5 Bolton

Community Overview

Bolton is a rural community in Tolland County with a population of about 5,000. The town is approximately 14.4 square miles and has an elevation of about 700 feet above sea level. Bolton's elevation makes it the high point of the three watersheds it is divided among: the Hockanum River watershed, Willimantic River watershed, and Salmon River watershed. Principal watercourses in Bolton include Railroad Brook, Hop River, Porter Brook, Blackledge River and Baker Brook. A portion of the town lies in the Connecticut River watershed via the Roaring Brook subwatershed.

The main industries in Bolton include agriculture, manufacturing of printed circuits, commercial cleaning solvents, candy manufacturing, and small machine shop. Major transportation routes through Bolton include the terminus of Interstate 384 and state routes 44, 6 and 85. Little new development has occurred since adoption of the 2014-2019 Capitol Region Natural Hazards Mitigation Plan Update ("2014 HMP"); most construction activity is related to improvements and remodeling. Bolton officials report that recent development trends have not increased the Town's exposure to hazard risks. Bolton officials also note that the State Historic Preservation Office's digital mapping of historic districts in Town (see Figure 5-1) appear to include an area larger than what is recognized by the Town.

Critical Facilities

Critical Facilities throughout the Capitol Region are listed in Appendix B. In Bolton these include the Town Hall and Town Garage Complex, Resident State Trooper Building, Bolton Volunteer Fire Department, Bolton High School, Bolton Center School, Herrick Park Community Building, Bentley Memorial Library, and Notch Road Municipal Center. The Bolton High School is the primary sheltering facility, with the small Herrick Park Community Building serving as a secondary shelter or warming center.

Bolton also considers a fiber optic cable that runs beneath Route 44 to be a critical piece of infrastructure. This cable is a major transmission line for the eastern part of the State.

Table 5-1: Critical Facilities, Bolton

Facility	Shelter	Generator
Herrick Park Community Building	Minor Secondary	X
Bolton High School	Primary	X
Bolton Center School		
Town Garages		X
Town Hall		X
Resident State Trooper Building		
Bentley Memorial Library		
Bolton Volunteer Fire Department		X
Notch Road Municipal Center		

Since adoption of the 2014 HMP, a natural gas line was added to a limited area in Town; this fuel source feeds some of the Town's critical buildings, including the Town Hall, Town Garages, Bolton Center School, Resident State Trooper Building, Bentley Memorial Library, Bolton Volunteer Fire Department, and Notch Road Municipal Center.

Capabilities

Bolton's hazard mitigation capabilities include its emergency response departments, primary and secondary shelter, and ordinances regulating land use and development. The Town has many useful links on its website, including to the CRCOG regional online GIS service and to the FEMA disaster awareness resources for children page. Bolton has an Emergency Alert Program and residents are encouraged to sign up on the Town website. Hazard mitigation is addressed specifically in the community's Plan of Conservation and Development (POCD). The HMP document itself is cited. POCD actions specifically address natural hazards.

Bolton's tree warden conducts a tree survey annually to identify those at risk of falling and disrupting municipal operations. Trees are trimmed or removed as needed, based on this survey or public complaints. The Town has a very limited budget dedicated to tree trimming.

New Capabilities

Bolton's hazard mitigation capabilities have improved since the previous HMP in a number of ways, including:

- New FEMA mapping is underway for Hop River and Bolton Lakes, improving the Town's understanding of local flood risks.
- A map modernization effort by FEMA is currently underway for Tolland County, generally, but its full extent, and how much of Bolton it will cover, is unknown.
- As part of new MS4 requirements, the Town has recently passed Low Impact Development regulations to minimize stormwater runoff.

Challenges

Challenges Overview

Bolton residents, through an online survey, indicated that historically damaging natural hazards have included hurricanes and tropical storms, severe thunderstorms, and winter storms. Top hazard concerns include limited flooding, tornadoes and high winds, earthquakes, wildfires, and dam failure.

The Town has a couple of specific areas of concern with respect to flooding, as a result of an under-sized or older culvert. Flooding is typically localized, generally affecting roads rather than facilities and buildings. Bolton officials report that the risk to the Town from flooding is minimal, and undersized culverts and drainage systems are a primary cause of flooding that does occur. No culverts or bridges have been upgraded since adoption of the 2014 HMP. Lyman Road has a failing double culvert on the Blackledge River that needs to be replaced and upgraded. There

are a number of houses within the floodplain on the lower side of Deming Road that are at risk of flooding. Beaver dams at various locations are a concern for localized flooding.

