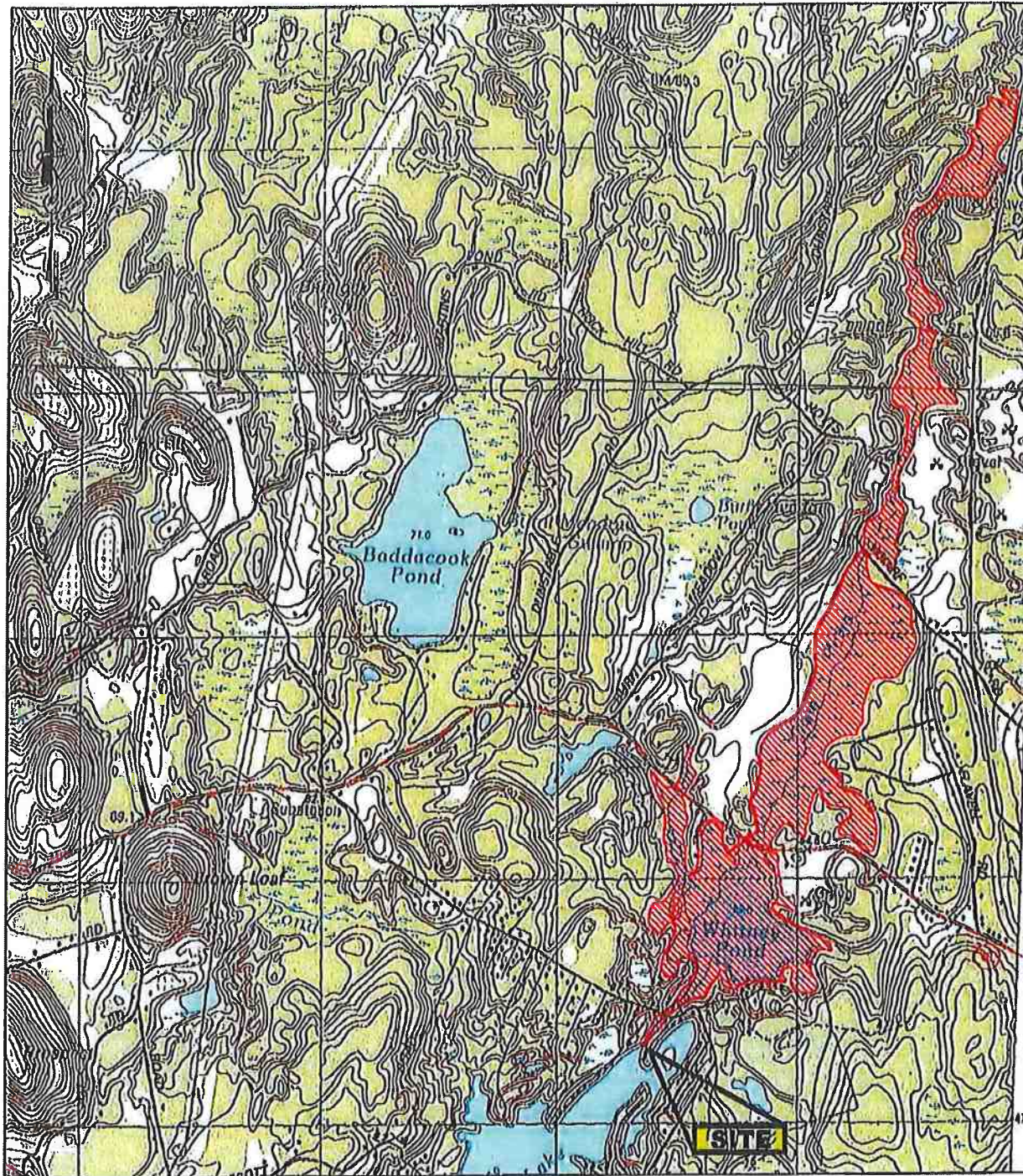


FIGURE 2—INUNDATION PLAN

TOWN OF GROTON
LOST LAKE DAM

0 2000 4000 FEET

SCALE: 1"=2,000'
CONTOUR INTERVAL: 3 METERS

DATE: OCTOBER 2009

PREPARED BY: DUCHARME & DILLIS CIVIL DESIGN GROUP, INC.
1092 MAIN STREET, P.O. BOX 428
BOLTON, MASS. 01740

SOURCE: 1988 USGS Topographic Map
Ayer Quadrangle

J.N. 4428

Squannacook River Dam Emergency Action Plan Downstream Residents Requiring Emergency Notification

A. Likely affected Properties

<u>Town</u>	<u>Property ID No.</u>	<u>Address</u>
Groton	101-9.1	8 West Main St.
Groton	107-11.3120	237 Farmers Row (Groton School Boathouse)
Shirley	84-A 1	9 Great Rd.

B. Potentially affected Properties

<u>Town</u>	<u>Property ID No.</u>	<u>Address</u>
Groton	210-6	Off West Main St. (West Groton Water Supply District)
Shirley	103-C 1	12 Groton Rd.
Shirley	102-B 8.03	5 Moore Dr.
Shirley	102-B 8.04	7 Moore Dr.
Shirley	102-B 8.05	9 Moore Dr.
Shirley	102-B 8.06	10 Moore Dr.
Shirley	102-B 8.07	8 Moore Dr.
Shirley	85-A 1	Kittredge Rd. (Rod & Gun Club)
Ayer	1-2	100 Fitchburg Rd.
Ayer	1-3	99 Fitchburg Rd.
Ayer	11-1	95 Fitchburg Rd.
Ayer	11-54	82 Groton Shirley Rd.
Ayer	2-10	80 Groton Shirley Rd.
Ayer	2-39	91 Fitchburg Rd.
Ayer	2-1	0 Groton Shirley Rd.
Ayer	2-2	14 James Brook Way
Ayer	2-40	15 James Brook Way
Ayer	2-41	13 James Brook Way
Ayer	2-42	11 James Brook Way
Ayer	2-29	37 Groton Shirley Rd.

2.0 Statement of Purpose

This plan defines responsibilities and provides procedures to identify conditions which may endanger the Squannacook River Dam in order to take mitigative action and to notify the appropriate emergency management officials and potentially affected parties of possible, impending, or actual failure of the dam. The plan is also intended to provide notification when flood releases will create major flooding.

3.0 Description of Dam and Appurtenances

Official Name: Squannacook River Dam

State Dam ID#: MA 00442

NID ID#: MA 00442

Location: 100 feet south of Groton Road (Route 225); on the Squannacook River, the Groton and Shirley town line.

Access: From the east side of the dam there is a sidewalk and steps leading to the spillway, the western side is wooded and slopes down to the dam from Groton Road (Route 225); there is no vehicular access

Owner/Operator: Town of Groton/Tom Delaney, DPW Director

The Squannacook River Dam, also known as the Thompson Mill Pond Dam, is a concrete overflow dam with a concrete spillway at its southeastern end. It is located about 100 feet south of Groton Road (Route 225), at 42°36'09" north latitude and 71°37'40" west longitude as indicated on Figure 1 – Locus Map. The crest of the dam is approximately 6 to 10' above the downstream base of the dam, and it is about 150' long. An 84" pipe running from the spillway into the mill building has been filled with concrete and is no longer operational. The pool level upstream of the dam is controlled by overflow of the spillway. There is no mechanical means to draw down the water level upstream of the dam. The dam is classified as an "intermediate" sized dam as defined by Massachusetts Dam Safety Regulations, 302 CMR 10.00, and it is classified as a "low hazard" (Class III) structure.

4.0 Downstream Flood Path and Flow Capacities

4.1 Downstream Flood Path

The Squannacook River discharges over the Squannacook River Dam and travels in a southeasterly direction for approximately 2.5 miles before entering the Nashua River. There is very little development along the river between the dam and the Nashua River. The eastern (Groton) side of the river is primarily town forest and an abandoned MBTA rail line. On the western (Shirley) side of the river there is some residential and commercial development. The Squannacook River then enters the Nashua River and continues north.

At the confluence of the Squannacook and Nashua rivers the Towns of Groton and Shirley are on the northwestern side of the Nashua River and the Town of Ayer is to its southeast. On the southeast side of the river in Ayer there is some residential and commercial development as well as the Moore Air Field.

Within the watercourses and water bodies immediately downstream from the Squannacook River Dam, there are only two buildings that might be threatened by flooding that would result from a failure of the dam. There are also a number of residences and commercial buildings that lie just above the area of inundation. These properties would receive minimal if any flooding as a result of a failure of the dam.

These properties are the most likely to be damaged by flooding resulting from a dambreak or massive release, and, because of the very short time of travel from the dam, the time available to warn and evacuate the occupants of these dwellings would be very short.

Because the downstream flood path includes a significant natural pond and large areas of low-lying wetlands adjacent to the Squannacook River, the flood wave resulting from a dambreak would be dampened considerably as it traveled downstream. These flood mitigating characteristics of the flood path would be effective during both a "fair weather" breach or and "inflow design flood" (IDF) breach. The topography of the land adjacent to the downstream watercourses is also beneficial in that the land bordering the low-lying wetlands generally rises abruptly, and development has occurred predominantly on the higher ground.

4.2 Downstream Flood Potential

The flood potential for the downstream flood path will be similar for both the "fair weather" and IDF breach conditions because of the previously mentioned characteristics of the flood path and the surrounding land. For purposes of this plan, the 500-year flood boundary as reported in the Flood Insurance Studies prepared for the Towns of Groton, Shirley and Ayer by the Federal Emergency Management Agency in January 1982 & 1983 was utilized to represent the areas of inundation in the downstream flood path.

The 500-year flood elevation immediately below the dam is reported at 228' less than 8" lower than the crest of the dam. In the event of a breach the river court building on the east side of the river and its parking area might see minimal flooding. Record drawings on file at the Town of Groton, show various floor elevations of the building, some of those are below the flood elevation. It is imperative that notification be given to the facility as soon as possible, therefore they have been added to the flow chart as a top priority. On the west side of the river, the home on Groton Road closest to the river is also higher than the flood boundary. There are however power lines on utility poles below the dam that would be inundated and possibly damaged by flood flow and debris. Groton Rd. between west Main St and Squannacook Rd. would need to be closed.

As the flood water continues to flow downstream it will pass below the homes at the end of Moore Drive in Shirley. It may take 3-5 minutes for this to occur, however the homes on

Moore Dr. are about 20' higher than the dam so there is no risk to these homes. The topography along the river then becomes low-lying wetlands, slowly increasing in size, which will slow the flood surge. The east side of the river is primarily low-lying wetlands that climb quickly to an upland area of Groton Town Forest inundation is only expected in the existing wetland. The abandoned MBTA rail and power lines along the rail will be within the area that is inundated. The well on the West Groton Water Supply District property is above the inundation boundary.

The Shirley Rod and Gun Club on the east side of Kittredge Road has a number of buildings on the property. The main buildings are above the inundation zone and would receive little or no flooding. The first property within the inundation zone is Herfco Inc located at 9 Great Road in Shirley.

As the flood waters reach the Nashua river flow will begin to move northward with the Nashua. Properties on the east side of the Nashua River in Ayer including the Moore Airfield are above the inundation zone and should receive little or no flooding. The Groton School Boathouse on the east side of the Nashua River in Groton is inside the inundation boundary and may receive damage from flooding.

Portions of other properties would also be inundated; however, available mapping and visual observations indicate that the dwellings on these properties may be at elevations above the flood level.