Bolton officials note that the Notch Pond Dam in the northern section of Town, identified in the CT DEEP 2016 list of dams as being a Class BB dam, may in fact be a Class B.

Bolton does not have a town-wide public water system, and relies on fire ponds, cisterns, and dry hydrants to supply firefighting water. A brush fire occurred in Bolton Notch in the fall of 2017 that damaged a number of electric transmission poles. This area has very difficult-to-navigate terrain that is an obstacle to firefighting apparatus; furthermore, there is no water supply in this area for fire suppression. Wildfire risk in Bolton Notch is one of Bolton's top concerns.

In addition, some areas of Bolton are served by older electrical infrastructure and are especially vulnerable to power outages. As a result, many residents own their own generators; however, the safe operation of generators in houses is a concern to public safety officials. During power outages generators are needed for the operation of grinder pumps serving some residences.

Hazard Losses

The economic losses faced by Bolton from natural hazards can be estimated by reviewing historic, and modeling future, loss figures. Loss estimates are summarized below.

Historic FEMA Payments

FEMA reimburses communities for hazard losses through programs including Public Assistance (PA) and the National Flood Insurance Program (NFIP). Combining PA and private flood insurance payments can give an estimate for total losses to a community.

The National Flood Insurance Program had paid one property damage claim in Bolton as of August 2017, totaling $3,989.54. Bolton has no Repetitive Loss (RL) Property claims to-date.

Total PA reimbursements to the community were as follows:

- Flood Events: $4,066 ($214 annually)
- Hurricane Events: $74,086 ($3,899 annually)
- Winter Storm Events: $367,551 ($19,345 annually)

These are summarized in the tables below.

Table 5-2: Flood Event PA Reimbursements

Incident	Oct. 2005
Declaration	12/16/05
Disaster No.	1619
Entity	FEMA PA Reimbursement
State	$724
Nonprofit	$0
Municipal	$3,342
Total	**$4,066**
Total Annualized	**$214**

Table 5-3: Hurricane Wind Event PA Reimbursements

Incident	Aug. 2011 (T.S Irene)	Oct. 2012 (Storm Sandy)
Declaration	09/02/11	10/30/12
Disaster #	4023	4087
Entity	FEMA PA Reimbursement	
State	$321	$1,499
Nonprofit	$0	$0
Municipal	$20,197	$52,069
Total	**$20,518**	**$53,568**
Annualized	**$1,080**	**$2,819**

Table 5-4: Winter Storm PA Reimbursements

Incident	Feb. 2003	Dec. 2003	Jan. 2005	Feb. 2006	Jan. 2011	Oct. 2011	Feb. 2013	Jan. 2015
Declaration	3/11/03	1/15/04	0/17/05	5/02/06	3/3/11	11/17/11	03/21/13	4/8/15
Disaster #	3176	3192	3200	3266	1958	4046	4106	4213
Entity	FEMA PA Reimbursement							
State	$5,056	$5,230	$7,475	$6,805	$8,513	$1,304	$7,091	$13,721
Nonprofit	$0	$0	$0	$0	$758	$0	$1,096	$0
Municipal	$16,201	$19,536	$18,757	$20,050	$27,738	$130,178	$47,614	$30,428
Total	**$21,257**	**$24,766**	**$26,232**	**$26,855**	**$37,010**	**$131,482**	**$55,800**	**$44,149**
Annualized	**$1,119**	**$1,303**	**$1,381**	**$1,413**	**$1,948**	**$6,920**	**$2,937**	**$2,324**

National Centers for Environmental Information Losses

The National Centers for Environmental Information (NCEI) severe storm database was reviewed to identify events that had impacted Bolton. The table below summarizes events in that database that were specifically noted as having impacted Bolton since 2012.

Table 5-5: NCEI Database Losses since 2012, Bolton

Event ID	Date	Event	Property Damage
460030	6/17/2013	Thunderstorm Wind	$10,000
656255	8/11/2016	Lightning	$5,000
Total			**$15,000**

NCEI losses under other event categories (such as drought, high wind, flooding, and winter storms) were not specifically noted as impacting Bolton, though they did impact Tolland County and nearby towns. NCEI losses are reported in Section II of this Plan.