5.0 Emergency Detection, Evaluation, and Classification

5.1 Emergency Detection

Dam conditions that may be regarded as, or develop into, emergency conditions may be detected by the owner/operator of the dam, public safety officials of the Towns of Groton or Shirley, owners or occupants of properties near the dam, or members of the general public. In any case, the observation of unusual conditions at the dam should effect the immediate implementation of the Notification Flowchart of this Emergency Action Plan. It is understood that members of the general public will not normally be aware of the Notification Flowchart, but it is expected that an observer of obviously abnormal conditions at the dam would contact a local public safety official (most likely the Groton or Shirley Police Departments) who would then initiate or continue the notification process.

It is the responsibility of the dam operator or his designated representative to periodically visit the dam to inspect it for the presence of unusual conditions or the need for routine maintenance. These inspections should include observation of the downstream slope of the dam for points of excessive seepage, observation of the concrete wall at the upstream face for evidence of cracking or deterioration, observation of the spillway for obstructions that would impede the normal flow of water, observation of the spillway for evidence of deterioration. Other conditions that should be noted during periodic inspections by the operator are evidence of vandalism, sabotage or terrorism on any part of the dam as well as potentially harmful animal activity such as burrowing into the earth faces of the dam. The dam operator

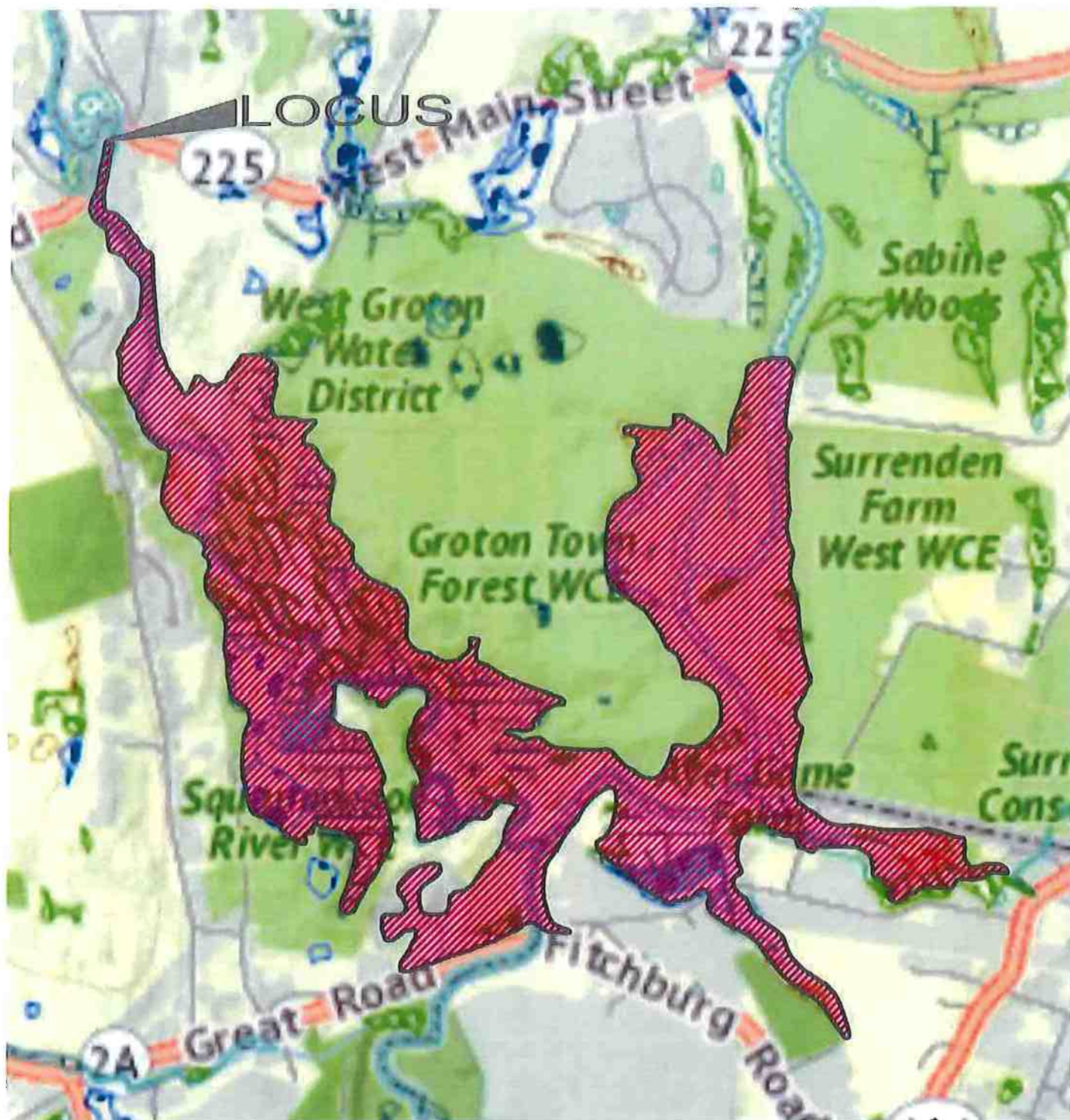


FIGURE 2 - INUNDATION PLAN 2

Prepared By: Ducharme & Dillis Civil Design Group, Inc
1092 Main Street
P.O. Box 428
Bolton, Massachusetts

Prepared For: Town of Groton
Highway Department
600 Cow Pond Brook Road
Groton, Massachusetts

DUCHARME & DILLIS
CIVIL DESIGN GROUP, INC.
ENGINEERS • LAND SURVEYORS • WETLAND CONSULTANTS

APPENDIX F

STAPLEE Prioritization Results

STAPLEE Criteria

Scoring:

- + Favorable/Affirmative
- NA Not Applicable/Neutral
- - Unfavorable/Negative

CATEGORY	CRITERION
SOCIAL	Community Acceptance: Is the action socially acceptable?
	Effect on Segment of Population: The action does not disproportionately benefit only a subset of the population.
TECHNICAL	Technical Feasibility: Will the action work to avoid or reduce future losses?
	Long-term Solution: Does the action address the root problem, rather than just the symptoms of the problem?
	Secondary Impacts: This action does not create more problems than it solves.
ADMIN.	Staffing: Does the Town have staff to coordinate the action?
	Funding Allocated: Does the Town have enough funding available to implement the action?
	Maintenance/Operations: Can the Town provide the necessary maintenance/operations work to maintain the mitigation method?
POLITICAL	Political Support: Is there political support to implement and maintain this action?
	Local Champion: Is there a local champion that can help see the action to completion?
	Public Support: Is there enough public support to ensure success in implementing and maintaining this action?
LEGAL	State Authority: If required, does the state have the authority to implement the action?
	Existing Local Authority: If required, does the Town have the authority to implement the action?
	Political Legal Challenge: The action is not likely to be challenged by stakeholders who may be negatively affected.
ECONOMIC	Benefit of Action: The benefits of the action do not exceed the costs.
	Cost of Action: The costs of the action do not exceed the benefits.
	Contributes to Economic Goals: Does the action contribute positively to local economic development goals?
	Outside Funding Required: The action does not require outside funding to implement.
ENVIRON.	Effect on Land & Water: The action does not negatively affect local land and water resources.
	Effect on Endangered Species: The action does not negatively affect endangered species.
	Effect on HazMat & Waste Sites: The action does not negatively affect HazMat and waste sites.
	Contributes to Environmental Goals: Does the action contribute positively to local environmental goals?
	Consistent with Applicable Laws and Regulations: The action does not conflict with applicable environmental laws and regulations.

STAPLEE CRITERIA																											
Action #	Action Description	Social		Technical		Administrative			Political			Legal			Economic				Environmental					Total			Priority
		Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-Term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance & Operations	Political Support	Local Champion	Public Support	State Authority	Local Authority	Legal Challenges	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land & Water	Effect on Endangered Species	Effect on HazMat & Waste Sites	Contributes to Environmental Goals	Consistent with Laws & Regulations	Plus	Minus	Overall Score
1	Advocate for and coordinate/collaborate with MassDOT on resilience improvements on state roads (e.g., bridge design), particularly to mitigate impacts from riverine and stormwater flooding. This includes: ▪Route 225 (West Main Street) at Nashua River	+	+	+	+	+	+	+	N	+	+	+	+	N	+	+	+	-	+	+	N	+	+	19	1	18	High
2	Improve drainage and address flooding at roads and culverts that are frequently flooded. Specific activities should include: ▪Regular maintenance, including catch basin and drainage ditch cleaning ▪Replace undersized drainage pipes and culverts, incorporating data collected using the North Atlantic Aquatic Connectivity Collaborative (NAAC) culvert assessment protocols to evaluate aquatic connectivity and structural vulnerability. ▪Use pavement management plan to guide road repairs ▪Coordinate with MassDOT on maintenance needs at state roads. Roadways and culverts of concern due to vegetation overgrowth and undersized drainage pipes/culverts include: ▪Route 40 (Lowell Road) crossing at Whitney (Cow) Pond, Broadmeadow Road ▪Station Avenue ▪Route 119 (Boston Road)/Main Street ▪Route 225 (West Main Street) at Hill Road ▪Townsend Road at Cherry Tree Land	+	+	+	N	+	-	-	-	+	+	+	+	+	+	+	+	-	+	+	+	+	+	18	4	14	Medium

	STAPLEE CRITERIA																											
Action #	Action Description	Social		Technical		Administrative			Political			Legal			Economic				Environmental					Total			Priority	
		Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-Term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance & Operations	Political Support	Local Champion	Public Support	State Authority	Local Authority	Legal Challenges	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land & Water	Effect on Endangered Species	Effect on HazMat & Waste Sites	Contributes to Environmental Goals	Consistent with Laws & Regulations	Plus	Minus		Overall Score
3	Mitigate the risk of flooding at roads and culverts due to beaver related activity in adjacent waterbodies. Specific activities should include: ■Regular cleaning of water level control devices ("beaver deceivers") ■Evaluation of water level control/flow device technologies for use in areas with known beaver activity ■Monitoring of locations with known beaver activity for potential threats to people and property. ■Coordination with private property owners to mitigate the risk of flooding using methods authorized under Massachusetts General Laws (G. L.) c. 131 §80A. Roadways and culverts of concern due to beaver activity include ("*" indicates a water level control device is present at the time of this plan's writing): ■Townsend Road at Nutting Stream crossing (outlet from Flat Pond)* ■Route 225 (West Main Street) at Wrangling Brook crossing* ■Hill Road at Wrangling Brook crossing* ■Broadmeadow Road at James Brook crossing* ■Old Ayer Road at James Brook crossing* ■Old Ayer Road/Worthen Drive at James Brook crossing* ■Nashua Road at Reedy Meadow Brook* ■Raddin Road at Unkety Brook* ■Radding Road at wetlands west of Dan Parker Road* ■Hemlock Park Drive at wetlands west of Baddacook Pond* ■Old Dunstable Road at Baddacook Brook crossing* ■Hoyts Wharf Road at Cow Pond Brook crossing* ■Cow Pond Brook Road at wetlands north of Cow Pond Brook Park* ■Lost Lake Drive at Cow Pond Brook crossing* ■Hayden Road at eastern edge of Carmichael Swamp Conservation Area* ■Route 119 (Boston Road) at wetlands around Cady Pond* ■Indian Hill Road/Old Ayer Road at James Brook	+	+	+	N	+	-	-	-	+	+	+	+	+	+	+	+	+	-	+	+	+	+	+	18	4	14	Medium
4	Ensure that critical facilities are adequately protected against flood hazards. Facilities at risk: ■Hollingsworth & Vose Company ■Hollingsworth & Vose Company Dam ■Hollingsworth & Vose Tower ■Lost Lake Dam ■Nashua River Bridge (at Route 225) ■Nod Road Sewer Pump Station ■Squannacook River Dam ■Townsend Road Wellfields #1-4 ■West Groton Pumping Station ■Woods Mill Pond Dam	+	+	+	+	+	-	-	-	+	+	+	N	+	+	+	+	+	-	+	+	+	+	+	18	4	14	Medium
5	Ensure that vulnerable populations are adequately protected against flood hazards. Populations at risk: ■Hollingsworth & Vose Company ■RiverCourt Residences	+	N	+	+	+	-	-	-	+	+	+	N	N	+	+	+	+	-	+	+	+	+	+	16	4	12	Medium

	STAPLEE CRITERIA																											
Action #	Action Description	Social		Technical		Administrative			Political			Legal			Economic				Environmental					Total			Priority	
		Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-Term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance & Operations	Political Support	Local Champion	Public Support	State Authority	Local Authority	Legal Challenges	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land & Water	Effect on Endangered Species	Effect on HazMat & Waste Sites	Contributes to Environmental Goals	Consistent with Laws & Regulations	Plus	Minus	Overall Score	
6	Pursue removal of the Squannacook River Dam (high hazard), inclusive of pursuing funding and coordinating with the private property co-owner and the Town of Shirley. Until the dam is removed: ■Update the Emergency Action Plan on an annual basis ■Implement applicable recommended improvements identified in the Phase I Inspection Evaluation Report: ■Monitor the condition of the spillway and dam several times per year. ■Exercise the low level outlet gate several times per year. ■Remove debris on the spillway.	+	N	+	+	+	-	-	-	+	+	+	N	+	+	+	+	N	-	+	+	N	+	+	15	4	11	Medium
7	Coordinate with the private property owner of the Hollingsworth & Vose Company Dam (low hazard) to ensure the completion of recommended improvements identified in the 2024 Phase I Inspection Report: ■Complete an underwater inspection of the dam system to evaluate the condition of the steel sheet piles, the outlet intakes, and other underwater areas of the dam. ■Complete a pipe inspection of the mill intake overflow pipe and low-level outlet conduit. ■Develop a monitoring program to continue to assess deterioration of the structure. ■Undertake repair activities including: ■Clearing the embankment right of the spillway of trees, brush, and other vegetation. ■Clearing the downstream channel walls of trees, brush, and other vegetation. ■Fill in depressions. ■Regrade the embankment to the right of the spillway. ■Loam and seed exposed portions of the embankment. ■Complete concrete repairs (seal cracks, remove loose/deteriorated concrete, overlay/fill areas of scour and spalls) throughout the dam system. ■Replace missing stones within the downstream right channel wall.	+	N	+	+	+	+	+	+	+	+	+	N	N	+	+	+	N	-	+	+	N	N	+	16	1	15	Medium
8	Coordinate with the private property owner of the Woods Mill Pond Dam to ensure a Phase I Inspection is completed. Once a new Phase I Inspection is completed, ensure completion of recommended improvements.	+	N	+	+	+	+	+	+	+	+	+	N	N	+	+	+	N	-	+	+	N	N	+	16	1	15	Medium
9	Coordinate with the private property owner of the Townsend Harbor Dam (significant hazard), to ensure the completion of an updated EAP, as well as the completion of any recommended improvements identified in its Phase I Inspection Report.	+	N	+	+	+	+	+	+	+	+	+	N	N	+	+	+	N	-	+	+	N	N	+	16	1	15	Medium

	STAPLEE CRITERIA																											
Action #	Action Description	Social		Technical			Administrative			Political			Legal			Economic				Environmental					Total			Priority
		Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-Term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance & Operations	Political Support	Local Champion	Public Support	State Authority	Local Authority	Legal Challenges	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land & Water	Effect on Endangered Species	Effect on HazMat & Waste Sites	Contributes to Environmental Goals	Consistent with Laws & Regulations	Plus	Minus	Overall Score	
10	Ensure completion of an updated Phase I Inspection Evaluation Report for the Town-owned Lost Lake Dam (high hazard) and implement recommended actions for improvement. Update the Emergency Action Plan on an annual basis. In addition to implementing the recommended actions from an updated Phase I Inspection Evaluation Report, the Town will also evaluate opportunities to: ■Rehabilitate/remove the dam. ■Adopt and enforce land use ordinances in the inundation zone. ■Elevate structures in the inundation zone. ■Add flood protection, such as berms, floodwalls, or floodproofing, in the inundation zone.	+	N	+	+	+	-	-	-	+	+	+	N	+	+	+	+	N	-	+	+	N	N	+	14	4	10	Low
11	Implement and regularly update the Groton Water Department Drought Management Plan (2025) and related supply strategies. Recommendations improvements/actions include: ■Continue system-wide leak detection and repair efforts, building on recent work that has already saved approximately 15.7 million gallons annually. ■Evaluate and pursue updates to the Water Use Restrictions bylaw. ■Pursue development of additional water sources (e.g., alternative well sites) to address projected future supply shortfalls. ■Update drought status based on the state's Drought Management Task Force determination. ■Enhance public outreach and information campaigns during declared drought stages to improve customer compliance and conservation.	+	+	+	+	+	N	+	N	+	+	+		+	+	+	+	+	-	+	+	N	+	+	18	1	17	High
12	Monitor groundwater quality for PFAS and other contaminants and coordinate with MassDEP to ensure standards are met.	+	+	+	+	+	N	-	+	+	+	+	N	+	+	+	+	+	-	+	+	+	+	+	19	2	17	High
13	Support upgrades to the West Groton Water Supply District's drinking water distribution system, including: ■Replacement of emergency power generator ■Replacement of the Kemp Street Tank	+	-	+	+	+	+	-	+	+	+	+	N	N	+	+	+	+	-	+	+	+	+	+	18	3	15	Medium