HAZUS-MH Losses

CRCOG used FEMA's Hazus-MH model to analyze the risks that the Town of Bolton might face from flooding, hurricanes, and earthquakes. The model estimates economic losses to the town due to damage to buildings and building contents, as well as other economic disruptions. Both residential and commercial structures are addressed. Losses from different hazards are summarized below. Where available, estimates from the previous and current versions of the HMP are provided side-by-side; differences between the two may have been caused by a combination of the following:

- Changes in methodology: such as hazard zone mapping
- Changes in data: such as population and property values
- Changes in the model: this HMP utilized Hazus-MH version 4.0 rather than 2.1
- Other factors: inherent in a complex software like Hazus-MH

More details are available in the Multi-Jurisdictional HMP. Ultimately, changes in the loss estimates reflect the reality that small differences in hazard event features can have a significant impact on losses incurred.

A flood having a 1% chance of occurring any given year (the 100-year flood) would be nearly $2 million. The impacts of such a flood are summarized below:

Table 5-6: Estimated Damages to Bolton from a 1% Annual-Chance Flood

Loss Type	2014 Results	2018 Results
Households Displaced	34	22
People Needing Shelter	14	3
Buildings at Least Moderately Damaged	0	0
ECONOMIC LOSSES		
Residential Building & Content Losses	$1,540,000	$943,588
Other Building & Content Losses	$440,000	$251,645
Total Building & Content Loss	**$1,980,000**	**$1,195,233**
Total Business Interruption Losses	$0.00	**$1,995**
TOTAL	**$1,980,000**	**$1,197,229**

Table 5-7: Estimated Damages to Bolton from a 1% Annual-Chance Hurricane

Loss Type	2014 Results (1938 event)	2018 Results (1% track)
Buildings at Least Moderately Damaged	227	1
Buildings Completely Damaged	15	1
Total Debris Generated (tons)	25,149	4909
Truckloads (at 25 tons/truck) of building debris	88	196
ECONOMIC LOSSES		
Residential Building & Content Losses	$19,985,000	$2,121,188
Other Building & Content Losses	$2,759,000	$132,887
Total Building & Content Loss	**$22,744,000**	**$2,254,075**
Total Business Interruption Losses	**$2,571,000**	**$143,691**
TOTAL LOSSES	**$25,315,000**	**$2,397,766**

Losses were calculated from a modeled probabilistic earthquake (1% annual-chance of occurrence), as well as for four specific scenarios with epicenters around Connecticut.

Table 5-8: Estimated Damages to Bolton from a Probabilistic Earthquake

Loss Type	2018 Results
Wage Loss	$3,235
Rent Loss	$2,938
Relocation Loss	$5,696
Income Loss	$2,916
Inventory Loss	$311
Total Business Disruption	**$15,095**
Structural Loss	$11,959
Non-Structural Loss	$43,761
Total Building Loss	**$55,721**
Total Content Loss	**$16,987**
TOTAL LOSSES	**$87,803**

Table 5-9: Estimated Damages to Bolton from Modeled Earthquake Scenarios

Epicenter Location	Magnitude	Estimated Total Losses
East Haddam	6.4	$133,606.76
Haddam	5.7	$29,086.28
Portland	5.7	$67,376.62
Stamford	5.7	$1,179.34

Average Annualized Losses

Average Annualized Loss (AAL) figures are useful tools for comparison of the risks faced from different hazards with different likelihoods of occurring in a given time period. AAL estimates were prepared for Bolton based on the methodologies discussed in Section II of the Multi-Jurisdictional HMP. Dam failure, drought, tornado, and wildfire losses were sourced from the 2014 Connecticut Natural Hazard Mitigation Plan Update, with dam failure data supplemented by the National Performance of Dams Program and the Connecticut Department of Energy &

Environmental Protection. Earthquake and hurricane losses were calculated in HAZUS-MH. Losses for flooding came from NFIP claims, for winter storms from Public Assistance Reimbursements, and for thunderstorms from the NCEI database. These are presented in the table below in thousands of dollars per year. Note that Hurricanes and Tropical Storms represent the largest share of total annualized losses.