	STAPLEE CRITERIA																											
Action #	Action Description	Social		Technical		Administrative			Political			Legal			Economic				Environmental					Total			Priority	
		Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-Term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance & Operations	Political Support	Local Champion	Public Support	State Authority	Local Authority	Legal Challenges	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land & Water	Effect on Endangered Species	Effect on HazMat & Waste Sites	Contributes to Environmental Goals	Consistent with Laws & Regulations	Plus	Minus		Overall Score
14	Assess the impacts of interbasin transfers of sewer effluent on groundwater levels and the need for any mitigation actions during future updates to the Town's water withdrawal permit for drinking water supply.	+	+	+	+	+	-	-	-	+	+	+	N	+	+	+	+	+	-	+	+	N	+	+	17	4	13	Medium
15	Extend water mains and evaluate need for additional water cisterns in the Lost Lake neighborhood, which currently relies on private drinking water wells, for water supply, fire response, public safety, and property protection.	+	-	+	N	N	-	-	N	+	+	+	N	N	N	+	+	+	-	N	N	N	N	N	8	4	4	Low
16	Conduct an inventory of properties with private grinder pumps and develop a standard operating protocol (SOP) to support proactive notifications to property owners of non-function during power outages and mitigate risks of raw sewage backups.	+	-	+	+	+	+	+	+	+	+	+	N	+	+	+	+	N	+	+	N	+	+	19	1	18	High	
17	Conduct an Infiltration and Inflow (I/I) Analysis to identify I/I points to Groton's sewer system and implement remedial actions to reduce flows into the sanitary sewer system and mitigate risks of raw sewer overflows, including at: ▪Conductorlab site ▪Route 119	+	+	+	+	+	+	+	+	+	+	+	N	+	+	+	+	N	+	+	+	+	+	21	0	21	High	

	STAPLEE CRITERIA																											
Action #	Action Description	Social		Technical			Administrative			Political			Legal			Economic				Environmental					Total			Priority
		Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-Term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance & Operations	Political Support	Local Champion	Public Support	State Authority	Local Authority	Legal Challenges	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land & Water	Effect on Endangered Species	Effect on HazMat & Waste Sites	Contributes to Environmental Goals	Consistent with Laws & Regulations	Plus	Minus	Overall Score	
18	Consider intermunicipal purchase of additional capacity for future wastewater flows from the Town of Pepperell to expand sewer service in the Nod Road area and reduce the need for onsite wastewater treatment systems.	+	-	+	+	+	N	-	N	+	+	+	N	+	N	+	+	+	-	+	+	N	+	+	15	3	12	Medium
19	Collaborate with the Towns of Ayer, Harvard, and Shirley to identify long-term funding options to make the Regional Energy Manager a permanent position and support Groton's energy efficiency and energy security efforts.	+	+	+		+	+	N	+	+	+	N	+	+	+	+	+	+	N	N	N	N	+	+	16	0	16	High
20	Pending completion of the Town's feasibility assessment of a shared heat pump system for Town Hall and the Groton-Dunstable Regional Middle School complex to improve heating and cooling capabilities, support efforts to fund and implement identified improvements.	+	-	+	+	+	+	-	+	+	+	N	+	+	+	+	+	+	-	N	N	N	+	+	16	3	13	Medium

	STAPLEE CRITERIA																											
Action #	Action Description	Social		Technical			Administrative			Political			Legal			Economic				Environmental					Total			Priority
		Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-Term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance & Operations	Political Support	Local Champion	Public Support	State Authority	Local Authority	Legal Challenges	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land & Water	Effect on Endangered Species	Effect on HazMat & Waste Sites	Contributes to Environmental Goals	Consistent with Laws & Regulations	Plus	Minus	Overall Score	
21	Conduct a feasibility study of critical facilities and Town properties for opportunities for battery energy storage to reduce peak demand, increase resilience against power outages during wind- and winter-related hazard events, and reduce strain on power grids as energy demand rises during extreme cold and heat events.	+	+	+	+	+	N	-	-	N	+	N	N	+	N	-	+	+	-	+	N	N	+	+	12	4	8	Low
22	An on annual basis or after a significant hazard event, assess the need and feasibility of upscaling or downscaling relevant municipal services based on changes in population.	+	+	+	+	+	+	+	+	+	+	+	N	+	+	+	+	+	+	N	N	N	N	N	17	0	17	High
23	Update the Town's Comprehensive Emergency Management Plan (CEMP). As part of the CEMP update: ▪Identify evacuation protocols (including assembly points) and verify available transportation resources and capabilities to support evacuation of impacted populations with access and functional needs. ▪Include an agriculture annex/emergency response plan to evaluate needs of local farms and livestock. ▪Include emergency response plans for medical and long-term care facilities (e.g., hospitals), schools, and large housing complexes.	+	+	+	+	+	+	-	N	+	+	+	N	+	+	+	+	+	-	N	N	N	N	N	14	2	12	Medium
24	Improve emergency communications with community members to ensure public safety and efficient dissemination of information before, during, and after hazard events. This should include: ▪Public outreach to encourage community members to sign up for Smart 911, Groton's emergency notification system. ▪Facilitating the addition of more cell towers in Groton to improve cell coverage.	+	+	+	+	+	N	+	N	+	+	+	N	+	+	+	+	+	+	N	N	N	N	N	15	0	15	Medium

	STAPLEE CRITERIA																											
Action #	Action Description	Social		Technical			Administrative			Political			Legal			Economic				Environmental					Total			Priority
		Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-Term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance & Operations	Political Support	Local Champion	Public Support	State Authority	Local Authority	Legal Challenges	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land & Water	Effect on Endangered Species	Effect on HazMat & Waste Sites	Contributes to Environmental Goals	Consistent with Laws & Regulations	Plus	Minus	Overall Score	
25	Ensure emergency shelters meet the needs of Groton’s population: ■Increase shelter space. ■Assess emergency shelters for necessary facility upgrades, including for storage of supplies. ■Inventory shelter supplies and compile a needs list. Pursue funding for supplies. ■Increase availability of shelter equipment for residents evacuating with pets, including pet cages and carriers.	+	+	+	+	+	-	-	+	+	+	+	+	+	+	+	+	-	N	N	N	N	N	14	3	11	Medium	
26	Enhance volunteer capacity through recruitment and training efforts. This could include specific recruitment and training for: ■Fire Department, ■Emergency shelter staffing, and/or ■A local Community Emergency Response Team program, if established.	+	+	+	+	+	-	-	+	+	+	+	+	+	+	+	+	-	N	N	N	N	N	14	3	11	Medium	
27	Participate in the MA MVP 2.0 program to expand community involvement and social resilience in climate adaptation and resilience planning and implementation projects.	+	+	+	+	+	+	+	+	+	+	N	+	+	+	+	N	+	+	+	+	N	19	0	19	High		
28	Pursue grant opportunities to develop a comprehensive Climate Action Plan and establish town-wide sustainability goals and metrics, including related to climate resilience.	N	+	+	+	+	+	+	+	N	+	N	N	+	+	+	+	+	+	+	N	+	N	16	0	16	High	
29	Strengthen regional connections by collaborating with the Montachusett Regional Planning Commission (MRPC) and other communities in the commission to address cross-town challenges, such as invasive species and water quality.	+	+	+	+	+	+	+	+	+	+	N	+	+	+	+	+	+	+	+	+	N	21	0	21	High		