Table 5-10: Average Annualized Losses, Bolton

Dam Failure	Drought	Earthquakes	Flooding	Hurricanes and Tropical Storms	Severe Winter Storms	Thunderstorms	Tornadoes	Wildfires	Total
$306	$0	$13,170	$319	$337,477	$19,345	$1,813	$1,447	$1,891	$375,767

Losses Summary

A review of the above loss estimates demonstrates that the Town of Bolton has experienced significant expenses as a result of natural hazards, and is at risk for additional losses if some of the less-frequent events were to occur. These actual and potential losses justify hazard mitigation actions to reduce losses in the future.

Mitigation Strategies and Actions

Noted Hazard Mitigation Needs

During the course of this Plan development, specific hazard mitigation needs were noted.

- The Town may wish to expand firefighting water sources, work with utilities to develop a tree-trimming program to protect power lines, or construct fire breaks and fire roads, in the northwest corner of Town, in the Bolton Notch and Freja Park area. The Town needs to continue discussions with DEEP about the possibility of using Notch Pond as a fire department water source.
- The Town has identified a pond on private property that would support a dry-hydrant; the Town may wish to develop an agreement with the landowner to use that pond.
- The Town has developed a town-wide cistern/dry hydrant plan to add water sources for fire suppression. This plan is being implemented as funds become available.
- Lyman Road has a failing double culvert on the Blackledge River that needs to be replaced and upgraded.
- Through an online survey, residents suggested that training road crews to repair power lines would be useful. However, this is neither feasible nor safe for town staff.

Status of Previous Mitigation Strategies and Actions

The Town of Bolton reviewed the mitigation actions proposed in the 2014 HMP and determined the status of each. That information is included in the table below.

Table 5-11: Status of Previous Mitigation Strategies and Actions, Bolton

No.	Action	Notes	Status
GOAL: REDUCE THE LOSS OF LIFE AND PROPERTY, AND ECONOMIC CONSEQUENCES OF NATURAL HAZARDS			
Objective 1: Ensure safe access throughout town during storm events and floods.			
1.1	Study Lyman Road culvert associated with Blackledge River and recommend improvements.	Study and full assessment underway. State inspected the culvert and it was deemed insufficient.	Carry Forward
1.2	Implement improvements recommended in above study. Because this is expected to be a long term, multi-year project, for the 2014-2019 Plan period, the action to be taken is to develop a scope of work for implementing the recommended improvements.	Study is still ongoing and recommendations are yet to be identified; upon completion of study, implementation of recommendations will be a Town priority depending on funding.	Carry Forward
1.3	Continue informal arrangements with private contractors for emergency tree/debris removal.	Informal arrangements developed annually. Although a continuous activity, Bolton would like to keep the action to maintain its high profile.	Carry Forward With Revisions
1.4	Monitor and maintain drainage and flood control systems.	While this is an existing capability, the Town will revise the action to have measurable metrics and keep it as a new action.	Carry Forward With Revisions
1.5	Study Johnson Road culvert/dam and recommend improvements.	Dam is located on private land and threatens flooding of private property, although homes are not expected to be flooded. The Town keeps pipes clear and sandbags on hand as needed. The Town studied feasibility of dredging the pond and found it not feasible. It was determined that the watercourse likely needs larger culverts to mitigate flooding.	Complete
1.6	Implement improvements recommended in above study. Because this is expected to be a long term, multi-year project, for the 2014-2019 Plan period, the action to be taken is to develop a scope of work for implementing the recommended improvements.	Study determined dredging was not feasible, and other actions difficult due to private ownership. Town will pursue improvement of culverts on watercourse. This action will be revised to reflect that and carried forward.	Carry Forward With Revisions
1.7	Monitor and manage Notch Pond Dam beaver population.	Some monitoring has been performed by the Town and has been very useful. Beaver dams present a problem at Sperry Pond as well, and a significant amount of drainageway clogging (at dams and otherwise) occurs on private property. Town wants to address beaver issues at multiple locations, and to educate homeowners on maintenance of culverts and spillways on private property. Action is Carried Forward with Revisions.	Carry Forward with Revisions
Objective 2: Reduce power outages resulting from natural hazards and their consequences.			
2.1	Pursue opportunities to update and/or underground transmission lines.	Power companies are doing this to some extent. Town wishes to continue to pursue this action.	Carry Forward with Revisions