	STAPLEE CRITERIA																											
Action #	Action Description	Social		Technical			Administrative			Political			Legal			Economic				Environmental					Total			Priority
		Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-Term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance & Operations	Political Support	Local Champion	Public Support	State Authority	Local Authority	Legal Challenges	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land & Water	Effect on Endangered Species	Effect on HazMat & Waste Sites	Contributes to Environmental Goals	Consistent with Laws & Regulations	Plus	Minus	Overall Score	
30	Revise stormwater management regulations to integrate best practices that consider climate change and natural resource protection, which may include: ▪Requiring or recommending the use of climate data using a 50-year planning horizon to ensure that infrastructure will operate effectively given potential impacts of climate change. ▪Requiring drainage analyses and design calculations to use precipitation depths based on 90% of the Atlas 14 upper confidence interval, also known as "NOAA Plus" values, for project locations.	+	+	+	+	N	+	+	+	+	+	+	+	+	+	+	N	+	+	N	N	+	+	18	0	18	High	
31	Revise wetland regulations to integrate current best practices that consider climate change and strengthen natural resource protection, including for protection of vernal pools and other sensitive water resources.	N	+	+	+	+	+	+	+	N	+	N	N	+	N	+	N	+	+	+	+	N	+	+	16	0	16	High

	STAPLEE CRITERIA																											
Action #	Action Description	Social		Technical			Administrative			Political			Legal			Economic				Environmental					Total			Priority
		Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-Term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance & Operations	Political Support	Local Champion	Public Support	State Authority	Local Authority	Legal Challenges	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land & Water	Effect on Endangered Species	Effect on HazMat & Waste Sites	Contributes to Environmental Goals	Consistent with Laws & Regulations	Plus	Minus	Overall Score	
32	Update zoning and development regulations to encourage sustainable land use patterns and protect natural resources that promote growth in existing developed areas and away from high hazard areas (e.g., flood hazard areas, steep slopes). This may include: ▪Exploring zoning alternatives, such as form-based codes, to the existing Town Center Overlay District zoning ordinance to preserve physical town characteristics and resources while encouraging growth. ▪Considering amending zoning to increase density bonuses for Flexible Developments. ▪Encouraging and promoting infill housing development in mixed-use districts over expanding and encroaching into natural areas. ▪Reevaluating the existing Water Resource Protection Districts and consider complementing the existing overlay zoning with additional water protections, such as limiting land use where water consumptions exceeds natural recharge or requiring water-use minimization measures for new developments.	+	+	+	+	+	+	N	+	+	+	N	+	+	+	+	+	+	N	+	+	N	+	+	19	0	19	High
33	Integrate sustainability and climate resilience considerations into administrative policies and decision-making, including purchasing, procurement, and the Capital Improvement Planning process, i.e. creating a sustainability checklist for all new Town projects.	+	+	+	+	+	+	+	+	+	+	N	N	+	+	+	+	+	+	+	+	+	N	20	0	20	High	
34	Develop a Forest and Vegetation Management Plan. The plan should guide the management of Town resources, with the goal of protecting forested areas from threats, increasing their resilience to hazard events, and enhancing their beneficial ecosystem services. The plan should include: ▪Protocols and schedules for controlled burns at Town owned/managed resources. ▪Protocols and best practices for cleaning debris and creating a wood bank of recently downed trees. ▪Informational resources for private property owners about fire safety, including strategies to mitigate fire risk. ▪In alignment with invasive species management strategies, monitoring protocols for surveying for native and non-native invasive species and disease threats. ▪Protocols for coordination with GELD on its vegetative management and tree trimming program.	+	+	+	+	+	N	N	N	+	+	+		+	+	+	+	+	N	+	+	N	+	+	17	0	17	High

	STAPLEE CRITERIA																										
Action #	Action Description	Social		Technical		Administrative			Political			Legal			Economic				Environmental					Total			Priority
		Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-Term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance & Operations	Political Support	Local Champion	Public Support	State Authority	Local Authority	Legal Challenges	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land & Water	Effect on Endangered Species	Effect on HazMat & Waste Sites	Contributes to Environmental Goals	Consistent with Laws & Regulations	Plus	Minus	Overall Score
35	Develop a Fertilizer Management Plan to minimize contaminants that could be spread via runoff, flooding, and/or improper use. Consider use by and at: ▪Town properties ▪Agriculture sites ▪Private property owners ▪Commercial applicators	+	+	+	+	+	N	N	N	+	+	+	N	+	+	+	N	N	+	+	N	+	+	16	0	16	High
36	Create a prioritization plan to bolster multi-hazard resilience and advance adaptation strategies at key municipal facilities. The prioritization plan should incorporate a needs assessment of building retrofits for facilities that predate modern building codes to improve resilience to earthquakes and other hazards.	+	+	+	+	+	N	-	N	+	+	+	N	+	+	+	N	-	N	N	N	N	+	13	2	11	Medium
37	Address the impact of invasive species in Groton and implement management and eradication strategies. This may include: ▪Developing and implementing an Invasive Species Inventory and Management Plan. ▪Developing outreach strategies and materials to private landowners about invasive species management and best practices for management and removal. ▪Conducting training and organizing volunteer opportunities for invasive species management. ▪Developing resources on native and/or adapted plant species that are suitable to Groton's climate and support local ecosystem health. ▪Exploring regional cost-sharing opportunities for invasive species management or eradication efforts. ▪Integrating invasive species management and removal protocols into land management plans for the Town's open space resources. ▪Address aquatic invasive plant species at Lost Lake. This could include a treatment with the herbicide Fluridone (sonar). ▪Conduct a municipal tree inventory and identify resource areas most at risk of impacts from invasive species.	+	+	+	+	+	N	-	N	+	+	+	N	N	+	+	+	-	+	+	N	+	+	16	2	14	Medium