No.	Action	Notes	Status
2.2	Maintain good communications with utility companies.	Modify to "Develop good written protocols for optimal communications with new gas company with the goal of building a relationship.	Carry Forward with Revisions
2.3	Conduct public outreach on safe operation of generators.	Add action to update website, add another to enhance permit enforcement for correct install of generators.	Carry Forward with Revisions
Objective 3: Ensure emergency services are prepared to respond to natural hazard events.			
3.1	Implement new town-wide communications system.	The Town has implemented the Everbridge emergency alert system.	Complete
3.2	Develop and implement plan to power residential grinder pumps during prolonged power outages.	Town developed a plan, implemented a test run, and identified areas for improvement. Action carried forward, revised to be a strategy to implement improvements.	Carry Forward with Revisions

Active Mitigation Strategies and Actions

The Town proposed to initiate several new mitigation actions for the upcoming five years. Additionally, a number of actions from the previous planning period are being carried forward or replaced with revised actions. These are listed below.

Each of the following actions has been prioritized based on FEMA guidelines, listed from highest to lowest priority, and numbered.

Action #1	
Consider and document the labor resource needs and benefits of participation in the Sustainable CT program.	
Goal	4. Regionally increase the use of natural, "green," or "soft" hazard mitigation measures, such as open space preservation and green infrastructure.
Category	Natural Resources Protection
Lead	Planning
Cost	$0 - $10,000
Funding	Town Operating Budget
Timeframe	01/2019 - 12/2019
Priority	High

Action #2	
Assess vulnerable population disaster preparedness and emergency assistance protocol to identify opportunities for improvement.	
Goal	7. Improve the emergency response capabilities of the region and its communities
Category	Preparedness & Emergency Response
Lead	Emergency Management
Cost	$0 - $10,000
Funding	Town Operating Budget
Timeframe	07/2019 - 06/2020
Priority	High

Action #3	
Develop informal arrangements with private contractors for emergency tree/debris removal and evaluate these arrangements on an annual basis.	
Goal	7. Improve the emergency response capabilities of the region and its communities
Category	Preparedness & Emergency Response
Lead	Public Works
Cost	$0 - $10,000
Funding	Town Operating Budget
Timeframe	07/2019 - 06/2023
Priority	High

Action #4	
Adopt a regular maintenance schedule for keeping drainageways and drainage structures clear, especially following flood events.	
Goal	1. Minimize the impact of natural hazards on physical buildings and infrastructure
Category	Prevention
Lead	Public Works
Cost	$10,000 - $25,000
Funding	Town Operating Budget
Timeframe	07/2019 - 06/2021
Priority	High

Action #5	
Monitor and maintain drainage and flood control systems through the completion of annual inspections.	
Goal	1. Minimize the impact of natural hazards on physical buildings and infrastructure
Category	Structural Projects
Lead	Public Works, Administration
Cost	$10,000 - $25,000
Funding	Town Operating Budget
Timeframe	07/2019 - 06/2023
Priority	High

Action #6	
Update Everbridge system participant list and perform tests on an annual basis.	
Goal	7. Improve the emergency response capabilities of the region and its communities
Category	Preparedness & Emergency Response
Lead	Emergency Management
Cost	$10,000 - $25,000
Funding	Town Operating Budget
Timeframe	07/2019 - 06/2024
Priority	High

Action #7	
Develop and implement a tree trimming program for Bolton Notch to reduce fuel loads for wildfires, in addition to building a fire break for this area.	
Goal	1. Minimize the impact of natural hazards on physical buildings and infrastructure
Category	Prevention, Natural Resource Protection
Lead	Emergency Management
Cost	$25,000 - $50,000
Funding	Town Operating Budget
Timeframe	07/2019 - 06/2023
Priority	High

Action #8	
Implement the recommended improvements as identified in the plan to power residential grinder pumps during prolonged power outages.	
Goal	5. Improve the resilience of local and regional utilities and infrastructure using strategies including adaptation, hardening, and creating redundancies.
Category	Preparedness & Emergency Response
Lead	Emergency Management, Administration, and in coordination with the Bolton Lakes Regional Water Pollution Control Authority
Cost	$50,000 - $100,000
Funding	Grants
Timeframe	07/2019 - 06/2022
Priority	High

Action #9	
Develop and implement, in conjunction with DEEP and DOT, a solution for the Notch Pond Dam issues and address silting of Notch Pond to reduce flood risks and provide a possible firefighting water supply.	
Goal	1. Minimize the impact of natural hazards on physical buildings and infrastructure
Category	Structural Projects
Lead	CT DOT, CT DEEP, Public Works, Administration
Cost	$25,000 - $500,000
Funding	Grants / CT DEEP / CT DOT
Timeframe	07/2019 - 06/2021
Priority	High

Action #10	
Develop written protocols for optimal communications with new gas company.	
Goal	5. Improve the resilience of local and regional utilities and infrastructure using strategies including adaptation, hardening, and creating redundancies.
Category	Preparedness & Emergency Response
Lead	Public Works, Public Safety, Emergency Management, Administration
Cost	$0 - $10,000
Funding	Town Operating Budget
Timeframe	01/2019 - 06/2019
Priority	Medium

Action #11	
Conduct outreach to local small businesses with the aim of preventing the accidental release and pollution from chemicals stored and used at their facilities during or following natural hazard events.	
Goal	6. Improve public outreach, education, and warning systems
Category	Education & Awareness
Lead	Planning, in coordination with DEEP
Cost	$0 - $10,000
Funding	Materials & Resources Provided by CT DEEP
Timeframe	01/2019 - 12/2019
Priority	Medium

Action #12	
Conduct a review of the Everbridge system and conduct a test to ensure its effectiveness.	
Goal	6. Improve public outreach, education, and warning systems
Category	Preparedness & Emergency Response
Lead	Public Safety, Emergency Management
Cost	$0 - $10,000
Funding	Town Operating Budget
Timeframe	07/2019 - 06/2020
Priority	Medium

Action #13	
Coordinate with NEMO and CRCOG to share resources and gain technical support for hazard mitigation actions involving stormwater management and public outreach, which have parallel benefits related to MS4 stormwater permit compliance.	
Goal	1. Minimize the impact of natural hazards on physical buildings and infrastructure
Category	Prevention
Lead	Public Works / Administration
Cost	$0 - $10,000
Funding	Town Operating Budget
Timeframe	01/2020 - 12/2020
Priority	Medium

Action #14	
Pursue agreement with landowner of the small private pond that is a good location for a dry hydrant to install a dry hydrant at that site.	
Goal	7. Improve the emergency response capabilities of the region and its communities
Category	Preparedness & Emergency Response
Lead	Fire Department / Administration
Cost	$0 - $10,000
Funding	Town Operating Budget / CT DEEP
Timeframe	07/2020 - 06/2021
Priority	Medium

Action #15	
Work with the local electric utility (Eversource) to identify opportunities for improving the resilience of the power grid through tree trimming, hardening, burial, and response training	
Goal	5. Improve the resilience of local and regional utilities and infrastructure using strategies including adaptation, hardening, and creating redundancies.
Category	Preparedness & Emergency Response
Lead	Public Works
Cost	$0 - $10,000
Funding	Town Operating Budget
Timeframe	07/2020 - 06/2021
Priority	Medium

Action #16	
Educate private property owners on how to properly maintain culverts, spillways, and other drainageways to prevent obstructions, especially as related to beaver activity.	
Goal	6. Improve public outreach, education, and warning systems
Category	Education & Awareness
Lead	Public Works, in coordination with DEEP and property owners
Cost	$0 - $10,000
Funding	Private Funding
Timeframe	07/2019 - 06/2022
Priority	Medium

Action #17	
Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	
Goal	3. Improve institutional awareness and understanding of natural hazard impacts and mitigation within municipal governments and other decision-making bodies
Category	Education & Awareness
Lead	Planning
Cost	$0 - $10,000
Funding	Town Operating Budget
Timeframe	07/2019 - 06/2024
Priority	Medium

Action #18	
Conduct public outreach on the safe operation of generators, including posting information to the town's website, and enhance permit enforcement for the correct installation of generators.	
Goal	6. Improve public outreach, education, and warning systems
Category	Education & Awareness
Lead	Emergency Management, Building Official
Cost	$10,000 - $25,000
Funding	Town Operating Budget
Timeframe	01/2019 - 06/2019
Priority	Medium