	STAPLEE CRITERIA																											
Action #	Action Description	Social		Technical		Administrative			Political			Legal			Economic				Environmental					Total			Priority	
		Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-Term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance & Operations	Political Support	Local Champion	Public Support	State Authority	Local Authority	Legal Challenges	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land & Water	Effect on Endangered Species	Effect on HazMat & Waste Sites	Contributes to Environmental Goals	Consistent with Laws & Regulations	Plus	Minus	Overall Score	
38	Incorporate climate considerations into Town design standards. This may include: ■Requiring reflective surfaces to mitigate the heat island effect ■Limiting lawn sizes ■Utilizing dark sky compliant lighting ■Updating landscaping and site design regulations with best practices, such as requiring the planting of native or adapted species, and requiring the use of low impact development techniques and stormwater best management practices (BMPs).	+	+	N	N	N	+	N	+	+	+	N	N	+	N	+	+	N	N	+	+	N	+	+	13	0	13	Medium
39	Adopt a Tree Preservation Ordinance to encourage the protection of trees during significant construction activity and maintain the Town's canopy, mitigating the impacts of the heat island effect and protecting ecologically valuable trees.	+	+	+	+	+	N	-	N	+	+	+	N	+	+	+	+	+	-	+	+	N	+	+	17	2	15	Medium
40	Consider enrolling in the NFIP Community Rating System program and identify necessary changes to Groton's floodplain management program to enable participation. Then, decide whether to pursue participation in the Community Rating System.	N	-	+	+	+	+	+	+	N	N	N	N	+	+	-	-	N	+	N	N	N	N	+	10	3	7	Low
41	Conduct outreach and provide resources to private property owners in the FEMA Special Flood Hazard Area about flood risk and mitigation. This could include: ■Develop and post online resources about flood mitigation (e.g., floodproofing), flood insurance) and provide hard copy versions at the Building Department.	+	N	+	+	+	+	+	+	+	+	+	N	+	+	+	+	+	+	+	+	N	+	+	20	0	20	High
42	Add information on earthquake hazard to Groton's Emergency Management Agency webpage. Include measures that property owners can take to secure moveable items and utilities to prevent injuries and damage.	+	+	+	+	+	+	+	+	+	+	+	N	+	+	+	+	+	+	N	N	N	N	N	17	0	17	High
43	Invest in education and training for municipal staff, Boards, and Commissions to communicate the impacts of climate change and Groton’s sustainability goals.	+	+	+	+	+	N	N	N	N	+	N	N	+	+	+	+	N	N	+	+	+	+	N	14	0	14	Medium

	STAPLEE CRITERIA																											
Action #	Action Description	Social		Technical		Administrative			Political			Legal			Economic				Environmental					Total			Priority	
		Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-Term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance & Operations	Political Support	Local Champion	Public Support	State Authority	Local Authority	Legal Challenges	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land & Water	Effect on Endangered Species	Effect on HazMat & Waste Sites	Contributes to Environmental Goals	Consistent with Laws & Regulations	Plus	Minus	Overall Score	
44	Assess opportunities for green infrastructure on municipal properties. Consider implementing demonstration projects that can educate private property owners on the multiple benefits of green infrastructure (e.g., water quality, groundwater infiltration, urban heat mitigation, wildlife habitat).	+	+	+	+	+	-	-	-	+	+	+	N	+	+	+	+	N	-	+	+	N	+	+	16	4	12	Medium
45	Educate Groton residents and private property owners on fire safety. This could include targeted education to K-12 students.	+	+	+	+	+	-	-	-	+	+	-	+	+	+	+	+	+	-	N	N	N	N	N	13	5	8	Low
46	Collaborate with the Groton-Dunstable Regional School District, Groton School, Lawrence Academy, educators, and parents to bring climate and natural hazard related education into Groton's public and private schools and student activities.	+	+	+	+	+	N	-	N	N	N	N	N	-	+	+	+	N		+	+	N	+	N	11	2	9	Low
47	Implement recommendations from the 2026 Report on Third-Party Inspection of Nod Road Landfill to ensure the landfill cap is maintained and potential impacts on human health, safety, and the environment are mitigated: ■Mow and remove bushy vegetation from within the limits of the existing soil final cap. Inspect mowed areas to identify if additional corrective actions are required. ■Pending submission to and approval by MassDEP of an Initial Site Assessment (ISA)/Comprehensive Site Assessment (CSA) Scope of Work Permit Application to MassDEP, implement further corrective actions. The ISA/CSA Scope of Work is expected to include installation of groundwater monitoring wells, water quality sampling, landfill gas migration sampling, development of a site base plan, test pits to confirm the extent of landfilled waste and the existing final cap, and a qualitative risk assessment.	+	N	+	+	+	+	-	+	+	+	N	+	+	+	+	N	-	+	+	+	+	+	18	2	16	High	
48	Reassess need for action to mitigate potential groundwater contamination at the Conductorlab site pending further water quality sampling by the property owner for PFAS as required by MassDEP. As needed, collaborate with and provide support to the private property owner to ensure implementation of necessary remediation actions.	+	+	+	+	+	+	+	+	+	+	+	N	+	+	+	+	+	+	+	+	+	+	22	0	22	High	