Action #19	
Develop a beaver monitoring and management program to address damming issues, specifically at Notch Pond Dam and Sperry Pond Dam.	
Goal	1. Minimize the impact of natural hazards on physical buildings and infrastructure
Category	Prevention
Lead	Public Works, in coordination with DEEP and property owners
Cost	$10,000 - $25,000
Funding	Private Funding
Timeframe	07/2019 - 06/2022
Priority	Medium

Action #20	
Review the Low Impact Development (LID) Regulations periodically and update as needed. Utilize the LID Manual developed by the Northwest Hills Council of Governments.	
Goal	1. Minimize the impact of natural hazards on physical buildings and infrastructure
Category	Prevention
Lead	Planning
Cost	$10,000 - $25,000
Funding	Town Operating Budget
Timeframe	07/2021 - 06/2022
Priority	Medium

Action #21	
Study Lyman Road culvert associated with Blackledge River and recommend improvements.	
Goal	1. Minimize the impact of natural hazards on physical buildings and infrastructure
Category	Structural Projects
Lead	Public Works
Cost	$25,000 - $50,000
Funding	Town Operating Budget / Grants
Timeframe	07/2019 - 06/2020
Priority	Medium

Action #22	
Conduct a study of the Hop River downstream of the Johnson Road culvert/dam to determine the feasibility and effectiveness of upsizing culverts to prevent flooding of private lands.	
Goal	1. Minimize the impact of natural hazards on physical buildings and infrastructure
Category	Structural Projects
Lead	Public Works
Cost	$25,000 - $50,000
Funding	Private Funding
Timeframe	07/2019 - 06/2020
Priority	Medium

Action #23	
Coordinate with CT SHPO to conduct additional historic resource surveys to support identification of vulnerable historic resources and preparation of resiliency plans across the state. This action leverages existing resources and best practices for protection of historic and cultural resources through an ongoing statewide CT SHPO initiative.	
Goal	8. Ensure community character and social equity are addressed in mitigation activities
Category	Property Protection
Lead	Planning, in coordination with DEEP
Cost	$25,000 - $50,000
Funding	SHPO
Timeframe	07/2019 - 06/2021
Priority	Medium

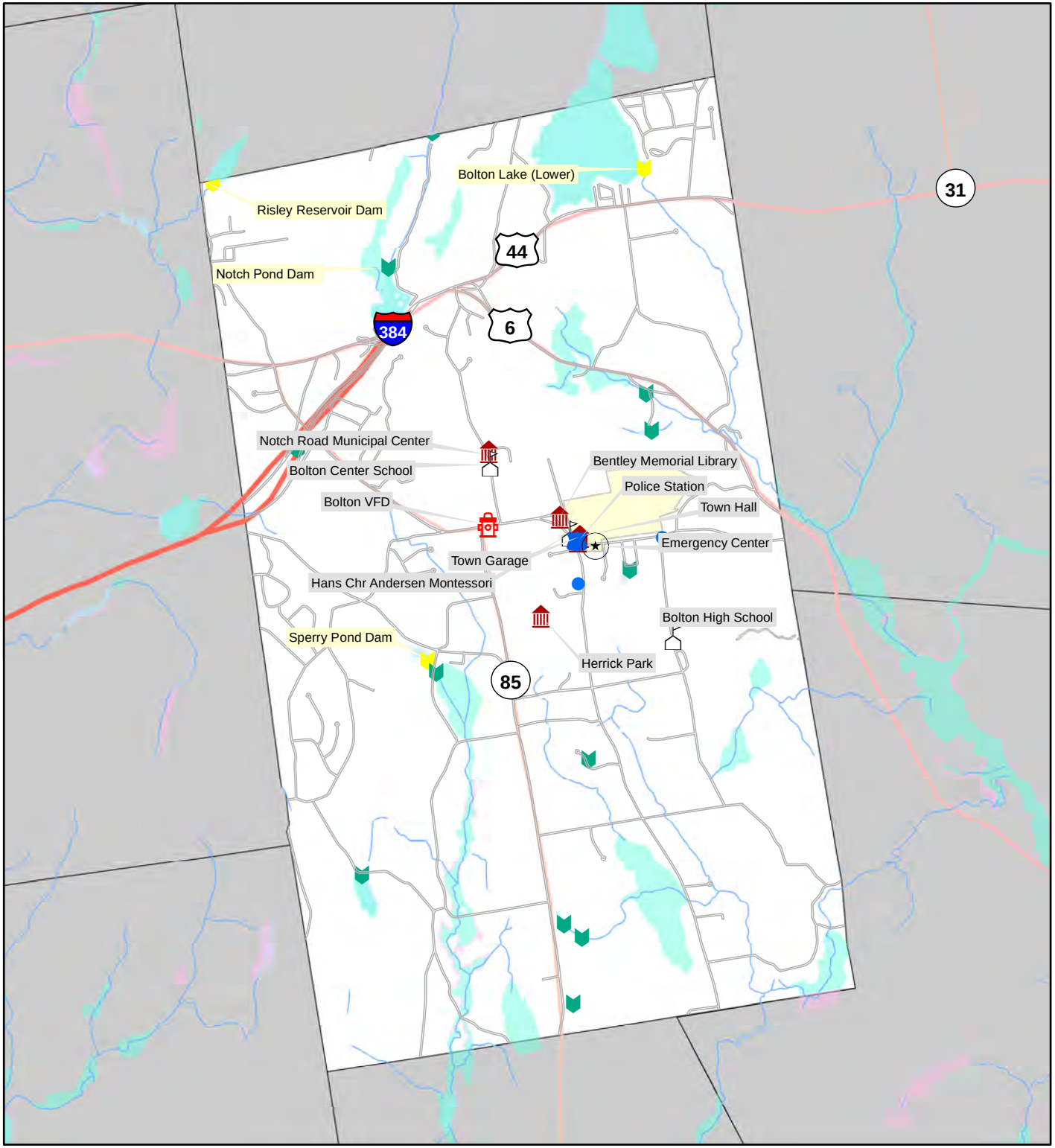
Action #24	
Conduct a wildfire vulnerability and needs assessment to guide mitigation actions in the northwest corner of Town, near Bolton Notch and Freja Park.	
Goal	1. Minimize the impact of natural hazards on physical buildings and infrastructure
Category	Prevention
Lead	Fire Department
Cost	$25,000 - $50,000
Funding	Town Operating Budget / Grants
Timeframe	07/2021 - 06/2023
Priority	Medium

Action #25	
Develop a scope of work document to implement any actions recommended by the Hop River/Johnson Road culvert/dam flood mitigation study.	
Goal	1. Minimize the impact of natural hazards on physical buildings and infrastructure
Category	Structural Projects
Lead	Public Works, Administration, Property Owners
Cost	$100,000 - $250,000
Funding	Property Owners
Timeframe	07/2020 - 06/2021
Priority	Medium

Action #26	
Implement improvements recommended in above Lyman Road study. Because this is expected to be a long term, multi-year project, the action to be taken is to develop a scope of work for implementing the recommended improvements.	
Goal	1. Minimize the impact of natural hazards on physical buildings and infrastructure
Category	Structural Projects
Lead	Public Works, Administration
Cost	$500,000 - $600,000
Funding	Town Operating Budget / Grants
Timeframe	07/2020 - 06/2021
Priority	Medium

Action #27	
Assess historic resources and their hazard readiness.	
Goal	1. Minimize the impact of natural hazards on physical buildings and infrastructure
Category	Property Protection
Lead	Planning
Cost	$25,000 - $50,000
Funding	SHPO
Timeframe	07/2023 - 06/2024
Priority	Low

Action #28	
Conduct an evaluation to identify specific opportunities to update and/or underground transmission lines.	
Goal	5. Improve the resilience of local and regional utilities and infrastructure using strategies including adaptation, hardening, and creating redundancies.
Category	Structural Projects
Lead	Public Works, Planning, Administration
Cost	More than $100,000
Funding	Town Operating Budget / Grants
Timeframe	07/2020 - 06/2021
Priority	Low



Capitol Region Natural Hazards Mitigation Plan Update

Bolton, Connecticut

Critical Facilities

- Emergency Center
- Fire Station
- Healthcare Facility
- Police Station
- Public Infrastructure
- School
- State Facility
- Town Facility
- Waste Water Facility
- NRHP Buildings/Sites
- NRHP Districts/Areas

Dam Hazard Class

- A, AA, BB or Unclassified
- Class B-Significant Hazard

FEMA Flood Hazard Area

- 100 Year Flood Zone
- 500 Year Flood Zone

Data Sources: FEMA, National Register of Historic Places, CT DEEP, CRCOG, ESRI

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